Washington Department of FISH and WILDLIFE

WDFW HABITAT AND RECREATION LANDS: RCO GRANT ELIGIBILITY PLAN 2010-2016

Planning Process
SELF CERTIFICATION FORM

Use this form to certify that the need for your project(s) has been determined through an appropriate planning process. Attach the completed form to the subject plan(s) and provide to the Recreation and Conservation Office (RCO).

Name and adoption date of documents submitted in fulfillment of this requirement:

- WDFW Habitat and Recreation Lands: RCO Grant Eligibility Plan 2010-2016
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Check/initial Each to Certify Completion	Plan Element Certification	Document/Page Number Location of Information
PMA	1. ***Goals, objectives:*** The attached plan supports our project with broad statements of intent (goals) *and* measures that describe when these intents will be attained (objectives).	1-3
PMA	2. ***Inventory:*** The plan includes a description of the service area's facilities, lands, programs, and their condition. *(THIS MAY BE DONE IN A QUANTITATIVE FORMAT, OR IN A QUALITATIVE/NARRATIVE FORMAT.)*	4-14
PMA	3. ***Public involvement:*** The planning process gave the public ample opportunity to be involved in plan development and adoption.	20-21
PMA	4. ***Demand and need analysis:*** In the plan(s): • An analysis defines priorities, as appropriate, for acquisition, development, preservation, enhancement, management, etc., and explains why these actions are needed. • The process used in developing the analysis assessed community desires for parks, recreation, open space, and/or habitat, as appropriate, in a manner appropriate for the service area (personal observation, informal talks, formal survey(s), workshops, etc.).	11-19
PMA	5. ***Capital Improvement Program:*** The plan(s) includes a capital improvement/facility program that lists land acquisition, development, and renovation projects by year of anticipated implementation; include funding source. The program includes any capital project submitted to the Recreation and Conservation Funding Board (RCFB) for funding.	22
PMA	6. ***Adoption:*** The plan(s) and process has received formal governing body approval. *(THAT IS, CITY/COUNTY DEPARTMENT HEAD, DISTRICT RANGER, REGIONAL MANAGER/ SUPERVISOR, ETC., AS APPROPRIATE. ATTACH RESOLUTION, LETTER, OR OTHER ADOPTION INSTRUMENT.)*	23

I certify that this information is true and complete to the best of my knowledge,

Name	Title	Date
Philip Anderson	Director	6-10-10

STATE OF WASHINGTON

WDFW HABITAT AND RECREATION LANDS: RCO ELIGIBILITY PLAN 2010 - 2016

Submitted to the Recreation and Conservation Office

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WDFW HABITAT AND RECREATION LANDS:
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WDFW HABITAT AND RECREATION LANDS:
2010-2016 RCO Grant Eligibility Plan

INTRODUCTION

This document is a summary of relevant plans and information that qualify the Washington Department of Fish and Wildlife (WDFW) to participate in all Recreation and Conservation Office (RCO) grant programs that have a planning requirement. These grant programs include:

1. BFP - Boating Facilities Program
2. LWCF - Land and Water Conservation Fund
3. NOVA – Non-highway roads, non-motorized, and off-road vehicles categories
4. WWRP Habitat Conservation - Critical Habitat, Natural Areas, State Lands Restoration, and Urban Wildlife Habitat categories
5. WWRP Outdoor Recreation - Local Parks, State Lands Development, State Parks, Trails, and Water Access categories
6. WWRP Riparian Protection category

WDFW is currently engaged in a conservation priority-setting process using the various plans and data listed in the Needs Analysis section of this document. The process, called Ecosystem Conservation Priorities (ECP), will pull together conservation actions for species and habitats of concern with a map of priority landscapes where WDFW will focus its conservation efforts for the next six years. The ECP will include:

- Spatially-enabled strategies and actions for all programs/statewide
- Action priorities based on conservation principles adopted by the agency
- Work plan format that identifies staff roles and responsibilities and external partner opportunities
- Agency budget expenditures tied to priority actions
- Communication strategy – internal and external
- Current strategies and actions compiled by June 2011

The ECP will allow a major revision of our RCO grant eligibility plan in 2012. This 2010 RCO eligibility plan is organized into sections corresponding to the six elements required for RCO certification. To simplify the narrative portion of this plan, much of the descriptive information is cited with web links and/or attached as appendices.

WDFW AUTHORITIES, STRATEGIC PLAN AND GOALS

Authorities

Statutory authority for WDFW to acquire and manage land for fish and wildlife can be found in

RCWs 77.04.012, 77.04.020, 77.12.037, 77.12.210, and 77.12.220 (Appendix 1).
These statutes require WDFW, "…to protect, preserve, perpetuate, and manage the state's fish and wildlife resources…maximize public recreational game fishing and hunting opportunities without impairing the supply of wildlife…enhance and improve recreational and commercial fishing, and…acquire by gift, purchase, or lease…lands, building, waters, or other necessary facilities consistent with this title…".
In addition, state law authorizes counties to receive payment in lieu of property tax for "game lands" within the county. If a county elects to collect in lieu payments, it must forego the fines, forfeitures, reimbursements, and costs assessed and collected for violations of fish and wildlife laws and regulations it would otherwise collect, and remit that amount to the state treasurer on a monthly basis (RCW 77.12.201-203).

The acquisition of private lands by WDFW is always on a willing seller basis, unless specifically authorized by the Legislature. Direction for increasing habitat protection for fish and wildlife and providing more opportunities for fish and wildlife-related recreation and public access is provided through executive level policy guidance, WDFW's Strategic Plan, and Lands 20/20: A Clear Vision for the Future.

Strategic Plan and Goals

A portfolio of lands helps the Department accomplish its statutory mandate. The Department lands portfolio includes Wildlife Areas encompassing approximately 850,000 acres of owned and managed land, as well as hundreds of public access sites. Following are the WDFW strategic goals and objectives that relate to habitat and recreation lands and RCO Grant Programs. The full 2009-2015 WDFW Strategic Plan is included in Appendix 1 and is available at http://wdfw.wa.gov/about/strategic_plan/. Appendix 1 also lists executive priority projects for the 2009-2011 biennium with those pertaining to RCO grants highlighted in yellow.

Goal I: Conserve and protect native fish and wildlife

- **Objective:** Improve conservation practices to enhance the protection and restoration of fish and wildlife.
- **Objective:** Increase protection and restoration of ecosystem functions.

Goal II. Provide sustainable fishing, hunting and other wildlife recreational experiences.

- **Objective:** Increase the economic benefits and public participation derived from sustainable fish and wildlife opportunities.

Goal III. Promote development and responsible use of sound, objective science to inform decision-making.

- **Objective**: Use the best-available science.

In addition, WDFW supports Governor Christine Gregoire's initiatives to provide economic vitality and environmental quality that will help create a sustainable and prosperous future for Washington State. As the steward of the state's fish and wildlife populations, WDFW is a strategic partner in several important statewide initiatives aimed at restoring and protecting these

resources including the Puget Sound Partnership, preserving biological diversity, and increasing nature-based tourism.

Washington is rich in natural diversity, which provides the state with many benefits, including economic returns from agriculture, forestry, fishing and recreation. However, due to habitat degradation, expanding population, land development, invasive species and climate change Washington risks losing much of its native plant communities and wildlife species. Recognizing the state's declining environmental health, the Legislature established a statewide biodiversity planning effort in 2002 to safeguard the state's natural heritage. Governor Gregoire extended this effort by executive order 08-02 forming the Biodiversity Council which has completed several projects, most notably, the 2007 Biodiversity Conservation Strategy that incorporates biodiversity protection within a multitude of programs including land-use planning, landowner conservation incentives and funding programs. As a major participant on the council, WDFW plays a key role by providing expertise and knowledge on the state's fish and wildlife species and their habitats.

Governor Gregoire also acknowledged the importance of WDFW lands in a December 2, 2009 Executive Order 07-09 that decreed: "To increase awareness, sustainable use of our natural resources, and the economic benefits of Washington's outdoor recreational opportunities, the Department of Fish and Wildlife and the Parks and Recreation Commission shall work within the Cabinet to enhance tourism and recreational uses of the state's natural resources. The agencies will develop an integrated program for marketing wildlife viewing, hunting, fishing, boating activities, and the use of Parks and Department of Fish and Wildlife lands both nationally and internationally."

WDFW Lands Strategy

The current WDFW lands strategy is explained in **"Lands 20/20: A Clear Vision for the Future"** (Appendix 1). The lands strategy is further guided by program-level habitat assessments and species management and recovery plans. These plans identify needs to acquire or restore lands to meet specific management and recovery objectives.

Although the lands portfolio is one of the Department's most important tools for accomplishing its dual mandate, other strategies are also used. These strategies include:

- Providing science-based tools and assessments to help other agencies and organizations design land management and acquisition priorities.
- Providing technical assistance for the management of lands owned by other state, federal, and local governments to maximize fish and wildlife values or recreational opportunities.
- Entering into voluntary agreements with private landowners to actively manage their lands for fish and wildlife related values or related recreation. Examples are the Department's Landowner Incentive Program and the Private Lands Recreational Access Program.

The Department does not seek to own all the lands in the state that provide benefits to fish and

wildlife. Many such lands are protected by local regulations, by other conservation agencies or entities, and by conscientious landowners. Instead, the Department seeks to be strategic and selective in its acquisitions, acquires lands that provide the highest benefit to fish and wildlife and the public, protect irreplaceable biodiversity, and otherwise face some sort of risk (such as changing regulations, land uses, or ownership) that would seriously compromise statewide fish and wildlife values. The Department only purchases land from willing sellers at fair market value and does not condemn land. Through land acquisition, the Department provides a vital line of defense against the loss of our state's critical habitat and species.

INVENTORY: EXISTING WDFW LANDS

This section provides a statewide context for WDFW's land acquisitions. There are three subsections: a history of WDFW land acquisition, a summary of information about WDFW's existing land holdings and a summary of the public benefits provided by WDFW's lands portfolio.

History of WDFW Land Acquisition

WDFW owns or manages over 850,000 acres of fish and wildlife habitat. WDFW land acquisition began in July 1939 when the then Department of Game purchased an 80-acre parcel of mule deer winter range in the Sinlahekin Valley of Okanogan County. Seventy percent of the Department's properties were acquired prior to 1971 and were purchased with federal funds made available through the Pittman Robertson Act (passed in 1937). Some fish hatcheries and rearing ponds were purchased with federal funds made available through the Dingell-Johnson Act, passed in 1950. Other hatchery and rearing pond facilities were purchased with state general funds and revenues from the sale of fishing licenses. During the 1970s, additional acquisitions were made for fish and wildlife as part of mitigation contracts with various public utility districts for construction and operation of hydroelectric dams on the Columbia River and its tributaries.

Prior to 1990, lands were acquired primarily to benefit species that were hunted or fished. Since 1990 with the advent of new legislation and funding sources, WDFW has been able to acquire habitat to protect the full array of Washington's fish and wildlife. The most significant sources of new funds for acquisition of habitat and recreation lands have been the Washington Wildlife and Recreation Program (WWRP) and the federal Cooperative Endangered Species Conservation Fund.

WWRP is a state funded grant program administered by the Recreation and Conservation Office to provide funding for a broad range of land protection, park development, preservation and conservation, and outdoor recreation activities. In Chapter 79A.15 RCW, the Legislature established four grant accounts: the Habitat Conservation Account, the Outdoor Recreation Account, the Farmland Preservation Account and the Riparian Protection Account. WDFW competes for grants in all but the Farmland Preservation Account. Since 1990, WDFW has acquired 108,800 acres of habitat and recreation lands with $122 million in WWRP funds.

The Cooperative Endangered Species Conservation Fund has two land acquisition grant categories: the Habitat Conservation Plan Land Acquisition Grant and the Recovery Land Acquisition Grant. Since the beginning of these grant programs in 2000, WDFW has received approximately $60 million from CESCF and acquired 50,000 acres of habitat to protect and recover endangered, threatened and candidate species. Some of the funds are unspent, so additional acres will be added to this total. Most of these funds are used to complement and expand WWRP projects that have federally listed species.

Other sources of grant funding include: the Washington Aquatic Lands Enhancement Account,

Salmon Recovery Funding Board, National Coastal Wetlands Conservation Grant, North American Wetland Conservation Act, Coastal and Estuarine Land Conservation Program, and Land and Water Conservation Fund.

Existing WDFW Lands

After more than 60 years, WDFW's ownership portfolio is diverse, including small acreages for local threatened or endangered species protection, to thousands of acres of winter range purchased to protect herds of deer and elk, to miles of riparian habitat along rivers and streams that protect anadromous and resident fish. The majority of department lands are managed as fish and wildlife habitat, with small acreages for finfish and shellfish hatcheries, a game bird hatchery, and administrative sites (headquarters, regional, and district offices).

Approximately 97 percent of lands owned by WDFW were acquired based on the needs of fish and wildlife and are part of a statewide wildlife area system. These needs have been identified through varied means over the years including habitat assessment, species research, historic wildlife use, public input, mitigation agreements, grant acquisition criteria, and Legislative intent. In addition to their value for fish and wildlife, these lands are open to the public for a variety of recreational activities and also protect air and water quality, help maintain stream flows and provide, "…resources essential to the health, welfare, and economic well-being of the state's citizens" (IAC 1995). WDFW lands are divided into two programs that include the Wildlife Areas and Recreational Access Sites.

WDFW is currently developing a multi-species programmatic Habitat Conservation Plan (HCP) for the conservation of endangered and threatened species on state Wildlife Areas (WA), http://wdfw.wa.gov/hcp/wla_hcp.html. Completion of the HCP will make the Department eligible for federal funding to protect more land in perpetuity for wildlife and recreation, while demonstrating compliance with the Endangered Species Act (ESA) and the agency's commitment to both wildlife conservation and compatible recreation. The HCP is being built on intensive species and activity inventories across all WDFW Wildlife Areas, and existing science on the potential effects of those activities (recreational and operational). It will also specify management strategies to avoid, minimize, and mitigate for impacts to species. A fact sheet is included in Appendix 2 and the draft HCP is scheduled for completion in December 2010.

Wildlife Areas

Statewide, Washington has 18 Wildlife Area Complexes comprised of approximately 850,000 acres that include Department-owned and managed lands (Table & Map Appendix 2). Wildlife Areas fill a special niche for state tourism and play an important role as places for outdoor recreation. They provide excellent opportunities for hunting, fishing, hiking, camping, wildlife viewing, biking, horseback riding, sightseeing, wildflower observations, cross-country skiing, dog trials, shooting ranges, and more. Annually, approximately 2.5 million people visit the Wildlife Areas to enjoy the diverse recreational opportunities. These recreational uses are balanced with protection of fish, wildlife and habitat. WDFW lands are generally open year-round, but not all uses are allowed on all lands and some areas are closed on a seasonal basis to protect sensitive wildlife. Tables of priority habitats and species and recreational uses that occur

on wildlife areas are included in Appendix 2. The table below lists all the Wildlife Areas, approximate acreage and annual visit days. Detailed descriptions of Wildlife Areas can be found on the department website, http://wdfw.wa.gov/lands/wildlife_areas/.

Name	Size (acres)	Visit Days (annually)*
Chief Joseph/Asotin	41,042	50,000
Colockum	58,104	220,000
Columbian Basin	198,594	600,000
Cowlitz	14,140	82,000
Klickitat	15,143	73,000
L.T. Murray/Wenas	184,573	370,000
Methow	36,435	52,000
Mt. St. Helens/Shillapoo	5,911	92,000
Oak Creek	44,743	482,000
Olympic-Willapa Hills/South Puget Sound	10,176	51,000
Scotch Creek	24,955	20,000
Sinlahekin	25,286	26,000
Snoqualmie/Skagit	19,754	131,000
Swanson Lakes/Sherman Creek	35,589	30,000
Sunnyside/Snake River	20,188	27,000
Wells/ Sagebrush Flats/ Chelan	51,641	32,000
Whatcom	3,317	25,000
Wooten	15,408	166,000
Total	**804,999**	**2,529,000**

*** Note:** Numbers based on estimates provided by Wildlife Area Managers.

Recreational Access Sites

Washington contains an abundance of public water resources found on Puget Sound and thousands of inland lakes and rivers. While most of the Department's recent acquisition efforts have focused on protecting important fish and wildlife habitats, past efforts successfully secured public access to the state's lakes, rivers, and marine areas. These sites function as gateways to hundreds of Washington's public waters and other public lands for fishing, boating, hunting, and a variety of other outdoor activities.

WDFW owns and/or manages 700 recreational water access sites, the largest number in the country, second only to the State of California. These small parcels (usually between 1-5 acres) occur in every county of the state and in some cases may be the only public access to water available in a geographic area. Of the 700 sites, 370 provide stream bank access. About 100 of the sites are operated through mitigation agreements with various public utilities, cooperative agreements with county, city and port districts, and as a component of Wildlife Areas. Most access sites are limited to day use, although overnight camping is allowed in some areas. A recreational access site map and list of locations are in Appendix 2. More information is

available on the department website, http://wdfw.wa.gov/lands/water_access/index.html.

Public Benefits

While most of WDFW's lands are acquired and managed for fish and wildlife habitat protection, other significant benefits accrue from these ownerships. Hundreds of thousands of anglers, hunters, and wildlife enthusiasts make millions of visits to WDFW lands each year, 12 million outdoor visits in 2000 alone. As population growth and development expands, visitors are beginning to understand and appreciate the significance of WDFW's fish and wildlife lands. The public is using these lands for hunting, fishing, nature hikes, bird watching, open space, cycling and mountain biking, rock climbing, cross country skiing, camping, picnicking, and almost every other outdoor activity imaginable. Conflicts between and among users have been limited, but there is concern about the effects of increasing public use on the quality and availability of habitat for fish and wildlife. The WDFW Lands Habitat Conservation Plan (in progress) and the individual wildlife area management plans are identifying and addressing these concerns. To learn more about how Washington communities enjoy and profit from fish and wildlife-related recreation, read "Adding It Up", http://wdfw.wa.gov/pubaffrs/adding_it_up.htm.

Contributions of Wildlife Viewing, Hunting and Fishing to Washington's Economy:
The 2006 National Survey of Fishing, Hunting and Wildlife-Associated Recreation by the U.S. Fish and Wildlife Service and the U.S. Bureau of Census released some astounding expenditure data for Washington (Appendix 6, http://www.census.gov/prod/2008pubs/fhw06-wa.pdf.) The Washington part of the survey indicates that annual direct expenditures on wildlife viewing exceed $1.5 billion; fishing $904 million and hunting $313 million in Washington every year. This generates:

- $4.5 billion Total Industry Output
- $365 million in state and local taxes generated
- $341 million in federal income tax revenue
- $707 million in taxes generated annually
- $1.414 billion in taxes generated per biennium!
- 1 out of 7 Washington residents hunt or fish; 764,000 hunters & anglers spend $4 million/day
- Hunters/fishers support more jobs than Boeing and Washington State University combined (19,800 jobs vs. 16,500)
- Annual hunter/fisher spending is $1.4 billion
- Hunters/fishers annually spend the same as the cash receipts from apples - the state's most valuable agricultural commodity ($1.4 billion)
- In 2006, hunters spent over $7.4 Million on trip-related expenditures (e.g., gas, food, and lodging) in Washington.
- Annually anglers spend on average more days fishing than Americans spend taking vacation (17 days vs. 13 days).

Further Detail on Wildlife Viewing:
More Washington citizens are participating in wildlife viewing than the traditional fishing and hunting pursuits which results in $1.5 billion in retail sales each year in Washington. With a

total economic multiplier effect of $2.52 billion, wildlife viewing is BIG business in Washington. Washington is home to a rich diversity of fish and wildlife species and the unique habitats that support them. Enjoyment of these resources also builds a healthy economy, especially in rural lands. According to the 2006 National Survey of Fishing, Hunting and Wildlife-Associated Recreation, wildlife viewers stimulate Washington's economy in many ways.

- 26,000 jobs
- $863 million in salaries, wages and business owner's income
- $203 million in state and local taxes
- $206 million in federal taxes
- The total economic output from wildlife watching in Washington, $2.52 billion annually
- 53% increase since 2001
- 49% of Washington's citizens participate

The new six-year Washington Tourism Plan identifies four travel "destination drivers," which are defined as products that stimulate fundamental travel decisions. For Washington, they are: natural environment, physical beauty, wildlife, and Seattle.

Baby-boomers are the driving force behind the explosive growth in wildlife viewing. Children born after WW II and the Korean War are now in their 50's and 60's, with much different recreational interests. Many are opting for less-strenuous, more rounded experiences. They are excellent tourists, often at the peak of their earnings, from households of one to two with most large expenses paid off, and with significant discretionary funds. The potential of nature-based tourism as a much-needed, rural, economic stimulus is just now being recognized, and provides an opportunity to increase sustainable practices that preserve and protect the assets that attract visitors to Washington State in the first place.

INVENTORY: DESCRIPTION OF WDFW PLANNING AND SERVICE AREA

WDFW's planning or service area for habitat conservation and recreation is the entire state of Washington and its natural resources. Increasing population growth and habitat conversion and declining biological diversity are the foremost reasons why land acquisition is needed to conserve our natural heritage and maintain recreational opportunities. The most recent description and status of Washington's biological diversity are found in two reports: the 2005 "WDFW Comprehensive Wildlife Conservation Strategy", http://wdfw.wa.gov/wlm/cwcs**,** and the 2007 "Washington's Biodiversity: Status and Threats", http://www.biodiversity.wa.gov/documents/WABiodiversityStatusThreats.pdf (Appendix 3). WDFW was a major author or contributor to these reports. This section presents reference documents that contain inventories of Washington's habitats/ecological systems and species.

Habitats/Ecological Systems

In 2001, WDFW published a major biological text entitled Wildlife-Habitat Relationships in Oregon and Washington. While this text contains information that is still relevant, the habitat classification has been replaced by the National Vegetation Classification (NVC). The NVC was developed by a consortium of agencies and is rapidly becoming the state and federal standard vegetation classification system.

The National Gap Analysis Project developed a national land cover map using the NVC Ecological System classification developed by NatureServe to represent natural and semi-natural land cover. Ecological systems were developed as a means of representing recurring groups of biological communities that are found in similar physical environments and that are influenced by similar dynamic ecological processes, such as fire or flooding. The creation of high quality land cover data furthers the mission of fish and wildlife agencies to "keep common species common" by identifying those places in the country with sufficient good quality habitat to support wildlife. Information about land cover is a key component of effective conservation planning and the management of biological diversity because it is used to build predictive models of wildlife distribution and biodiversity across large geographic areas. The new national map also meets natural resources agencies' need for a method for characterizing land cover and monitoring how it changes over time, http://www.gap.uidaho.edu/landcoverviewer.html.

The Washington map depicts 35 land cover types containing 116 ecological systems and modified ecological systems (Appendix 3). Both WDFW and WDNR are now using this classification. Descriptions of the ecological systems may be found in the "Draft Field Guide to Washington's Ecological Systems", http://www1.dnr.wa.gov/nhp/refdesk/communities/ecol_systems.html. WDNR and WDFW are also collaborating on an ecological integrity assessment framework for evaluating the condition of these systems on the ground (in progress).

Species

WDFW collects biological data on the distribution, abundance and habitat conditions of Washington's priority fish and wildlife species. The Priority Habitats and Species List (PHS 2009) is inclusive of all WDFW species lists including federal and state-listed species, species that are vulnerable because they concentrate in specific areas, species that are of recreational or

commercial importance, and species of greatest conservation need (species that qualify for federal funds under the State Wildlife Grants Program as described in the CWCS, http://wdfw.wa.gov/wlm/cwcs). Appendix 4 includes a table of all species on the PHS list with columns indicating their state and federal legal status and NatureServe ranks. The full Priority Habitats and Species document may be downloaded at http://wdfw.wa.gov/hab/phslist.htm.

The state legislature has authorized WDFW to classify wildlife by status category: endangered, threatened and sensitive. When WDFW determines that a species is declining in numbers or its habitat is undergoing rapid loss or alteration, the director places the species on the state candidate list. As time and budget permit, each species undergoes a status review that includes compilation of information from biological literature, field surveys and expert opinion. The status review includes a recommendation to the Fish and Wildlife Commission for classifying a species as endangered, threatened or sensitive. Once the species is listed, WDFW has five years to complete a recovery plan that includes objectives and tasks to recover the species. Updated status information may be found at http://wdfw.wa.gov/wildlife/management/endangered.html. Appendix 4 includes a distribution map of the state and federal, legally-listed animal species locations.

Game species status and trend reports are available at http://wdfw.wa.gov/hunting/index.html. Because salmonids are managed on the basis of stocks rather than the species as a whole, WDFW also maintains the Salmonid Stock Inventory that tracks the status of stocks as healthy, depressed, critical, unknown or extinct. Maps of the state critical and depressed stocks and the federal critical habitat for salmon are also included in Appendix 4.

Public requests for information and location maps on species and habitats may be submitted on line or by phone to the Priority Habitats and Species Program, www.wa.gov/wdfw/hab/phspage.htm, 360-902-2543.

NEED ANALYSIS: ACQUISITION OF NEW HABITAT AND RECREATION LANDS

WDFW identifies habitat conservation and recreation needs through program-level habitat assessments and species recovery and management plans. These plans are dynamic and change as new information about conservation and recreation is acquired. This need analysis section is divided into two subsections. First is a summary of current plans that guide acquisition and restoration of habitat lands and second is a list of plans that guide acquisition and development of recreational lands.

Plans that Guide Habitat Acquisition and Restoration

Comprehensive Wildlife Conservation Strategy - In consultation with other governmental and nongovernmental organizations, the Washington Department of Fish and Wildlife developed a Comprehensive Wildlife Conservation Strategy (CWCS) with the intention to create a new management framework for the protection of Washington's species and habitats in greatest need of conservation. Guiding principles for Washington's CWCS include conservation of species and habitats with greatest conservation need while recognizing the importance of keeping common species common, and to build and strengthen conservation partnerships with other conservation agencies, tribes, local governments, and non-governmental organizations.

Although WDFW is driven by planning at many different levels, from multi-agency salmon recovery plans to individual Wildlife Area plans, creation of the State Wildlife Grants program and the CWCS requirement provided an opportunity for WDFW to undertake an Agency-wide effort to reassess wildlife conservation priorities and set a new direction for the future. Specifically, the CWCS process provided the impetus for:

- a thorough reevaluation of priorities for species and habitat conservation
- a transition from statewide to ecoregional conservation
- acceleration of the evolution from species management (fine filter) to a more ecosystems-based management approach (coarse filter)
- expanding the emphasis on biodiversity conservation, at the statewide and ecoregional scales

The CWCS executive summary is in Appendix 5 and full report is available at http://wdfw.wa.gov/wlm/cwcs . A summary table in Appendix 5 lists species that need surveys, habitat restoration and acquisition to conserve populations (far right columns). This strategy guides WDFW Biologists' field work to identify potential habitat conservation and restoration sites.

Biodiversity Conservation Opportunity Framework **–** Developed by the state Biodiversity Council, a diverse group representing landowners, environmentalists, government agencies, tribes and others, the strategy lays out a path forward to enhance biodiversity conservation in Washington. WDFW assisted with development of the Conservation Opportunity Framework that maps biodiversity value and future threats at a landscape, regional scale (Appendix 5).

WDFW Biologists are using these maps to search for potential acquisition and restoration projects in landscapes that are classified as high value and medium-high risk. Link to report, http://www.biodiversity.wa.gov/documents/Chapter4_WABiodiversityConservationStrategy.pdf

Washington Wildlife Habitat Connectivity Project *(in progress)* – The analysis uses representative species to help understand the locations of important broad habitat connectivity linkages. The list of representative species for the statewide analysis includes black-tailed and white-tailed jackrabbits, American badger, mule deer, bighorn sheep, black bear, elk, mountain goat, wolverine, lynx, American marten, western gray squirrel, northern flying squirrel, western toad, and sharp-tailed and sage grouse. In addition, an ecological integrity ("naturalness") approach is being used to complement the species-based approach. The analysis including narrative and maps will help identify the best places to invest resources for conserving and restoring habitat between important core habitats. These connectivity areas have a high likelihood of aiding wildlife movement. Synthesizing information into a single, science-based analysis offers a tool to land owners, managers, and interested parties that has several benefits, including: 1) better coordination of conservation investments on lands owned or managed by multiple partners to improve habitat connectivity for wildlife, and 2) the ability to prioritize existing, high-quality connectivity areas that provide safe passage and to identify areas that are not functioning properly. WDFW will use these maps to prioritize habitat linkage areas for protection.

Species Status Reports and Recovery plans – A status report is required for classifying a species as endangered, threatened or sensitive. A recovery plan is required for each animal species that is federally or state-listed as endangered and threatened. These plans identify important habitat areas and/or recovery units. These are areas where WDFW will focus habitat acquisition for individual species. Not all listed species have been fully surveyed; new habitats will be added as we gain information. Also, new species will be listed as development and habitat loss increase. Appendix 5 includes a list of species with status reports and/or recovery plans; the full plans are available at this website http://wdfw.wa.gov/wlm/diversty/soc/concern.htm.

Salmon and Steelhead for the 21st Century **-** WDFW formed a planning team with expertise in science, habitat protection and recovery, hatchery management, fisheries, enforcement and outreach, to build a new framework for 21st century salmon and steelhead management. The framework is a matrix of measurable outcomes critical for healthy salmon and healthy fisheries, against which salmon-related strategies can be judged. The framework is organized by six key outcome areas: wild fish populations, habitat, fisheries, co-management, internal alignment and external support. Each key outcome area is made measurable with specific indicators of success. Benchmarks were plotted from 2009-2050, enabling WDFW to measure progress, evaluate the strategies, and synchronize activities. For more information see this link: http://wdfw.wa.gov/about/strategic_plan/.

Game and commercial species management plans **-** These plans identify key habitat areas that need protection and restoration to ensure sustainable populations over time, e. g. winter range, breeding areas, spawning areas, feeding areas. These priority habitat areas are the focus for land acquisitions for harvested species. Appendix 5 includes a table of species with management

plans; full plans can be downloaded from this link, http://wdfw.wa.gov/hunting/index.html .

WDFW Wildlife Area Management Plans – The plans define the goals and objectives for priority habitat and species protection, restoration and management on WDFW lands. More information is provided in the Need Analysis section on existing WDFW lands.

Other plans – Interagency plans such as the Waterfowl Joint Venture Plans and the Partners In-Flight Bird Conservation Plans are often used in conjunction with WDFW plans to identify priority areas for habitat acquisition.

Plans that Guide Acquisition and Development of Recreation Lands

National Survey of Fishing, Hunting, and Wildlife-Associated Recreation –WDFW uses the National Survey of Fishing, Hunting, and Wildlife-Associated Recreation to assess public interests in wildlife-oriented outdoor recreation. This survey has been conducted since 1955 and is one of the most comprehensive continuing recreation surveys. It gathers information on the number of participants and the amount they spend on their activities. Statistics for Washington State were summarized in the Public Benefits section of this document; the full report is available at http://www.census.gov/prod/2008pubs/fhw06-wa.pdf. These data support the continued need for access and facilities to serve Washington's growing population. Area-specific needs are identified in Wildlife Area Management Plans also listed in Appendix 6.

Washington Watchable Wildlife Strategic Plan – This plan, developed by a diverse group of citizens, identifies wildlife viewing access and development needs and strategies. The executive summary is included in Appendix 6 and the full document may be downloaded at http://wdfw.wa.gov/viewing/viewing_plan/viewingplan_2005.htm).

The departments of Fish and Wildlife and Commerce's Office of Tourism have worked together on a regular basis to co-market wildlife viewing and nature-based tourism in Washington for the past 7 years. These efforts have gained national acclaim, based on a number of cooperative ventures:

- In 2003, the Legislature passed SB 5011, requiring the agencies to co-host a conference on wildlife viewing tourism.
- The objective of the conference was to create a strategic plan with specific implementable actions for promotion of sustainable wildlife viewing tourism.
- Additional state and nonprofit agencies committed to participating in a formal Memorandum of Understanding in 2005 to work cooperatively on wildlife viewing activities.
- One of the most prominent accomplishments resulting from the plan and MOU are the co-hosting of six annual statewide wildlife viewing conferences.
- Wildlife viewing is a key attraction highlighted the Tourism's web portal experiencewa.com.
- Coordinated efforts to promote Washington's rich natural and cultural resources are an integral component of the Department of Transportation's Scenic Byway development.

Washington Boater Needs Assessment – This 2007 study was conducted for the Washington State Recreation and Conservation Office (RCO) to determine the needs of Washington boaters and to help determine priorities for allocating resources. The study engaged focus groups of boating services providers, a telephone survey of boating services providers, a telephone survey of the general public, and a telephone survey of registered boaters in Washington. The executive summary is included in Appendix 6 and the full report is available for download, http://www.rco.wa.gov/documents/rcfb/temp/boater_needs_assessment/Boating_Coord_Report.pdf.

Improving Coordination of State Services to Recreational Boaters **-** In 2008, the RCO contracted for a neutral, third party facilitator to conduct background interviews and research to understand the jurisdictional roles and responsibilities of the four main state agencies with responsibilities to provide services to recreational boaters and identify recommendations for improved agency coordination. The full report can be downloaded at http://www.rco.wa.gov/documents/rcfb/boating/Boating_Coord_Report.pdf.

Nine interviews were conducted: four interviews with staff and leadership in state agencies with responsibilities to provide boating services, and five interviews with stakeholders. This resulted in eleven specific recommendations to improve coordination of boating services. As of 2010, all recommendations below with the exception of #6 have been completed.

1. Establish an Agency Boating Committee (ABC).
2. Create an estimate of the state agency budgets (money in and money out) for recreational boating programs and share across state agencies with boating groups.
3. Create a state-wide GIS map layer showing public boating facilities statewide.
4. Establish a cross-agency web portal for recreational boaters.
5. Work with the recreational boating community to establish a regular conference on recreational boating services.
6. Establish an advisory task force on model design and construction standards (or best practices) for overwater structures and assess state boating infrastructure
7. Establish additional shared Washington Conservation Corps crews for maintenance at boating access sites. (Includes Parks, DNR and WDFW sites).
8. Coordinate information for potential grantees.
9. Ensure Clean Vessel Account grant funding is used to support construction, operation, and maintenance of upland facilities.
10. Better integrate WDFW enforcement efforts with the state enforcement program.
11. Reach out to stakeholders on boating safety law enforcement coordination."

Washington State Comprehensive Outdoor Recreation Plan – The 2008 version of this plan is titled "Defining and Measuring Success: The Role of State Government in Outdoor Recreation". This RCO plan includes a public survey that identifies nature-oriented, outdoor recreation needs and may also help guide WDFW recreation projects.

NEED ANALYSIS: RESTORATION, RENOVATION AND DEVELOPMENT OF EXISTING LANDS

Wildlife Areas

With population growth and diminishing lands available for public use, public recreation demands are increasing dramatically. Wildlife Areas provide extensive access to the public for recreation. These widely dispersed areas often include access for activities such as hiking, hunting, fishing, biking, horseback riding, wildlife viewing, camping, etc.

There is a basic need to maintain existing facilities and provide additional recreational opportunities in keeping with the primary purpose of preserving and protecting wildlife and their habitats and providing compatible wildlife-related recreation. For example, relocating campgrounds and access points may effectively address problem areas were inappropriate uses create resource damage. Developing adequate campgrounds may keep the public from camping in sensitive areas such as riparian zones. In addition, realigning roads, trails, trailheads, access points may avoid and minimize impacts to sensitive habitats. Also, with more weed control, wildlife habitat can be maintained while continuing to provide recreational opportunities.

Activities on Wildlife Areas may include inappropriate recreational use and can result in resource damage. Such damage increases the cost of operating and maintaining existing access areas. Other problems associated with public access include illegal hunting, fishing, trash dumping and trespassing on private property. These issues and the lack of funds have generated concern from traditional user groups. More facilities, enforcement, and education are needed to manage public use while protecting quality fish and wildlife habitat. Correcting serious damages following a period of neglect can be more expensive than regular maintenance. Developing or acquiring new access areas for multiple-use, could effectively manage the conflicts or problems.

Of particular concern is protection of quality habitat. It is the open land with the plant communities, geologic features, and wildlife that makes these areas desirable places to recreate. The wildlife area management plans described below list specific needs to restore habitat and renovate or develop recreation sites.

WDFW Wildlife Area Management Plans – The plans define the goals and objectives for priority habitat and species protection and management on WDFW lands. The plans also address issues to achieve sustainable wildlife populations and to provide compatible fish and wildlife-related recreational opportunities on Wildlife Areas (see list of plans in Appendix 6). A project list is developed from the plans, project request forms are submitted to headquarters, and then the list is prioritized so projects may be scheduled over an eight –year horizon (Appendix 6). Each biennium, the top priority projects for all fund sources are submitted for funding in the WDFW Capital Budget Request (Appendix 6). More information on wildlife areas and management plans is available on this webpage, http://wdfw.wa.gov/lands/wildarea.htm.

The following example excerpts management strategies from the South Puget Sound Wildlife Area Complex Management Plan.

Agency Objective: Protect, restore and enhance fish and wildlife populations and their Habitats.

1. *Maintain big game populations*
The management activities that occur on McNeil, Gertrude and Pitt Islands are based on the transfer deed management requirements for the following strategies.

A. Strategy: Perform deer counts of black-tail deer population on McNeil Island.
B. Strategy: Coordinate and advise Department of Corrections on proposed farming activities on McNeil Island that should benefit wildlife.

2. *Improve and maintain fish populations*
Elements of a fully functional riparian corridor include: 1) vegetation adapted to wet conditions; 2) thermal cover; and 3) stream channel features including pools, riffles, large woody debris and stream bank stability; all these elements are primary factors influencing the quality and health of fish habitat.

A. Strategy: Coordinate with Department of Corrections on McNeil Island on proposed salmon enhancement projects.

3. *Protect and restore prairie habitat*
Oregon white oak, associated with prairie habitat, is uncommon and at the extent of its range on the west side of the Cascade Mountains and north of the Columbia River. It has been subject to loss from land development and invasion of Douglas-fir. Approximately 10 % of the original short-grass prairies remain in the Puget Sound area. Most of the prairie habitat (90%) is located on Fort Lewis. The remainder is located in several parcels owned by Washington Department of Fish and Wildlife, Washington Department of Natural Resources, Thurston County, and The Nature Conservancy. All of these agencies are working to protect, restore and enhance prairie habitats. Scatter Creek and West Rocky Prairie are two of the largest parcels, and have some of the highest quality native prairie habitat. Several species of butterflies, mammals and birds depend on this prairie habitat. The Mardon skipper butterfly is a State Endangered species in Washington and is found on Scatter Creek. The Mazama pocket gopher, valley silverspot, and Puget blue are State Candidate species that are in very low numbers in Washington State, and depend on the native prairies and associated Oregon white oak woodlands at Scatter Creek. The State Endangered plant, *Sidalcea malviflora var virgata* only occurs in Washington State at the Scatter Creek Unit. Scatter Creek and West Rocky Prairie may also play an important role in recovering the Federally Endangered golden paintbrush (*Castilleja levisecta*). For all of these species to survive on Scatter Creek and West Rocky Prairie, it is critical that the native prairie habitat be protected, restored and enhanced. The South Puget Sound unit is one of the last parcels of native prairie and Oregon white oak woodlands in Lakewood. Located in an urban setting, it provides a unique opportunity to educate the public in the importance of native prairie and oak

woodlands habitats, and the process of restoring these habitats.

A. Strategy: Use West Rocky Prairie as a release and recovery site for endangered Mazama Pocket Gophers. Begin releasing gophers onto the site as soon as funding for the project is secured.

B. Strategy: Continue planting native Roemer's (Idaho) fescue on degraded prairie area on the West Rocky Prairie site. Use ACUB and other grant funds to accomplish work to be completed in 2009.

C. Strategy: Control weeds that may come up in areas where Scot's broom and tall oat grass has been treated. Use ACUB and other grant funds to accomplish work to be completed in 2009.

D. Strategy: Continue to work with other state and federal agencies on new prairie restoration techniques.

E. Strategy: Plant 1,000 Oregon white oak trees to enhance oak woodland on the Koopmans farm property.

4. *Protect and restore riparian/wetland habitat*

A. Strategy: Continue coordination and planning with the Lakewood Fish Hatchery and Pierce County on new pond development on the SPS UWIC property for endangered western pond turtles.

Agency Objective: Provide sound operational management of WDFW lands, facilities and access sites.

1. *Maintain facilities to achieve safe, efficient and effective management of the wildlife area.*

A. Strategy: Complete boundary fence on West Rocky Prairie site.

B. Strategy: Grade main parking area at the Koopmans Farm.

C. Strategy: Setup new parking area at north end of the Koopmans Farm property.

D. Strategy: Build field wire fence around oak tree planting area on the Koopmans Farm property.

Agency Objective: Provide sustainable fish and wildlife-related recreational and commercial opportunities compatible with maintaining healthy fish and wildlife populations and habitats. Improve the economic well being of Washington by providing diverse, high quality recreational and commercial opportunities.

1. *Provide public access compatible with fish, wildlife and habitat protection.*

A. Strategy: Work closely with the field trail groups to coordinate recreational activities on the Koopmans Farm site.

B. Strategy: Work closely with the agricultural lessee on the Koopmans Farm site to coordinate farming and recreational activities.

C. Strategy: Work with the Kitsap Fly Anglers on an access parking area on the Morgan Marsh property.

Agency Objective: Ensure WDFW Activities, Programs, Facilities and Lands are

Consistent with Local, State and Federal Regulations that Protect and Recover Fish, Wildlife and their Habitats.

1. *Manage species and habitats in compliance with the Endangered Species Act and Washington State fish passage, road management and forest practice rules.*

A. Strategy: Rebuild two harbor seal observation blinds on McNeil and Gertrude Islands."

Recreational Access Sites

Though Washington is the smallest of 11 western states it is the second highest in human population density. This translates into an increased demand on public resources especially the areas where the public gains access for fishing, hunting, boating, camping, etc. Despite these challenges, these sites are becoming increasingly more popular with the public, which further increases the need for more maintenance. WDFW estimates that between three and five million people visit WDFW Recreational Access Sites each year. The types of recreational uses have also changed dramatically in the past few decades. Traditional uses continue while new ones surface, including wildlife viewing, jet skiing, mini-hydroplane racing, swimming, kayaking, rock climbing and river rafting.

WDFW has made great strides in recent years to maintain Recreational Access Sites statewide without sufficient funding, however, some basic maintenance and operation needs are still unmet. For example, garbage disposal, fence deterioration, and vandalism continue to occur and illegal dumping and drug activities take place at some sites. As with WDFW's Wildlife Areas, more law enforcement, maintenance and education are needed to properly manage public use. WDFW's newly revived "Adopt an Access Program" (AAAP) has positive benefits but it cannot substitute for adequate operation and maintenance funding. The AAAP is a volunteer program designed to enhance stewardship of our recreational access area sites by eliciting volunteers to assist the Department in cleaning our sites up, as well as reporting vandalism and inappropriate use. Volunteers are given a WDFW Adopt and Access sign with their group name inscribed, WDFW blue volunteer baseball caps, work gloves and plenty of garbage bags to assist them in their efforts. There are 25 AAAP's across the state and the program is expanding.

This past year, WDFW included a new component to the AAAP called the "Eyes in the Woods Property Watch Program". The program is an opportunity for volunteers to work with WDFW Enforcement and Access Staff in non-confrontational support activities such as documenting illegal activities and monitoring video cameras at highly vandalized access sites. WDFW's flagship project at American Lake in Pierce County involved certifying 25 volunteers in Citizen Observation Report Training (CORT). As a result of this successful project, all gang graffiti and illegal activities on the site have dropped to a minimum. WDFW intends to replicate the "American Lake Model" at one recreational access site in all six WDFW regions of the State.

WDFW Recreational Access Renovation and Development List - WDFW periodically evaluates the need for renovation or development of access sites to meet the demands of Washington's growing population. Public input is received from WDFW fish advisory groups and annual

meetings of recreation organizations. A project list is developed, project request forms are submitted and then the list is prioritized so projects may be scheduled over an eight –year horizon (Appendix 6). Each biennium, the top priority projects for all fund sources are submitted for funding in the WDFW Capital Budget Request (Appendix 6).

Mitigation plans – These plans identify habitats and species that are impacted by major development projects, e.g. power and highway projects. Most plans include mitigation strategies and some identify priority sites for acquisition or restoration, e.g. BPA subbasin plans, available at www.cbfwa.org.

The Bonneville Power Administration (BPA) has received mitigation credit for funding land acquisition, habitat enhancement, and ongoing management of habitats on the following wildlife areas: Asotin, Sagebrush Flat, Columbia Basin, Wenas, Shillapoo, Scotch Creek, Sunnyside and Swanson Lakes. The presence of these wildlife areas provide habitat units toward BPA's overall Wildlife Mitigation Debt for the Columbia River hydroelectric system. Most of the management strategies relating to habitat management identified in the Wildlife Area Management Plans are funded through BPA's mitigation program. The following wildlife areas have specific mitigation agreements as the result of hydropower FERC relicensing processes:

Cowlitz Wildlife Area
http://www.mytpu.org/tacomapower/parks-rec/fish-wildlife/cowlitz-river-project/wildlife-programs.htm
Wynoochee Wildlife Area
http://www.mytpu.org/tacomapower/parks-rec/fish-wildlife/wynoochee-river-project/Default.htm
Chelan Wildlife Area
http://www.chelanpud.org/3265.html
Wells Wildlife Area
http://relicensing.douglaspud.org/background/wells_project/wildlife_resources.htm.

PUBLIC INVOLVEMENT

The procedure for developing WDFW's capital projects list is described in the following section. There are several opportunities for public input on specific acquisition projects prior to grant requests including presentations to department advisory councils, local government officials, the State Lands Coordination Forum, and the Fish and Wildlife Commission.

As noted in the prior section, WDFW has multiple plans and strategies to guide habitat conservation and recreational development, and each of these plans has its own public involvement process. These processes are described below.

WDFW Comprehensive Wildlife Conservation Strategy and Washington Biodiversity Conservation Strategy - Both of these statewide strategies were developed with input from science, landowner and citizen advisory groups and regional public meetings. Both documents also had a public comment period before the final reports were issued.

WDFW Wildlife Recovery Plans - The department writes the draft species recovery plans, conducts peer review, incorporates comments and then distributes them to a list of interested individuals, professionals and organizations for further review. A news release notifies the general public of the 90-day review period; comments are considered and the director approves the final plan.

WDFW Game and Commercial Species Management Plans - A public scoping document is distributed to interested individuals and organizations to solicit input on management plans for game and commercial species. A news release notifies the general public of opportunity to comment on the scoping document and later the Draft Environmental Impact Statement. Comments on the DEIS are considered and Preferred Alternatives are selected for approval by the Fish and Wildlife Commission. Department staff write the species management plan from the final EIS for the director's review and approval.

WDFW Wildlife Areas and Recreational Access Sites - Currently, public involvement for the Wildlife Areas mainly consists of Citizen Advisory Groups (CAG). Their role has been to bring public input, ideas and concerns to WDFW on land management. Participation by CAG members adds credibility and support for land management practices and helps to build constituencies for wildlife areas. WDFW has CAGs associated with all of the Wildlife Areas and meetings generally occur at least twice a year.

In the past, other techniques have been used to assess public opinion, however recent budget cuts no longer allow this level of outreach. These consisted of past and present plan review, local presentations and informal talks involving the Wildlife Area Managers. Reoccurring issues brought to our attention were mainly land management issues such as grazing, timber and road management, public use, habitat maintenance/improvement, weed control, enforcement, funding and public information and involvement such as education and participation with land use decision-making. In general, with all Wildlife Areas, the collection of public input is evaluated

by the CAG specific to each individual Wildlife Area and by Department staff. Input is categorized into specific concerns and issues which are then prioritized by CAG and Department staff, with emphasis on protecting, restoring and enhancing fish and wildlife and their habitats, while providing sustainable fish and wildlife-related recreational opportunities as well as funding availability. Proposals are then developed to address the specific concerns and issues as part of the site-specific Wildlife Area management planning process. To further implement the plan, the CAG and Department staff evaluate the need for additional funding and pursue strategies for obtaining those funds and resources.

Similar methods are used to solicit public input for Recreational Access (e.g. WDFW Fish Advisory Groups). WDFW staff also attend annual meetings with Trout Unlimited, the Bass Federation and Walleyes Unlimited and some monthly meetings with such clubs as the Lower Columbia Walleye Club, the Walla-Walla Walleye Club, the western Washington Bass Club, the Puyallup Hog Hunters and the Coastal Bass Masters.

The WDFW Lands Habitat Conservation Plan is an efficient vehicle for public input and participation from other government agencies, tribes, and other interested parties. It is key to the successful development and eventual implementation of a Habitat Conservation Plan. During project initiation, WDFW formulated a comprehensive strategy to guide public involvement throughout HCP development, http://wdfw.wa.gov/hcp/hcp_strategies.pdf. This strategy includes public meetings, tribal involvement, and engagement of the Wildlife Area's Citizen Advisory Groups (CAGs) in plan review.

WDFW Watchable Wildlife Strategic Plan - In 2003, the Washington State Legislature passed SB 5011 requesting that the departments of Fish and Wildlife and Community, Trade and Economic Development host a working conference to adopt a strategic plan to promote wildlife viewing tourism in Washington. Over 150 people representing a broad spectrum of agencies, individuals and businesses involved in wildlife tourism attended. A survey of other watchable wildlife activities in the state was gathered for presentation at the time of the conference. Further input was gathered from participants at a Washington State Tourism Forum. The plan received general public review in January 2004. The plan summarizes the major findings of the conference, the survey, the forum and general public review, http://wdfw.wa.gov/viewing/viewing_plan/viewingplan_2005.htm.

Other WDFW Advisory Groups - In addition to public involvement for the various department plans, the director maintains multiple advisory committees and periodically convenes focus groups to obtain input on specific issues.

CAPITAL IMPROVEMENT PROCESS

Procedure for Developing Acquisition Projects

Habitat conservation and recreation planning within the Department of Fish and Wildlife is a cross-program effort. In 1997, four assistant directors established the WDFW Lands Work Group – "*To develop a statewide process and plan for prioritizing land acquisition and recreation projects, to coordinate and evaluate project nominations, and to educate employees about funding opportunities and the project application process."* The work group developed a procedure and guidance manual to assist WDFW staff in developing habitat conservation and recreation projects (Appendix 7). Members of the work group periodically give presentations to staff on how to develop habitat acquisition and recreation projects and to stimulate project nominations.

In 2005, the lands work group updated WDFW evaluation criteria to ensure that habitat acquisition projects meet conservation and recreation objectives in WDFW plans and that the projects will compete well in the various grant programs Lands 20/20 Transaction Evaluation Matrix (Appendix 1). WDFW used the evaluation criteria to develop the 2010 list of proposed RCO acquisition projects (Appendix 7). The projects were reviewed by an internal science panel and then submitted to the executive management team for approval. Public review of agency acquisition projects occurs in meetings of agency advisory councils, the Fish and Wildlife Commission, the State Lands Coordinating Forum and through consultation with local governments.

Procedure for Restoration, Renovation and Development Projects

Habitat restoration needs are identified in Wildlife Area Management Plans and project request forms (Appendix 7) are submitted by Wildlife Area Managers and Biologists. They are evaluated at the program-level based on need/benefit, listed/priority species, grant category fit, cost, regional priorities, statewide spread. The best projects are then developed as grant proposals.

Recreational development needs identified in the plans include access areas, regulatory or educational signing, wildlife-viewing blinds, campgrounds, trails, trailheads, roads, view points, boat launches, floats, piers, gangways, parking, signing, restrooms, and more. Project request forms are submitted to headquarters (Appendix 7). The projects are evaluated at the program-level based on need, site suitability and design, diversity and compatibility, performance measures, public benefit and population proximity.

All capital projects are further evaluated at the agency-level based upon the following criteria:

- Potential public health and safety code violations (what is the life, safety or health or probability of code violations if this project is not done)
- Protection of assets (WDFW owned or controlled assets), how the problem affects the asset or program associated with the project

- Protection of environment - fish, wildlife and their habitats
- Protection of the capital investment
- Supports agency strategic goals, plans and objectives

The list of restoration, renovation and development projects is prioritized so projects may be scheduled over an eight –year horizon (Appendix 6). Each biennium, the top priority projects for all fund sources are submitted for funding in the WDFW Capital Budget Request (Appendix 6). Appendix 7 lists all 2010 WDFW capital project proposals for the various RCO grant programs.

ADOPTION PROCESS

This document, the WDFW Habitat and Recreation Lands RCO Eligibility Plan, was prepared by WDFW staff, reviewed by the Lands Division Manager and approved by the Director or his designee as noted on the RCO Self Certification Form.

WASHINGTON DEPARTMENT OF FISH AND WILDLIFE - AUTHORITIES

RCW 77.04.020 Composition of department — Powers and duties.

The department consists of the state fish and wildlife commission and the director. The commission may delegate to the director any of the powers and duties vested in the commission. [2000 c 107 § 202; 1996 c 267 § 32; 1993 sp.s. c 2 § 59; 1987 c 506 § 4; 1980 c 78 § 3; 1955 c 36 § 77.04.020. Prior: 1947 c 275 § 2; Rem. Supp. 1947 § 5992-12.]

Notes: **Intent -- Effective date -- 1996 c 267:** See notes following RCW 77.12.177.

Effective date -- 1993 sp.s. c 2 §§ 1-6, 8-59, and 61-79: See RCW 43.300.900.

Severability -- 1993 sp.s. c 2: See RCW 43.300.901.

Legislative findings and intent -- 1987 c 506: "Washington's fish and wildlife resources are the responsibility of all residents of the state. We all benefit economically, recreationally, and aesthetically from these resources. Recognizing the state's changing environment, the legislature intends to continue to provide opportunities for the people to appreciate wildlife in its native habitat. However, the wildlife management in the state of Washington shall not cause a reduction of recreational opportunity for hunting and fishing activities. The paramount responsibility of the department remains to preserve, protect, and perpetuate all wildlife species. Adequate funding for proper management, now and for future generations, is the responsibility of everyone.

The intent of the legislature is: (1) To allow the governor to select the director of wildlife; (2) to retain the authority of the wildlife commission to establish the goals and objectives of the department; (3) to insure a high level of public involvement in the decision-making process; (4) to provide effective communications among the commission, the governor, the legislature, and the public; (5) to expand the scope of appropriate funding for the management, conservation, and enhancement of wildlife; (6) to not increase the cost of license, tag, stamp, permit, and punch card fees prior to January 1, 1990; and (7) for the commission to carry out any other responsibilities prescribed by the legislature in this title." [1987 c 506 § 1.]

References -- 1987 c 506: "All references in the Revised Code of Washington to the department of game, the game commission, the director of game, and the game fund shall mean, respectively, the department of wildlife, the wildlife commission, the director of wildlife, and the wildlife fund." [1987 c 506 § 99.]

Continuation of rules, director, game commission -- 1987 c 506: "Rules of the department of game existing prior to July 26, 1987, shall remain in effect unless or until amended or repealed by the director of wildlife or the wildlife commission pursuant to Title 77 RCW. The director of game on July 26, 1987, shall continue as the director of wildlife until resignation or removal in accordance with the provisions of RCW 43.17.020. The game commission on July 26, 1987, shall continue as the wildlife commission." [1987 c 506 § 100.]

Effective date -- Intent, construction -- Savings -- Severability -- 1980 c 78: See notes following RCW 77.04.010.

Appendix: RCWs

RCW 77.040.012

Mandate of department and commission.

Wildlife, fish, and shellfish are the property of the state. The commission, director, and the department shall preserve, protect, perpetuate, and manage the wildlife and food fish, game fish, and shellfish in state waters and offshore waters.

The department shall conserve the wildlife and food fish, game fish, and shellfish resources in a manner that does not impair the resource. In a manner consistent with this goal, the department shall seek to maintain the economic well-being and stability of the fishing industry in the state. The department shall promote orderly fisheries and shall enhance and improve recreational and commercial fishing in this state.

The commission may authorize the taking of wildlife, food fish, game fish, and shellfish only at times or places, or in manners or quantities, as in the judgment of the commission does not impair the supply of these resources.

The commission shall attempt to maximize the public recreational game fishing and hunting opportunities of all citizens, including juvenile, disabled, and senior citizens.

Recognizing that the management of our state wildlife, food fish, game fish, and shellfish resources depends heavily on the assistance of volunteers, the department shall work cooperatively with volunteer groups and individuals to achieve the goals of this title to the greatest extent possible.

Nothing in this title shall be construed to infringe on the right of a private property owner to control the owner's private property.

RCW 77.12.037

Acquisition, use, and management of property -- Condemnation -- When authorized.

The commission may acquire by gift, easement, purchase, lease, or condemnation lands, buildings, water rights, rights of way, or other necessary property, and construct and maintain necessary facilities for purposes consistent with this title. The commission may authorize the director to acquire property under this section, but the power of condemnation may only be exercised by the director when an appropriation has been made by the legislature for the acquisition of a specific property, except to clear title and acquire access rights of way.

The commission may sell, lease, convey, or grant concessions upon real or personal property under the control of the department.

RCW 77.12.210

Department property -- Management, sale.

The director shall maintain and manage real or personal property owned, leased, or held by the department and shall control the construction of buildings, structures, and improvements in or on the property. The director may adopt rules for the operation and maintenance of the property.

The commission may authorize the director to sell, lease, convey, or grant concessions upon real or personal property under the control of the department. This includes the authority to sell timber, gravel, sand, and other materials or products from real property held by the department, and to sell or lease the department's real or personal property or grant concessions or rights of way for roads or utilities in the property. Oil and gas resources owned by the state which lie below lands owned, leased, or held by the department shall be offered for lease by the commissioner of public lands pursuant to chapter 79.14 RCW with the proceeds being deposited in the state wildlife fund: PROVIDED, That the commissioner of public lands shall condition such leases at the request of the department to protect wildlife and its habitat.

If the commission determines that real or personal property held by the department cannot be used advantageously by the department, the director may dispose of that property if it is in the public interest.

If the state acquired real property with use limited to specific purposes, the director may negotiate terms for the return of the property to the donor or grantor. Other real property shall be sold to the highest bidder at public auction. After appraisal, notice of the auction shall be published at least once a week for two successive weeks in a newspaper of general circulation within the county where the property is located at least twenty days prior to sale.

Proceeds from the sales shall be deposited in the state wildlife fund.

RCW 77.12.220

Acquisition or transfer of property.

For purposes of this title, the commission may make agreements to obtain real or personal property or to transfer or convey property held by the state to the United States or its agencies or instrumentalities, units of local government of this state, public service companies, or other persons, if in the judgment of the commission and the attorney general the transfer and conveyance is consistent with public interest. For purposes of this section, "local government" means any city, town, county, special district, municipal corporation, or quasi-municipal corporation.

If the commission agrees to a transfer or conveyance under this section or to a sale or return of real property under RCW 77.12.210, the director shall certify, with the attorney general, to the governor that the agreement has been made. The certification shall describe the real property. The governor then may execute and the secretary of state attest and deliver to the appropriate entity or person the instrument necessary to fulfill the agreement.

Chapter 79A.15 RCW

RCW 79A.15.005

Findings.

The legislature finds:

(1) That Washington possesses an abundance of natural wealth in the form of forests, mountains, wildlife, waters, and other natural resources, all of which help to provide an unparalleled diversity of outdoor recreation opportunities and a quality of life unmatched in this nation;

(2) That as the state's population grows, the demand on these resources is growing too, placing greater stress on today's already overcrowded public recreational lands and facilities, and resulting in a significant loss of wildlife habitat and lands of unique natural value;

(3) That public acquisition and development programs have not kept pace with the state's expanding population;

(4) That private investment and employment opportunities in general and the tourist industry in particular are dependent upon the continued availability of recreational opportunities and our state's unique natural environment;

(5) That if current trends continue, some wildlife species and rare ecosystems will be lost in the state forever and public recreational lands will not be adequate to meet public demands;
(6) That there is accordingly a need for the people of the state to reserve certain areas of the state, in rural as well as urban settings, for the benefit of present and future generations.

It is therefore the policy of the state to acquire as soon as possible the most significant lands for wildlife conservation and outdoor recreation purposes before they are converted to other uses, and to develop existing public recreational land and facilities to meet the needs of present and future generations.
[1990 1st ex.s. c 14 § 1. Formerly RCW 43.98A.005.]

RCW 79A.15.010

Definitions.

The definitions set forth in this section apply throughout this chapter.
(1) "Acquisition" means the purchase on a willing seller basis of fee or less than fee interests in real property. These interests include, but are not limited to, options, rights of first refusal, conservation easements, leases, and mineral rights.
(2) "Committee" means the interagency committee for outdoor recreation.
(3) "Critical habitat" means lands important for the protection, management, or public enjoyment of certain wildlife species or groups of species, including, but not limited to, wintering range for deer, elk, and other species, waterfowl and upland bird habitat, fish habitat, and habitat for endangered, threatened, or sensitive species.
(4) "Local agencies" means a city, county, town, tribe, special purpose district, port district, or other political subdivision of the state providing services to less than the entire state.
(5) "Natural areas" means areas that have, to a significant degree, retained their natural character and are important in preserving rare or vanishing flora, fauna, geological, natural historical, or similar features of scientific or educational value.
(6) "Special needs populations" means physically restricted people or people of limited means.
(7) "Trails" means public ways constructed for and open to pedestrians, equestrians, or bicyclists, or any combination thereof, other than a sidewalk constructed as a part of a city street or county road for exclusive use of pedestrians.
(8) "Urban wildlife habitat" means lands that provide habitat important to wildlife in proximity to a metropolitan area.
(9) "Water access" means boat or foot access to marine waters, lakes, rivers, or streams.
[1990 1st ex.s. c 14 § 2. Formerly RCW 43.98A.010.]

RCW 79A.15.020

Habitat conservation account.

The habitat conservation account is established in the state treasury. The committee shall administer the account in accordance with chapter 79A.25 RCW and this chapter, and shall hold it separate and apart from all other money, funds, and accounts of the committee.
[2000 c 11 § 65; 1990 1st ex.s. c 14 § 3. Formerly RCW 43.98A.020.]

RCW 79A.15.030

Allocation and use of moneys -- Grants.

(1) Moneys appropriated for this chapter shall be divided equally between the habitat conservation and outdoor recreation accounts and shall be used exclusively for the purposes specified in this chapter.
(2) Moneys deposited in these accounts shall be invested as authorized for other state funds, and any earnings on them shall be credited to the respective account.

(3) All moneys deposited in the habitat conservation and outdoor recreation accounts shall be allocated under RCW 79A.15.040 and 79A.15.050 as grants to state or local agencies for acquisition, development, and renovation within the jurisdiction of those agencies, subject to legislative appropriation. The committee may use or permit the use of any funds appropriated for this chapter as matching funds where federal, local, or other funds are made available for projects within the purposes of this chapter.
(4) Projects receiving grants under this chapter that are developed or otherwise accessible for public recreational uses shall be available to the public on a nondiscriminatory basis.
(5) The committee may make grants to an eligible project from both the habitat conservation and outdoor recreation accounts and any one or more of the applicable categories under such accounts described in RCW 79A.15.040 and 79A.15.050.
[2000 c 11 § 66; 1990 1st ex.s. c 14 § 4. Formerly RCW 43.98A.030.]
NOTES:
Outdoor recreation account: Chapter 79A.25 RCW.

RCW 79A.15.040

Habitat conservation account -- Distribution and use of moneys.
(1) Moneys appropriated for this chapter to the habitat conservation account shall be distributed in the following way:
(a) Not less than thirty-five percent for the acquisition and development of critical habitat;
(b) Not less than twenty percent for the acquisition and development of natural areas;
(c) Not less than fifteen percent for the acquisition and development of urban wildlife habitat; and
(d) The remaining amount shall be considered unallocated and shall be used by the committee to fund high priority acquisition and development needs for critical habitat, natural areas, and urban wildlife habitat. During the fiscal biennium ending June 30, 2001, the remaining amount reappropriated from the fiscal biennium ending June 30, 1999, may be allocated for matching grants for riparian zone habitat protection projects that implement watershed plans under the program established in section 329(6), chapter 235, Laws of 1997.
(2) In distributing these funds, the committee retains discretion to meet the most pressing needs for critical habitat, natural areas, and urban wildlife habitat, and is not required to meet the percentages described in subsection (1) of this section in any one biennium.
(3) Only state agencies may apply for acquisition and development funds for critical habitat and natural areas projects under subsection (1)(a), (b), and (d) of this section.
(4) State and local agencies may apply for acquisition and development funds for urban wildlife habitat projects under subsection (1)(c) and (d) of this section.
[1999 c 379 § 917; 1997 c 235 § 718; 1990 1st ex.s. c 14 § 5. Formerly RCW 43.98A.040.]
NOTES:
Effective date -- 1999 c 379: "This act is necessary for the immediate preservation of the public peace, health, or safety, or support of the state government and its existing public institutions, and takes effect immediately [May 18, 1999]." [1999 c 379 § 949.]
Severability -- 1997 c 235: "If any provision of this act or its application to any person or circumstance is held invalid, the remainder of the act or the application of the provision to other persons or circumstances is not affected." [1997 c 235 § 901.]
Effective date -- 1997 c 235: "This act is necessary for the immediate preservation of the public peace, health, or safety, or support of the state government and its existing public institutions, and takes effect immediately [April 26, 1997]." [1997 c 235 § 902.]

RCW 79A.15.050

Outdoor recreation account -- Distribution and use of moneys.
(1) Moneys appropriated for this chapter to the outdoor recreation account shall be distributed in the following way:

(a) Not less than twenty-five percent to the state parks and recreation commission for the acquisition and development of state parks, with at least seventy-five percent of this money for acquisition costs. However, during the 1999-2001 biennium, distributions for acquisition and development of state parks shall not exceed four million two hundred fifty thousand dollars, and the proportion for acquisition costs shall be determined by the commission;
(b) Not less than twenty-five percent for the acquisition, development, and renovation of local parks, with at least fifty percent of this money for acquisition costs;
(c) Not less than fifteen percent for the acquisition and development of trails;
(d) Not less than ten percent for the acquisition and development of water access sites, with at least seventy-five percent of this money for acquisition costs; and
(e) The remaining amount shall be considered unallocated and shall be distributed by the committee to state and local agencies to fund high priority acquisition and development needs for parks, trails, and water access sites.
(2) In distributing these funds, the committee retains discretion to meet the most pressing needs for state and local parks, trails, and water access sites, and is not required to meet the percentages described in subsection (1) of this section in any one biennium.
(3) Only local agencies may apply for acquisition, development, or renovation funds for local parks under subsection (1)(b) of this section.
(4) State and local agencies may apply for funds for trails under subsection (1)(c) of this section.
(5) State and local agencies may apply for funds for water access sites under subsection (1)(d) of this section.
[1999 c 379 § 941; 1999 c 379 § 920; 1990 1st ex.s. c 14 § 6. Formerly RCW 43.98A.050.]
NOTES:
Effective date -- 1999 c 379: See note following RCW 79A.15.040.

RCW 79A.15.060

Habitat conservation account -- Acquisition policies and priorities.
(1) The committee may adopt rules establishing acquisition policies and priorities for distributions from the habitat conservation account.
(2) Moneys appropriated for this chapter may not be used by the committee to fund additional staff positions or other overhead expenses, or by a state, regional, or local agency to fund operation and maintenance of areas acquired under this chapter, except that the committee may use moneys appropriated for this chapter for the fiscal biennium ending June 30, 2001, for the administrative costs of implementing the pilot watershed plan implementation program established in section 329(6), chapter 235, Laws of 1997, and developing an inventory of publicly owned lands established in section 329(7), chapter 235, Laws of 1997.
(3) Moneys appropriated for this chapter may be used for costs incidental to acquisition, including, but not limited to, surveying expenses, fencing, and signing.
(4) Except as provided in subsection (5) of this section, the committee may not approve a local project where the local agency share is less than the amount to be awarded from the habitat conservation account.
(5) During the fiscal biennium ending June 30, 2001, the committee may approve a riparian zone habitat protection project established in section 329(6), chapter 235, Laws of 1997, where the local agency share is less than the amount to be awarded from the habitat conservation account.
(6) In determining acquisition priorities with respect to the habitat conservation account, the committee shall consider, at a minimum, the following criteria:
(a) For critical habitat and natural areas proposals:
(i) Community support;
(ii) Immediacy of threat to the site;
(iii) Uniqueness of the site;
(iv) Diversity of species using the site;
(v) Quality of the habitat;

(vi) Long-term viability of the site;
(vii) Presence of endangered, threatened, or sensitive species;
(viii) Enhancement of existing public property;
(ix) Consistency with a local land use plan, or a regional or state-wide recreational or resource plan; and
(x) Educational and scientific value of the site.
(b) For urban wildlife habitat proposals, in addition to the criteria of (a) of this subsection:
(i) Population of, and distance from, the nearest urban area;
(ii) Proximity to other wildlife habitat;
(iii) Potential for public use; and
(iv) Potential for use by special needs populations.
(7) Before October 1st of each even-numbered year, the committee shall recommend to the governor a prioritized list of state agency projects to be funded under RCW 79A.15.040(1) (a), (b), and (c). The governor may remove projects from the list recommended by the committee and shall submit this amended list in the capital budget request to the legislature. The list shall include, but not be limited to, a description of each project; and shall describe for each project any anticipated restrictions upon recreational activities allowed prior to the project.
(8) Before October 1st of each year, the committee shall recommend to the governor a prioritized list of all local projects to be funded under RCW 79A.15.040(1)(c). The governor may remove projects from the list recommended by the committee and shall submit this amended list in the capital budget request to the legislature. The list shall include, but not be limited to, a description of each project and any particular match requirement, and describe for each project any anticipated restrictions upon recreational activities allowed prior to the project.
[2000 c 11 § 67; 1999 c 379 § 918; 1997 c 235 § 719; 1990 1st ex.s. c 14 § 7. Formerly RCW 43.98A.060.]
NOTES:
Effective date -- 1999 c 379: See note following RCW 79A.15.040.
Severability -- Effective date--1997 c 235: See notes following RCW 79A.15.040.

RCW 79A.15.065

Grants through habitat conservation account -- Statement of environmental benefits -- Development of outcome-focused performance measures.

In providing grants through the habitat conservation account, the committee shall require grant applicants to incorporate the environmental benefits of the project into their grant applications, and the committee shall utilize the statement of environmental benefits in the grant application and review process. The committee shall also develop appropriate outcome-focused performance measures to be used both for management and performance assessment of the grant program. To the extent possible, the committee should coordinate its performance measure system with other natural resource-related agencies as defined in RCW 43.41.270. The committee shall consult with affected interest groups in implementing this section.
[2001 c 227 § 8.]
NOTES:
Findings -- Intent -- 2001 c 227: See note following RCW 43.41.270.

RCW 79A.15.070

Acquisition and development priorities -- Generally.

(1) In determining which state parks proposals and local parks proposals to fund, the committee shall use existing policies and priorities.

(2) Moneys appropriated for this chapter may not be used by the committee to fund additional staff or other overhead expenses, or by a state, regional, or local agency to fund operation and maintenance of areas acquired under this chapter, except that the committee may use moneys appropriated for this chapter for the fiscal biennium ending June 30, 2001, for the administrative costs of implementing the pilot watershed plan implementation program established in section 329(6), chapter 235, Laws of 1997, and developing an inventory of publicly owned lands established in section 329(7), chapter 235, Laws of 1997.
(3) Moneys appropriated for this chapter may be used for costs incidental to acquisition, including, but not limited to, surveying expenses, fencing, and signing.
(4) The committee may not approve a project of a local agency where the share contributed by the local agency is less than the amount to be awarded from the outdoor recreation account.
(5) The committee may adopt rules establishing acquisition policies and priorities for the acquisition and development of trails and water access sites to be financed from moneys in the outdoor recreation account.
(6) In determining the acquisition and development priorities, the committee shall consider, at a minimum, the following criteria:
(a) For trails proposals:
(i) Community support;
(ii) Immediacy of threat to the site;
(iii) Linkage between communities;
(iv) Linkage between trails;
(v) Existing or potential usage;
(vi) Consistency with an existing local land use plan or a regional or state-wide recreational or resource plan;
(vii) Availability of water access or views;
(viii) Enhancement of wildlife habitat; and
(ix) Scenic values of the site.
(b) For water access proposals:
(i) Community support;
(ii) Distance from similar water access opportunities;
(iii) Immediacy of threat to the site;
(iv) Diversity of possible recreational uses; and
(v) Public demand in the area.
(7) Before October 1st of each even-numbered year, the committee shall recommend to the governor a prioritized list of state agency projects to be funded under RCW 79A.15.050(1) (a), (c), and (d). The governor may remove projects from the list recommended by the committee and shall submit this amended list in the capital budget request to the legislature. The list shall include, but not be limited to, a description of each project; and shall describe for each project any anticipated restrictions upon recreational activities allowed prior to the project.
(8) Before October 1st of each year, the committee shall recommend to the governor a prioritized list of all local projects to be funded under RCW 79A.15.050(1) (b), (c), and (d). The governor may remove projects from the list recommended by the committee and shall submit this amended list in the capital budget request to the legislature. The list shall include, but not be limited to, a description of each project and any particular match requirement, and describe for each project any anticipated restrictions upon recreational activities allowed prior to the project.
[2000 c 11 § 68; 1999 c 379 § 919; 1997 c 235 § 720; 1990 1st ex.s. c 14 § 8. Formerly RCW 43.98A.070.]
NOTES:
Effective date -- 1999 c 379: See note following RCW 79A.15.040.
Severability -- Effective date--1997 c 235: See notes following RCW 79A.15.040.

RCW 79A.15.080

Recommended project list -- Committee authority to obligate funds -- Legislature's authority.

The committee shall not sign contracts or otherwise financially obligate funds from the habitat conservation account or the outdoor recreation account as provided in this chapter before the legislature has appropriated funds for a specific list of projects. The legislature may remove projects from the list recommended by the governor.

[1990 1st ex.s. c 14 § 9. Formerly RCW 43.98A.080.]

RCW 79A.15.090

Condemnation.

Moneys made available under this chapter for land acquisition shall not be used to acquire land through condemnation.

[1990 1st ex.s. c 14 § 10. Formerly RCW 43.98A.090.]

RCW 79A.15.100

Report to governor and standing committees.

On or before November 1st of each odd-numbered year, the committee shall submit to the governor and the standing committees of the legislature dealing with fiscal affairs, fish and wildlife, and natural resources a report detailing the acquisitions and development projects funded under this chapter during the immediately preceding biennium.

[1990 1st ex.s. c 14 § 11. Formerly RCW 43.98A.100.]

RCW 79A.15.900

Severability -- 1990 1st ex.s. c 14.

If any provision of this act or its application to any person or circumstance is held invalid, the remainder of the act or the application of the provision to other persons or circumstances is not affected.

[1990 1st ex.s. c 14 § 12. Formerly RCW 43.98A.900.]

RCW 79A.20.005

Findings.

(1) The legislature finds that:

(a) The state of Washington owns and maintains a wide variety of fish and wildlife habitat, natural areas, parks, and other recreation lands;

(b) The state of Washington is responsible for managing these lands for the benefit of the citizens, wildlife, and other natural resources of the state;

(c) The state of Washington has recently significantly enhanced its efforts to acquire critical habitat, natural areas, parks, and other recreation lands and to transfer suitable lands from school trust to conservation and park purposes;

(d) Recent unprecedented population growth has greatly increased the threat to the state's fish and wildlife habitat and the demands placed on the lands under (a) of this subsection;

(e) The importance of this habitat and these lands to the state is continuing to increase as more people depend on them to satisfy their needs and more plant and animal species require state-owned lands for their survival;

(f) By itself, public ownership cannot guarantee that resources will be protected, or that appropriate recreational opportunities will be provided;

(g) Only through ongoing, responsible management can fish and wildlife habitat, sensitive ecosystems, and recreational values be protected;
(h) The operation and maintenance funding for state-owned fish and wildlife habitat, natural areas, parks, and other recreation lands has not kept pace with increasing demands placed upon such lands;
(i) Many needed operation and maintenance projects have been deferred due to insufficient funding, resulting in increased costs when the projects are finally undertaken; and
(j) An increase in operation and maintenance funding is necessary to bring state-owned lands and facilities up to acceptable standards and to protect the state's investment in its fish and wildlife habitat, natural areas, parks, and other recreation lands.
(2) Therefore, it is the policy of the state to provide adequate and continuing funding for operation and maintenance needs of state-owned fish and wildlife habitat, natural areas, parks, and other recreation lands to protect the state's investment in such lands, and it is the purpose of this chapter to create a mechanism for doing so.
[1992 c 153 § 2. Formerly RCW 43.98B.005.]

RCW 79A.25.020

Director's powers and duties.

The director shall have the following powers and duties:
(1) To supervise the administrative operations of the committee and its staff;
(2) To administer recreation grant-in-aid programs and provide technical assistance to state and local agencies;
(3) To prepare and update a strategic plan for the acquisition, renovation, and development of recreational resources and the preservation and conservation of open space. The plan shall be prepared in coordination with the office of the governor and the office of financial management, with participation of federal, state, and local agencies having recreational responsibilities, user groups, private sector interests, and the general public. The plan shall be submitted to the committee for review, and the committee shall submit its recommendations on the plan to the governor. The plan shall include, but is not limited to: (a) an inventory of current resources; (b) a forecast of recreational resource demand; (c) identification and analysis of actual and potential funding sources; (d) a process for broad scale information gathering; (e) an assessment of the capabilities and constraints, both internal and external to state government, that affect the ability of the state to achieve the goals of the plan; (f) an analysis of strategic options and decisions available to the state; (g) an implementation strategy that is coordinated with executive policy and budget priorities; and (h) elements necessary to qualify for participation in or the receipt of aid from any federal program for outdoor recreation;
(4) To represent and promote the interests of the state on recreational issues and further the mission of the committee;
(5) Upon approval of the committee, to enter into contracts and agreements with private nonprofit corporations to further state goals of preserving, conserving, and enhancing recreational resources and open space for the public benefit and use;
(6) To appoint such technical and other committees as may be necessary to carry out the purposes of this chapter;
(7) To create and maintain a repository for data, studies, research, and other information relating to recreation in the state, and to encourage the interchange of such information;
(8) To encourage and provide opportunities for interagency and regional coordination and cooperative efforts between public agencies and between public and private entities involved in the development and preservation of recreational resources; and
(9) To prepare the state trails plan, as required by RCW 79A.35.040.
[2000 c 11 § 69; 1989 c 237 § 4. Formerly RCW 43.99.025.]
NOTES:
Effective date -- 1989 c 237: See note following RCW 79A.25.005.

WASHINGTON DEPARTMENT OF FISH AND WILDLIFE

2009-2015
STRATEGIC PLAN

Washington Fish and Wildlife Commission

The Washington Fish and Wildlife Commission oversees the Washington Department of Fish and Wildlife. The commission consists of nine members, each serving six-year terms. Members are appointed by the governor and confirmed by the senate. Three members must reside east of the summit of the Cascade Mountains, three must reside west of the summit, and three may reside anywhere in the state. However, no two commissioners may reside in the same county.

While the commission has several responsibilities, its primary role is to establish policy and direction for fish and wildlife species and their habitats in Washington. The commission appoints and supervises the director and monitors policy implementation of the goals and objectives established by the commission. The commission also classifies wildlife and establishes the basic rules and regulations governing the time, place, manner and methods used to harvest or enjoy fish and wildlife.

Commission Members

Chair: Jerry Gutzwiler, Wenatchee
Term of Office: 03/15/05 – 12/31/08

Vice Chair: Miranda Wecker, Naselle
Term of Office: 01/01/07 - 12/31/12

Dr. Kenneth Chew, Seattle
Term of Office:
01/01/05 - 12/31/10

Gary Douvia, Kettle Falls
Term of Office:
01/15/07 - 12/31/12

Conrad Mahnken, Bainbridge Island
Term of Office:
11/04/05 - 12/31/10

Chuck Perry, Moses Lake
Term of Office:
01/01/07 - 12/31/12

Shirley Solomon, Mt. Vernon
Term of Office:
03/15/05 – 12/31/08

George Orr, Spokane
Term of Office:
08/08/07 - 12/31/10

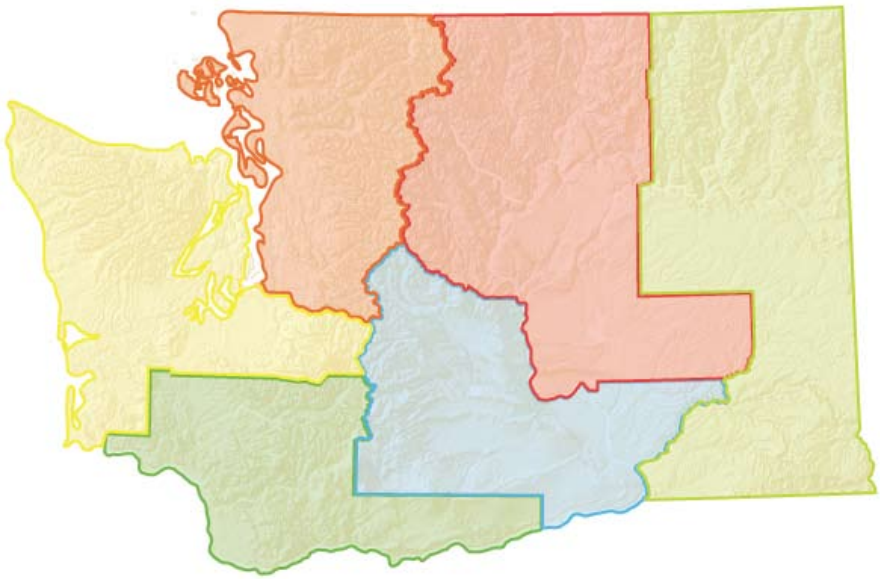
Western Washington - Vacant
Term of Office:
01/21/03 - 12/31/08

Susan Yeager
Executive Assistant

Washington Department of Fish and Wildlife

Strategic Plan

2009 – 2015



Jerry Gutzwiler
Fish and Wildlife Commission Chair

Jeff Koenings, Ph.D.
Director

June 13, 2008

Table of Contents

Introduction

The Washington Department of Fish and Wildlife (WDFW) is dedicated to preserving, protecting, perpetuating and managing the state's fish and wildlife resources. We do this by applying an underlying conservation ethic to our work while providing commercial and recreational opportunities that result in economic benefits to local communities and the citizens of Washington state. Our much-treasured quality of life in the Pacific Northwest depends on healthy and thriving fish and wildlife populations. As the steward of these resources, WDFW is committed to continue building a solid and sustainable foundation that supports both resource and human needs now and in the future. To fulfill this commitment and achieve our mission, WDFW will continue to:

- Identify, seek funding and fix ailing facilities and infrastructure.
- Focus on developing partnerships with other agencies and organizations, tribes and citizens that make us effective and efficient.
- Educate youth and adults to foster a stewardship ethic toward fish and wildlife.
- Seek policy support and stable funding to manage the increased demands placed on fish and wildlife resources in the state.

To help achieve these goals in increasingly challenging times, the department has undergone several administrative changes. The Washington Fish and Wildlife Commission is providing more oversight and playing a key role in setting department policy and direction.

WDFW's executive leadership team has also expanded from a one-deputy to a two-deputy structure to sharpen responsibilities and promote the changes that are necessary to increase the effectiveness of the department. The new positions, which report to the director, include the deputy director of Resource Policy and the deputy director of Operations. As members of the leadership team, they are accountable for department performance at all levels.

Mission Statement

The Washington Department of Fish and Wildlife (WDFW) serves Washington's citizens by protecting, restoring and enhancing fish and wildlife and their habitats, while providing sustainable and wildlife-related recreational and commercial opportunities.

Legislative Declaration

As defined in Chapter 77 RCW, WDFW is Washington's principal agency on species protection and conservation.

Legislative mandate (RCW 77.04.012):

"Wildlife, fish, and shellfish are the property of the state. The commission, director, and the department shall preserve, protect, perpetuate, and manage the wildlife and food fish, game fish, and shellfish in state waters and offshore waters.

The department shall conserve the wildlife and food fish, game fish, and shellfish resources in a manner that does not impair the resource. In a manner consistent with this goal, the department shall seek to maintain the economic well-being and stability of the fishing industry in the state. The department shall promote orderly fisheries and shall enhance and improve recreational and commercial fishing in this state.

The commission may authorize the taking of wildlife, food fish, game fish, and shellfish only at times or places, or in manners or quantities, as in the judgment of the commission does not impair the supply of these resources.

The commission shall attempt to maximize the public recreational game fishing and hunting opportunities of all citizens, including juvenile, disabled, and senior citizens.

Recognizing that the management of our state wildlife, food fish, game fish, and shellfish resources depends heavily on the assistance of volunteers, the department shall work cooperatively with volunteer groups and individuals to achieve the goals of this title to the greatest extent possible.

Nothing in this title shall be construed to infringe on the right of a private property owner to control the owner's private property."

Department Goals

To achieve its mission, WDFW will continue to focus its activities on the following six goals:

I. Achieve healthy, diverse and sustainable fish and wildlife populations.

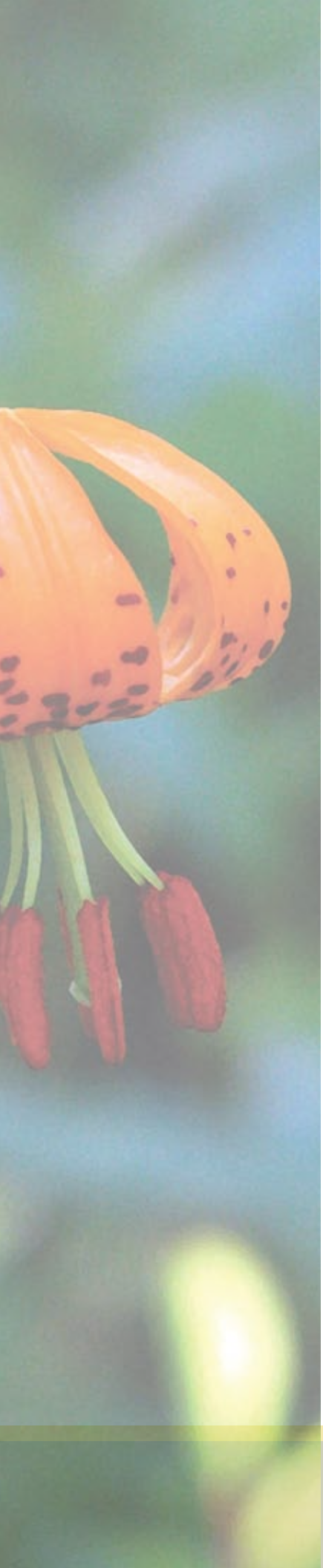
II. Ensure sustainable fish and wildlife opportunities for social and economic benefit.

III. Ensure effective use of current and future financial resources in order to meet the needs of the state's fish and wildlife resource for the benefit of the public.

IV. Implement processes that produce sound and professional decisions, cultivate public involvement and build public confidence and agency credibility.

V. Promote development and responsible use of sound, objective science to inform decision-making.

VI. Create an environment that nurtures professionalism, accountability, enthusiasm and dedication in order to attract, develop and retain a workforce that can successfully carry out the mandate of the department.



Working on Statewide Initiatives

WDFW supports Governor Chris Gregoire's initiatives to provide economic vitality and environmental quality that will help create a sustainable and prosperous future for Washington state.

As the steward of the state's fish and wildlife populations, WDFW is a strategic partner in several important statewide initiatives aimed at restoring and protecting these resources.

Recovering salmon and steelhead populations

As icons of the Pacific Northwest, salmon and steelhead are integral to the region's ecological, commercial, recreational and cultural identity. The health of our native salmon and steelhead reflects the health of our ecosystem. Stocks of both species are now listed as endangered or threatened, requiring the combined efforts of organizations and individuals to ensure their recovery. One example of WDFW's role in restoring our wild fish is the development of a focused, long-term approach called Salmon and Steelhead in the 21st Century. The key objectives are to:

- Protect and restore Washington's wild fish populations.
- Protect and restore habitat and ecosystem functions necessary for salmon survival and recovery.
- Manage fishery and hatchery programs to support rebuilding of wild populations and sustainable fisheries.
- Conduct tribal co-management efforts in a cooperative environment with identified goals.
- Create an internal support network that ensures multi-disciplinary, cross-program coordination, effective communication and decision-making.
- Create an external support network to enhance WDFW's ability to recover wild populations and maintain sustainable fisheries.

WDFW also plays an important role in the development and implementation of salmon recovery plans at the watershed level. Through a collaborative process, WDFW watershed stewards and area habitat biologists provide technical assistance to develop and implement on-the-ground projects that restore habitat and remove fish passage barriers.

Addressing climate change

Increasing evidence shows that global warming and climate change are significantly impacting the earth's environment, adding to the current threats on fish and wildlife species and their habitats. The results of climate change are expected to include increased water temperatures in streams, rivers and lakes; loss of freshwater and wetland habitats; inundation of coastal habitats; increased temperatures; drought; increased wildfires; and expansion of invasive species, pests and diseases. Due to these wide-ranging impacts, natural ecological systems may lose their resiliency and become unable to support a number of fish and wildlife species.

The state is taking action to respond to anticipated environmental impacts associated with climate change. One significant step taken by the Legislature was the passage of the state's Climate Change Act in 2008. At WDFW, an internal planning process is in place to assess the impacts on fish and wildlife and their habitats and to develop a strategic response. WDFW is pursuing strategies that incorporate climate change considerations with the aim of:

- Maintaining healthy and sustainable fish and wildlife populations.
- Ensuring that climate change effects do not push at-risk species closer to extinction.
- Maintaining healthy ecosystems to prevent the loss of critical ecological functions, such as protective cover and wildlife forage.
- Following sound science to make resource management decisions in regard to climate uncertainty.

During the 2009-11 biennium, WDFW will continue to work with the state Department of Ecology and other partners to implement a comprehensive research and preparation program to ensure that fish and wildlife impacts are addressed as the state prepares climate change solutions.

The statewide plan identifies research and monitoring requirements and addresses protection of ecosystems, biodiversity, threatened and endangered species and species of economic importance. Implementation will likely require additional resources if recommendations include major research initiatives or broad-scale changes to existing monitoring programs. Funding also will be required if specific infrastructure modifications are necessary to improve department facilities.

In the long term, WDFW must ensure that fish and wildlife are protected and preserved and that their needs are addressed in statewide climate research, preparation and adaptive management efforts. We must increase our knowledge and understanding about the risks to ecosystems and species to help develop policy, direction and action plans that will guide the future management of fish and wildlife during changing and uncertain times.

Mapping the future of Columbia Basin's water supply

Changes in the climate, along with an increasing demand for water, are compromising the state's ability to effectively manage its water resources in key areas of the state. To address this situation, the Legislature and Governor Gregoire established the Columbia River Basin Water Management Program, which directs the Department of Ecology to develop new water supplies through water storage, conservation projects, voluntary regional water management agreements and other methods. The goal is to allow access to the river's water resources while providing adequate protection for endangered salmon and other wildlife species.

WDFW participated on Ecology's implementation team to help shape policy alternatives and ensure an appropriate balance of in-stream and out-of-stream water use. In addition, WDFW staff will develop and review environmental documents, forecasting methods and implementation options. The department also will provide baseline biological information and conduct research to help define program costs and benefits to fish and wildlife.

With the passage of the bill, one-third of all newly stored water is now allocated to support stream flows for fish; two-thirds will be available for new out-of-stream uses, such as farming, industry and municipal growth.

Restoring Puget Sound

WDFW plays a major role in preserving and restoring the health of Puget Sound's ecosystem, from providing scientific guidance to reviewing applications for hydraulic project permits. WDFW area habitat biologists issue Hydraulic Project Approval (HPA) permits to property owners for construction projects in or near water where fish are affected. WDFW is actively involved in salmon recovery efforts led by local watershed groups who acquire and restore habitat and remove fish passage barriers in waters connected to Puget Sound. Wildlife biologists conduct research and provide expertise on many of the area's wildlife species, from marine mammals to threatened sea birds.

Staff members also work closely with government agencies, tribes, organizations and citizens on numerous projects to preserve estuaries and nearshore habitat, while WDFW employees contribute to the efforts of the Puget Sound Partnership, a state agency established in 2007 by Governor Gregoire to help restore this unique body of water.

Preserving biological diversity

Washington is rich in natural diversity, which provides the state with many benefits, including economic returns from agriculture, forestry, fishing and recreation. However, due to habitat degradation, expanding population, land development, invasive species and climate change Washington risks losing much of its native plant communities and wildlife species. Recognizing the state's declining environmental health, the Legislature established a statewide biodiversity planning effort in 2002 to safeguard the state's natural heritage. The Washington Biodiversity Council, whose members represent a variety of interests across the state, was formed in 2003 to create a long-term conservation strategy and implementation plan. As a voice on the council, WDFW plays a key role by providing expertise and knowledge on the state's fish and wildlife species and their habitats. Since its inception, the council has completed the Biodiversity Conservation Strategy that incorporates biodiversity protection within a multitude of programs including land-use planning, landowner conservation incentives and funding programs.

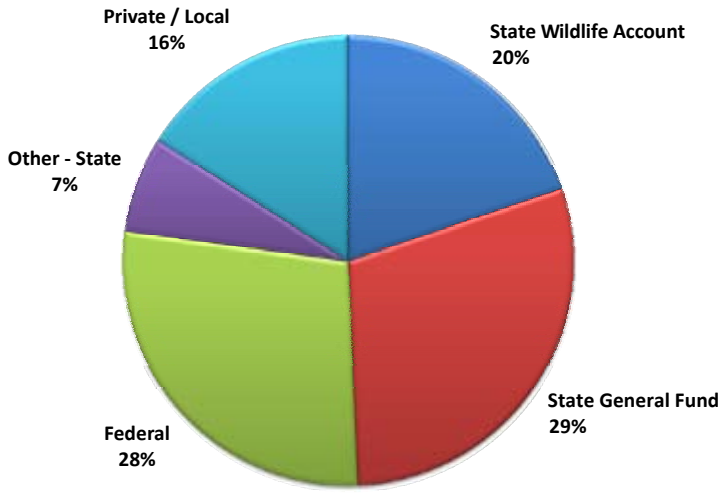
Assessment of Internal Capacity

WDFW employs approximately 1,600 to 1,800 people (depending on the time of year) with a 2007-09 biennium budget of $347 million in operating funds and $78 million in capital funds. WDFW maintains six regional offices located in Montesano, Spokane Valley, Ephrata, Vancouver, Yakima and Mill Creek, while the department's headquarters is located in Olympia. Additionally, WDFW sells recreational hunting and fishing licenses through a network of 554 private vendors located in communities throughout the state.

Investing in WDFW and outdoor recreational activities provides economic benefits to Washington's rural communities as urban and suburban fishers, hunters and wildlife enthusiasts pursue outdoor activities across the state. On average, recreational activities provide $101 in economic benefit for every $53 of investment in WDFW. The financial health of the department is partially dependent on the ability of the state to provide ample hunting, fishing and viewing opportunities to the recreational user. Other factors that influence the department's financial health are the overall state of the economy and the funding expectations in the state budget.

Financial health

The WDFW budget for the 2007-09 biennium is $425 million ($347 million in operating funds and $78 million in capital funds), and consists of five major funding sources including the State General Fund, the State Wildlife Account, federal funds, private / local funds and multiple state-dedicated accounts. This chart shows the department's 2007-09 expenditure plan broken out by these five major funding sources.



Funding challenges

Within the five major funding categories, WDFW manages 22 different funds as well as another 49 dedicated sub-accounts. While there is flexibility for use of the State General Fund and part of the State Wildlife Account, other funds and dedicated sub-accounts are appropriated for specific purposes and must conform to the authorizing statute and/or contract controlling the account. Furthermore, because 70.6 percent of WDFW's funding comes from federal, private and local sources and recreational license sales, which can vary from year to year, the department does not have a stable revenue stream.

While WDFW strives to fulfill the needs of its stakeholder groups by providing recreational and commercial opportunities, the department has limited resources to meet all of these needs. And although the WDFW budget is larger than in previous years, it must also provide for increased costs related to cost of living increases, federal and state court decisions, species protection, fuel for department vehicles, legislative provisos, and other initiatives.

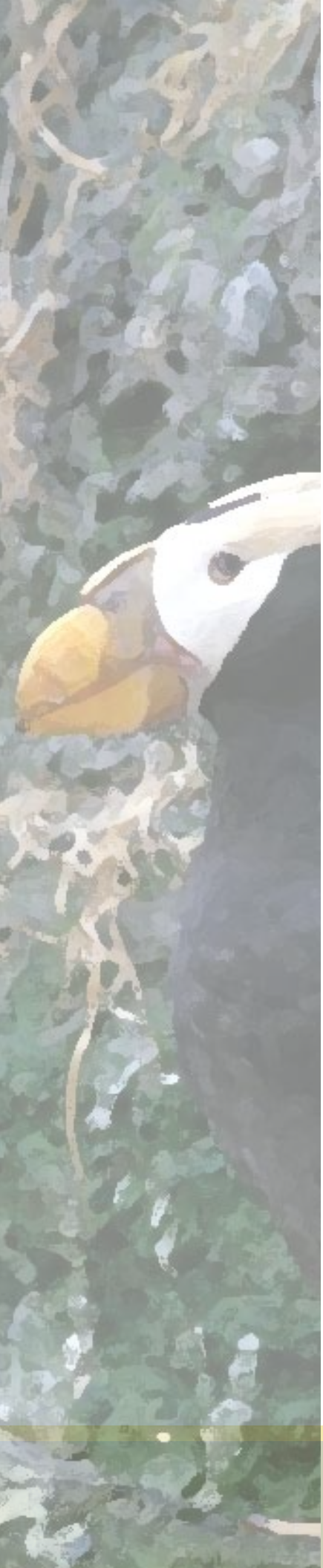
These challenges limit WDFW's ability to meet all operational needs, expand existing programs or implement new initiatives. In the coming biennium, the department will be expected to do more with less and to fund initiatives within existing resources.

The department maybe facing significant budget challenges in State Wildlife Account, State General Fund and federal funding levels.

State Wildlife Account

The State Wildlife Account is subject to volatility. Fund revenues depend on recreational license sales that fluctuate due to weather, habitat conditions and numerous other factors. The majority of this account's revenue is collected from license sales in April, May and June — the last three months of the fiscal year. If the amount of revenue from license sales is not adequate, there is little time to recover at the end of the fiscal year, or at the end of the biennium.

Additional analysis has been undertaken to account for and manage the dedicated and non-dedicated amounts within the overall account. Dedicated amounts are funds with a specific, statutorily defined use while non-dedicated funds can be used for any purpose authorized by the account. Sixteen dedicated sub-accounts are included within the overall State Wildlife Account balance.



Since the 2001-03 biennium, the fund balance within the State Wildlife Account has been reduced significantly. Based on current revenue projections and budget assumptions, the State Wildlife Account is expected to be at or near zero balance at the beginning of the 2009-11 biennium. The projected balance may be insufficient for the department to manage future activities at current staffing levels.

State General Fund

A goal of the Washington Fish and Wildlife Commission and WDFW is to have secure and stable funding to meet the department's core mission. With the state potentially facing a general fund deficit of $2.4 billion (current projection), WDFW is at significant risk of losing funding for many critical programs. WDFW received roughly $110 million from the State General Fund for the 2007-09 biennium. This funding is critical for implementing department operations and supports both commercial and recreational fishing throughout the state. While $110 million is a considerable amount of money, it should be noted that WDFW's funding combined with all other natural resource agencies (Department of Ecology, Washington State Parks, Department of Natural Resources, Department of Agriculture, the Recreation and Conservation Office, the Puget Sound Partnership), makes up only 1.4 percent of the entire state general fund budget ($460 million out of more than $29.7 billion).

Federal funding

Federal funding for programs and services will be variable during the 2009-11 biennium. For instance, President Bush's proposed budget for fiscal year 2009 reduces the appropriation to the Pacific Coastal Salmon Recovery Fund (PCSRF) from $67.5 million (fiscal year 2008 appropriation), to $35 million. As recently as fiscal year 2006, PCSRF was appropriated $90 million. Appropriations for Mitchell Act hatchery facilities continue a long-term decline.

Funding for other programs, such as the Puget Sound Nearshore Project and a variety of landowner stewardship programs has remained stable, while funding for the Puget Sound Partnership and important formula funding programs has increased.

Strategies to respond to funding challenges

WDFW is responding to financial challenges by undertaking the following:

WDFW revenue study

The department is analysing the current licensing and permit fee structure to determine changes required to stabilize revenues and prevent further erosion of buying power. Additional ideas for enhancing revenues are also under review.

Efficiency of existing expenditures

Existing expenditures are being scutinized to prioritize activities and determine savings through efficiency, consolidation and streamlining.

Strategic budget planning

WDFW requests for new funding are being focused on several specific areas for the 2009-11 biennium including salmon and steelhead recovery, WDFW land and habitat improvements, and human/wildlife conflict management.

Consultant recommendations

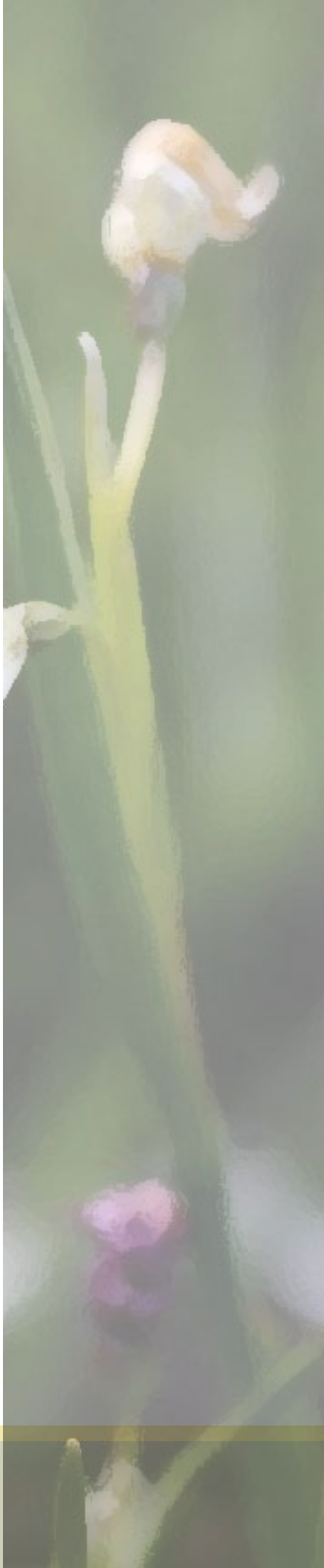
A new capital program plan is being implemented based on the results of an independent study by Berk & Associates that reviewed WDFW's capital budget development and execution and monitoring processes. Through this process, WDFW discovered that engineering staffing and operational activities did not always align with the department's needs. The department is in the process of implementing recommendations from the analysis and realigning staff to better meet funding and work demands.

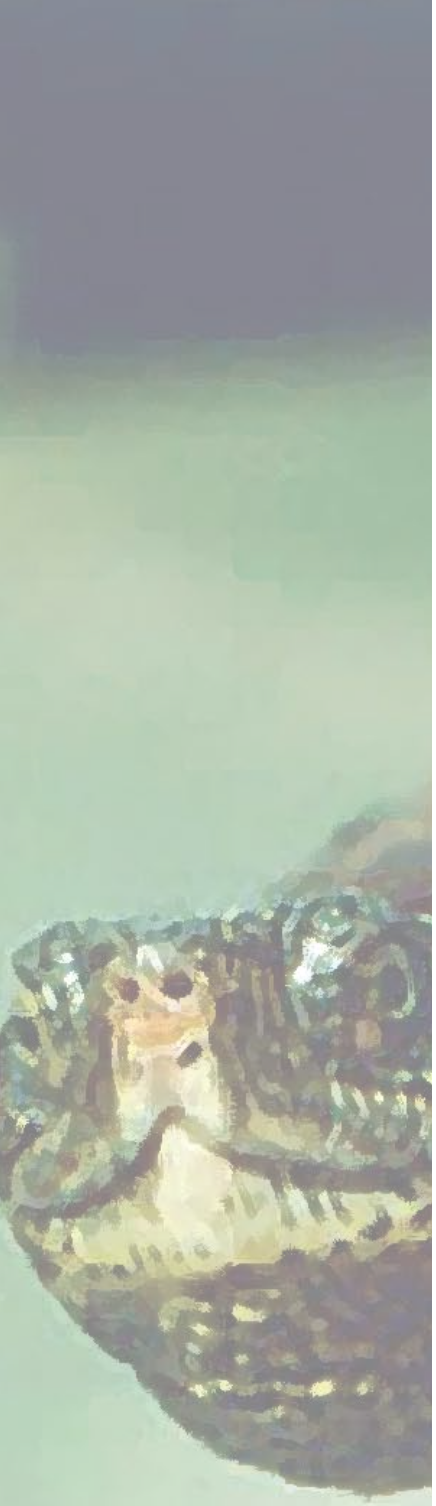
Information Technology

Information Technology (IT) provides the infrastructure, data management and business support applications that allow WDFW to effectively deliver electronic information to the public and department employees. These IT tools and methods enable WDFW to carry out its mission across all goals and objectives.

Consistent with Washington's 2008-2014 State Strategic IT Plan, WDFW's strategic direction for information technology focuses on:

- Investing in IT systems that are consistent with state standards.
- Promoting data sharing with other agencies and partners.
- Using common practices and standards within WDFW and other agencies.
- Improving user experience through better integration.





Additional strategies for WDFW include:

- Improving communications through network and web site improvements.
- Improving IT services for staff, including remote users.
- Continuing to implement better IT systems for capital programs, commercial licensing, environmental permitting and resource management.
- Improving geographic and land information systems applications and interagency processes for sharing and developing data.
- Implementing a more structured approach to improve department data management standards.

In fiscal year 2009, WDFW will complete the agency migration to the state Enterprise Active Directory, the state Exchange email system and access to state data center facilities. WDFW also will continue to work with the state's Department of Information Services (DIS) to identify actions that improve the use of common systems.

While WDFW is moving forward with applications that are coordinated with other agencies by using common architecture and data stores, additional work is needed to further integrate applications and improve data management practices.

WDFW will continue to cooperate with DIS to evaluate department systems and architecture, consistent with long-term DIS direction. However, the department may need major funding to convert its application architecture. WDFW also will evaluate overall management of electronic data to ensure that retention meets state archive standards. It is likely that the new rules from the State Archives Office for managing electronic information will have a major impact on agency practices.

Strategic Direction

The department has created the following 11 objectives aligned with the department's six goals:

- Protect and restore wild fish populations.
- Protect state waters by managing aquatic invasive species.
- Protect and perpetuate wildlife species through sound wildlife management.
- Protect and restore habitat and ecosystem functions.
- Improve regulatory permitting processes and outcomes.
- Protect and promote commercial and recreational wildlife-related opportunities.
- Continue the Capital Project Improvement Process.
- Improve public involvement and appreciation of fish and wildlife.
- Use the best-available science.
- Hire and promote the best candidates.
- Provide a safe and healthful work environment.

WDFW works to reach these 11 objectives through related strategies and activities outlined on the following pages. Performance measures are also listed for individual strategies. Quantitative milestones for each performance measure are included in the department's work plans and reviewed in department progress reports or GMAP discussions.

Goal I: Fish and Wildlife

Achieve healthy, diverse, and sustainable fish and wildlife populations while supporting their habitats

Objective: Protect and restore wild fish populations.

Strategy: Complete the 21st Century Salmon and Steelhead framework and start implementing key actions.

Activities:

- Determine population status and define goals.
- Compile and define "All-H" (habitat, hatchery, harvest and hydropower) integration actions.
- Support coordinated implementation of local salmon recovery priorities and land-use planning.
- Monitor habitat status.

Performance Measures:

- Percentage of salmon populations in key selected sites that meet recovery goals.
- Percentage of ESA-listed salmon and steelhead major population groups monitored to assess the ESA de-listing criteria: abundance productivity.
- Compliance rate for all North of Falcon wild fish release regulations.
- Number of enforcement hours directed toward anadromous and native resident salmonids.

Strategy: Increase understanding of marine fish species conservation techniques and habitat needs.

Activities:

- Design and implement a rockfish research plan that will enhance the understanding and management of depleted rockfish species (such as yelloweye rockfish).
- In cooperation with NOAA Fisheries and constituency groups, explore the potential benefits and risks associated with artificial enhancement of lingcod in Puget Sound consistent with the Fish and Wildlife Commission's Marine Fish Enhancement Policy.
- Working with the Puget Sound treaty tribes and our constituents, complete a Puget Sound Rockfish Conservation and Recovery Plan.
- Initiate site fidelity and patterns of ocean yelloweye residency and habitats study.

Performance Measures:

- Conduct one remotely operated underwater vehicle (ROV) pilot survey of coastal yelloweye habitat to determine optimal survey design.
- Number of sub-basin ROV surveys of rocky habitat in Puget Sound to determine quality/quantity of rockfish habitat.
- Complete a Puget Sound rockfish conservation and recovery plan.
- Provide the Fish and Wildlife Commission with an annual update of the rockfish research plan activities every August.

Strategy: Ensure that native resident fish and freshwater shellfish populations are healthy, stable and self-sustaining.

Activities:

- Manage native resident fish and freshwater shellfish to ensure conservation objectives are met, specifically focusing on bull trout, native trout species, native non-game fish, freshwater shellfish and sturgeon.
- Develop a plan, including actions and timelines, priorities, and costs, to peer review management of native resident fish populations.

Performance Measures:

- Percent of bull trout populations with healthy status.

Strategy: Modernize hatchery practices.

Activities:

- The department will develop and implement a 10-year plan to complete hatchery reform measures consistent with the Hatchery Scientific Review Group's (HSRG) recommendations.
- Ensure that 100 percent of the genetically integrated chinook, coho, and steelhead hatchery programs in Puget Sound and along the Washington coast will incorporate natural-origin broodstock where returning natural-origin fish are available and can be identified.

Performance measures:

- Percentage of chinook, coho, and steelhead intended for harvest that are marked.
- Percentage of genetically integrated hatchery programs achieving benchmarks for implementation of the HSRG's guidelines for broodstock management.
- Number of hatchery facilities meeting inspection and maintenance schedule for emergency response systems (pumps, alarms, generators).
- Percentage of hatchery programs operated in a manner consistent with ESA requirements.
- Percentage of hatchery facilities renovated to meet instream flow standards.
- Percentage of hatcheries that modified fish trap and intake screen system replacements to ensure fish passage compliance.

Strategy: Increase the percentage of mass-marked salmon and steelhead.

Activity:

- Ensure that 100 percent of the chinook, coho, and steelhead out-planted or released from WDFW or cooperative facilities for fishery harvest are marked with an adipose fin clip (except as modified by tribal agreements).

Performance measures:

- Percentage of fall chinook externally marked and released on the Washington coast.
- Percentage of fall chinook externally marked and released in Puget Sound.
- Percentage of salmon and steelhead marked and released in Columbia River.

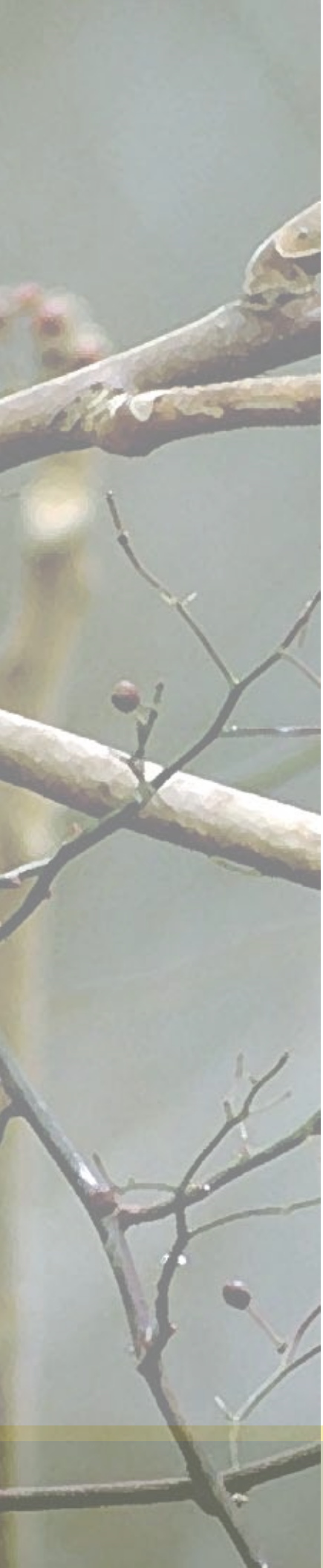
Strategy: Increase the number of selective fisheries.

Activities:

- Fully implement the five-year Puget Sound Selective Fishery Plan.
- Assess the estimated mark rates and develop regional selective fishery plans for the coast and the Columbia River accordingly.
- Work closely with the treaty tribes and stakeholders during implementation of current plans, including acting in a manner that is consistent with the 1997 federal court's mass marking and selective fishing stipulation.
- Expand the current membership of the Selective Fishery Cabinet and work with the appropriate members of the cabinet in developing the two new regional plans.
- Test and monitor new means for selective harvest to reduce impacts on wild fish.

Performance measures:

- Percentage of Puget Sound marine areas with mark-selective fisheries.
- Number of ESA populations that meet fishery conservation objectives.
- Number of additional selective fishery methods developed.



Objective: Protect state waters by managing aquatic invasive species.

Strategy: Pro-actively manage aquatic invasive species and enforce related state statutes.

Activities:

- Coordinate and work with other state and federal agencies to avoid the introduction of aquatic invasive species into state waters, including efforts to manage ballast water discharge.
- Continue to enforce state statutes and regulations designed to prevent the introduction of invasive species.
- Implement ballast water management program to prevent the introduction of aquatic invasive species from unexchanged or untreated vessel discharges.
- Implement the recreational and commercial watercraft pathway management program to prevent the introduction or spread of aquatic invasive species from infested watercraft transported over land or by water.
- Implement the tunicate management program to prevent the introduction of new populations, contain established populations, and control or eradicate established populations in marine waters.
- Implement the Atlantic salmon assessment program by surveying freshwater streams for the presence of juvenile or adult Atlantic salmon.

Performance measures:

- Percentage of qualifying vessels entering Washington waters inspected for ballast water compliance.
- Number of inspections of watercraft for aquatic invasive species.
- Inspect 90 percent of high-risk vessels entering Washington waters for ballast water compliance.
- Inspect at least 200 boats per month (per seasonal FTE) for both animal and plant aquatic invasive species at high-use boat launches and fishing tournaments.
- Number of civil or criminal citations for violations of aquatic invasive species statutes and rules.
- Begin surveying 145 marinas for the presence of invasive tunicates.
- Attempt eradication of invasive tunicates at Pleasant Harbor or other marinas.

Objective: Protect and perpetuate wildlife species through sound wildlife management.

Strategy: Manage game species to support healthy populations and sustainable recreational opportunities.

Activities:

- Develop research proposals to identify factors limiting growth of elk herds not meeting population objectives.
- For Blue Mountains and Colockum herds, develop action plans and timeframes to meet herd population goals identified in their respective plans.
- Develop a plan, with timeframes and actions defined, to improve habitat on Mount St. Helens elk winter range for Mount St. Helens' elk herd.
- Complete the white-tailed deer species plan, including incorporation of independent biological peer-review recommendations.
- Maintain elk populations through the winter and reduce elk damage to private lands.

Performance measures:

- Number of wildlife species recovery and management plans completed.
- Percentage of elk herds that meet population objectives.
- Tons of feed used per year.
- Number of deer and elk samples collected that are screened for chronic wasting disease.
- Wild bird samples screened for avian influenza or West Nile virus.

Strategy: Develop Wildlife Action Plans for each eco-region to implement the Comprehensive Wildlife Conservation Strategy.

Activities:

- Continue to re-examine and redefine the relative priority of wildlife species and associated habitats.
- Coordinate multi-agency land acquisition for wildlife habitat with other state and local agencies through the Recreation and Conservation Office (RCO).
- Accelerate coordinated planning for species and habitat conservation among federal and state land management agencies.
- Complete local habitat assessments and develop new and better databases and mapping products for local governments to use in growth management planning.
- Better integrate management of marine and aquatic ecosystems with terrestrial ecosystems, both within WDFW and among state and federal agencies.
- Incorporate identified species and habitat conservation priorities into operational work plans within WDFW and other conservation partners.
- Incorporate specific conservation actions into WDFW's cost accounting systems to help develop and monitor project budgets and priorities.

Performance measures:

- Number of key activities in the endangered species recovery plans implemented.
- Number of native species status reviews completed.
- Percentage of threatened and endangered wildlife species showing increases in population numbers.

Objective: Protect and restore habitat and ecosystem functions.

Strategy: Identify and repair barriers to fish passage.

Activities:

- Inventory and corrections of stream obstructions, fish passage barriers and unscreened diversions.
- Salmonid habitat assessment.
- Statewide fish passage and screening database updates.
- Surface water diversion fish screening consultation.
- Fishway inspection and maintenance consultation.

Performance measures:

- Number of fish passage barriers in Washington state corrected by agencies and landowners.
- Number of fishways opened for fish passage on WDFW lands.
- Number of WDFW fishways inspected.
- Number of new miles of streams opened annually by removing man-made barriers statewide.
- Number of fish screens fabricated and/or installed by the agency to meet state fish protection standards.

Strategy: Restore habitats through restoration and enhancement projects.

Activities:

- Solicit and evaluate proposals for habitat restoration projects, consistent with an adaptive management approach and regional ecosystem restoration planning.
- Develop and oversee contracts to implement these projects.
- Evaluate project performance to inform future solicitation and contracting activities.
- Identify opportunities and direct project-based learning to increase the effectiveness and efficiency of restorative treatments.
- Coordinate outreach and education that support high-quality project implementation.

Performance measures:

- Number of technical assistance requests regarding salmon recovery that were met from watershed groups, Lead Entities, Regional Fisheries Enhancement Groups (RFEGs), project sponsors, and others.
- Number of watershed planning units that receive instream-flow science, data and technical assistance.
- Number of project contracts successfully executed.
- Acres and linear feet of habitat restored.

Strategy: Maintain and enhance department lands.

Activities:

- Create a strategic plan, in consultation with the WDFW Lands Management Advisory Council and other affected interests, that addresses the operation and maintenance of department owned/managed lands.
- Develop maintenance standards (for vehicle parking, restrooms, boat launch facilities, signs, roads, etc.) for all access sites and provide site evaluations to measure annual access-site improvements and stewardship.
- Initiate monitoring and evaluation of biodiversity for all WDFW owned and controlled lands.
- Define operational excellence standards for all owned and managed habitat lands, incorporate them into wildlife area management plans and add them to WDFW's proposed Habitat Conservation Plan for wildlife areas.

Performance measures:

- Number of wildlife area management plans incorporating operational excellence standards.
- Acres (in thousands) of noxious weeds controlled on WDFW owned/managed lands.
- Number of acres of important habitat for all species protected through conservation easements or land acquisitions by the agency.
- Number of corrective action projects completed for the state's "Forest & Fish" road maintenance and abandonment plans.

Objective: Improve regulatory permitting processes and outcomes.

Strategy: Develop new business methods for processing Hydraulic Permit Approval (HPA) permit applications.

Activities:

- Develop a web-based application program for processing HPA permit applications.
- Participate in the "Integrated Project Review and Mitigation Tools Initiative" with federal, state and local governments.
- Work with multiple local, state and federal agencies to develop an easily understood Joint Aquatic Resources Application process, in concert with the Governor's Office of Regulatory Assistance.

Performance measures:

- Number of HPA projects monitored for compliance with conditions.
- Number of HPAs checked per year or the number of officer hours spent on HPA compliance.
- Customer satisfaction rating of the HPA permitting process.
- Number of days to issue or deny an HPA permit.

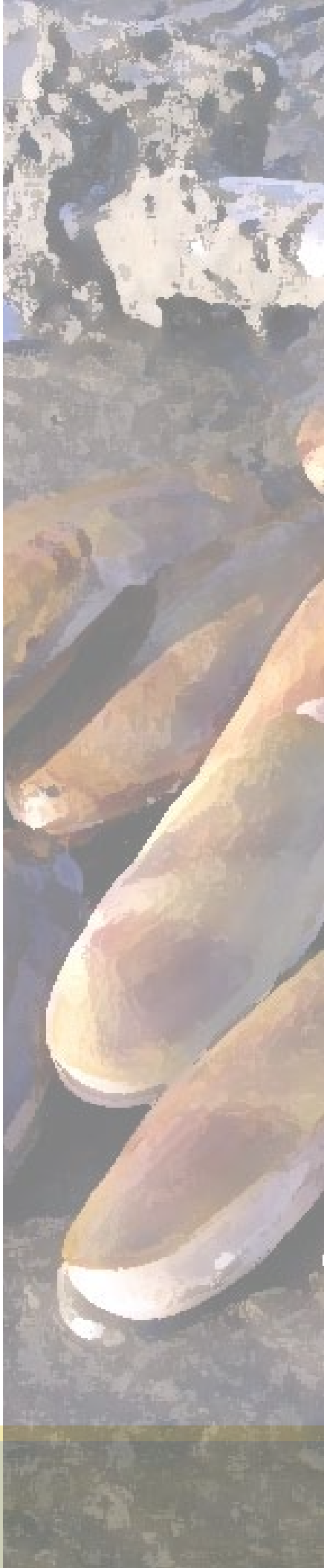
Strategy: Provide technical assistance associated with environmental regulatory processes.

Activities:

- Develop technical guidance documents.
- Train for fish passage and screening inventory and habitat assessment, culvert design for fish passage and integrated stream bank protection guidelines (ISPG).
- Consult, inform and educate people within and outside the department on restoration and protection of aquatic habitats.
- Increase fish and wildlife protection by commenting and providing department expertise through regulatory processes and requests for reviews of technical documents, and other issues involving environmental engineering.

Performance measures:

- Number of on-site visits in order to provide technical assistance with HPA projects.
- Number of hydroelectric projects receiving technical assistance for relicensing.
- Number of wind power projects properly sited.



Objective: Protect and promote commercial and recreational wildlife-related opportunities.

Strategy: Expand hunting opportunities.

Activities:

- Maximize general hunting season opportunities; identify and propose strategies to the Fish and Wildlife Commission for expanding hunting opportunities where wildlife populations are robust and problem situations warrant.
- In cooperation with tribes with off-reservation hunting rights, develop regional hunting management agreements that will maintain healthy game populations and ensure sustainable hunting opportunities for all Washington citizens.

Performance measures:

- Number of total participation days for hunting per year.
- Number of pheasant hunters.
- Number of acres made available for hunting, through WDFW agreements with private landowners.
- Dollars of hunting license revenue per quarter.

Strategy: Develop, update and implement fishery management plans.

Activities:

- Implement the Statewide Steelhead Management Plan and regional/watershed steelhead management plans (Puget Sound, Willapa Bay, Grays Harbor) including implementation strategies for each geographic area.
- Develop and implement a new Columbia River Management Plan that includes commitment by the parties to develop an abundance-based fall chinook harvest framework to achieve ESA, recovery, and conservation goals.
- Renew and implement state-tribal shellfish resource management plans as required.
- Improve catch accounting for the recreational harvest of Puget Sound Dungeness crab.
- Complete Lower and Mid-Columbia River Fish Management Plan.
- Complete State Environmental Policy Act (SEPA) review of lower, middle- and upper Columbia River fish management plans.

Performance measures:

- Number of total participation days (in millions) for sport fishing per year.
- Number of recreational fishing days for razor clams.
- Number of sport limits generated for clams and oysters.
- Number of trout planted in state waters annually.

Strategy: Increase opportunities for non-consumptive fish and wildlife activities.

Activities:

- Develop a plan designed to increase opportunities for non-consumptive fish and wildlife activities.
- Conduct ongoing outreach efforts to minority groups.

Performance measures:

- Number of wildlife-viewing sites.
- Number of wildlife festivals actively supported by WDFW.

Goal III: Funding

Ensure effective use of current and future financial resources in order to meet the needs of Washington state's fish and wildlife resources for the benefit of the public

Objective: Continue the Capital Project Improvement Process.

Strategy: Ensure that correct, effective and durable capital management processes are implemented.

Activities:

- Prioritize and align strategic initiatives with asset-management program principles and commitments.
- Develop a plan to expand use of processes developed in the Capital Program Action Plan.
- Address Capital Plan milestones associated with:
  - Hiring project managers
  - Procuring necessary project management software
  - Developing a new master work schedule
  - Redeploying staff resources

Performance measures:

- Condition of WDFW facilities as measured by the Office of Financial Management (OFM) facility condition index.
- Percentage of facilities in new asset management program.

Objective: Stabilize the Wildlife Account

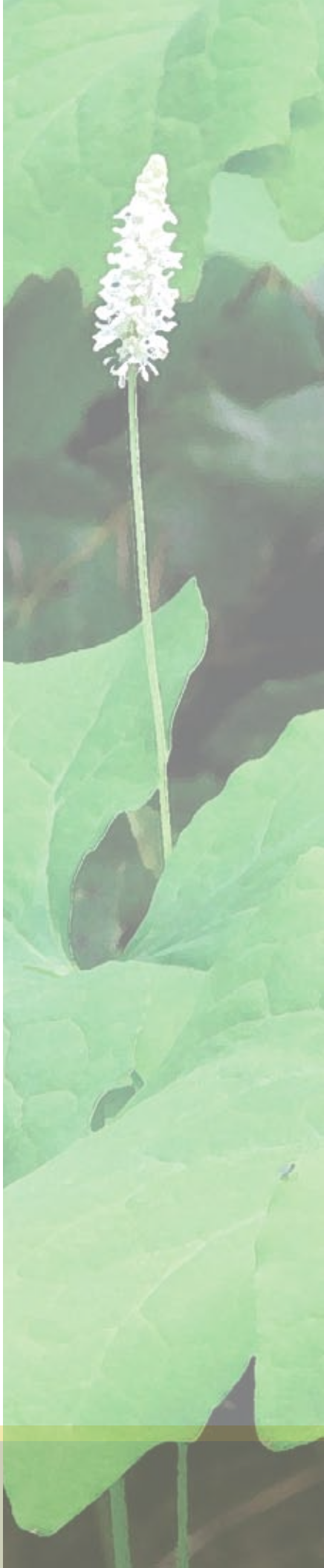
Strategy: Develop new funding strategies and ensure accurate forecasting and accounting of the fund balance

Activities:

- ❖ Ensure that the State Wildlife Account has a positive balance by the end of each biennium and into the future.

Performance Measures:

- ❖ Monthly State Wildlife Account cash balance.
- ❖ Percent of budget variance achieved for state funds, by fiscal year, for each department program and for the entire department.



Goal IV: Outreach

Implement processes that produce sound and professional decisions, cultivate public involvement, and build public confidence and department credibility

Objective: Improve public involvement and appreciation of fish and wildlife.

Strategy: Develop a strategic communication and outreach scoping document that identifies actions to increase the visibility of the department and the benefits of fish and wildlife resources.

Activities:

- Update and improve the department's website.
- Publicize fishing, hunting and wildlife-viewing opportunities.
- Increase communication and collaboration with advisory groups.
- Participate in a marketing initiative developed by the national Recreational Boating and Fishing Foundation focused on "lapsed" recreational fishers. This effort will include coordination with 20 other states that have agreed to participate in the marketing program.
- In consultation with other western states and natural resource agencies, conduct an analysis of the costs and staffing requirements for an agency quarterly publication.
- Gather input on other state fish and wildlife agencies' strategic communications and outreach planning.

Performance measures:

- Number (in thousands) of youth participating in youth sport fishing events.
- Number of WDFW website visits.
- Number of hours spent meeting with stakeholder groups.

Strategy: Maintain/improve existing relationships that engage volunteer organizations and fishing, hunting and wildlife viewing advocate communities.

Activities:

- Enhance participation in community events.
- Develop outreach to promote volunteer opportunities.
- Utilize volunteer partnerships on department lands enhancement efforts.
- Find additional funds to purchase or develop new volunteer database.
- Highlight volunteer partnerships through annual newsletter.

Performance measures:

- Number of hours of WDFW volunteer activities.
- Provide breakout of hours by WDFW-supported partnerships such as RFEGs, Aquatic Lands Enhancement Account (ALEA), Watchable Wildlife, etc.
- Incorporate volunteer organizations into the department strategic initiatives by region.

Strategy: Promote hunter safety awareness, knowledge and skills.

Activities:

- Educate first-time hunters by training a statewide network of volunteer instructors and provide hunting classes statewide.
- Train first-time trappers.
- Provide advanced hunter education, bowhunter education and a home study or online alternative to the basic hunter education course.

Performance measures:

- Number of statewide Hunter Education classes given.
- Number of active instructors in Hunter Education.
- Number of persons successfully completing Hunter Education certification.
- Number of hunting incidents per year.

Strategy: Enhance public involvement in the North of Falcon salmon season-setting process.

Activities:

- The department will work with the treaty tribes and its stakeholders to improve the North of Falcon process by enhancing public involvement to make it as open and transparent as possible while recognizing and respecting the government-to-government relationship between the treaty tribes and the state of Washington.
- The department will use the best scientific information available in formulating fishing seasons and management measures that prioritize the support of conservation of wild stocks and maintain and enhance fishing opportunities.
- Keep North of Falcon web site link up to date with meeting dates, process timeline and map to represent most recent agreed to fishery plan.

Performance measures:

- Number of visits to the North of Falcon webpage.
- Number of stakeholders that participate in meetings.
- Number of wild stocks meeting fishery conservation objectives.

Strategy: Recruit new wildlife-related participants through active outreach and education.

Activities:

- Provide outreach and education services.
- Conduct 500 or more individual projects such as youth fishing events, Salmon in the Classroom annually.
- Participate in state, regional and county fairs, sportsmen's shows and boat shows.
- Continue marine outreach program for beach walks, beach clean-ups and marine-oriented classroom presentations.

Performance measures:

- Number of schools participating in WDFW citizen-science projects.

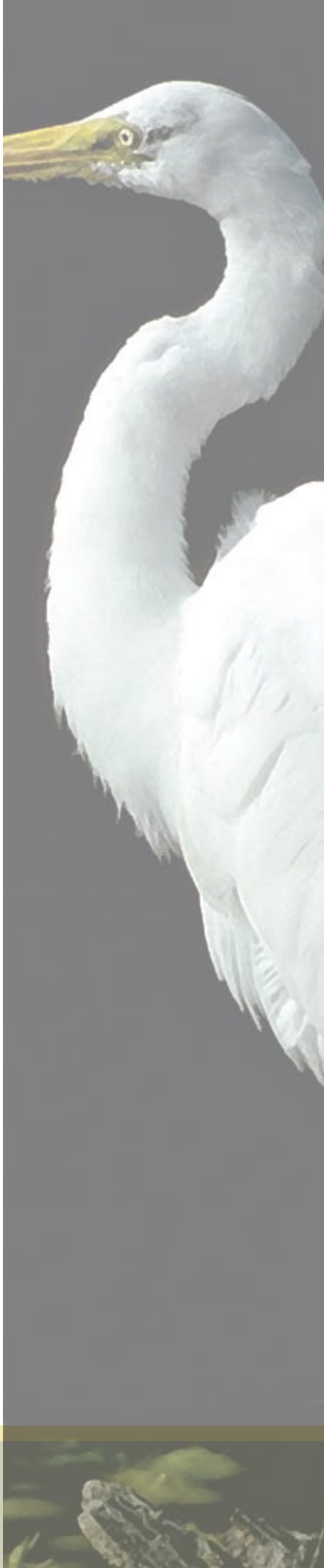
Strategy: Pro-actively address human/wildlife interactions

Activities:

- Develop new statutory language for damage, nuisance and dangerous wildlife laws.
- Develop an agriculture damage assessment process based on an outside scientific peer review. Assessment work should include development of common definitions and include a recommended compensation value table. Expand the Wildlife Conflict Specialist Program.

Performance measures:

- Number of verified complaints for bear and cougar per 100,000 citizens.
- Percentage of targeted animals taken under public safety cougar removal permits.
- Ratio of damage claims to total deer and elk damage complaints.
- Percentage of elk harvested under Landowner Access Permits.
- Number of special trapping permits issued.
- Percentage of deer and elk damage claims solved by cooperative solutions
- Dollars paid for deer and elk damage claims per year.



Goal V: Science

Promote development and responsible use of sound, objective science to inform decision-making

Objective: Use the best-available science.

Strategy: Develop scientific tools and knowledge to support effective management of fish and wildlife.

Activities:

- Develop a scientific peer-review plan for critical science components needed to manage and conserve fish and wildlife populations. The plans shall include a process description, timelines, priorities, and costs.
- Develop a research agenda to address data gaps and develop seven additional white papers on the potential impacts from hydraulic projects as part of the Habitat Conservation Plan (HCP) process.

Performance measures:

- Number of species and/or populations with improved scientific understanding of limiting factors and ecological requirements.
- Number of scientific research projects in progress.
- Number of species and/or populations with genetic baseline information.
- Number of published papers in peer-reviewed scientific journals.

Goal VI: Employee Competence

Create an environment that nurtures professionalism, accountability, enthusiasm, and dedication in order to attract, develop, and retain a workforce that can successfully carry out the mandate of the department

Objective: Hire and promote the best candidates.

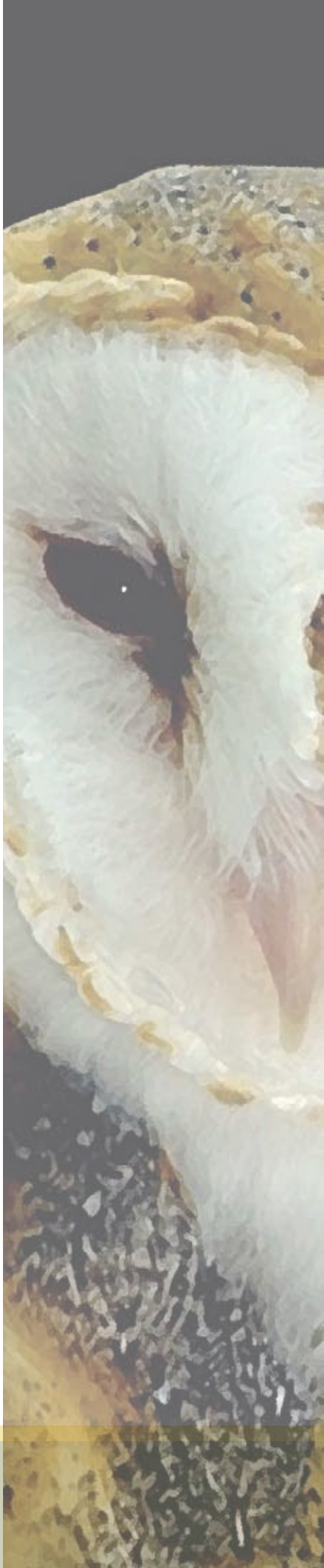
Strategy: Align individual qualifications and expertise with position functions, roles and responsibilities.

Activities:

- Review hiring practices, ensuring a broad solicitation of qualified applicants.
- Promote a diverse and professional department workforce.
- Align individual qualifications and expertise with position functions, roles and responsibilities.
- Conduct a law enforcement allocation and staffing study that determines law enforcement workload by function and geographical area and the number of officers needed to address the workload, and identifies and considers alternative staffing options.

Performance measures:

- Percentage of employees with current position/competency descriptions.
- Average number of days to hire for job vacancies.
- Percentage of employees with current performance evaluations.



Objective: Provide a safe and healthful work environment.

Strategy: Incorporate safety values into agency activities through proactive safety leadership.

Activities:

- Ensure required safety training is completed.
- Enhance WDFW Safety Committee effectiveness.

Performance Measures:

- Percentage of WDFW staff whose evaluations address safety training needs.
- Percentage of WDFW Safety Committees that perform annual inspections.
- Incident rate (number of recordable injuries per 100 FTEs).

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2009-15 WDFW Strategic Plan Update
Priority Projects for Remainder of 2009-11 Biennium
May 2010

This update of the Washington Department of Fish and Wildlife's (WDFW) 2009-15 Strategic Plan provides a list of strategic projects the agency will focus on for the remainder of the 2009-11 biennium.

Soon after WDFW's 2009-15 strategic plan was published in June 2008, the national and state economy entered a severe downturn. Responding to resulting major reductions in the agency's state General Fund support, and resulting cuts in agency staff has dominated much of the agency leadership's attention since then. These economic challenges continue.

In recognition of the reduced capacity, WDFW's Executive Management Team (EMT) reviewed and revised the agency's 2008 strategic initiatives and activities. The revised list in this update identifies initiatives and projects that remain priorities for the agency for the remainder of the current biennium.

This list has been used to set performance expectations for senior leaders during the annual performance development planning process.

Projects in this update will be monitored and progress will be reported to staff and the public, through the agency Intranet, the public website and reports to the Fish and Wildlife Commission.

The Executive Management Team also is beginning the planning cycle for the agency's 2011-17 strategic plan. As this plan takes shape, we will be seeking feedback and suggestions from our agency employees, customers and stakeholders. The plan will help inform our 2011-13 budget development process and will be published late this summer.

Questions about this updated priority project list or the 2011-17 strategic planning process should be directed to Dave Geiger, WDFW Manager for Performance and Accountability, at david.geiger@dfw.a.gov, or (360) 902-2241.

WDFW 2009–2015 Strategic Plan Update
Priority Projects for the Remainder of 2009-11 Biennium

Revised 2/16/10

VISION

Conservation of Washington's fish and wildlife resources and ecosystems.

MISSION

Preserve, protect and perpetuate fish, wildlife and ecosystems while providing sustainable fish and wildlife recreational and commercial opportunities.

GOALS, OBJECTIVES, STRATEGIES, PROJECTS

Goal #1: Conserve and protect native fish and wildlife.				
Objective:		**Strategy:** **Project:**	**Executive Sponsor (Program)**	**Project Lead**
A. Improve conservation practices to enhance the protection and restoration of fish and wildlife.				
		1. Promote compliance with natural resources laws with emphasis on protecting fish, wildlife, habitat, and on invasive species.		
		a. By June 30, 2011 complete a comprehensive statewide inventory of known captive wildlife/animal facilities including locations with mute swans (excluding licensed game farms, wildlife rehabilitators, and AZA accredited entities).	Bruce Bjork (ENF)	Eric Anderson, Sean Carrell
		b. Enhance Aquatic Invasive Species (AIS) prevention and enforcement by June 30, 2011.	Bruce Bjork (ENF)	Eric Anderson
		2. Identify and implement hatchery reform actions to reduce the risks of hatchery programs to native salmon and steelhead.		

Goal #1: Conserve and protect native fish and wildlife.				
Objective:		**Strategy:** **Project:**	**Executive Sponsor (Program)**	**Project Lead**
		a. By June 30, 2011, complete for coastal Washington watersheds and five Puget Sound watersheds action plans that systematically implement hatchery reform as part of a comprehensive, integrated (all-H) strategy.	Jim Scott (FISH)	Heather Bartlett
		b. By August 31, 2010, develop an implementation plan for hatchery reform consistent with the Commission policy for Hatchery and Fishery Reform.	Jim Scott (FISH)	Heather Bartlett
		c. By August 31, 2010, with the Fish Program, identify areas of physical change needed to comply with juvenile and adult passage requirements in HSRG recommendations, develop a long range plan for implementation and include implementation steps into the 10 year capital plan.	Bill Phillips (CAMP)	Glenn Gerth
		3. Continue the implementation of the 21st Century Salmon and Steelhead Initiative focusing on the completion of the 2009-2011 benchmarks.		
		a. By June 30, 2011 complete scheduled work for fish passage and RMAP work on Department owned lands.	Dave Brittell (WL)	Paul Dahmer
		b. By June 30, 2011, complete all 2009-2011 benchmarks assigned to the Fish Program for the Wild Fish Populations, Fisheries/Harvest, and Co-management key result areas.	Jim Scott (FISH)	Jim Scott
		4. Reduce fishery impacts on native fish of conservation concern.		
		a. Develop a project management tool to facilitate representation from each program; develop opportunities, funding strategies, schedules, and implementation plans.	Bill Phillips (CAMP)	Bill Phillips
		b. By May 31, 2011, complete and publish a systematic review of the status of groundfish in Puget Sound, review protective regulations, and identify any changes necessary for stock conservation.	Jo Wadsworth (FISH)	Craig Burley
		c. Define “full implementation” of mark-selective fisheries and develop an implementation schedule.	Jim Scott (FISH)	Craig Burley

Goal #1: Conserve and protect native fish and wildlife.				
Objective:		**Strategy:** **Project:**	**Executive Sponsor (Program)**	**Project Lead**
		5. Conduct internal and external peer review of selected critical components of fish and wildlife management.		
		a. Develop and implement a policy/procedure to ensure proposed changes in land use and restoration activities are reviewed for impacts to internal and external stakeholders.	Bill Phillips (CAMP)	Bill Phillips
		b. Through an external independent review process, complete a "blind" science-focused peer review of the draft Wolf Conservation and Management Plan/EIS and incorporate recommended changes by May 2010.	Dave Brittell (WL)	Rocky Beach
		c. Utilizing external peer review, complete the white-tailed deer management plan by May 31, 2010.	Dave Brittell (WL)	Dave Ware
		d. Implement a process resulting in an independent review of two key fishery management topics (Cedar River sockeye spawner goal and alternative methods to assess the abundance of Puget Sound rockfish) by June 30, 2011.	Jim Scott (FISH)	Craig Burley
		6. Initiate new and enhance existing partnerships with conservation organizations and others to help conserve Washington's fish and wildlife.		
		a. Work with Colorado State University to complete the "Place and Wildlife" human dimensions survey and consider preliminary information while drafting the 2011-2013 Strategic Plan and for identifying potential new and enhanced partnerships.. Final survey report will be completed by July 1, 2010, and reported to the Fish and Wildlife Commission in August, 2010.	Dave Brittell (WL)	Sandra Jonker
		b. Enhance working relationship with the Washington State Conservation Commission by utilizing approaches to land acquisition that blend the maintenance of working agricultural lands with the conservation of fish and wildlife during the 2009-11 biennium.	Dave Brittell (WL)	Jennifer Quan
		c. Present and seek engagement in WDFW's conservation initiatives with 5 key conservation organizations by June 30, 2011.	Jim Scott (FISH)	Jim Scott

Goal #1: Conserve and protect native fish and wildlife.				
Objective:		**Strategy:** **Project:**	**Executive Sponsor (Program)**	**Project Lead**
		7. Complete and implement the highest priority conservation actions identified in species management, habitat management and recovery plans (e.g., 09-15 Game Management Plan, Wolf Conservation plan, Fisher recovery Plan, White Tail Deer management Plan, etc.).		
		a. Utilizing guidance within the recovery plan, complete the reintroduction of fisher on to the Olympic Peninsula by March 31, 2010.	Dave Brittell (WL)	Jeff Lewis
		b. Complete the final draft of the Wolf Conservation and Management Plan/EIS and present to the Fish and Wildlife Commission by fall 2010.	Dave Brittell (WL)	Harriet Allen
		c. Finalize and implement current WDFW road management proposals for the Colockum, L.T. Murray and the Wenas Wildlife Areas after completion of Phase 2 land exchange. Public notifications will begin in 2010 with implementation in 2011.	Dave Brittell (WL)	Jerry Nelson
		d. Complete the Puget Sound Rockfish Conservation Plan and implement action items for "Fishery Management" and "Monitoring, Evaluation, and Adaptive Management" by June 30, 2011.	Jo Wadsworth (FISH)	Craig Burley
		8. Ensure department lands, fishways, screening structures, water intakes, dams and dikes are compliant with regulations and consistent with conservation and preservation values and best practices.		
		a. By February 28, 2011, develop a communication tool and associated policy that ensures internal and external stakeholders affected by changes to existing structures or the installations of structures are consulted and all impacts evaluated.	Bill Phillips (CAMP)	Glenn Gerth
		b. Dependent upon funding, complete and submit a draft of the Habitat Conservation Plan for Wildlife Areas to the USWFS by June 30, 2011.	Dave Brittell (WL)	Jennifer Quan
		c. Complete 30 fish passage scoping reports for WSDOT barriers and 7 for WDFW lands by December 31, 2010.	Peter Birch (HAB)	Marc Daily

Goal #1: Conserve and protect native fish and wildlife.				
Objective:		**Strategy:** **Project:**	**Executive Sponsor (Program)**	**Project Lead**
B. Increase protection and restoration of ecosystem functions.				
		1. Develop and lead a state-wide strategy to conserve fish and wildlife biodiversity threatened by climate change.		
		a. Define methodology and secure funding to complete an assessment of the vulnerability of priority species to climate change by June 30, 2011.	Jo Wadsworth (FISH)	Ken Warheit
		2. Improve compliance and effectiveness of the HPA program to increase protection of fish and wildlife.		
		a. Expand development and issuance of general permits for water crossing structures modeled after the Green Diamond GHPA for other timber companies and counties. Target is two new GHPAs, depending on budget & staff by December 31, 2010 and June 30, 2011, respectively.	Peter Birch (HAB)	Jeff Davis
		b. Develop and begin to implement by August 31, 2010 at a pilot level (2 – 3 dedicated staff) a comprehensive compliance monitoring program.	Peter Birch (HAB)	Dave Price
		3. Minimize impacts to fish, wildlife and their habitats from traditional and new, green energy projects (e.g., wind and solar power, wave energy, etc.).		
		a. Provide fish and wildlife consulting services to EFSEC throughout their site certification process during 2010-11 as a first priority for the Grays Harbor Energy Project, and Whistling Ridge Wind Farm and as a second priority, three new BPA Transmission Lines.	Peter Birch (HAB)	Curt Leigh
		b. Identify monitoring methods and standards for a marine hydrokinetic generation project in Admiralty Inlet by March 2010.	Peter Birch (HAB)	Curt Leigh
		4. Provide technical services and support to implement key Farm Bill conservation programs statewide.		

Goal #1: Conserve and protect native fish and wildlife.				
Objective:		**Strategy:** **Project:**	**Executive Sponsor (Program)**	**Project Lead**
		a. During the 2009-11 biennium, provide fish and wildlife related technical services to landowners, conservation districts, and federal agencies to help implement Farm Bill conservation programs such as the Conservation Reserve Program (CRP) and the State Acres for Wildlife Enhancement (SAFE) program. The Department will report on accomplishments at the end of each federal fiscal year.	Dave Brittell (WL)	Don Larsen
		5. With stakeholders, develop and implement an action plan for protection of private timber lands susceptible to uses incompatible with conservation of fish and wildlife.		
		a. Establish stakeholder task group to support broad-based partnership efforts for land acquisitions on Simcoe Mountain.	Jeff Tayer (R3), Guy Norman (R5)	David Anderson
		6. Promote ecosystem management through the implementation of the Statewide Wildlife Strategy and other landscape-scale plans.		
		a. Strengthen WDFW conservation strategies by developing and implementing a cross-program, integrated Agency plan by June 30, 2010, that uses ecosystem management principles to improve fish and wildlife conservation.	Phil Anderson	Birch, Bjork, Brittell, Scott, Phillips
		b. By June 30, 2011, spatially enable the statewide Comprehensive Wildlife Conservation Strategy.	Dave Brittell (WL)	John Pierce
		c. During 2010-11, support the USFWS effort to establish two Landscape Conservation Cooperatives in Washington.	Dave Brittell (WL)	Dave Brittell
		7. Successfully implement WDFW's near term (3-5 year) actions as identified in the Puget Sound Partnership's Action Agenda.		

Goal #1: Conserve and protect native fish and wildlife.				
Objective:		**Strategy:** **Project:**	**Executive Sponsor (Program)**	**Project Lead**
		a. By June 30, 2011, successfully implement high priority Puget Sound Partnership Near-Term Actions for which WFDW is lead.	Lisa Veneroso	Margen Carlson

Goal #2: Provide sustainable fishing, hunting and other wildlife recreational experiences.				
Objective:		**Strategy:** **Project:**	**Executive Sponsor (Program)**	**Project Lead**
A. Increase the economic benefits and public participation derived from sustainable fish and wildlife opportunities				
		1. Seek partnerships and increase awareness of opportunities for fish and wildlife and other related recreational experiences.		
		a. During the 2009-11 biennium, increase awareness of fish and wildlife recreational opportunities on WDFW lands through outreach and improved access to wildlife area information.	Dave Brittell (WL)	Jennifer Quan
		b. By June 30, 2010, begin creating wildlife viewing opportunities as part of the agency's recreation marketing program.	Dave Brittell (WL)	Mike O'Malley
		2. Develop and implement fishing gears and techniques that reduce the incidental fishing mortality of fish species and stocks of conservation concern.		
		a. Test and report on the effectiveness of three types of alternative commercial fishing selective fishing gear in 2010 in the lower Columbia River by January 31, 2011.	Jim Scott (FISH)	Patrick Frazier

Goal #2: Provide sustainable fishing, hunting and other wildlife recreational experiences.				
Objective:		**Strategy:** **Project:**	**Executive Sponsor (Program)**	**Project Lead**
		3. Increase public participation and economic benefits of commercial and recreational fishing by developing promotional partnerships, expanding sustainable fishing opportunities and optimizing the use of hatchery programs.		
		a. Develop a joint recreation marketing program with State Parks, by June 30, 2010, as outlined in Natural Resources Reform Initiatives Executive Order 09-07.	Joe Stohr (DO)	Margaret Ainscough
		b. By June 30, 2010, implement special hunt permit and raffle opportunities as part of the agency's recreation marketing program.	Dave Brittell (WL)	Dave Ware
		c. By January 31, 2011, develop a hatchery stocking plan for trout and warmwater in Washington State that promotes increased public participation.	Jim Scott (FISH)	Heather Bartlett
		d. Develop a marketing plan for trout and warmwater fisheries in Washington State by January 31, 2011.	Jim Scott (FISH)	Craig Burley
		4. Provide increased hunting opportunities by enhancing the number of special permit and raffle opportunities.		
		a. Provide additional hunting opportunities by increasing the number of special permit and raffle hunting opportunities available to hunters during the Fall 2010 season.	Dave Brittell (WL)	Dave Ware

Goal # 3: Deliver high quality customer service.				
Objective:		**Strategy:** **Project:**	**Executive Sponsor (Program)**	**Project Lead**
A. Maintain high quality services aligned with agency priorities and capacities.				
		1. Enhance public communications through the WDFW web site and new media tools to inform and engage stakeholders, customers and citizens about fish and wildlife conservation priorities and sustainable recreational opportunities.		
		a. Complete website redesign to improve customer service and highlight department conservation efforts and major initiatives.	Margaret Ainscough (DO)	John Burrows
		b. By June 2010, complete the salmon conservation and recovery Web application to effectively communicate progress and action steps for salmon recovery.	Jim Scott (FISH)	Ken Warheit
		2. Develop strategic, coordinated outreach efforts to further understanding and build support for agency policy initiatives and activities.		
		a. Develop and implement a strategic outreach work plan by July 1, 2010.	Margaret Ainscough (DO)	Madonna Luers
		b. By July 1, 2010 develop and implement a communication plan for the new wildlife conflict rules.	Dave Brittell (WL)	Dave Ware
		3. Improve the HPA permit issuance process.		
		a. Complete HPA viewer pilot with tribes & expand use to other parties based on pilot results by December 31, 2010.	Peter Birch (HAB)	Pat Chapman

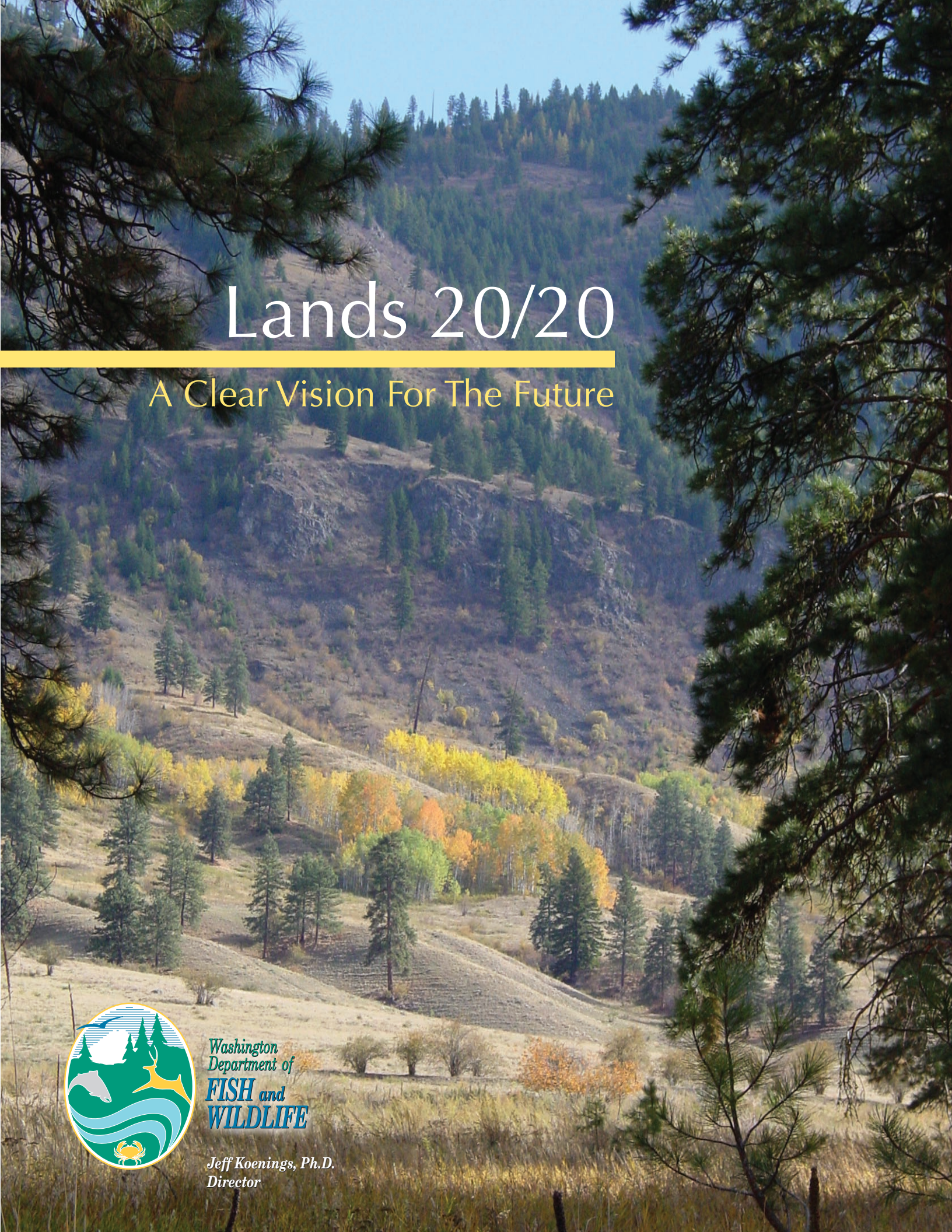
c.

Goal #4: Use sound business practices and maintain a dedicated workforce.				
Objective:		**Strategy:** **Project:**	**Executive Sponsor (Program)**	**Project Lead**
A. Maintain a highly skilled and dedicated workforce				
		1. Improve internal coordination and cohesiveness, focusing on agency priorities.		
		a. By March 31, 2010, explicitly identify activities that will no longer be conducted due to FY10 budget reductions, discuss with staff, and revise position descriptions and expectations.	Jo Wadsworth (FISH)	Jo Wadsworth
		b. By June 30, 2011, Senior Management will conduct frequent formal and informal meetings with staff and develop a communication tool on the intranet for the purpose of information sharing, idea exchange, and team building.	Joe Stohr (DO)	EMT Members
		2. Develop and implement ways to enhance the agency's competitiveness to attract and retain high quality staff.		
		a. By March 1, 2010, review and revise selected policies as needed to respond to staff concerns, including as a minimum alternate works schedule, exchange time and telework options.	Joe Stohr (DO)	Cindy Lerch
		3. Implement the WDFW Enforcement staffing study done by the International Association of Chiefs of Police (IACP) to the extent possible.		
		a. Develop an implementation plan by March 31, 2011, that identifies necessary steps, milestones, and funding options for pursuing improved staffing based on the IACP study.	Bruce Bjork (ENF)	Garret Ward
		b. Evaluate options and redirect agency resources by June 30, 2011, toward implementing the IACP study recommendations.	Bruce Bjork (ENF)	Bruce Bjork, EMT Members
		c. Continue ongoing recruiting and testing effort through Public Safety Testing (PST), International Game Warden Magazine, and local media to fill officer vacancies.	Bruce Bjork (ENF)	Steve Crown

Goal #4: Use sound business practices and maintain a dedicated workforce.				
Objective:		**Strategy:** **Project:**	**Executive Sponsor (Program)**	**Project Lead**
B. Improve business systems to meet federal and state standards and best practices.				
		1. Develop and implement performance management systems and practices to effectively monitor and manage progress toward agency goals, objectives, and priorities.		
		a. By March 1, 2010, refine the Wildlife Program training matrix to provide a tool available to all programs during the annual evaluation process. WL	Dave Brittell (WL)	Cindy Lerch
		b. Develop and implement an effective, data based internal performance review process by April 15, 2010.	Joe Stohr (DO)	Dave Geiger
		c. Develop and implement an effective performance measures tracking and reporting system by June 30, 2010.	Dave Geiger (DO)	Dave Geiger
		d. By April 30, 2010, analyze and implement effective agency response to results of the 2009 Employee Satisfaction Survey, including the promotion of a collegial, problem solving environment.	Joe Stohr (DO)	Dave Geiger
		e. Analyze and implement effective agency response to results of the 2009 Agency Self Assessment by March 30, 2010.	Dave Geiger (DO)	Dave Geiger
		f. By April 15, 2010, develop and implement an effective framework (system) for program business and operational plans.	Dave Geiger (DO)	Dave Geiger
		2. Align and improve the strategic plan and budget process which facilitates the development of a balanced, comprehensive 10 year capital plan.		
		a. Implement an effective 2011-17 strategic planning process and produce a completed plan by June, 1, 2010.	Joe Stohr (DO)	Dave Geiger
		b. By June 30, 2011, develop a plan that identifies the physical needs, implementation steps and a funding strategy for of the department in terms of capital improvements and operating/maintenance costs.	Bill Phillips (CAMP)	Glenn Gerth

Goal #4: Use sound business practices and maintain a dedicated workforce.				
Objective:		**Strategy:** **Project:**	**Executive Sponsor (Program)**	**Project Lead**
		3. Improve financial and business systems and processes to ensure planning, controlling and reporting of financial information meets state and federal standards.		
		a. Beginning by May 31, 2010 and ongoing, improve agency quarterly budget meetings to monitor agency revenues, expenditures, and FTEs. To improve the process, define roles and responsibilities, expectations for the review, and improve how data is presented.	Jeff Olsen (FIT)	David Giglio
		b. By August 31, 2010, develop and implement a cost allocation model that fairly allocates costs and administrative charges proportionately across the agency.	Jeff Olsen (FIT)	Kim Hoang
		4. Develop and maintain effective strategies and sustainable structure for fees and other funding.		
		a. By July 30, 2010, formulate for EMT consideration and discussion a "Care of Lands and Protection of Biodiversity" budget initiative for use in the 2011 Legislative process. WL	Dave Brittell (WL)	Rocky Beach, Jennifer Quan
		b. Evaluate the impact of the 10% temporary surcharge expiring, consider alternatives to replace the surcharge and complete the report by October 31, 2010.	Jeff Olsen (FIT)	Kim Hoang
		c. By December 31, 2010, develop and implement an annual report process that summarizes agency activities, revenues, and expenditures, to assist stakeholders in understanding where the funding comes from and where it goes.	Jeff Olsen (FIT)	Kim Hoang
		5. Align technology improvements and information systems with agency core functions and priorities.		

Goal #4: Use sound business practices and maintain a dedicated workforce.				
Objective:		**Strategy:** **Project:**	**Executive Sponsor (Program)**	**Project Lead**
		a. By March 31, 2011, update the agency review process for determining IT priorities to ensure the process results in investments consistent with the strategic plan and the Information technology work plan and update the project list.	Jeff Olsen (FIT)	Jim Eby
		b. Implement key projects such as LIFT for completion by June 30, 2011 and complete the Vista migration project by July 31, 2010.	Jeff Olsen (FIT)	Jim Eby



Lands 20/20

A Clear Vision For The Future

Washington Department of FISH and WILDLIFE

Jeff Koenings, Ph.D.
Director

Lands 20/20

A Clear Vision
For The Future

Washington Department of
Fish and Wildlife

July, 2005

Acknowledgements

Many individuals and organizations have provided encouragement, advice, or guidance during the development of the "Lands 20/20" vision. While these acknowledgements do not necessarily represent endorsement by those named or the organizations they represent, their input has helped to shape the final vision for The Department of Fish and Wildlife lands. Unless otherwise noted, those named are Department of Fish and Wildlife employees.

Executive Oversight: Jeff Koenings, PhD., Dave Brittel, the Fish and Wildlife Commission (John A. Hunter, Holly Ledgerwood, Ron Ozment (Vice Chair), Lisa Pelly, Will Roehl (Chair), J. Pete Schroeder, Fred Shiosaki, Bob Tuck)

Policy and Technical Guidance: Tom Davis, Sue Patnude, Mark Quinn, Elizabeth Rodrick, Teresa Scott, Tim Smith, Joe LaTourrette, George Wilhere

External Focus Group: Paula DelGiudice (National Wildlife Federation), Keith Goehner (Chelan County Commissioner), Norm McClure (Land Management Advisory Council), Arvilla Ohlde (Land Management Advisory Council), Paul Parker (Washington State Association of Counties), Bill Robinson (The Nature Conservancy), Mike Ryherd (Washington Wildlife and Recreation Coalition), Joanne Stellini (U.S. Fish and Wildlife Service), John Stuhlmiller (Washington State Farm Bureau), Stu Trefry (Washington Conservation Commission), Fred Zitterkopf (Hunters Heritage Council)

The entire Land Management Advisory Council provided valuable comments and feedback throughout the development of the lands vision.

Numerous Department of Fish and Wildlife staff offered comments during the internal review process. Likewise, we received many responses during the public review process from attentive citizens and organizations. These responses improved the accuracy, readability, and relevance of the lands vision.

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Back Cover Photograph by: Allen Bauer of the Swakane Wildlife Area

Table of Contents

Foreword

Jeff Koenings with sign for the Landowner Incentive Program

The Lands 20/20 initiative was led by an interdisciplinary team of Department staff working from a comprehensive list of policies, practices, and science-based tools and plans. Based on their efforts, a smaller policy group worked with external stakeholders to craft the Lands 20/20 vision for agency lands. That vision is summarized below, and explored in-depth on subsequent pages.

Lands for Fish and Wildlife and the Citizens of Washington

I am pleased to present to you *Lands 20/20: A Vision For The Future*. It is an opportunity to share with you our fish and wildlife values, how those values are reflected in the unique portfolio of lands owned or managed by the Washington Department of Fish and Wildlife (Department), and how we make decisions about acquiring new lands.

Land acquisition is one of the tools used by the Department to conserve Washington's fish and wildlife and provide related recreational opportunities. This tool carries with it responsibilities and costs, and can only occur successfully with the support of our citizens. As our understanding of fish and wildlife values grows, and the number of entities working to preserve those values increases, it has become ever more important for the Department to clearly articulate its unique role through an overarching lands vision.

Our land legacy began in 1939 when hunters, fishers, and my predecessors recognized that some places were special for fish and wildlife and wildlife recreation, and should be permanently protected in public ownership. That recognition led to our first acquisition, an 80-acre parcel for mule deer in Okanogan County.

Today, almost 70 years and hundreds of acquisitions later, it is clear that the lands portfolio is one of our most successful conservation accomplishments. This portfolio includes over 800,000 acres owned or managed as part of the Department's Wildlife Areas and more than 600 water access sites that are public portals to lakes, rivers and marine areas. Although my Department's ownership of land represents only 1.3% of all the land in the state, these lands are vital to maintaining our rich and diverse wildlife heritage. Hundreds of thousands of people visit these lands each year to recreate and enjoy the wildlife opportunities they provide, contributing to a $2 billion wildlife-related recreation industry in Washington.

Whenever we are asked to make decisions about acquisitions, my Department brings the best available science to the decision-making process and offers alternatives when we can. The public, however, will make the ultimate decisions about future fish and wildlife conservation or recreation acquisitions. These decisions will be based on what we are willing to risk, and what we all want to pass on to our children. Where we go from here will be up to all of us.

Sincerely,
Jeff Koenings, Ph.D.
Director

Introduction

The Washington Department of Fish and Wildlife (Department) is governed by a dual mandate. Its paramount responsibility is to preserve, protect, perpetuate, and manage the fish and wildlife species of the state (RCW 77.04.012). At the same time, the Department must attempt to maximize opportunities for people to hunt, fish, and appreciate fish and wildlife (RCWs 77.04.012 and 77.04.020).

A portfolio of lands helps the Department accomplish these goals. The Department lands portfolio includes Wildlife Areas encompassing approximately 800,000 acres of owned and managed land, as well as hundreds of public access sites. How does the Department evaluate acquisitions and changes in its lands portfolio? What principles guide management of these lands? The Lands 20/20 report answers these questions.

The Washinton Department of Fish and Wildlife (Department) is the largest provider of water access in the state and currently manages over 600 water access sites that provide public access to many of the states lakes, rivers and marine areas. Most sites have toilets, boat launches and space to park.

The Lands Portfolio: One of Many Strategies

Although the lands portfolio is one of the Department's most important tools for accomplishing its dual mandate, other strategies are also used. These strategies include:

- Providing science-based tools and assessments to help other agencies and organizations design land management and acquisition priorities.
- Providing technical assistance for the management of lands owned by other state, federal, and local governments to maximize fish and wildlife values or recreational opportunities.
- Entering into voluntary agreements with private landowners to actively manage their lands for fish and wildlife related values or related recreation. Examples are the Department's Landowner Incentive Program and the Private Lands Hunter Access Program.

The Department does not seek to own all the lands in the state that provide benefits to fish and wildlife. Many such lands are protected by local regulations, by other conservation agencies or entities, and by conscientious landowners. Instead, the Department seeks to be strategic and selective in its acquisitions, acquires lands that provide the highest benefit to fish and wildlife and the public, and focuses on acquiring lands that would otherwise face some sort of risk (such as changing regulations, land uses, or ownership) that would seriously compromise statewide fish and wildlife values. The Department only purchases land from willing sellers at fair market value and does not condemn land. Through land acquisition, the Department provides a vital line of defense against the loss of our state's critical habitat and species.

Introduction

Hiking the Methow Valley Trail as it traverses the Methow Wildlife Area near Winthrop in Okanogan County.

Lands 20/20: A Clear Vision for the Future

"Protecting our unique quality of life by maintaining a citizen-supported portfolio of lands to sustain Washington's diverse fish and wildlife and their habitats into the next century."

The Washington Department of Fish and Wildlife seeks to maintain a citizen-supported portfolio of lands that will:

- Provide benefits to fish and wildlife
- Provide benefits for the public
- Ensure operational excellence

Benefits to Fish and Wildlife

- Basic needs, including key habitats, will be understood for species at risk.
- Wildlife-accessible habitats will exist that are sufficient to sustain species at risk, keep common species common, and assure adequate game populations.
- Each of the habitat types in Washington State will have sufficient acreage under some form of protection to assure properly functioning habitat.

Benefits for the Public

- All Washington citizens will have an opportunity to access and appreciate this state's fish and wildlife.
- Availability and access to fish and wildlife related opportunities will increase consistent with demand.
- All Washingtonians will have opportunity for a fish and wildlife educational experience.
- Department lands will present a direct or indirect economic benefit to the local or state economy.

Operational Excellence

- All potential Department land acquisitions will be evaluated based on their contribution towards the conservation of fish and wildlife and the provision of fish and wildlife related opportunities for the public.
- Local interests and perspectives will be solicited and accommodated to the greatest extent possible for all proposed Department acquisitions.
- In addition to fee-simple acquisition by the Department, management alternatives such as land preservation agreements, management agreements, and partnerships will be evaluated for all proposed Department acquisitions.
- The Department will identify and aggressively pursue funding sources to support operations and maintenance for all Department lands, and to manage those lands for ecological health.
- All Department lands will be managed to maintain the habitat values for which the property was acquired.
- Management plans will be developed and updated annually, with the help of local citizen advisory groups, for each Department wildlife area.

In 2001 wildlife viewers, hunters and fishers alone spent more than $2.4 billion in Washington, according to a recent U.S. Fish and Wildlife Service survey. Much of this economic stimulis is attributable to opportunities that exist in Washington because of lands that have been set aside for this type of recreation.

Introduction

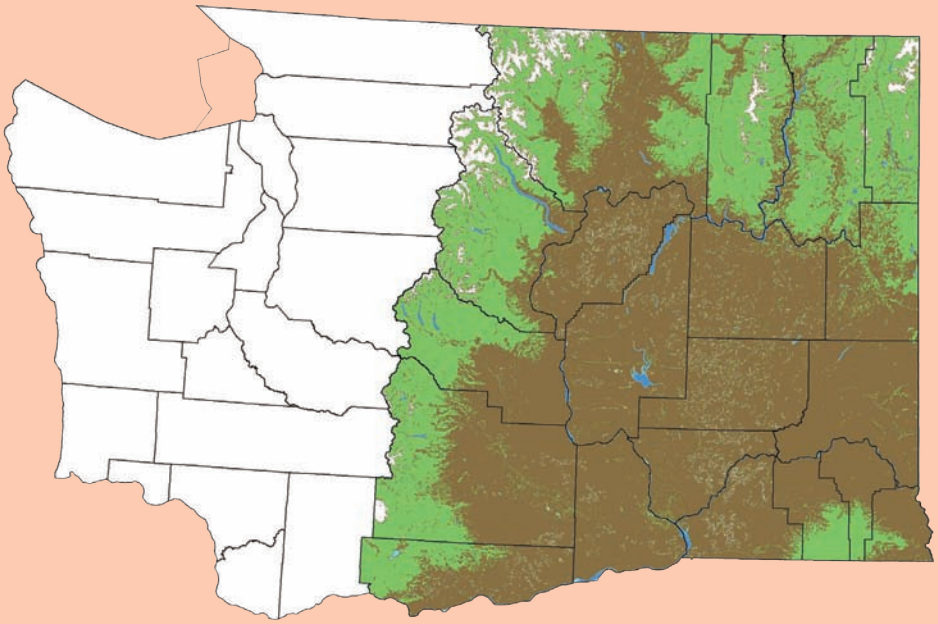
WDFW makes payments in lieu of taxes (PILT) to counties. WDFW paid $429,000 in PILT and another $212,000 in assessments to local taxing districts in 2004 for weed control, irrigation and, lake management, diking and drainage maintenance, etc.

Strategies for the Lands Portfolio

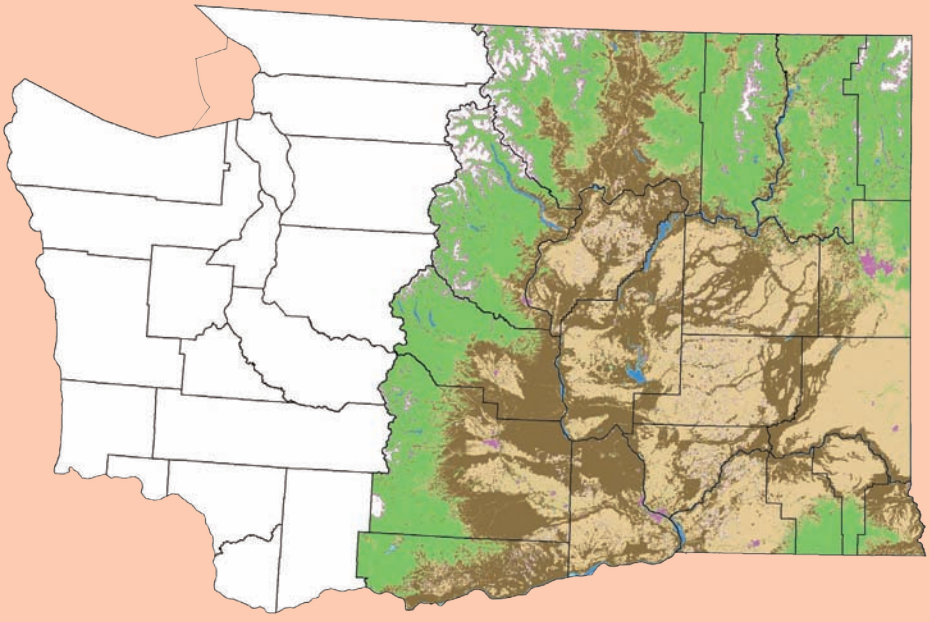
Below are examples of plans that provide the detailed strategies and priorities for evaluating individual land acquisitions and management decisions. These plans are dynamic and change as new information about conservation and recreation are acquired.

- *Washington Department of Fish and Wildlife Strategic Plan*. The strategic plan includes detailed goals and objectives for the agency
- *Comprehensive Wildlife Conservation Strategy*. This strategy will be completed in October 2005 and will help shape the lands portfolio by identifying species and habitats that are most in need of conservation. This plan will maintain state eligibility for federal Wildlife Conservation and Restoration Program funds.
- *Washington Biodiversity Conservation Strategy Report*. Based on this report, the Washington Biodiversity Council began meeting in the fall of 2004 to develop a statewide biodiversity strategy. When completed, this strategy will guide biodiversity conservation efforts of the Department and other agencies.
- *Ecoregional Assessments*. These reports, produced through collaboration of the Department, The Nature Conservancy, and the Washington Department of Natural Resources, assess the biodiversity and conservation potential of lands across the nine ecoregions of Washington State. Each of the eight ecoregional assessments that cover the nine ecoregions of the state will be completed by the year 2006. The ecoregional assessments provide a land evaluation that presents the relative conservation value and vulnerability of lands across each ecoregion.

Mallards and swans lift off the Skagit wildlife area near Mt. Vernon. Here, local farmers partner with WDFW to make sure migrating waterfowl and swans have sufficient winter foods to survive.



Historical Shrubsteppe

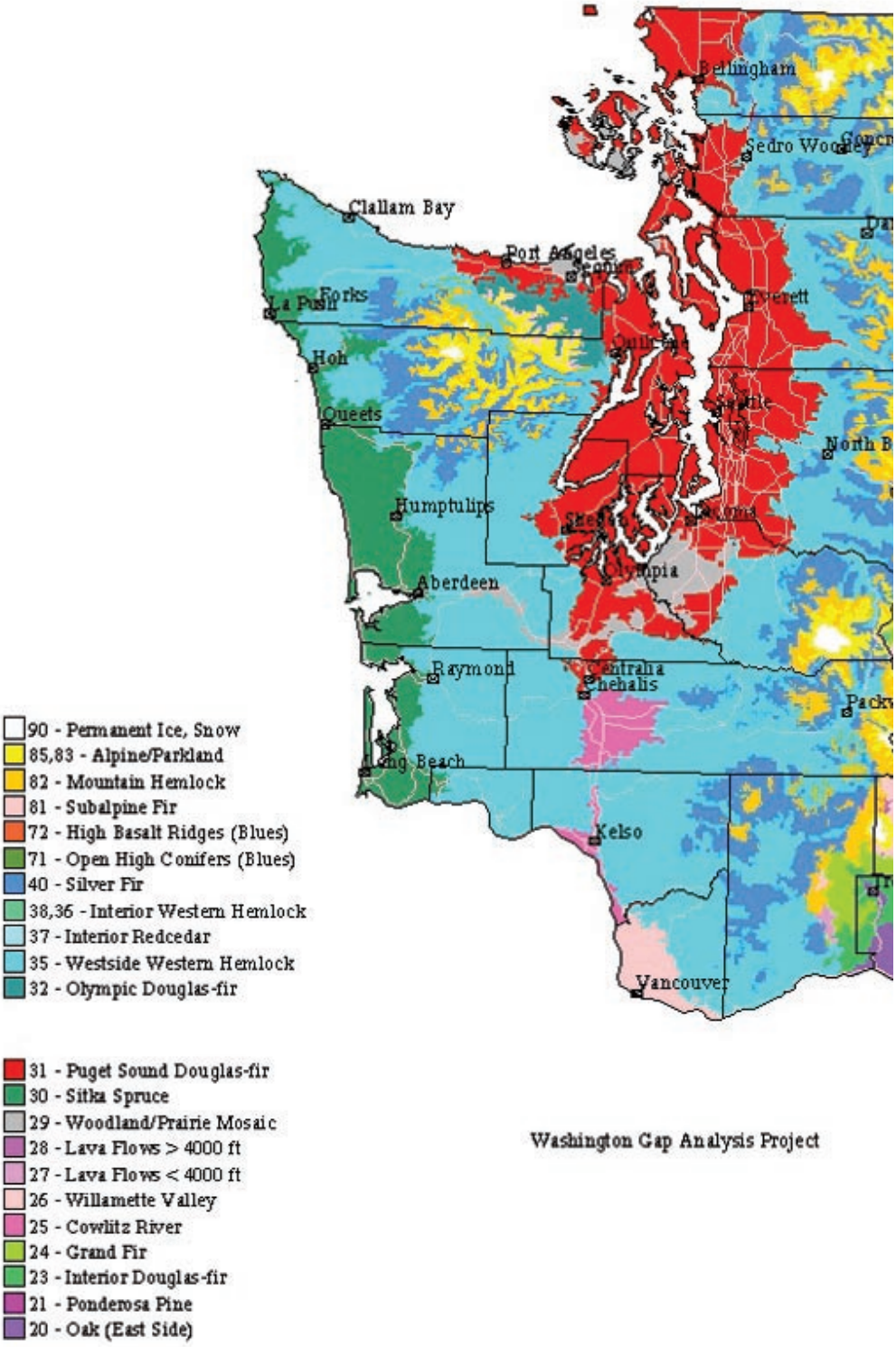


Current Shrubsteppe

Declining Habitat: Current and historic extents of shrubsteppe/grassland habitats in eastern Washington. Historic extents represent pre-European settlement and are based on known soil/landcover relationships; current extents derived from analysis of Landsat data from 1993-1994. Within the images, green = forest cover, dark brown = shrubsteppe/grassland, tan = agriculture, blue = water, magenta = urban areas.

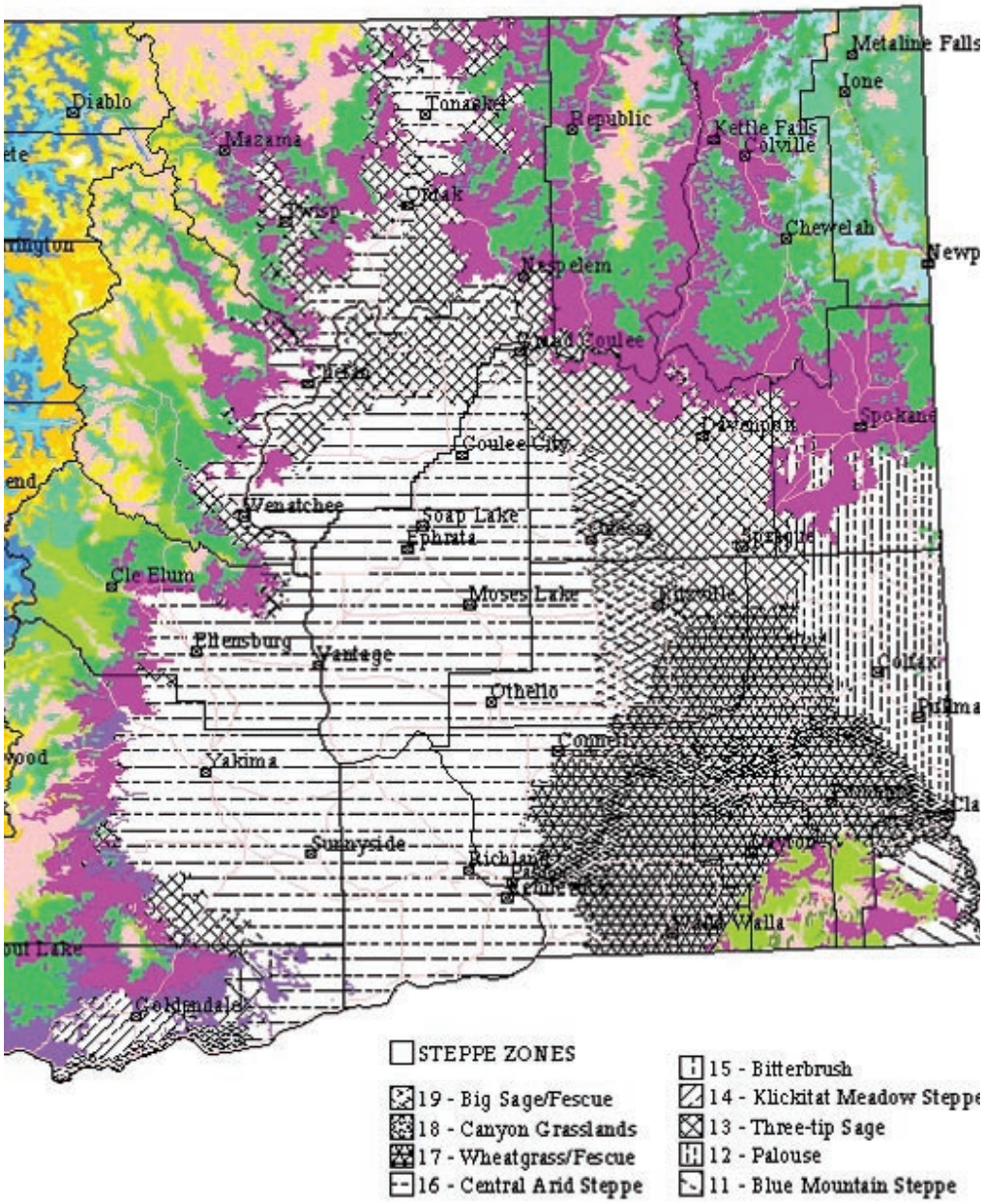
Introduction

Washington Vegetation Zones, Version 6, August 1996



Washington Gap Analysis Project

Introduction



Introduction

WDFW-owned and -managed lands can be found in every county in Washington State. Access to these lands is free with the purchase of a hunting or fishing license, or visitors can purchase a vehicle-use permit, good for year- long access to all WDFW lands. Most WDFW lands are open 365 days/year with few restrictions to accommodate many different types of wildlife related recreation and other forms of outdoor recreation as well.

How Much Is Enough?

In the next 25 years, the number of people that call Washington their home is projected to increase by 2.7 million, requiring five additional cities the size of Seattle, or 14 the size of Spokane, to accommodate that growth. By 2045, Washington's population is expected to double. Although it is the smallest continental western state, Washington is now the second most populated, which generates unprecedented pressure on our natural resources.

Washington's natural world is incredibly diverse, and that diversity supports thousands of plants and animals. This web of life is complex and understanding it in the face of a rapidly growing human population is becoming increasingly difficult. It is of paramount importance that we make every effort to protect what we can, lest we inadvertently eliminate a part that may hold the key to our own long-term survival or the natural legacy we steward.

The science underpinning our understanding of species and habitat relationships is always progressing, leading to better and more effective protection, management, and land acquisition decisions. Deciding "how much is enough," however, is not a purely scientific endeavor. The landscape – as well as the socio-political and economic circumstances – in which we attempt to protect and manage fish and wildlife and biodiversity is constantly changing. Deciding how much is enough will be a collaborative process involving many entities and the science and socio-political values they represent.

The Washington Legislature anticipated the need for such a collaborative process with the passage of Substitute Senate Bill 6242 in 2004. This bill directed the Interagency Committee for Outdoor Recreation to conduct an assessment of the current state of our public lands, and then lead a collaborative discussion among state agencies and others that could lead to a better coordinated acquisition strategy among all state agencies, particularly the Department, The Department of Natural Resources (DNR) and Washington State Parks (Parks). This report was finished as the Lands 20/20 report went to press, and is consistent with the clear and open process described here.

Hedgehog cactus in bloom on the L.T. Murray Wildlife Area near Ellensburg.

Photograph by Alan Bauer

Benefits to Fish and Wildlife

Lands 20/20 In-depth: Benefits for Fish and Wildlife

Legislative mandate:
Preserve, protect, perpetuate, and manage the fish and wildlife species of Washington State. (RCW 77.04.012)

Vision:

- Basic needs, including key habitats, will be understood for species at risk.
- Wildlife-accessible habitats will exist that are sufficient to sustain species at risk, keep common species common, and assure adequate game populations.
- Each of the habitat types in Washington State will have sufficient acreage under some form of protection to assure properly functioning habitat.

Priority Species

The most straightforward way to assure that the lands portfolio provides benefits to fish and wildlife is to focus on the fish and wildlife themselves. Animals that are present on the state and federal list of threatened and endangered species are a high priority, followed closely the federal and state lists of candidate species, or species of concern, which indicate fish and wildlife populations that are likely to become threatened in the future. Finally, populations that are locally important, including important game species, or species that are identified as species of greatest conservation need in the Department's Comprehensive Wildlife Conservation Strategy are considered.

The Department of Fish and Wildlife uses the presence of key habitat for these priority species as one indication of the value of land in its portfolio. Key habitat is habitat that is critical for one or more of a species' life stages. This may include breeding grounds, rearing habitat, or wintering areas. The highest priority key habitats are those that are irreplaceable. These are habitats that provide benefits to a particular species that cannot be provided anywhere else in the state. These areas are also often the last of their kind: for example, the last sage grouse mating or nesting grounds in the state, or streamside corridors that protect threatened or endangered bulltrout, salmon or steelhead.

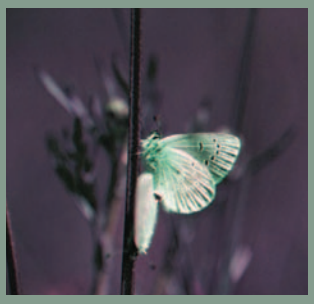
Keystone species also deserve special consideration when evaluating acquisitions for the lands portfolio. A keystone species serves as a critical

One of the last pygmy rabbits (half of the size of the more abundant cottontail) to occur in Washington sits motionless in its native habitat on the Sagebrush Flat Wildlife Area near Ephrata in Grant County.

Up to 4,000 elk receive supplemental winter feed at the Oak Creek Wildlife Area every winter as part of the Department's game management program. Department lands along with forest service and other public lands provide the bulk of the heards spring, summer, and fall hablitat, but winter habitat has been lost to development.

Photograph by Alan Bauer

Benefits to Fish and Wildlife



The Puget Blue, a state candidate butterfly found on WDFW's Scatter Creek Wildllife Area in Thurston County.

link in the nutrient cycle of an ecosystem and has a major impact on other animals and/or plants, with far-reaching consequences if its population declines or disappears. Salmon are an example of a keystone species.

Habitat

In addition to lands for individual focal species, the Department acquires and manages lands that provide substantial benefits to multiple fish and wildlife species or are important for specific ecological processes. A decreased emphasis on single-species management reflects an increased understanding of the way ecosystem approaches provide greater benefits to fish and wildlife. Sometimes the Department conducts restoration on its lands to repair the ecological processes and landscape features that existed historically. Whether the lands have intact native plant communities and ecosystem functions, or need some restoration or management, habitat functions are the backbone of the lands portfolio and benefit robust and declining populations alike.

Some lands are acquired to assure that the ecological processes on adjacent lands remain healthy and functional. Examples of these processes include delivery of water and sediment in streams and groundwater recharge. These lands contribute to the integrity of the landscape around them, support existing protected lands, or add a core of high value habitat to surrounding land of moderate value. Other lands are actively managed to provide particular habitat functions, such as winter forage for valuable game populations.

One of the largest living ponderosa pines in Washington can be found on the Sinlahekin Wildlife Area. Ponderosa pine forests and the habitat they provide are significantly reduced in Washington due to past logging and fire control. Ponderosa pine is a fire tolerant species that evolved from exposure to intermittent wildlifes.

Benefits to Fish and Wildlife

Some lands are acquired to provide ecological connectivity, assuring that water, nutrients, and the fish and wildlife themselves can be distributed across the landscape. Such healthy lands protect migratory routes or offer a corridor that connects two larger habitat areas, preventing habitats from becoming isolated and less functional.

Biodiversity

While the Department's responsibility for responding to the decline of individual species and populations will remain for the foreseeable future, it is increasingly taking *proactive* measures to protect and preserve fish and wildlife by focusing on Washington's biodiversity.

Biodiversity is the full range of life in all its forms: the habitats in which life occurs, the ways that species and habitats interact with each other and the physical environment, and the processes necessary for those interactions. Biodiversity is sometimes referred to as the "web of life." One way of measuring Washington's biodiversity is by counting the number of different plant and animal species that live here. Our state is permanent or temporary home to 140 mammal species, 470 freshwater and saltwater fish species, 341 species of birds that either breed here or stop during their annual migrations, as well as 150 other vertebrate species, more than 20,000 invertebrates, and 3,100 vascular plants.

Marietta Slough restoration project along the Nooksack River near Bellingham. This WDFW wildlife area helps restore wetland function in the Nooksack floodplain. Benefits include improved habitat quality for fish and wildlife and a better functioning floodplain that will minimize property damage during floods.

Benefits to Fish and Wildlife

This aerial photo demonstrates the value of WDFW's Skagit Wildlife Area (in the middle of the photo) in supporting natural ecosystem and estuary functions in an area of Western Washington that has been intensively developed for agriculture. Although originally purchased for waterfowl habitat and recreation, these lands are proving to be increasingly important for salmon and other species dependent on estuary habitats.

The Department participated in the production of the 2003 *Washington Biodiversity Conservation Strategy Report*, and is working to integrate the strategy recommendations into its business wherever possible. The focus on biodiversity in the lands portfolio is carried out at a landscape scale in which the protection of many habitat types benefits rare, common, threatened, and abundant species alike. For example, when there is justification for acquisition, the Department is likely to purchase a variety of different habitat types to support the biodiversity that occurs here.

Tools

The following list includes some of the key tools that guide land acquisition and management decisions for the benefit of fish and wildlife:

- Comprehensive Wildlife Conservation Strategy
- Washington Biodiversity Conservation Strategy Report
- Ecoregional Assessments
- The Department's Priority Habitats and Species database
- The Department's Salmon Scape on-line mapping database
- Salmon Recovery Plans
- Other Fish and Wildlife Recovery Plans
- Bonneville Power Administration Columbia River Subbasin Plans
- Analytical tools such as Ecosystem Diagnostics and Treatment
- Washington State "Game Management Plan" (for hunted wildlife)

- Local habitat assessments
- Wildlife Area Management Plans
- Other plans that direct conservation or management of groups of animals or particular populations, such as Shorebird Conservation Plans, Neotropical Bird Conservation Plans, etc.
- Wildlife-Habitat Relationships in Oregon and Washington, by David H. Johnson and Thomas A. O'Neil, provides invaluable information regarding the relationships between species and their habitats in Washington and Oregon.

Figure 1 shows how potential acquisitions are prioritized according to a combination of conservation value (as indicated by biological measures) and vulnerability (risk to their current biodiversity value).

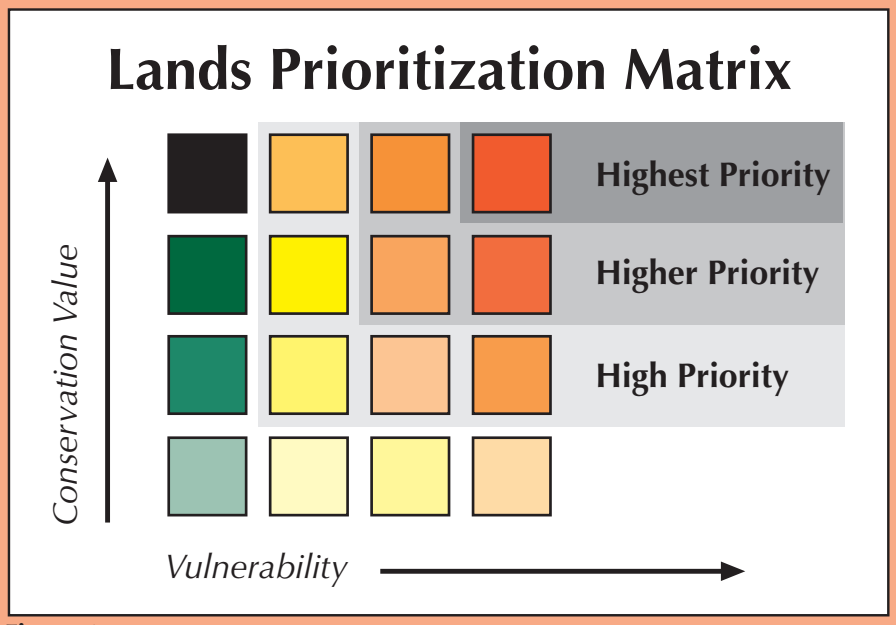


Figure 1.

Benefits for the Public

Lands 20/20 In-depth: Benefits for the Public

Legislative mandate:
"…Attempt to maximize opportunities for people to hunt, fish, and appreciate fish and wildlife." (RCWs 77.04.012 and 77.04.020)

Vision:

- All Washington citizens will have an opportunity to access and appreciate this state's fish and wildlife.
- Availability and access to fish and wildlife related opportunities will increase consistent with demand.
- All Washingtonians will have opportunity for a fish and wildlife educational experience.
- Department lands will present a direct or indirect economic benefit to the local or state economy.

Availability and Accessibility

The Department is not only responsible for the protection of the species, habitats, and biodiversity of the state, but for providing citizens with opportunities to access wildlife resources for hunting, fishing and wildlife viewing. It is estimated these uses account for over 1 million visits/year to Wildlife Areas.

In recent years Department lands have also become popular for nature walking, rock climbing, mountain biking, geocaching, hang-gliding

Healthy populations of mule deer attract over 150,000 deer hunters to various parts of the state each fall. Many find what they are looking for on WDFW's wildlife areas like the Cleman's Mountain Wildlife Area near Yakima.

Photo by Alan Bauer

Benefits for the Public

WDFW is the largest provider of water access in the state and currently manages over 600 water access sites that provide public access to many of the states lakes, rivers and marine areas. Most sites have toilets, boat launches and space to park.

and other diverse outdoor activities. For the most part, these activities are consistent with the Departments philosopy of providing all outdoor recreation opportunities that don't threaten fish and wildlife or degrade the habitats that support them.

The Department lands portfolio includes more than 800,000 acres of owned and managed land in numerous Wildlife Areas. (For a listing of Wildlife Areas and acreages, as well as other information on the Department's lands portfolio, see the Appendix C.) In addition, the Department is the largest provider of water access in the state and currently manages over 600 access sites that provide public access to lakes, rivers, and marine areas. Most sites have toilets, boat launches, and parking space. The inserted map shows the distribution of Department lands and access sites around the state.

High quality hunting and fishing opportunities are legally and physically accessible, offer few or no restrictions, give access to many types of fish and game, and are on a physical scale that leaves everyone plenty of room to enjoy their recreational experience.

A high quality wildlife viewing opportunity is also legally and physically accessible; offers a unique viewing opportunity such as a migration corridor, wintering area, or area of high biodiversity; and accommodates wildlife viewers without crowding.

Pheasant hunting on Department lands in Eastern Washington.

Benefits for the Public

In addition to the Wildlife Areas and access sites in its lands portfolio, the Department also partners with private landowners to offer public access for public hunting, fishing, and wildlife viewing opportunities. The Department does not intend to own or manage all the lands that provide public access to fish and wildlife and related opportunities – many of these are provided by national, state and local parks, other federal lands, and even private parks. When considering acquisitions for public benefit, the Department will consider whether the fish and wildlife related opportunities offered by a piece of land are significant or unique, at risk, and can only be retained through Department ownership or management.

Tools

Acquisition of land for of hunting, fishing, and wildlife viewing opportunities is based upon demographics, economics, and the needs expressed by Washington citizens individually and through various plans and processes. The following list includes some of the key decision making tools:

In 2001, 47% of Washington's residents participated in wildlife watching activities and spent over $1 billion on equipment and related activities.

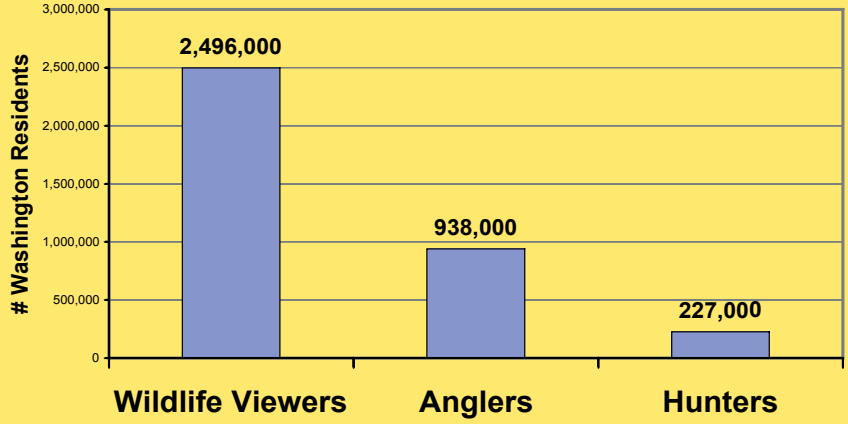


Figure 2: In 2001, 47% of Washington's residents participated in wildlife watching, compared to 30% nationally. Sixteen percent of Washington residents fished and 5% hunted. Bird watching is one of the most popular of wildlife viewing activities for Washingtonians having the fourth-highest participation rating in the country. Source: 2001 National Survey of Fishing, Hunting and Wildlife-Associated Recreation; US Fish and Wildlife Service and US Census Bureau.

Benefits for the Public

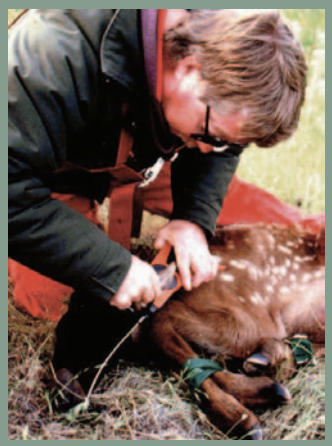
- Fish and Wildlife Commission: The commission holds authority for all Department acquisitions and through formal public meetings and hearings around the state, offers an opportunity for citizens to voice their concerns and actively participate in the acquisition process.
- Numerous external citizen advisory councils provide valuable input to the Department on the implementation of its Strategic Plan. (Game Management Advisory Council, Steelhead Policy Advisory Group, Inland Fish Policy Advisory Group, Lands Management Advisory Council, etc.)
- *Wildlife Viewing Activities in Washington: A Strategic Plan* includes specific recommendations for new Department of Fish and Wildlife initiatives that would enhance the number and quality of wildlife viewing opportunities in the state.
- *Habitat Conservation and Recreation Plan 2004 - 2010* is required by the Interagency Committee for Outdoor Recreation to apply for acquisition and development grants. This report identifies the overall status of recreational access and habitat conservation needs for fish and wildlife in Washington.
- The Department's Game Management Plan guides the management of hunted wildlife and was developed over a period of two years with input from thousands of hunting consitituents.
- *An Assessment of Outdoor Recreation in Washington State,* produced by the Office of the Interagency Committee for Outdoor Recreation, provides recommendations to the Department to augment and improve recreational access on its lands.

Research and Education

Most Department lands are accessible to researchers and educators from other agencies and organizations as well as universities, colleges, K-12 schools and the general public. The lands portfolio offers unique opportunities for fish and wildlife research, monitoring, and education. Examples of these opportunities include researching predator-prey interactions, monitoring population dynamics, or observing wild salmon spawning. Lands within the portfolio also offer physical spaces in which to carry out environmental lessons and programs.

The *Report Card on the Status of Environmental Education in Washington State* explains the educational benefits derived from environmental education and contains recommendations for improving the support for, and use of, environmental curriculum. The Pacific Education Institute is a complementary effort. It is a public-private partnership, supported by the Department and many other entities, that offers support to teachers in integrating the natural and social sciences into their curricula. All

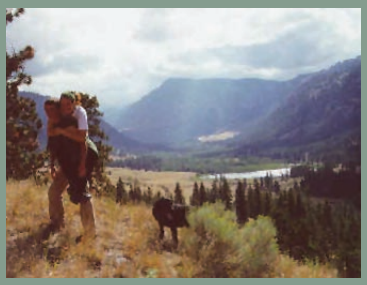
Researchers learning more about anadromous fish migration patterns by implanting and retrieving coded wire tags.



WDFW researcher Woody Myers studying elk calf mortality near WDFW's Asotin Creek Wildlife Area in Asotin County.

Benefits for the Public

WDFW is the largest provider of water access in the state and currently manages over 600 water access sites that provide public access to many of the states lakes, rivers and marine areas. Most site have toilets, boat launches and space to park.



Enjoying Washington's wildlife areas one hill at a time.

Photo by Kathy Swedberg

Waterfowl hunting on Department lands in Western Washington.

of these resources can provide possibilities for linking Department lands to opportunities for research or environmental education.

Economic Benefits

Department lands provide substantial economic benefits to local governments and local enterprise.

- *Wildlife-Related*. Department lands contribute significantly to the state's fish and wildlife resources that collectively host more than 2.5 million recreation days annually for hunting, fishing, and wildlife-related recreation, fueling a recreation industry that contributes an estimated $2 billion to the Washington economy. Rural communities benefit economically from nearby Wildlife Areas and public access sites. Thousands of wildlife watchers, anglers, hunters, hikers, campers, boaters, cross-country skiers, horseback riders, mountain bikers and people with disabilities launch their expeditions into Wildlife Areas from these "gateway communities." They purchase meals, gas, supplies and lodging, supporting local jobs and boosting tax revenues.
- *Additional Tourism Benefits*. In addition to wildlife-related recreation, Department lands contribute significantly to local economies by attracting other recreationists, such as campers, boaters, cross-country skiers, horseback riders, mountain bikers, hang gliders and others pursuing diverse outdoor recreation. They also purchase meals, gas, supplies and lodging, supporting local jobs and boosting tax revenues.

Tools

When evaluating the economic impact of land acquisitions, the Department uses the following key tools:

- The Department's responsibility to pay PILT in counties that have significant Department ownership and that choose to collect that revenue from the Department.

Benefits for the Public

- The Department's responsibility to pay for service assessments in local taxing districts where the Department owns land.
- *Wildlife Viewing Activities in Washington: A Strategic Plan.*
- *National Survey of Fishing, Hunting, and Wildlife-Associated Recreation*. This is a long-running and respected survey effort, and Washington's portion reveals valuable information about the economic contribution of wildlife-related activities.
- For a discussion of the benefits local economies derive from Department lands, see *Adding It Up. Published by the Department of Fish and Wildlife in December 2002*.
- For a discussion on the economic impacts of Department lands, see: McKeever/Morris, Inc. and ECO Northwest. *Social and Economic Evaluation of the Washington State Wildlife Habitat Acquisition Program: A Final Report*. Prepared for Washington State Department of Wildlife on February 18, 1993.

- *Toward a coordination Strategy for Habitat and Recreation land Acquisitions in Washington State: Final Report.* This report was prepared for the Legislature by the Interagency Committee for Outdoor Recreation as a result of ESSB 6242. The purpose of this legislation was to address many questions about the land acquisition process by multiple state agencies including the economic impact of these acquisitions on local communities and counties.
- Community and local legislative support.

Other Public Benefits

The Department lands portfolio also offers other benefits to the public: the environmental benefits produced by healthy, functioning landscapes. Such landscapes not only preserve fish and wildlife values, but also enhance water and air quality, filter groundwater, reduce flooding, store excess carbon from the atmosphere and provide open space.

Thousands of fishers descend on the Columbia River in search of salmon every year. Along the way they visit many of the small communities along the river in search of fishing supplies, gas, food and lodging.

All of WDFW's lands support watchable wildlife activities and some also provide opportunities for more vigorous activities like climbing in WDFW's Frenchman Coulee, more popularly known as the Feathers.

Operational Excellence

WDFW Researcher Cliff Rice and WDFW Veterinarian Briggs Hall examine a mountain goat in the central Cascades.

Lands 20/20 In-depth: Operational Excellence

Fish and Wildlife Commision Mandate:
Provide sound operational management of Department lands, facilities and access sites. (Washington Department of Fish and Wildlife Strategic Goals and Objectives, Objective 15)

Vision:

- All potential Department land acquisitions are evaluated based on their contribution towards the conservation of fish and wildlife, the provision of fish and wildlife related opportunities for the public, and the ability to provide operations and maintenance support.
- Local interests and perspectives will be solicited and accommodated to the greatest extent possible for all proposed Department acquisitions.
- In addition to fee-simple acquisition by the Department, always considers alternatives such as, land preservation agreements, management agreements, and partnerships.
- The Department will identify and aggressively pursue funding sources to support operations and maintenance for all Department lands, and to manage those lands for ecological health.
- All Department lands will be managed to maintain the habitat values for which the property was acquired.
- Management plans will be developed and updated annually, with the help of local citizen advisory groups, for each Department Wildlife Area.

Fiscal Accountability

The work of the Department of Fish and Wildlife (Department) is funded through appropriations by the Legislature, by the purchase of hunting and fishing licenses, and from federal grants, and the Department is legally obligated to manage these funds responsibly.

Land ownership (fee-simple acquisition) is used by the Department to permanently protect fish and wildlife values and related recreational opportunities. In pursuing fiscal accountability when acquiring and managing land, the Department considers the following criteria:

- Land that already exists in its healthy, natural state, and already provides a high quality recreational opportunity is a more economical addition to the lands portfolio than land that needs significant enhancement or restoration.
- Where restoration or development improvements are necessary the improvements must be feasible and cost effective. Specific restoration

activities and other land management activities for each Wildlife Area will be developed within specific Wildlife Area Management Plans.

- Owning and managing contiguous or nearby lands means fewer time and staff resources must be used to maintain and operate the properties. Owning and managing lands that have similar maintenance and operations needs requires fewer types of equipment and staff expertise.

The Department is the only state agency to contribute directly to counties through "payments in lieu of taxes" (PILT). For Department-owned areas in excess of 100 acres, county governments can elect to receive an amount equal to that currently paid on similar parcels of open space land, or choose the greater of $.70 per acre or the per acre amount paid in 1984. Alternately, the county government may choose to receive fines or forfeitures on game violations that are prosecuted within the county. Revenues from fines vary depending on the number and seriousness of the infractions written in that area. Each county chooses whether PILT or game violation fines best meets its needs. In 2004, the Department paid $429,000 to counties for payment in lieu of taxes.

Viewing photo by Tara Fielder.

Operational Excellence

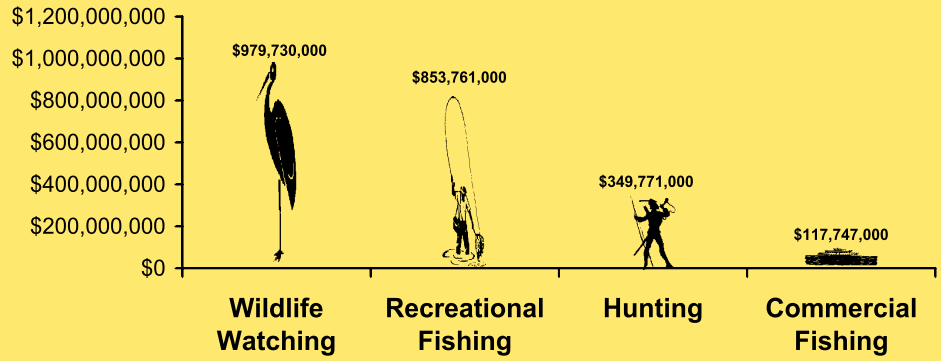


Figure 2: Direct expenditures on wildlife viewing of over $979 million exceed other fishing and hunting activities. The total economic output from wildlife watching in Washington, $1.78 billion, is the 8th highest in the nation. Nationally over 66 million people made trips primarily to view wildlife in 2001, spending $38.4 billion and creating over 1 million jobs! Total economic output was $95.8 billion, generating $6.11 billion in state and federal tax revenue. Source: 2001 National Survey of Fishing, Hunting and Wildlife-Associated Recreation; US Fish and Wildlife Service and US Census Bureau; and a WDFW-PacFin Report.

* Ex-vessel commercial revenues are not directly comparable to other expenditures.

The Department also provides payments to local taxing districts (e.g. fire protection, weed control, irrigation, mosquito control, etc) assessed against Department-owned lands. Service assessments to totaled $212,000 in 2004.

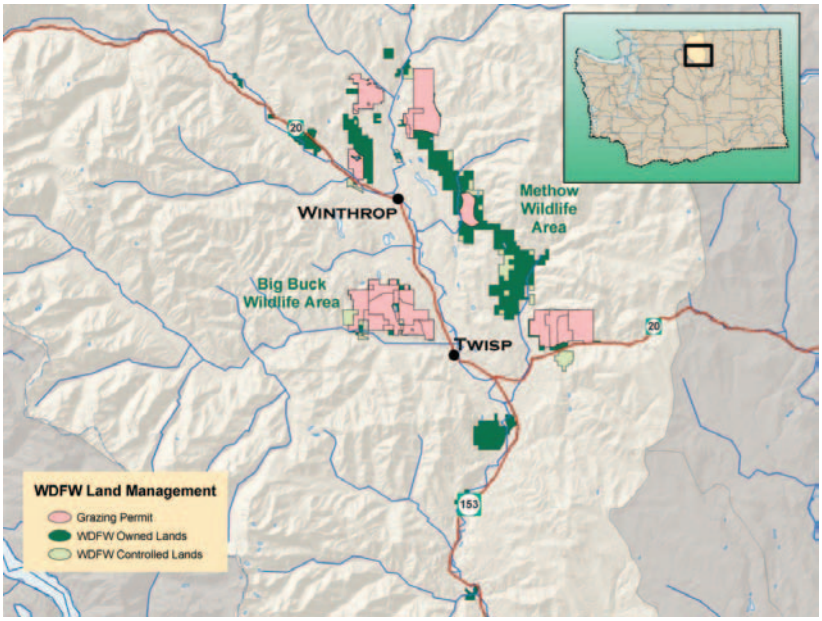
Non-ownership strategies such as providing the science tools for others, managing land for another owner, or establishing a cooperative agreement with a private landowner offer ways to meet the needs of fish and wildlife and related recreation without also assuming the fiscal and legal responsibility of land ownership.

An important aspect of maintaining fiscal accountability in managing the lands portfolio is by working to assure that the appropriate land management strategies are being used. Another component of fiscal accountability is to plan for the maintenance and operations costs of lands within the lands portfolio and to consider maintenance and operations needs before new acquisitions are added to the lands portfolio. Because the Department is expected to provide for the operations and maintenance of its own lands, it must also consider a variety of opportunities to generate revenue from the lands portfolio. These opportunities include developing partnerships with others and considering commercial activities, provided that these result in net benefits to fish and wildlife programs. The Department will also continue to work with partners and the legislature to build support for state funding of operations and maintenance.

Deer hunters using commercial packers to access the Pasayten Wilderness in Okanogan County.

Operational Excellence

Livestock grazing on Department lands is a practice that can be used to manipulate vegetation for fish and wildlife, accomplish a specific habitat objective, or facilitate coordinated resource management. Livestock grazing is integrated with other uses to ensure the protection of all resource values, the most important of which is maintaining ecological integrity.



Stewardship of the Lands Portfolio

The Department uses the following principles in the stewardship of its lands portfolio:

- Property and habitat is maintained for the purpose for which it was purchased.
- Lands within the lands portfolio must contribute fish and wildlife values or related opportunities consistent with the goals and objectives of the Department.
- Physical and legal liabilities are identified and managed. Whether the liability is an abandoned mine shaft or an encroachment from a neighboring property, the Department seeks to avoid, reduce, or remedy liabilities.
- Land management strategies chosen for particular Department lands are clearly articulated in Wildlife Area Management Plans and are developed with local citizen involvement. Because Department lands are managed for specifically for fish and wildlife and related recreational opportunities, this may mean that the land is managed differently than adjacent private or other public lands.
- The Department will strive to maintain a lands portfolio that includes the kind and amount of lands and facilities for which the Department can sustain high standards of maintenance and operations.
- The Department will utilize all resources at its disposal to help with operational funding including entering into some commercial activites (wind power generation), entering into operating agreements with local businesses and landowners, taking advantage of renewable

Operational Excellence

The public gathers at Standwood High School to provide input on Department programs in Island County.

resources (logging), and other activities that protect the long term ecological integrity of the Departments lands but also provide revenue generation for sustainable stewardship

Partnerships and Citizen Involvement

The Washington Department of Wildlife draws on partnerships with other agencies, local governments, fish and wildlife constituency organizations, and tribes, as well as input from citizens and communities, to guide the design and maintenance of its lands portfolio. Outreach to these constituencies includes formal and informal partnership arrangements. For example, the Department organizes and invites citizen advisory panels to assist in the decision making process for all activities that occur on Department lands by making them an integral part of the Wildlife Area Management Planning process.

The Department also uses an external group of landowners, constituent groups, neighbors, etc., on a statewide Lands Management Advisory council to review overall policy for all land management operations.

The Department produces a semi-annual newsletter "Landline" and mails it to approx. 1,000 individuals and organizations to highlight actions and

Umtanum Canyon on the Wenas Wildlife Area between Ellensburg and Yakima.

Photograph by Alan Bauer

issues related to Department Lands. The Department contracts with local organizations to monitor conservation easements and enters into agreements with local volunteer organizations to provide maintenance assistance on Department Lands.

Many of the decisions affecting Department lands are subject to the State Environmental Policy Act and the National Environmental Policy Act are also reviewed by the Fish and Wildlife Commission providing additional time for public review and input.

Wildlife Area Management Plans

The Department manages 800,000 acres within Wildlife Areas (see Appendix C). A management plan for each of these Wildlife Areas guides all of the activities that occur on those lands and is reviewed annually. Each Wildlife Area Management Plan:

- Is developed with the help of a local citizen advisory panel and ensures that the Wildlife Area provides benefits to fish and wildlife and the public and is seen by the community as an asset.
- Is consistent with the Department's mission, strategic plan, and the Lands 20/20 vision.
- Provides the basis for funding and prioritizing the Department's activities on each Wildlife Area, and allows the Department to manage the land as efficiently and effectively as possible.
- Documents the Department's intentions, provides justification for actions, and is the record by which the Department communicates what is going to be accomplished on each Wildlife Area.

A Wildlife Area Management Plan requires broad internal and external review and input in order to be effective, credible, and supported. Wildlife Area Management Plans are currently being revised and updated, and all will be completed by January of 2006. Each Wildlife Area Management Plan is being developed with the input and review of local citizen advisory groups (CAGS). CAGs represent stakeholders, neighbors, and constituent groups with community and regional perspectives and are an important and ongoing part of the Wildlife Area Management Planning process. Wildlife Area Management Plans are subject to the State Environmental Policy Act, and will be adopted through that process.

Volunteers provide customer service for thousands of visitors at the Oak Creek Wildlife Area Interpretive Center along Highway 12 near Yakima each year, many to view the winter feeding of up to 4,000 Rocky Mountain elk.

Operational Excellence

These pictures show the effect of biological control (*Larinus minutus* beetle) on diffuse knapweed, a state-listed noxious weed, on the Sinlahekin Wildlife Area. Figure 3 shows a healthy, dense stand of diffuse knapweed in the forground in May of 2001, just before release of the beetles. Figure 4 taken in the fall of 2003 shows diffuse knapweed almost eliminated as a result of beetle depradation.

Figure 3

Figure 4

Land Transaction Evaluation Matrix

Lands 20/20
Land Transaction Evaluation Matrix

As a result of the Lands 20/20 initiative, the Department has updated its evaluation process for considering additions and changes to the lands portfolio. The first step is to gather threshold information (see below). The second step is to assess the transaction using the evaluation matrix on the next page. This evaluation tool serves as an initial assessment to ensure consistency with Lands 20/20.

The science-based tools, plans and policies listed earlier in this document offer a basis for more in-depth assessment of changes and additions to the lands portfolio. In addition to guiding decision making, the threshold information and evaluation matrix preserve an important record of the initial values and uses of a particular acquisition project, and can be used to compare land transaction proposals.

Threshold Information

The information below must be provided in sufficient detail in order for the evaluation to proceed.

1. Planning Integration

Acquisition or conservation of each property must be linked to the Department Strategic Plan; to a local, regional, state, national, or international plan or agreement that is consistent with the Department goals and objectives; or to a mitigation settlement signed by the Department.

2. Alternatives to Ownership

Alternatives to Department ownership or management of any property (e.g. conservation provided through land use regulations, another entity holding title, or a conservation easement) must be explored.

3. Maintenance and Operations

Expected maintenance and operations costs, funding sources to meet those costs, and long-term management responsibilities must be identified for each property.

4. Local Involvement

Current and future support for, and opposition to, each project must be described.

Land Transaction Evaluation Matrix

Dept. Goals	Dept. Values	Criteria	Score
Benefits To Fish and Wildlife			**40 Points Possible**
	Priority Species		/20
		Necessary for Species Persistence (irreplaceable?)	
		Federal Endangered	
		Federal Threatened	
		State Endangered (WDFW)	
		State Threatened (WDFW)	
		Federal Candidate	
		State Species of Concern	
		Game Species/Locally Important Species/Species of Greatest Conservation Need	
	Habitat	(Ecosystem Context)	/10
		Protects Ecosystem Processes and Functions	
		Contributes to Landscape Integrity	
		Contributes to Migratory or Connectivity Corridor	
		Risk to Fish and Wildlife Value of Property	
	Biodiversity		/10
		Species Richness	
		Complexity of Habitats	
		Conservation Priority in an Ecoregional Assessment	
		Benefits to Fish and Wildlife Subtotal	**/40**
Benefits For the Public			**40 Points Possible**
	Availability/Accessibility		/25
		Hunting Opportunity	
		Fishing Opportunity	
		Wildife Viewing Opportunity	
		Other Recreation Opportunity	
		Risk to Recreational Value of Property	
	Research and Education		/5
		Research and Monitoring	
		Environmental Education	
	Economics		/10
		Effect on Tribes and Local Governments	
		Effect on Local Enterprise	
		Benefits for the Public Subtotal	**/40**
Operational Excellence			**20 Points Possible**
	Fiscal Accountability		/5
		Revenue Generation	
	Stewardship		/5
		Liablilities Identified	
		Feasibility (Cost and feasibility of necessary restoration, facility contruction, etc.)	
		Management Efficiency	
	Parnership and Citizen Involvement		/10
		Outreach to Community	
		Support from Immediate Neighbors	
		Collaboration with Other Entities	
		Operational Excellence Subtotal	**/20**
		TOTAL SCORE	**/100**

Conclusion

The changeable nature of society's values will require the periodic review of the vision and goals described in this document to ensure that the Department lands portfolio continues to reflect those values. In addition, the Department will conduct periodic reviews of changes in species status, Department activities, and land use. In this way, the lands vision report is truly a living document, growing and changing to reflect the values and attitudes of the public served by the Department.

Ultimately, we will measure success by the health of Washington's fish and wildlife and the support they generate from Washington citizens. If we meet our legislative mandate, we will have provided Washingtonians with sufficient information to make informed choices about the future of our fish and wildlife and the recreation they provide. That information will include strategies and alternatives about land acquisition and management to preserve Washington's fish and wildlife values into the future.

Chinook salmon waiting to spawn.

Cle Elum High School students help with tranquilized cougar as part of the Department's Project Cat research effort.

Youth pheasant hunting on Department lands in Eastern Washington.

Appendices

Appendix A

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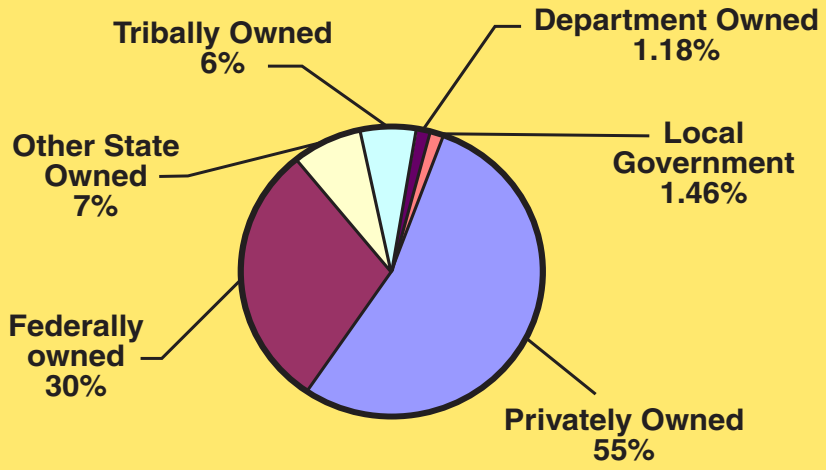
Appendix B

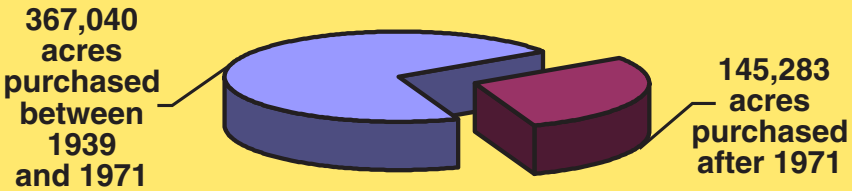
Ownership Profiles

Statewide Ownership Profile



Department Acquisition History

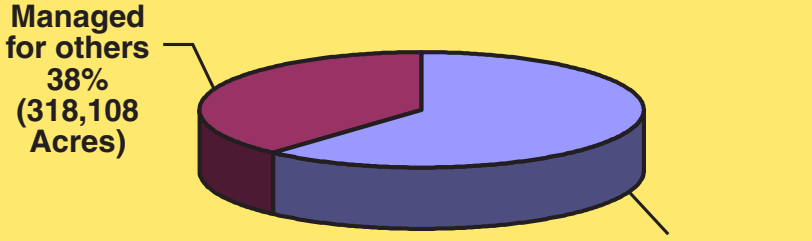
Total Ownership = 512,323 acres



72 % of WDFW lands acquired before 1971

Total Dept. Owned and Managed Lands

830,431 acres



125,000 acres leased from DNR

Appendix C

The Department Wildlife Areas

WILDLIFE AREA	*ACRES*	*COUNTY*	***FIRST ACQUISITION***
Chelan	27,812	Chelan	1965
Chief Joseph-Asotin	41,312	Asotin/Garfield	1962
Colockum	104,918	Chelan/Kittitas	1953
Columbia Basin	182,125	Grant/Adams	1952
Cowlitz	13,940	Lewis	1991
Klickitat	14,057	Klickitat	1948
Lake Terrell	2,687	Whatcom	1942
LT Murray	96,993	Kittitas	1966
Methow	34,017	Okanogan	1941
Oak Creek	41,586	Yakima/Kittitas	1940
Olympic, Chehalis, Johns River and Dungeness	4,061	Pacific/Grays Harbor Clallam/Jefferson	1952
Sagebrush Flat	8,616	Douglas	1991
South Puget Sound-BlackRiver	4,730	Pierce/Thurston/Mason	1966
Scotch Creek	16,853	Okanogan	1991
Sherman Creek	9,941	Ferry/Pend Oreille	1948
Shillapoo	1,550	Clark	1952
Sinlahekin	16,024	Okanogan	1939
Skagit	13,136	Skagit/Snohomish	1948
Snoqualmie	2,031	King/Snohomish	1964
St. Helens	2,533	Cowlitz	1989
Sunnyside	11,052	Benton/Yakima	1947
Swanson Lakes	20,476	Lincoln	1990
Wells	9,962	Douglas/Okanogan	1968
Wenas	104,087	Yakima/Kittitas	1951
Wooten	16,492	Columbia/Garfield	1941
TOTAL	**800,991***		

Updated to 12/31/2004 *does not include hatcheries, public access fishing sites or administrative sites.

Appendix D

The Department Land Ownership and Control by County

COUNTY	*ACRES OWNED*	*ACRES CONTROLLED*	**TOTAL ACRES MANAGED**
ADAMS	1,150.60	1,972.52	3,123.12
ASOTIN	31,075.30	10,235.05	41,310.35
BENTON	5,808.00	0.10	5,808.10
CHELAN	28,254.93	9,701.10	37,956.03
CLALLAM	735.33	340.87	1,076.20
CLARK	2,949.78	24.43	2,974.21
COLUMBIA	10,832.20	881.50	11,713.70
COWLITZ	4,269.30	1,243.18	5,512.48
DOUGLAS	13,844.52	1,532.90	15,377.42
FERRY	6,902.20	1,202.81	8,105.01
FRANKLIN	1,774.20	6,538.68	8,312.88
GARFIELD	6,934.40	121.10	7,055.50
GRANT	39,168.20	143,204.93	182,373.13
GRAYS HARBOR	5,759.20	334.84	6,094.04
ISLAND	60.50	21.18	81.68
JEFFERSON	1,396.97	98.58	1,495.55
KING	1,192.72	89.65	1,282.37
KITSAP	1,062.50	28.40	1,090.90
KITTITAS	144,533.52	72,566.59	217,100.11
KLICKITAT	13,165.70	3,221.60	16,387.30
LEWIS	410.00	1,153.84	1,563.84
LINCOLN	19,197.60	1,307.02	20,504.62
MASON	1,111.62	105.25	1,216.87
OKANOGAN	64,869.41	13,436.73	78,306.14
PACIFIC	3,518.44	59.83	3,578.27
PEND OREILLE	745.70	257.05	1,002.75
PIERCE	3,557.17	100.86	3,658.03
SAN JUAN	226.40	0.00	226.40
SKAGIT	11,382.20	1,309.13	12,691.33
SKAMANIA	311.72	223.80	535.52
SNOHOMISH	2,511.70	462.57	2,974.27
SPOKANE	175.60	8.77	184.37
STEVENS	261.90	208.89	470.79
THURSTON	1,667.90	160.70	1,828.60
WAHKIAKUM	247.90	57.23	305.13
WALLA WALLA	209.00	235.90	444.90
WHATCOM	2,859.60	1,003.44	3,863.04
WHITMAN	2,291.00	36.63	2,327.63
YAKIMA	75,898.25	44,620.66	120,518.91
GRAND TOTALS	**512,323.18**	**318,108.31**	**830,431.49**

Appendix E

2004 PILT and assessments

COUNTY	*4/1/04 PILT ACRES*	*2004 PILT PAID*	*2004 ASSESSMENTS PAID*	***TOTAL PAID TO COUNTY in 2004***
ADAMS	0.00	$0.00	$10,718.72	$10,718.72
ASOTIN	29,277.88	$22,297.61	$0.00	$22,297.61
BENTON	0.00	$0.00	$2,812.39	$2,812.39
CHELAN	26,789.83	$18,752.88	$0.00	$18,752.88
CLALLAM	0.00	$0.00	$1,204.41	$1,204.41
CLARK	0.00	$0.00	$8,859.70	$8,859.70
COLUMBIA	10,794.13	$7,555.91	$1,746.97	$9,302.88
COWLITZ	0.00	$0.00	$834.82	$834.82
DOUGLAS	0.00	$0.00	$0.00	$0.00
FERRY	6,866.13	$6,781.33	$705.10	$7,486.43
FRANKLIN	0.00	$0.00	$19,424.52	$19,424.52
GARFIELD	6,914.26	$4,839.98	$553.14	$5,393.12
GRANT	39,076.00	$37,443.16	$24,148.17	$61,591.33
GRAYS HARBOR	3,248.00	$7,473.66	$0.00	$7,473.66
ISLAND	0.00	$0.00	$0.00	$0.00
JEFFERSON	0.00	$0.00	$0.00	$0.00
KING	0.00	$0.00	$20,825.50	$20,825.50
KITSAP	0.00	$0.00	$1,064.80	$1,064.80
KITTITAS	148,762.02	$115,909.16	$5,703.34	$121,612.50
KLICKITAT	13,106.35	$21,416.95	$760.26	$22,177.21
LEWIS	0.00	$0.00	$0.00	$0.00
LINCOLN	19,470.36	$13,629.25	$1,902.08	$15,531.33
MASON	0.00	$0.00	$450.00	$450.00
OKANOGAN	60,293.16	$75,736.87	$8,403.77	$84,140.64
PACIFIC	0.00	$0.00	$333.80	$333.80
PEND OREILLE	614.00	$3,308.65	$0.00	$3,308.65
PIERCE	0.00	$0.00	$7,909.34	$7,909.34
SAN JUAN	0.00	$0.00	$275.00	$275.00
SKAGIT	0.00	$0.00	$25,157.40	$25,157.40
SKAMANIA	0.00	$0.00	$0.00	$0.00
SNOHOMISH	0.00	$0.00	$10,735.78	$10,735.78
SPOKANE	0.00	$0.00	$1,018.75	$1,018.75
STEVENS	0.00	$0.00	$0.00	$0.00
THURSTON	1,131.00	$5,107.61	$11,451.18	$16,558.79
WAHKIAKUM	0.00	$0.00	$0.00	$0.00
WALLA WALLA	0.00	$0.00	$12.00	$12.00
WHATCOM	0.00	$0.00	$69.24	$69.24
WHITMAN	0.00	$0.00	$0.00	$0.00
YAKIMA	70,130.23	$88,792.82	$44,933.61	$133,726.43
GRAND TOTALS	436,473.35	$429,045.84	$212,013.79	$641,059.63

March 2005

Department Lands help protect streamside corridors for Washington's diverse fish populations.

FACTSHEET ■ MARCH 2007

Wildlife Areas

HABITAT CONSERVATION PLAN

Washington Department of Fish and Wildlife

Conservation Focus

Consistent with WDFW's dual mandates:

"…to preserve, protect, perpetuate and manage the fish and wildlife species of the state…"
—RCW 77.04.012

and

"..to maximize opportunities for people to hunt, fish, and appreciate fish and wildlife..."
—RCW 77.04.012 & 77.04.020

WDFW's intent is to develop an HCP for the Wildlife Areas that fosters creative partnerships (e.g., public, agency, tribal) in the interest of endangered and threatened species and habitat conservation.

Introduction

The Washington Department of Fish and Wildlife (WDFW) is developing a habitat conservation plan (HCP) for land management activities (recreation, operation and maintenance, enhancement and restoration) occurring on state-owned and managed Wildlife Areas. This HCP will guide long-term conservation and protection of species, and will ensure compliance with the Endangered Species Act (ESA). The HCP must be approved by the U.S. Fish and Wildlife Service and the National Marine Fisheries Service (collectively referred to as "the Services"), the agencies responsible for implementing ESA.

In 2006, WDFW interviewed stakeholders and tribal staff to identify appropriate ways to involve the public and other interested parties in development of the Wildlife Areas HCP.

This fact sheet describes the goals and benefits of the Wildlife Areas HCP, and explains how it will be developed.

What is a Habitat Conservation Plan?

An HCP is a management strategy that provides long-term certainty of ESA compliance while providing for conservation of species. HCPs are developed under Section 10 of ESA, which provides a means for non-federal entities to ensure that their actions will not conflict with the conservation needs of ESA-listed and other at-risk species.

The Wildlife Areas HCP will identify any potential conservation opportunities as well as potential adverse impacts to ESA-listed species or their habitats resulting from activities covered in the plan. The HCP will also specify management strategies to avoid, minimize, and mitigate for those impacts.

Save the Date!

WDFW has scheduled six public meetings around the state to introduce the Wildlife Areas HCP development process.* You will have an opportunity to hear more about the benefits of the Wildlife Areas HCP, and we will get to hear from you what issues should be addressed in the HCP.

Please attend the public meeting that is most convenient for you.

Mon, Apr 30
Yakima
Yakima Regional Library
102 N 3rd St., Yakima, 98901

Tues, May 1
Wenatchee
Cashmere Community Center
201 Riverside Dr., Cashmere, 98815

Wed, May 2
Spokane
Spokane Valley Library
12004 E Main Ave., Spokane Valley, 99206

Tues, May 8
Mt. Vernon
Skagit Valley College
2405 East College Way, Mount Vernon, 98273

Thurs, May 10
Olympia
Lacey Community Center
6729 Pacific Ave. SE, Lacey, 98503

Tues, May 15
Vancouver
Vancouver Community Library
1007 E. Mill Plain Blvd., Vancouver, 98663

*WDFW is developing an HCP for its Hydraulic Project Approval permit process concurrently with this HCP. Both HCPs will be discussed at these meetings.

www.wdfw.wa.gov/hcp/index.html

WDFW Wildlife Areas

WDFW manages or owns approximately 850,000 acres of land designated as Wildlife Areas. WDFW owns about 62 percent of these lands and manages the other 38 percent for other public agencies (such as the Washington Department of Natural Resources and the U.S. Bureau of Reclamation). Maps of the Wildlife Areas can be viewed at http://wdfw.wa.gov/lands/wildarea.htm.

Wildlife Areas have many purposes ranging from offering a variety of outdoor recreational opportunities to providing critical habitat for management of game species (such as mule deer) and recovery of at-risk wildlife species (such as pygmy rabbits).

Numerous activities, including hunting and fishing, recreation (such as camping, hiking, and horseback riding), weed control, grazing, and road maintenance occur on these lands. WDFW-owned water access areas outside of Wildlife Areas are not currently considered under this HCP.

Scope of the Wildlife Areas HCP

WDFW is just beginning to define the scope of the HCP. In developing this scope, WDFW will review and evaluate the potential benefits, as well as potential impacts, that the Wildlife Areas activities could have on species and habitat over the next 30 to 50 years. Examples of activities and species are listed below.

Potential Activities		Potential Species	
Activities	**Examples**	**Species**	**Examples**
Enhancement	■ wetland enhancement or improvement	**Federal ESA-listed species and habitats**	■ pygmy rabbit ■ bull trout critical habitat
Restoration	■ new plantings ■ removal of invasive species	**Other At-Risk Species**	
Recreation	■ camping ■ hunting ■ fishing ■ horseback riding	**State ESA-listed species**	■ sharp-tailed grouse ■ sandhill crane
Operation and maintenance	■ road construction ■ weed control	**Species of Greatest Conservation Need***	■ common loon

* Identified in WDFW's Comprehensive Wildlife Conservation Strategy: http://wdfw.wa.gov/wlm/cwcs

Goals and Benefits
of the Wildlife Areas HCP

The goals of the Wildlife Areas HCP are:

- to provide federal ESA assurances for enhancement and restoration, recreation, and operation and maintenance activities occurring in state Wildlife Areas and
- to thereby contribute to the conservation and recovery of ESA-listed species and their habitats.

The HCP will provide the following benefits:

- Ensure that activities occurring in Wildlife Areas provide protection for up to 125 fish, wildlife, and plant species.
- Provide for the development of comprehensive inventories of fish and wildlife species, land management activities, and other public uses in Wildlife Areas.
- Maximize opportunities to conserve and recover species, while sustaining outdoor recreational opportunities in Wildlife Areas.
- Incorporate a landscape-level approach to managing at-risk species, in accordance with WDFW's Comprehensive Wildlife Conservation Strategy.
- Integrate policy guidance in WDFW's Lands 20/20: A Clear Vision for the Future and provide additional guidelines to Wildlife Area operating plans.
- Streamline permitting processes for WDFW management activities that involve federal funds for operations and maintenance of Wildlife Areas.
- Establish WDFW eligibility for additional federal land acquisition grants.
- Include a collaborative public involvement process with tribes, federal, state, and local governments, and other WDFW stakeholders.

HCP Development Process

WDFW began development of the Wildlife Areas HCP in 2006. The HCP is expected to take approximately six years to complete. Initial development funding was provided through federal grants from the U.S. Fish and Wildlife Service, with matching state funding provided by WDFW. WDFW will continue to invest significant staff and resources to complete the HCP development process, and will seek additional grant funding through 2011.

We are at the initial outreach and technical assessment stage in the HCP development process. Specific activities include:

Stakeholder and tribal staff assessment. In 2006, WDFW interviewed stakeholders and tribal staff to identify public involvement and outreach needs for development of the HCP.

Public outreach. WDFW is holding six educational public meetings in early 2007.

Activities inventory. WDFW is conducting a comprehensive inventory of land management and public-use activities that occur in Wildlife Areas. Activities for review include, but are not limited to: recreation, including hunting; habitat restoration; weed control; livestock grazing; forestry; agriculture; road and other construction activities; irrigation; and controlled burning.

Species and habitat inventory. WDFW is conducting a comprehensive inventory of ESA-listed species and other at-risk species and their habitats in Wildlife Areas.

Mapping. Using Geographic Information Systems (GIS), WDFW is mapping refined boundaries of each Wildlife Area. These GIS-based maps will incorporate the inventories of species and habitats, and activities to better manage Wildlife Areas.

Predictive effects modeling. WDFW is developing a model to predict conservation opportunities for and potential effects on different species and habitats resulting from a variety of proposed activities.

Tribal Government Coordination, Stakeholder Involvement, and Public Outreach

WDFW is developing strategies to foster collaboration, including tribal government coordination, stakeholder involvement, and public outreach. Throughout the HCP development process, WDFW will:

- Work collaboratively with affected tribes on a government-to-government basis.
- Involve existing WDFW statewide advisory councils and Wildlife Areas citizen advisory groups.
- Conduct public outreach and stakeholder involvement activities to share information and provide multiple opportunities for input to those affected by the HCP.
- Host public meetings across the state.
- Provide information via fact sheets, Web pages, and other outreach materials.

Comments and More Information

If you have comments or questions related to the Wildlife Areas HCP, please contact Jennifer Quan at 360/902-2508 or wildlifehcp@dfw.wa.gov.

For information on the Hydraulic Project Approval HCP that WDFW is developing concurrently with the Wildlife Areas HCP, please contact Marc Daily at 360/902-2526 or hydraulichcp@dfw.wa.gov.

Information on both HCPs is available at the project Web site: **www.wdfw.wa.gov/hcp/index.html**

Next Steps

During 2007 and 2008, WDFW will:

- **Continue mapping and development of inventories of species and habitats, and activities that occur in the Wildlife Areas.**
- **Conduct outreach at the local level by working with each of the state's Wildlife Areas citizen advisory groups.**
- **Coordinate with the WDFW Wildlife Diversity Advisory Council, Land Management Advisory Council, and Game Management Advisory Council.**
- **Conduct government-to-government tribal coordination.**
- **Advance development of the predictive effects model.**

PERMIT NUMBER

Washington Department of FISH and WILDLIFE

600 Capitol Way North
Olympia, WA 98501-1091
Attention: Wildlife Program

Save the Date!

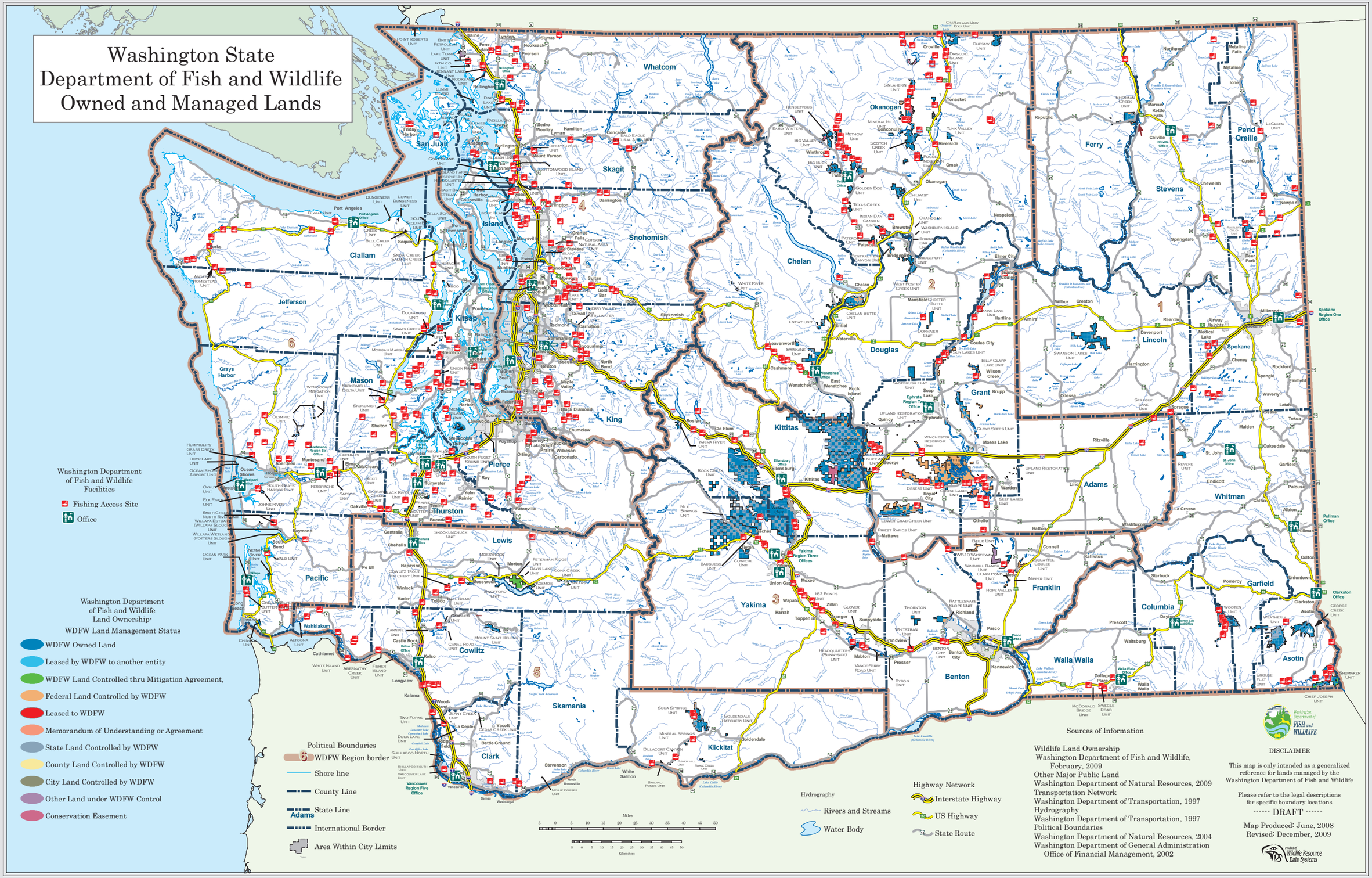
WDFW has scheduled six public meetings around the state to introduce the Wildlife Areas HCP development process.* You will have an opportunity to hear more about the benefits of the Wildlife Areas HCP, and we will get to hear from you what issues should be addressed in the HCP.

Please attend the public meeting that is most convenient for you. (See details on front page.)

April 30 *Yakima*	**May 8** *Mt. Vernon*
May 1 *Wenatchee*	**May 10** *Olympia*
May 2 *Spokane*	**May 15** *Vancouver*

www.wdfw.wa.gov/hcp/index.html

Washington State Department of Fish and Wildlife Owned and Managed Lands



Washington Department of Fish and Wildlife Facilities

- Fishing Access Site
- Office

Washington Department of Fish and Wildlife Land Ownership

WDFW Land Management Status

- WDFW Owned Land
- Leased by WDFW to another entity
- WDFW Land Controlled thru Mitigation Agreement,
- Federal Land Controlled by WDFW
- Leased to WDFW
- Memorandum of Understanding or Agreement
- State Land Controlled by WDFW
- County Land Controlled by WDFW
- City Land Controlled by WDFW
- Other Land under WDFW Control
- Conservation Easement

Political Boundaries

- WDFW Region border
- Shore line
- County Line
- State Line
- International Border
- Area Within City Limits

Hydrography

- Rivers and Streams
- Water Body

Highway Network

- Interstate Highway
- US Highway
- State Route

Sources of Information

Wildlife Land Ownership
Washington Department of Fish and Wildlife, February, 2009
Other Major Public Land
Washington Department of Natural Resources, 2009
Transportation Network
Washington Department of Transportation, 1997
Hydrography
Washington Department of Transportation, 1997
Political Boundaries
Washington Department of Natural Resources, 2004
Washington Department of General Administration Office of Financial Management, 2002

Washington Department of Fish and Wildlife

DISCLAIMER

This map is only intended as a generalized reference for lands managed by the Washington Department of Fish and Wildlife

Please refer to the legal descriptions for specific boundary locations

------ DRAFT ------

Map Produced: June, 2008
Revised: December, 2009

Created in Wildlife Resource Data Systems

DFW Wildlife Area Name Hierarchy

Complex	WLA	WLAUnit
Blue Mountain		
	Asotin	
		George Creek
		Asotin Creek
		Weatherly
	Chief Joseph	
		Shumaker
		Grouse Flats
		Chief Joseph
	Wooten	
		Wooten
Colockum		
	Colockum	
		Colockum
Columbia Basin		
	Columbia Basin	
		Winchester Reservoir
		Billy Clapp Lake
		Potholes Reservoir
		Upland Restoration
		Sprague Lake
		Gloyd Seeps
		Desert
		Goose Lakes
		Lower Crab Creek
		Banks Lake
		Seep Lakes
		Quincy Lakes
		Sun Lakes
		Priest Rapids
Cowlitz		
	Cowlitz	
		Davis Lake

Complex	WLA	WLAUnit
		Kosmos
		Riffe Buffer
		Cowlitz Trout Hatchery
		Mayfield Buffer
		Spears
		Kiona Creek
		Swofford
		Mossyrock
		Peterman Ridge
Klickitat		
	Klickitat	
		Fisher Hill
		Soda Springs
		Sondino Ponds
		Dillacort Canyon
		Mineral Springs
		Goldendale Hatchery
		Swale Creek
L.T. Murray		
	L.T. Murray	
		Quilomene
		Yakima River
		Whiskey Dick
		L.T. Murray
Methow		
	Methow	
		Methow
		Big Buck
		Big Valley
		Rendezvous
		Early Winters
		Texas Creek
		Golden Doe
Mount Saint Helens-Shillapoo		
	Mount Saint Helens	

Complex	WLA	WLAUnit
		Nelson
		Altoona
		Canal Road
		Hall Road
		Carnine
		White Island
		Abernathy Creek
		Duck Lake (Clark County)
		Gardner
		Fisher Island
		Jenny Creek
		Mount Saint Helens
		Cedar Creek
		Two Forks
		Nellie Corser
	Shillapoo	
		Shillapoo South
		Vancouver Lake
		Shillapoo North
Oak Creek		
	Oak Creek	
		Bauguess
		Cowiche
		Nile Springs
		Oak Creek
Olympic-Willapa Hills-South Puget Sound		
	Chehalis	
		Satsop
		Hoxit
		Ferbrache
		Chehalis
	Johns River	
		Humptulips-Grass Creek
		Johns River
		South Grays Harbor

Complex	WLA	WLAUnit
		Willapa Wetlands (Potter's Slough)
		Duck Lake (Ocean Shores)
		Smith Creek-North River
		Oyhut
		Palix
		Elk River
		Nemah River-Estuary
		Oregon Silverspot Butterfly Recovery
		Chinook
		Ocean Shores Airport
		Willapa Estuary (Willapa Slough)
		Ocean Park
	North Olympic	
		Chimacum
		South Sequim Bay
		Lower Dungeness
		Snow Creek-Salmon Creek
		Morse Creek
		Tarboo
		Elwha
		Dungeness
		Bell Creek
		Zella Schultz
	Olympic	
		Wynoochee Mitigation
		Anderson Homestead
		Olympic
	Scatter Creek	
		West Rocky Prairie
		Skookumchuck
		Black River
		Scatter Creek
		Davis Creek
		Ohop
	South Puget Sound	

Complex	WLA	WLAUnit
		McNeil Island
		South Puget Sound
		Big Beef Creek
		Morgan Marsh
		Stavis Creek
		Nisqually
		Skokomish Delta
		Skokomish
		Union River
		Duckabush
Scotch Creek		
	Scotch Creek	
		Chesaw
		Tunk Valley
		Scotch Creek
		Charles and Mary Eder
		Mineral Hill
		Pogue Mountain
Sinlahekin		
	Sinlahekin	
		Driscoll Island
		Sinlahekin
		Chiliwist
Skagit-Snoqualmie		
	Skagit	
		Samish
		Telegraph Slough
		Goat Island
		Island
		Fir Island Farms Reserve
		Bald Eagle Natural
		Leque Island
		Debay Slough
		Skagit Bay Estuary
		Sinclair Island

Complex	WLA	WLAUnit
		Lopez Island
		Cottonwood Island
		Camano Island
		Headquarters (Skagit)
		Guemes Island
	Snoqualmie	
		Stillwater
		Spencer Island
		Cherry Valley
		Corson Natural
		Ebey Island
		Crescent Lake
Sunnyside-Snake River		
	Sunnyside-Snake River	
		Glover
		Byron
		I-82 Ponds
		Thornton
		Headquarters (Sunnyside)
		Rattlesnake Slope
		Esquatzel Coulee
		Windmill Ranch
		McDonald Bridge
		WB-10 Wasteway
		Clark Pond
		Benton City
		Vance-Ferry Road
		Whitstran
		Bailie
		Hope Valley
		Nipper
Swanson Lakes-Sherman Creek		
	Le Clerc	
		LeClerc
	Revere	

Complex	WLA	WLAUnit
		Revere
	Sherman Creek	
		Rustler's Gulch
		Sherman Creek
	Swanson Lakes	
		Swanson Lakes
Wells-Chelan-Sagebrush Flats		
	Chelan	
		Swakane
		White River
		Pateros
		Entiat
		Chelan Butte
	Sagebrush Flat	
		Bridgeport
		Sagebrush Flat
		Chester Butte
		Dormaier
	Wells	
		Bridgeport Bar
		Washburn Island
		Okanogan
		West Foster Creek
		Indian Dan Canyon
		Central Ferry Canyon
Wenas		
	Wenas	
		Wenas
Whatcom		
	Whatcom	
		Lake Terrell
		Lummi Island
		Nooksack
		Pine Lake
		Point Roberts

Complex	WLA	WLAUnit
		Intalco
		Tennant Lake
		British Petroleum

WDFW RECREATIONAL ACCESS SITES 2010 BY COUNTY

Facility_ID	Facility_Name	County	Body of water
30011	Clarkston Pond	Asotin	Snake River
30017	Ebson #3	Asotin	Grande Ronde
30020	Herman Lake	Adams	Herman Lake
30027	Antilon Lake	Chelan	Antilon Lake
30028	Dormaier	Chelan	Wenatchee River
30036	Wapato Lake	Chelan	Wapato Lake
30040	DOT Site	Clallam	Elwha River
30042	Rearing Pond	Clallam	Bogachiel River
30051	Langsdorf Landing	Clark	Columbia River
30052	Cedar Creek	Clark	Lewis River
30056	Piegon Springs	Clark	Cedar Creek
30057	Piegon Springs	Clark	Jenny Creek
30061	Haapa Road	Cowlitz	Lewis River
30062	Island	Cowlitz	Lewis River
30064	Lower Kalama River	Cowlitz	Kalama River
30074	Alta Lake	Douglas	Alta Lake
30077	Jameson Lake	Douglas	Jameson Lake
30078	Curlew Lake	Ferry	Curlew Lake
30079	Clark's Pond	Franklin	Clark's Pond
30084	Wahluke #2	Franklin	Columbia River
30085	Wahluke #3	Franklin	Columbia River
30086	Wahluke #4	Franklin	Columbia River
30087	Wahluke #5	Franklin	Columbia River
30088	Wahluke #6	Franklin	Columbia River
30089	Wahluke #7	Franklin	Columbia River
30090	Wahluke #8	Franklin	Columbia River
30091	Wahluke #l	Franklin	Columbia River
30099	Winchester Lake # 3	Grant	Winchester Lake
30107	Beda Lake	Grant	Beda Lake
30113	Virgin Lake	Grant	Virgin Lake
30115	Stan Coffin	Grant	Coffin Lake
30117	Crab Creek Launch	Grant	Potholes Reservoir
30118	Crater Lake	Grant	Crater Lake
30119	Crater Slough	Grant	Crater Slough
30120	Dodson	Grant	Desert
30121	Dodson & Frenchman	Grant	Frenchman Hills WW
30122	Dodson & Winchester	Grant	Winchester Wasteway
30123	Dusty Lake	Grant	Dusty Lake
30126	Evergreen SW	Grant	Evergreen Reservoir
30127	Fidesco-Harris #1	Grant	Winchester Wasteway
30128	Fidesco-Harris #2	Grant	Winchester Wasteway
30129	Fidesco-Harris #3	Grant	Winchester Wasteway
30130	Lenore Fish Trap	Grant	Lenore Lake

30131	Fordair	Grant	Banks Lake
30132	Gage Station Lenore Lake	Grant	Lenore Lake
30134	Gloyd Seeps RD 10	Grant	Crab Creek
30135	Gloyd Seeps RD 12	Grant	Crab Creek
30136	Gloyd Seeps RD 14	Grant	Crab Creek
30137	Gloyd Seeps RD 16	Grant	Crab Creek
30138	Gloyd Seeps RD 7	Grant	Crab Creek
30139	Gloyd Seeps RD 9	Grant	Crab Creek
30140	Stratford Overlook	Grant	Stratford
30141	H" Lake	Grant	H" Lake
30142	Heart Lake	Grant	Heart Lake
30143	Park Lake Hiway Site	Grant	Park Lake
30145	I-Road 645 Drain	Grant	Desert
30147	Jerico	Grant	Crab Creek
30148	Job Corps Dike	Grant	Potholes Reservoir
30150	Lena Lake	Grant	Lena Lake
30151	Lenice Lake	Grant	Lenice Lake
30154	Long Lake	Grant	Long Lake
30155	Lower Goose	Grant	Lower Goose Lake
30156	Marco Polo Lake	Grant	Marco Polo Lake
30157	Martha Lake	Grant	Martha Lake
30160	Medicare East	Grant	Potholes Reservoir
30163	Warden Lake North Access	Grant	Warden Lake
30165	North Outlet	Grant	Moses Lake
30166	Northend Canal Lake North	Grant	Canal Lake
30168	Lenore Lake North End	Grant	Lenore Lake
30169	Evergreen North	Grant	Evergreen Reservoir
30170	Nunnally Lake	Grant	Nunnally Lake
30171	Old Vantage Highway	Grant	Columbia River
30173	Overlook Camp	Grant	Sage Lakes
30175	Point Site	Grant	Potholes Reservoir
30176	Pool	Grant	Priest Rapids
30179	Red Rock Lake	Grant	Red Rock Lake
30180	Road Site "A"	Grant	Potholes Reservoir
30181	Road I/645 Drain	Grant	Frenchman Hills WW
30182	Rocky Ford Creek	Grant	Rocky Ford Creek
30183	Rocky Ford Overlook	Grant	Rocky Ford Creek
30184	Rocky Ford Hatchery	Grant	Rocky Ford Creek
30185	Sam Israel	Grant	Lenore Lake
30186	Sampsons Pit	Grant	Potholes Reservoir
30187	Sand Dunes Site	Grant	Potholes Reservoir
30188	Smyrna West	Grant	Crab Creek
30189	South Warden Lake	Grant	Warden Lake

30190	South Outlet	Grant	Moses Lake
30191	South Canal	Grant	Canal Lake
30192	Southend-Lenore lake	Grant	Lenore Lake
30196	Sunland Estates	Grant	Columbia River
30199	Virgin Lake Camp Area	Grant	Virgin Lake
30200	Warden Outfall Site	Grant	Potholes Reservoir
30202	W-F20 Drain	Grant	Winchester Wasteway
30203	Windmill Lake	Grant	Windmill Lake
30209	Half-Moon Slough	Grays Harbor	Chehalis River
30210	Hidden Hole	Grays Harbor	Humptulip River
30213	LBX Access	Grays Harbor	Satsop River
30218	Pit Site	Grays Harbor	Satsop River
30219	Porter Bridge	Grays Harbor	Chehalis River
30223	Walker Road	Grays Harbor	Humptulip River
30228	Wharton	Grays Harbor	Satsop River
30229	Willis Easement	Grays Harbor	Satsop River
30233	Leland Lake	Jefferson	Leland Lake
30236	Tarboo Lake	Jefferson	Tarboo Lake
30238	Carnation Sportsmen's Club	King	Tolt River
30243	Desire Lake	King	Desire Lake
30245	Dykstra (Riverview Drive)	King	Green River
30261	Phantom	King	Phantom Lake
30266	Richter #2	King	Snoqualmie River
30271	Town of Duvall (Taylors Land.)	King	Snoqualmie River
30275	Buck Lake	Kitsap	Buck Lake
30297	Swale Creek	Klickitat	Swale Creek
30300	Kosmos	Lewis	Cowlitz River
30303	Plummer Lake	Lewis	Plummer
30304	Wallace	Lewis	Cowlitz River
30305	Fishtrap Lake	Lincoln	Fishtrap Lake
30308	Benson Lake	Mason	Benson Lake
30309	Cady Lake	Mason	Cady Lake
30310	Clara Lake	Mason	Clara Lake
30312	Decker Creek	Mason	Satsop River
30315	Hwy 101	Mason	Skokomish River
30322	North Shore Road	Mason	Union River
30323	Panther Lake	Mason	Panther Lake
30326	Schaefer State Park	Mason	Satsop
30336	Blue Lake North	Okanogan	Blue Lake
30344	Big and Little Twin	Okanogan	Twin Lakes
30345	Big Twin-So Side	Okanogan	Twin Lakes
30347	Bonaparte	Okanogan	Okanogan River
30350	Chewack	Okanogan	Methow
30352	Conconully	Okanogan	Salmon Lake

30360	Cutchie #4	Okanogan	Similkameen River
30363	Duck/Proctor Lake	Okanogan	Duck Lake
30366	Elbow Coulee	Okanogan	Twisp River
30377	Markham	Okanogan	Methow River
30378	Moccasin Lake	Okanogan	Moccasin Lake
30379	Neff Bridge	Okanogan	Methow River
30380	Northwest End	Okanogan	Fish Lakes
30384	Pearrygin Creek	Okanogan	Pearrygin Creek
30389	Rawley	Okanogan	Methow River
30393	Salmon Lake	Okanogan	Salmon Lake
30400	Starzman Lakes	Okanogan	Starzman Lakes
30401	Tonasket Cemetary	Okanogan	Okanogan River
30402	Twin Lakes	Okanogan	Twin Lakes
30404	Wanacut	Okanogan	Blue Lake
30407	Bear River	Pacific	Bear River
30410	Ilwaco Boat Launch	Pacific	Columbia River
30416	Tokeland	Pacific	Willapa Bay
30425	Kings Lake	Pend Oreille	Kings Lake
30449	Big Lake	Skagit	Big Lake
30450	Birdsview	Skagit	Skagit River
30458	Gilligan Creek	Skagit	Skagit River
30459	Hart Lake	Skagit	Hart Lake
30461	Jensen (Maupin Rd.)	Skagit	Skagit Bay
30463	Kathman	Skagit	Skagit River
30465	Mannerude (Gilligan Creek)	Skagit	Skagit River
30467	Milltown	Skagit	Skagit River
30468	Monroe	Skagit	Skykomish River
30469	North Fork	Skagit	Skagit River
30470	North Fork	Skagit	Skagit River
30471	Pilling (Utopia Road)	Skagit	Skagit River
30473	PUD (Gardner Road)	Skagit	Skagit River
30475	Roger #2 (South)	Skagit	Samish River
30476	Sedro Woolley	Skagit	Skagit River
30479	Skagit Co (Lymans Ferry South)	Skagit	Skagit River
30480	Watham (Marblemount)	Skagit	Skagit River
30485	Stevens Lake	Snohomish	Stevens Lake
30488	Youngs Bar	Skagit	Skagit River
30489	Arl. Cons. School Dist.	Snohomish	Stillaguamish River, NF
30497	Canyon Creek S.	Snohomish	Stillaguamish River
30498	Canyon Creek W.	Snohomish	Stillaguamish River
30501	Cherry Valley	Snohomish	Snoqualmie River
30502	Cochran Lake	Snohomish	Cochran Lake
30505	Davis Slough	Snohomish	Stillaguamish River
30508	Fontal Lake	Snohomish	Fontal Lake

30509	Gardner (Granite Falls)	Snohomish	Pilchuck River
30513	Hazel Still. Estates (Seaport)	Snohomish	Stillaguamish River, NF
30514	Hazel Still. Estates (Vet)	Snohomish	Stillaguamish River, NF
30519	Kat Slough	Snohomish	Stillaguamish River
30522	Lake Goodwin	Snohomish	Lake Goodwin
30523	Lake Stevens	Snohomish	Lake Stevens
30525	Lawson	Snohomish	Snohomish River
30526	Loma Lake	Snohomish	Loma Lake
30530	McLain #1	Snohomish	Canyon Creek
30531	McLain #2	Snohomish	Canyon Creek
30532	Miles	Snohomish	Stillaguamish River
30534	Pulchuck Access	Snohomish	Pulchuck River
30547	Sultan	Snohomish	Skykomish River
30549	Two Rivers Access	Snohomish	Skykomish River
30551	Wallace River	Snohomish	Snohomish River
30567	Deer Lake #2	Stevens	Deer Lake
30571	Rocky Lake	Stevens	Rocky Lake
30572	Waitts Lake	Stevens	Waitts Lake
30597	Walla Walla	Walla Walla	Walla Walla River
30599	Cedar Lake	Whatcom	Cedar Lake
30602	DOT-NF	Whatcom	Nooksack River
30604	Hof #1 (River Road)	Whatcom	Nooksack River
30605	Hof #2 (River Road)	Whatcom	Nooksack River
30620	Hammerstad	Yakima	Naches River
30621	Horn Rapids	Yakima	Yakima River
30622	Mc Cormick	Yakima	Naches River
30628	Ponds #4 & 5	Yakima	I-82 Ponds
30630	Rotary Lake	Yakima	Rotary Lake
30678	Penn Cove North	Island	Penn Cove
30679	Penn Cove South	Island	Penn Cove
30680	Goss Lake	Island	Goss Lake
30681	Lone Lake	Island	Lone Lake
30682	Killebrew Lake	San Juan	Killebrew Lake
30688	Sherwood Creek	Mason	Case Inlet
30692	South Toledo	Lewis	Cowlitz River
30693	Two Forks	Clark	Lewis River
30694	Tower Bridge	Cowlitz	Toutle River
30695	Leidl North	Klickitat	Klickitat River
30877	Donald Rd Parking lot	Yakima	Yakima River
30879	Quail Lake	Grant	Quail Lake
30881	Evergreen Reservoir W	Grant	Evergreen Reservoir
30882	Rocky Ford	Grant	Rocky Ford Creek
30903	BLM#1	Skagit	Skagit River

30905	Peterson Hall	Chelan	Wenatchee River
30906	Diking District #13	Skagit	Skagit River
30907	Pend Oreille River	Pend Oreille	Pend Oreille River
30908	Powerline Lake	Franklin	Powerline Lake
30909	Duportail	Franklin	Yakima River
30910	Snively Road	Benton	Yakima River
30911	Hyde Road	Benton	Yakima River
30912	Barker Bridge	Benton	Yakima River
30913	Mabton Bridge	Yakima	Yakima River
30914	Aune Access	Clark	Washougal River
30915	Burton	Clark	Washougal River
30916	Lewisville Access	Clark	Lewis River
30917	N Fork Lewis River	Clark	Lewis River
30918	Duck Lake	Clark	Duck Lake
30919	Fisher Access	Clark	Lewis River
30920	Polar Access	Clark	Lewis River
30921	Sportsman Loop E	Cowlitz	Kalama River
30922	Reed Access	Cowlitz	Lewis River
30923	Toutle	Cowlitz	Toutle River
30924	State Access	Cowlitz	Cowlitz River
30925	Pope & Talbot	Cowlitz	Cowlitz River
30926	Comstock	Cowlitz	Coweeman River
30927	Cowlitz Anglers	Cowlitz	Cowlitz River
30928	Walker Island	Cowlitz	Columbia River
30929	Solo Slough	Cowlitz	Columbia River
30930	Ewing Access	Cowlitz	Columbia River
30931	Fisher Island	Cowlitz	Columbia River
30932	Gardner	Cowlitz	Toutle River
30933	Kid Valley	Cowlitz	Toutle River
30934	Spring Creek	Klickitat	Spring Creek
30935	Mitchell	Klickitat	Klickitat River
30936	Winters	Lewis	Cowlitz River
30938	Jackson Hwy	Lewis	Cowlitz River
30939	Spath	Lewis	Cowlitz River
30940	Spencer	Lewis	Cowlitz River
30941	Ethel Bar	Lewis	Cowlitz River
30942	Pipeline	Lewis	Cowlitz River
30943	Wagner	Lewis	Newaukum River
30944	Teitzel	Lewis	Newaukum River
30945	Nygard	Lewis	Newaukum River
30946	Rainbow	Lewis	Chehalis River
30947	Chapman	Lewis	Tilton River
30950	Mineral Lake	Lewis	Mineral Lake
30951	Nellie Corser	Skamania	Duncan Creek
30952	Ashes Lake	Skamania	Ashes Lake
30953	Kidney Lake	Skamania	Kidney Lake
30954	Bass Lake	Skamania	Bass Lake

30955	Draino Lake	Skamania	Draino Lake
30956	Wind River Falls	Skamania	Wind River
30957	Stevenson	Skamania	Wind River
30958	Bachman	Skamania	Wind River
30959	Prindle Island	Skamania	Columbia River
30960	Miller Point	Wahkiakum	Columbia River
30961	Kandoll	Wahkiakum	Grays River
30962	Satterland	Wahkiakum	Grays River
30963	Lori's Launch	Wahkiakum	Deep River
30966	Knappton	Pacific	Columbia River
30980	Gardiner	Jefferson	Puget Sound
30041	Leyendecker Park	Clallam	Bogachiel River
30049	Wilson Bridge	Clallam	Bogachiel River
30048	Whitcomb Dimmel	Clallam	Sol Duc River
30043	Salmon Drive	Clallam	Sol Duc River
30047	Thomas	Clallam	Bogachiel River
30044	Salmon Hatchery	Clallam	Sol Duc River
30237	VanAusdale	Jefferson	Bogachiel River
30038	Bear Creek	Clallam	Sol Duc River
30234	Morgans Crossing	Jefferson	Hoh River
30222	Thorberg	Grays Harbor	Humptulip River
30412	Loomis Lake	Pacific	Loomis Lake
30215	Morley	Grays Harbor	Humptulip River
30411	Island Lake	Pacific	Island Lake
30220	Reynvaan Bar	Grays Harbor	Humptulip River
30212	Johns River	Grays Harbor	Johns River
30211	Hwy 101	Grays Harbor	Humptulip River
30206	Failor Lake	Grays Harbor	Failor Lake
30413	Palix River	Pacific	Palix River
30415	Smith Creek	Pacific	Smith River
30205	East Fork	Grays Harbor	Hoquiam River
30414	Resort Hotel	Pacific	Naselle River
30214	Long Swamp	Grays Harbor	Wishkah River
30225	West Branch	Grays Harbor	Wishkah River
30409	Highway 4	Pacific	Naselle River
30408	Bennos Easement	Pacific	Naselle River
30046	Sutherland Lake	Clallam	Sutherland Lake
30227	White Bridge West	Grays Harbor	Wynoochee River
30226	White Bridge	Grays Harbor	Wynoochee River
30417	Wilson Creek	Pacific	Willapa River
30204	Black Creek	Grays Harbor	Wynoochee River
30593	D.O.T. Site	Wahkiakum	Grays River
30221	South Montesano	Grays Harbor	Chehalis River
30037	Aldwell Lake	Clallam	Aldwell Lake
30594	Fossil Creek	Wahkiakum	Grays River
30045	Sisson	Clallam	Elwha River
30039	City of P. A.	Clallam	Elwha River

30207	Ferbache	Grays Harbor	Chehalis River
30224	West Branch	Grays Harbor	Satsop River
30668	Double Bridges	Grays Harbor	Satsop River
30208	Fuller Bridge	Grays Harbor	Chehalis River
30592	Brooks Slough	Wahkiakum	Elochoman River
30595	Puget Island	Wahkiakum	Columbia River
30591	Beaver Creek	Wahkiakum	Elochoman River
30321	Nahwatzel Lake	Mason	Nahwatzel Lake
30596	Upper Elochoman	Wahkiakum	Elochoman River
30217	Oakville	Grays Harbor	Chehalis River
30319	Lost Lake	Mason	Lost Lake
30327	Smith	Mason	Skokomish River
30311	Cushman Lake	Mason	Cushman Lake
30216	Oakville	Grays Harbor	Black River
30059	Abernathy Creek	Cowlitz	Abernathy Creek
30576	Gate	Thurston	Black River
30317	Island Lake	Mason	Island Lake
30316	Isabella Lake	Mason	Isabella Lake
30589	Summit Lake	Thurston	Summit Lake
30445	Egg Lake	San Juan	Egg Lake
30307	Aldrich Lake	Mason	Aldrich Lake
30447	Sportsman Lake	San Juan	Sportsman Lake
30318	Limerick Lake	Mason	Limerick Lake
30686	Oakland Bay	Mason	Oakland Bay
30320	Maggie Lake	Mason	Maggie Lake
30579	Littlerock	Thurston	Black River
30329	Tee Lake	Mason	Tee Lake
30281	Tahuya River	Mason	Tahuya River
30333	Wooten Lake	Mason	Wooten Lake
30900	Bryden	Lewis	Chehalis River
30314	Haven Lake	Mason	Haven Lake
30573	Black Lake	Thurston	Black Lake
30328	Spencer Lake	Mason	Spencer Lake
30324	Phillips Lake	Mason	Phillips Lake
30331	Twin Lake	Mason	Twin Lake
30669	Duckabush River	Jefferson	Duckabush River
30067	Olequa Creek	Cowlitz	Cowlitz
30667	Pleasant Harbor	Jefferson	Hood Canal
30235	Big Quilcene River	Jefferson	Quilcene River
30231	Big Quilcene	Jefferson	Quilcene River
30965	Boston Harbor	Thurston	Puget Sound
30446	Hummel Lake	San Juan	Hummel Lake
30330	Trails End Lake	Mason	Trails End Lake
30299	I-5	Lewis	Cowlitz River
30232	Crocker Lake	Jefferson	Crocker Lake
30582	Munn Lake	Thurston	Munn Lake

30070	Sportman Loop Lower Kalama	Cowlitz	Kalama River
30590	Ward Lake	Thurston	Ward Lake
30674	Indian George	Jefferson	Quilcene Bay
30071	Sportsman Club	Cowlitz	Columbia River
30063	Kress Lake	Cowlitz	Kress Lake
30313	Deveraux Lake	Mason	Deveraux Lake
30574	Chambers Lake	Thurston	Chambers Lake
30332	Union River Access	Mason	Union River
30066	Modrow Bridge	Cowlitz	Kalama River
30584	Offut Lake	Thurston	Offut Lake
30282	Tiger Lake	Kitsap	Tiger Lake
30670	Misery Point	Kitsap	Hood Canal
30280	Mission Lake	Kitsap	Mission Lake
30687	North Bay	Mason	Puget Sound
30301	Massey Bar	Lewis	Cowlitz River
30060	Beginners Hole	Cowlitz	Kalama River
30073	Woodland Bottoms	Cowlitz	Columbia River
30577	Hicks Lake	Thurston	Hicks Lake
30072	Hand	Cowlitz	Kalama River
30580	Long Lake	Thurston	Long Lake
30069	Silver Lake	Cowlitz	Silver Lake
30438	Jackson	Pierce	Jackson Lake
30068	Pritchard's	Cowlitz	Kalama River
30585	Pattison Lake	Thurston	Pattison Lake
30581	McIntosh Lake	Thurston	McIntosh Lake
30283	Wildcat Lake	Kitsap	Wildcat Lake
30278	Koeneman Lake	Kitsap	Koeneman Lake
30434	Carney Lake	Pierce	Carney Lake
30432	Bay Lake	Pierce	Bay Lake
30284	Wye Lake	Kitsap	Wye Lake
30587	Skookumchuck River	Thurston	Skookumchuck River
30901	Blue Creek	Lewis	Cowlitz River
30684	Luhr's Landing	Thurston	Puget Sound
30065	Martin	Cowlitz	Lewis River
30588	St. Clair Lake West	Thurston	St Clair Lake
30058	Vancouver Lake	Clark	Vancouver Lake
30685	St. Clair Lake East	Thurston	St Clair Lake
30277	Kitsap Lake	Kitsap	Kitsap Lake
30583	Nisqually Hndcp	Thurston	Nisqually River
30637	Lake Terrell	Whatcom	Lake Terrell
30276	Horseshoe Lake	Kitsap	Horseshoe Lake
30457	Erie Lake	Skagit	Erie Lake
30902	Barrier Dam	Lewis	Cowlitz River
30452	Campbell Lake	Skagit	Campbell Lake
30279	Long Lake	Kitsap	Long Lake
30638	Ferndale	Whatcom	Nooksack River

30612	Tennant Lake Access	Whatcom	Tennant Lake
30578	Lawrence Lake	Thurston	Lawrence Lake
30436	Cresent Lake	Pierce	Cresent Lake
30431	American Lake	Pierce	American Lake
30600	Harksell	Whatcom	Nooksack River
30601	Degroot	Whatcom	Nooksack River
30615	Wiser Lake	Whatcom	Wiser Lake
30575	Clear Lake	Thurston	Clear Lake
30437	Harts Lake	Pierce	Harts Lake
30606	Pine Lake	Whatcom	Pine Lake
30055	Lacamas Lake	Clark	Lacamas Lake
30613	Toad Lake	Whatcom	Toad Lake
30230	Deer Lake	Island	Deer Lake
30492	Big Ditch	Snohomish	Skagit River
30609	Samish Lake	Whatcom	Samish Lake
30460	Skagit Headquarters	Skagit	Skagit Bay
30603	Fazon Lake	Whatcom	Fazon Lake
30482	Spudhouse	Skagit	Skagit River
30607	Proctor-Rupke	Whatcom	Nooksack River
30481	Skagit City	Skagit	Skagit River
30455	Conway	Skagit	Skagit River
30611	Squalicum Lake	Whatcom	Squalicum Lake
30529	Martha Lake (WB)		Martha Lake
30520	Ketchum Lake	Snohomish	Ketchum Lake
30440	Lake Rapjohn	Pierce	Rapjohn Lake
30486	Vogler Lake	Skagit	Vogler Lake
30050	Barber	Clark	Washougal
30512	Hat Slough	Snohomish	Canyon Creek
30474	Samish North	Skagit	Samish River
30516	Howard Lake	Snohomish	Howard Lake
30598	Cain Lake	Whatcom	Cain Lake
30614	Whatcom Lake	Whatcom	Whatcom Lake
30539	Shoecraft Lake	Snohomish	Shoecraft Lake
30270	Steel Lake	King	Steel Lake
30608	Nugents Corner	Whatcom	Nooksack River
30538	Serene Lake	Snohomish	Serene Lake
30477	Sixteen Lake	Skagit	Sixteen Lake
30259	North Lake	King	North Lake
30251	Killarney Lake	King	Killarney Lake
30248	Geneva Lake	King	Geneva Lake
30244	Dolloff Lake	King	Dolloff Lake
30435	Clear Lake	Pierce	Clear Lake
30439	Ohop Lake	Pierce	Ohop Lake
30504	Crabapple Lake	Snohomish	Crabapple Lake
30442	Tanwax Lake	Pierce	Tanwax Lake
30246	Fenwick Lake	King	Fenwick Lake
30666	Ki Lake	Snohomish	Ki Lake

30444	Whitman Lake	Pierce	Whitman Lake
30054	County Line	Clark	Washougal
30548	Sunday Lake	Snohomish	Sunday Lake
30524	Lake Stickney	Snohomish	Lake Stickney
30250	Kenmore	King	Sammamish River
30528	Martha Lake	Snohomish	Martha Lake
30639	Steel Bridge	Skamania	Washougal River
30454	Clear Lake	Skagit	Clear Lake
30443	Weiss	Pierce	Puyallup River
30448	Beaver Lake	Skagit	Beaver Lake
30466	McMurray Lake	Skagit	McMurray Lake
30979	Kapowsin	Pierce	Lake Kapowsin
30441	Sumner Sportsmen	Pierce	Puyallup River
30546	Stilly Arlington Cutoff	Snohomish	Stillaguamish River
30433	Bonney Lake	Pierce	Bonney Lake
30260	Panther Lake	King	Panther Lake
30302	Mineral Lake	Lewis	Mineral Lake
30253	Soos Creek	King	Green River
30242	Boren Lake	King	Boren Lake
30495	Bryant Lake	Snohomish	Bryant Lake
30257	Meridian Lake	King	Meridian Lake
30254	Lakes Hills Greenbelt	King	Phantom Lake
30249	Holm Lake	King	Holm Lake
30490	Armstrong Lake	Snohomish	Armstrong Lake
30268	Shady Lake	King	Shady Lake
30499	Cassidy Lake	Snohomish	Cassidy Lake
30493	Blackmans Lake	Snohomish	Blackmans Lake
30269	Spring Lake	King	Spring Lake
30258	Morton Lake	King	Morton Lake
30267	Shadow Lake	King	Shadow Lake
30515	Hoover	Snohomish	Snohomish River
30610	Silver Lake	Whatcom	Silver Lake
30802	Lime Quarry	Snohomish	Stillaguamish River, NF
30506	Echo Lake	Snohomish	Echo Lake
30527	Lost Lake	Snohomish	Lost Lake
30274	Wilderness Lake	King	Wilderness Lake
30518	Jordan Store	Snohomish	Stillaguamish River, SF
30503	Connor Lake	Snohomish	Connor Lake
30533	Panther Lake	Snohomish	Panther Lake
30541	High Bridge	Snohomish	Snoqualmie River
30981	Crescent Lake	Snohomish	Crescent Lake
30241	Beaver Lake	King	Beaver Lake
30491	Baehlor	Snohomish	Skykomish River
30240	Bass Lake	King	Bass Lake
30453	Cavanaugh Lake	Skagit	Cavanaugh Lake
30478	Hamilton	Skagit	Skagit River
30507	Flowing Lake	Snohomish	Flowing Lake

30545	Storm Lake	Snohomish	Storm Lake
30494	Bosworth Lake	Snohomish	Bosworth Lake
30500	Chain Lake	Snohomish	Chain Lake
30272	Twelve Lake	King	Twelve Lake
30521	Lewis Street	Snohomish	Skykomish River
30247	Fish Lake	King	Fish Lake
30535	Riley Lake	Snohomish	Riley Lake
30550	Wagner Lake	Snohomish	Wagner Lake
30543	Ben Howard	Snohomish	Skykomish River
30252	Lower Tolt	King	Tolt River
30536	Roesiger Lake	Snohomish	Roesiger Lake
30265	Richter #1	King	Snoqualmie River
30273	Walker Lake	King	Walker Lake
30511	Hammer	Snohomish	Skykomish River
30256	Margaret Lake	King	Margaret Lake
30264	Raging River	King	Snoqualmie River
30255	Langlois Lake	King	Langlois Lake
30239	Alice Lake	King	Alice Lake
30472	Pressentin Creek	Skagit	Skagit River
30263	Plum #2	King	Snoqualmie River
30262	Plum #1	King	Snoqualmie River
30542	Sportsman Park Sultan	Snohomish	Sultan River
30517	Jonkers	Snohomish	Skykomish River
30496	Boulder Creek	Snohomish	Stillaguamish River, NF
30510	Fortson Hole	Snohomish	Stillaguamish River, NF
30540	Simmons	Snohomish	Skykomish River
30484	Fabors Ferry South	Skagit	Skagit River
30483	Fabors Ferry North	Skagit	Skagit River
30537	Goldbar or Big Eddy	Snohomish	Skykomish River
30464	Barnaby Slough	Skagit	Skagit River
30295	Rowland Lake	Klickitat	Rowland Lake
30298	Turkey Hole	Klickitat	Klickitat River
30288	Lavender Lake	Kittitas	Lavender Lake
30293	Leidl South	Klickitat	Klickitat River
30294	Mineral Springs	Klickitat	Klickitat River
30296	Stinson Flats	Klickitat	Klickitat River
30287	Lake Cle Elum	Kittitas	Lake Cle Elum
30286	King Horn Slough	Kittitas	Yakima River
30291	Teanaway Junction	Kittitas	Yakima River
30653	Tim's Pond	Yakima	Tim's Pond
30646	Masterson	Kittitas	Teanaway River
30645	Thorp Property	Kittitas	Yakima River
30652	Craig Road	Yakima	Naches River
30635	Wenas Lake	Yakima	Wenas Lake
30631	Rowe	Yakima	Naches River
30634	Waterworks	Yakima	Naches River
30030	Leavenworth	Chelan	Wenatchee River

30033	Peshastin	Chelan	Wenatchee River
30624	Myron Lake	Yakima	Myron Lake
30289	Mattoon Lake	Kittitas	Mattoon Lake
30029	Dryden	Chelan	Wenatchee River
30031	Fox	Chelan	Wenatchee River
30642	Woodhouse Ponds	Kittitas	Woodhouse Ponds
30292	Thrall	Kittitas	Yakima River
30290	McCabe	Kittitas	McCabe Pond
30034	Turkey Shoot	Chelan	Wenatchee River
30285	Fiorito Ponds	Kittitas	Fiorito Lake
30649	Elton Pond	Yakima	Elton Pond
30633	Wapato Dam	Yakima	Yakima River
30647	Mile Post 10	Kittitas	Yakima River
30648	Mile Post 8	Kittitas	Yakima River
30804	Monitor #2/Alice Avenue	Chelan	Wenatchee River
30623	Mellis Road	Yakima	Yakima River
30627	Ponds #1 & 2	Yakima	I-82 Ponds
30032	Monitor #1	Chelan	Wenatchee River
30626	Pond #3	Yakima	I-82 Ponds
30800	Dormaier	Chelan	Wenatchee River
30618	Fitzsimmons	Yakima	Yakima River
30617	Buena Pond	Yakima	I-82 Ponds
30636	Zillah Bridge	Yakima	Yakima River
30625	Parker Lot	Yakima	Yakima River
30383	Patterson Lake	Okanogan	Patterson Lake
30650	Granger Pond	Yakima	Granger Pond
30348	Boulder Creek	Okanogan	Chewack River
30346	Bobcat	Okanogan	Chewack River
30394	Shrew	Okanogan	Chewack River
30385	Pearrygin Lake	Okanogan	Pearrygin Lake
30403	Upper Bobcat	Okanogan	Chewack River
30035	Roses Lake	Chelan	Roses Lake
30382	O'Sullivan Pond	Okanogan	O'Sullivan Pond
30387	Ramsey Creek	Okanogan	Ramsey Creek
30343	Bendtsen	Okanogan	Methow River
30361	Davis Lake	Okanogan	Davis Lake
30365	Eiffert Access	Okanogan	Methow River
30338	Bear Creek #2	Okanogan	Bear Creek
30335	Bear Creek #1	Okanogan	Bear Creek
30371	Haltermans Hole	Okanogan	Methow River
30356	Cougar Lake	Okanogan	Cougar Lake
30632	South Emerald	Yakima	Yakima River
30349	Campbell Lake	Okanogan	Campbell Lake
30341	Averill	Okanogan	Methow River
30342	Beaver Creek	Okanogan	Beaver Creek
30651	Giffin Lake	Yakima	Giffin Lake

30390	Rice	Okanogan	Methow River
30619	Gannon	Yakima	Yakima River
30103	Ancient Lake	Grant	Ancient Lake
30111	Buckshot	Grant	Columbia River
30386	Poirier	Okanogan	Methow River
30201	Burke Lake West	Grant	Burke Lake
30195	Evergreen Res. Southwest	Grant	Evergreen Reservoir
30112	Caliche Lake	Grant	Caliche Lake
30178	Quincy Lake	Grant	Quincy Lake
30193	Burke Lake southwest	Grant	Burke Lake
30125	Burke Lake East	Grant	Burke Lake
30124	Evergreen East	Grant	Evergreen Reservoir
30373	Indian Dan Canyon	Okanogan	Indian Dan Canyon
30388	Rat Lake	Okanogan	Rat Lake
30101	Adams Road	Grant	Frenchman Hills WW
30005	Vernita Bridge	Grant	Columbia River
30357	Cutchie #1	Okanogan	Similkameen River
30358	Cutchie #2	Okanogan	Similkameen River
30659	Fish Lake #5	Okanogan	Fish Lake
30641	Whitstran	Benton	Yakima River
30660	Fish Lake #6	Okanogan	Fish Lake
30399	Southwest End	Okanogan	Fish Lakes
30398	Southside	Okanogan	Fish Lakes
30397	Sinlahekin Creek	Okanogan	Sinlahekin Creek
30334	Blue Lake South	Okanogan	Blue Lake
30364	East End	Okanogan	Fish Lakes
30369	Forde Lake	Okanogan	Forde Lake
30353	Connors Lake	Okanogan	Connors Lake
30114	Clementine Lake	Grant	Clementine Lake
30359	Cutchie #3	Okanogan	Similkameen River
30375	Little Green Lake	Okanogan	Little Green Lake
30370	Green Lake	Okanogan	Green Lake
30100	Frenchman Hills # 4	Grant	Frenchman Hills WW
30097	Winchester Lake # 2	Grant	Winchester Lake
30095	Winchester Lake # 1	Grant	Winchester Lake
30374	Limebelt	Okanogan	Blue Lake
30076	Grimes Lake	Douglas	Grimes Lake
30098	Frenchman Hills # 3	Grant	Frenchman Hills WW
30661	Spectacle Lake #2	Okanogan	Spectacle Lake
30337	Spectacle Lake #1	Okanogan	Spectacle Lake
30405	Wannacutt Lake	Okanogan	Wannacutt Lake
30096	Frenchman Hills # 2	Grant	Frenchman Hills WW
30339	Aeneas Lake	Okanogan	Aeneas Lake
30391	Riverside	Okanogan	Okanogan River
30381	Oroville	Okanogan	Blue Lake
30094	Frenchman Hills # 1	Grant	Frenchman Hills WW

30640	Scott Property	Benton	Yakima River
30102	Alkali Lake	Grant	Alkali Lake
30025	Benton City	Benton	Yakima River
30406	Whitestone Lake	Okanogan	Whitestone Lake
30158	McLeary/Hodges Blue Lake	Grant	Blue Lake
30396	Silvernail Lake	Okanogan	Silvernail Lake
30092	White Bluffs	Franklin	Columbia River
30109	Blue Lake	Grant	Blue Lake
30164	North Moses Lake	Grant	Moses Lake
30355	Cordell-Old Pump	Okanogan	Okanogan River
30362	Driscoll Island	Okanogan	Okanogan River
30372	Highway 97 Bridge	Okanogan	Okanogan River
30354	Cordell-New Pump	Okanogan	Okanogan River
30368	Ellisford-Old Pump	Okanogan	Okanogan River
30110	Blythe	Grant	Potholes Reservoir
30104	Ankeny #1	Douglas	Banks Lake
30105	Ankeny #2	Douglas	Banks Lake
30174	Peninsula Park	Grant	Moses Lake
30194	Corral Lake Southwest	Grant	Corral Lake
30116	Corral Lake	Grant	Corral Lake
30162	Million Dollar South	Grant	Banks Lake
30133	Glen Williams	Grant	Potholes Reservoir
30083	Ringold Springs	Franklin	Columbia River
30108	Billy Clapp Lake	Grant	Billy Clapp Lake
30146	Lind Coulee Island Site	Grant	Potholes Reservoir
30395	Sidley Lake	Okanogan	Sidley Lake
30161	Million Dollar North	Grant	Banks Lake
30002	Linda Lake	Adams	Linda Lake
30153	Lind Coulee West Bridge Site	Grant	Potholes Reservoir
30152	Lind Coulee East Bridge Site	Grant	Potholes Reservoir
30149	Katy Lake	Grant	Katy Lake
30003	Lyle Lake	Adams	Lyle Lake
30197	Susan Lake	Grant	Susan Lake
30663	Herman Lake South	Adams	Herman Lake
30006	Thread Lake	Adams	Thread Lake
30106	Barker Canyon	Grant	Banks Lake
30177	Populars	Grant	Banks Lake
30376	Long Lake	Okanogan	Long Lake
30392	Round Lake	Okanogan	Round Lake
30367	Ell Lake	Okanogan	Ell Lake
30093	Worth Lake	Franklin	Worth Lake
30172	Osborne Bay	Grant	Banks Lake
30082	Mesa Lake	Franklin	Mesa Lake

30977	Mc Donald Bridge	Walla Walla	Walla Walla River
30975	Swegle Rd.	Walla Walla	Walla Walla River
30976	Stovall Rd.	Walla Walla	Walla Walla River
30978	Dodd	Walla Walla	Touchet River
30801	Orient	Ferry	Kettle River
30001	Cow Lake	Adams	Cow Lake
30904	Sprauge Lake	Adams	Sprague Lake
30306	Fourth of July Lake	Lincoln	Fourth of July Lake
30556	Hog Canyon Lake	Spokane	Hog Canyon Lake
30568	Hatch Lake	Stevens	Hatch Lake
30552	Amber Lake	Spokane	Amber Lake
30561	West Medical Lake	Spokane	West Medical Lake
30554	Clear Lake	Spokane	Clear Lake
30967	Lower Hartsock	Columbia	Tucannon River
30569	Jump-Off-Joe Lake	Stevens	Jump-Off-Joe Lake
30562	Williams Lake	Spokane	Williams Lake
30968	Spring Lake	Columbia	Spring Lake
30974	Curl Lake	Columbia	Curl Lake
30969	Blue Lake	Columbia	Blue Lake
30973	Big 4 Lake	Columbia	Big 4 Lake
30970	Rainbow Lake	Columbia	Rainbow Lake
30560	Silver Lake	Spokane	Silver Lake
30972	Watson & Deer	Columbia	Watson & Beaver Lake
30971	Deer Lake	Columbia	Deer Lake
30570	Loon Lake	Stevens	Loon Lake
30553	Badger Lake	Spokane	Badger Lake
30563	Black Lake	Stevens	Black Lake
30566	Deer Lake #1	Stevens	Deer Lake
30565	Deep Lake	Stevens	Deep Lake
30564	Cedar Lake	Stevens	Cedar Lake
30424	Horseshoe Lake	Pend Oreille	Horseshoe Lake
30423	Fan Lake	Pend Oreille	Fan Lake
30555	Eloika Lake	Spokane	Eloika Lake
30418	Caldwell Lake	Pend Oreille	Caldwell Lake
30430	Sacheen Lake	Pend Oreille	Sacheen Lake
30012	Cottonwood	Asotin	Grande Ronde
30428	Ruby Ferry	Pend Oreille	Pend Oreille River
30421	Davis Lake	Pend Oreille	Davis Lake
30007	Bezona	Asotin	Grande Ronde
30010	C. Boggan	Asotin	Grande Ronde
30008	Blankenship	Asotin	Asotin Creek
30022	R. Boggan	Asotin	Grande Ronde
30009	Botts	Asotin	Grande Ronde
30419	Chain Lake	Pend Oreille	Chain Lake
30422	Diamond Lake	Pend Oreille	Diamond Lake
30559	Newman Lake	Spokane	Newman lake
30557	Liberty Lake	Spokane	Liberty Lake

30023	Schumaker Grade	Asotin	Grande Ronde
30426	Marshall Lake	Pend Oreille	Marshall Lake
30018	Ebson #4	Asotin	Grande Ronde
30024	Turkey Bend	Asotin	Grande Ronde
30016	Ebson #2	Asotin	Grande Ronde
30015	Ebson #1	Asotin	Grande Ronde
30019	Heller Bar	Asotin	Snake River
30021	Mouth of Grande Ronde	Asotin	Snake River
30013	Couse Creek	Asotin	Couse Creek

WDFW RIVER ACCESS EASEMENTS 2010 BY COUNTY

County	Property Name	Easement Acres (est)
ASOTIN	ASOTIN CREEK	1.58
ASOTIN	ASOTIN CREEK	3.30
ASOTIN	ASOTIN CREEK	4.50
ASOTIN	ASOTIN CREEK	0.52
ASOTIN	ASOTIN CREEK	2.41
ASOTIN	GRANDE RONDE RVR	0.20
ASOTIN	GRANDE RONDE RVR	
ASOTIN	GRANDE RONDE RVR	7.00
ASOTIN	GRANDE RONDE RVR	0.38
ASOTIN	GRANDE RONDE RVR	1.00
ASOTIN	GRANDE RONDE RVR	3.00
BENTON	YAKIMA RIVER	
CHELAN	ENTIAT RIVER	1.80
CHELAN	ENTIAT RIVER	0.80
CHELAN	ENTIAT RIVER	0.40
CHELAN	ENTIAT RIVER	0.10
CHELAN	ENTIAT RIVER	1.70
CHELAN	ENTIAT RIVER	1.00
CHELAN	ENTIAT RIVER	0.10
CHELAN	ENTIAT RIVER	10.80
CHELAN	ENTIAT RIVER	2.40
CHELAN	WENATCHEE RIVER	1.30
CHELAN	WENATCHEE RIVER	0.60
CHELAN	WENATCHEE RIVER	2.80
CHELAN	WENATCHEE RIVER	1.30
CHELAN	WENATCHEE RIVER	0.80
CHELAN	WENATCHEE RIVER	0.10
CHELAN	WENATCHEE RIVER	0.60
CHELAN	WENATCHEE RIVER	0.80
CHELAN	WENATCHEE RIVER	0.10
CHELAN	WENATCHEE RIVER	2.60
CHELAN	WENATCHEE RIVER	1.20
CHELAN	WENATCHEE RIVER	1.30
CHELAN	WENATCHEE RIVER	1.10
CHELAN	WENATCHEE RIVER	0.10
CHELAN	WENATCHEE RIVER	0.60
CHELAN	WENATCHEE RIVER	1.40
CHELAN	WENATCHEE RIVER	0.20
CHELAN	WENATCHEE RIVER	0.30
CHELAN	WENATCHEE RIVER	0.10

CHELAN	WENATCHEE RIVER	0.80
CHELAN	WENATCHEE RIVER	0.90
CHELAN	WENATCHEE RIVER	0.20
CHELAN	WENATCHEE RIVER	0.10
CHELAN	WENATCHEE RIVER	0.10
CHELAN	WENATCHEE RIVER	0.10
CHELAN	WENATCHEE RIVER	0.30
CHELAN	WENATCHEE RIVER	0.40
CHELAN	WENATCHEE RIVER	1.00
CHELAN	WENATCHEE RIVER	6.40
CHELAN	WENATCHEE RIVER	0.60
CHELAN	WENATCHEE RIVER	
CHELAN	WENATCHEE RIVER	0.30
CHELAN	WENATCHEE RIVER	0.60
CHELAN	WENATCHEE RIVER	0.10
CHELAN	WENATCHEE RIVER	2.00
CHELAN	WENATCHEE RIVER	
CHELAN	WENATCHEE RIVER	0.10
CHELAN	WENATCHEE RIVER	1.40
CHELAN	WENATCHEE RIVER	0.20
CHELAN	WENATCHEE RIVER	1.50
CHELAN	WENATCHEE RIVER	1.20
CLALLAM	ELWHA RIVER	0.70
CLALLAM	ELWHA RIVER	0.10
CLALLAM	ELWHA RIVER	0.70
CLARK	COLUMBIA RIVER	0.50
CLARK	LEWIS RIVER	0.10
CLARK	LEWIS RIVER	6.30
CLARK	LEWIS RIVER	0.80
CLARK	WASHOUGAL RIVER	7.10
COWLITZ	COLUMBIA RIVER	4.20
COWLITZ	COLUMBIA RIVER	0.10
COWLITZ	COLUMBIA RIVER	1.50
COWLITZ	COWEEMAN RIVER	0.70
COWLITZ	COWEEMAN RIVER	1.00
COWLITZ	COWLITZ RIVER	
COWLITZ	COWLITZ RIVER	1.20
COWLITZ	COWLITZ RIVER	0.10
COWLITZ	COWLITZ RIVER	0.50
COWLITZ	COWLITZ RIVER	0.70
COWLITZ	COWLITZ RIVER	0.10
COWLITZ	COWLITZ RIVER	2.80
COWLITZ	COWLITZ RIVER	2.00
COWLITZ	COWLITZ RIVER	

COWLITZ	COWLITZ RIVER	
COWLITZ	COWLITZ RIVER	0.10
COWLITZ	COWLITZ RIVER	0.70
COWLITZ	KALAMA RIVER	0.10
COWLITZ	KALAMA RIVER	0.10
COWLITZ	KALAMA RIVER	0.50
COWLITZ	KALAMA RIVER	0.20
COWLITZ	KALAMA RIVER	0.10
COWLITZ	LEWIS RIVER	5.70
COWLITZ	TOUTLE RIVER	18.40
GRAYS HBI	CHEHALIS RIVER	0.68
GRAYS HBI	CHEHALIS RIVER	0.10
GRAYS HBI	CHEHALIS RIVER	2.00
GRAYS HBI	CHEHALIS RIVER	4.50
GRAYS HBI	CHEHALIS RIVER	0.80
GRAYS HBI	CHEHALIS RIVER	
GRAYS HBI	CHEHALIS RIVER	1.40
GRAYS HBI	CHEHALIS RIVER	
GRAYS HBI	HOQUIAM RIVER	0.20
GRAYS HBI	SATSOP RIVER	0.50
GRAYS HBI	SATSOP RIVER	0.10
GRAYS HBI	SATSOP RIVER	3.50
GRAYS HBI	SATSOP RIVER	0.10
GRAYS HBI	SATSOP RIVER	1.20
GRAYS HBI	SATSOP RIVER	1.00
GRAYS HBI	WISHKAH RIVER	1.20
GRAYS HBI	WISHKAH RIVER	0.10
GRAYS HBI	WISHKAH RIVER	0.25
GRAYS HBI	WYNOOCHEE RIVER	0.10
GRAYS HBI	WYNOOCHEE RIVER	2.00
GRAYS HBI	WYNOOCHEE RIVER	
JEFFERSON	BIG QUILCENE RIVER	0.10
JEFFERSON	BIG QUILCENE RIVER	0.10
JEFFERSON	BIG QUILCENE RIVER	0.10
JEFFERSON	BOGACHIEL RIVER	0.10
JEFFERSON	BOGACHIEL RIVER	0.36
JEFFERSON	QUILCENE RIVER	1.50
KING	GREEN RIVER	0.90
KING	GREEN RIVER	0.10
KING	GREEN RIVER	0.10
KING	GREEN RIVER	0.80
KING	GREEN RIVER	0.60
KING	GREEN RIVER	1.00
KING	GREEN RIVER	0.50

KING	GREEN RIVER	2.30
KING	GREEN RIVER	0.40
KING	GREEN RIVER	0.10
KING	GREEN RIVER	0.10
KING	GREEN RIVER	0.10
KING	GREEN RIVER	2.20
KING	GREEN RIVER	3.00
KING	GREEN RIVER	0.10
KING	GREEN RIVER	9.90
KING	GREEN RIVER	0.10
KING	GREEN RIVER	0.10
KING	GREEN RIVER	0.70
KING	GREEN RIVER	0.50
KING	GREEN RIVER	1.10
KING	GREEN RIVER	0.10
KING	GREEN RIVER	0.80
KING	GREEN RIVER	0.80
KING	GREEN RIVER	1.10
KING	GREEN RIVER	0.10
KING	GREEN RIVER	
KING	GREEN RIVER	0.10
KING	GREEN RIVER	4.70
KING	SAMMAMISH RIVER	0.10
KING	SNOQUALMIE RIVER	0.10
KING	SNOQUALMIE RIVER	1.60
KING	SNOQUALMIE RIVER	
KING	SNOQUALMIE RIVER	0.10
KING	SNOQUALMIE RIVER	2.30
KING	SNOQUALMIE RIVER	0.10
KING	SNOQUALMIE RIVER	0.60
KING	SNOQUALMIE RIVER	0.10
KING	SNOQUALMIE RIVER	1.20
KING	SNOQUALMIE RIVER	0.10
KING	SNOQUALMIE RIVER	0.20
KING	SNOQUALMIE RIVER	3.60
KING	SNOQUALMIE RIVER	1.10
KING	SNOQUALMIE RIVER	2.00
KING	SNOQUALMIE RIVER	0.90
KING	TOLT RIVER	0.10
KITTITAS	YAKIMA RIVER	
KLICKITAT	KLICKITAT RIVER	2.30
KLICKITAT	KLICKITAT RIVER	0.90
KLICKITAT	KLICKITAT RIVER	2.40
KLICKITAT	KLICKITAT RIVER	0.40

KLICKITAT	SPRING CREEK	1.00
KLICKITAT	SPRING CREEK	0.10
KLICKITAT	SPRING CREEK	5.00
KLICKITAT	SPRING CREEK	1.50
KLICKITAT	SPRING CREEK	3.20
LEWIS	COWLITZ RIVER	0.10
LEWIS	COWLITZ RIVER	0.10
LEWIS	COWLITZ RIVER	0.10
LEWIS	COWLITZ RIVER	0.30
LEWIS	COWLITZ RIVER	1.00
LEWIS	COWLITZ RIVER	
LEWIS	TILTON RIVER	0.01
MASON	TAHUYA RIVER	8.00
MASON	TAHUYA RIVER	0.40
MASON	UNION RIVER	
MASON	UNION RIVER	
MASON	UNION RIVER	0.20
OKANOGA	METHOW RIVER	0.10
OKANOGA	METHOW RIVER	3.40
OKANOGA	METHOW RIVER	0.10
OKANOGA	OKANOGAN RIVER	
OKANOGA	OKANOGAN RIVER	
OKANOGA	OKANOGAN RIVER	
OKANOGA	SAN POIL RIVER	2.80
OKANOGA	SIMILKAMEEN RIVER	25.30
OKANOGA	SIMILKAMEEN RIVER	1.50
PACIFIC	NASELLE RIVER	1.50
PACIFIC	NASELLE RIVER	0.10
PACIFIC	NASELLE RIVER	0.10
PACIFIC	WILLAPA RIVER	0.70
PIERCE	CARBON RIVER	1.20
PIERCE	PUYALLUP RIVER	10.10
PIERCE	PUYALLUP RIVER	36.70
PIERCE	PUYALLUP RIVER	2.00
PIERCE	PUYALLUP RIVER	2.30
PIERCE	PUYALLUP RIVER	1.00
PIERCE	PUYALLUP RIVER	0.90
PIERCE	WILKISON CREEK	13.30
SKAGIT	SAMISH RIVER	0.10
SKAGIT	SAMISH RIVER	1.00
SKAGIT	SAMISH RIVER	0.10
SKAGIT	SAMISH RIVER	0.10
SKAGIT	SAMISH RIVER	0.30
SKAGIT	SAMISH RIVER	0.10

SKAGIT	SAMISH RIVER	0.10
SKAGIT	SAMISH RIVER	0.10
SKAGIT	SAMISH RIVER	0.10
SKAGIT	SAMISH RIVER	0.30
SKAGIT	SAMISH RIVER	2.00
SKAGIT	SAMISH RIVER	0.10
SKAGIT	SKAGIT RIVER	0.75
SKAGIT	SKAGIT RIVER	0.30
SKAGIT	SKAGIT RIVER	1.00
SKAGIT	SKAGIT RIVER	0.30
SKAGIT	SKAGIT RIVER	0.30
SKAGIT	SKAGIT RIVER	4.50
SKAGIT	SKAGIT RIVER	6.30
SKAGIT	SKAGIT RIVER	0.20
SKAGIT	SKAGIT RIVER	330.00
SKAGIT	SKAGIT RIVER	0.10
SKAGIT	SKAGIT RIVER	0.10
SKAGIT	SKAGIT RIVER	0.10
SKAGIT	SKAGIT RIVER	0.10
SKAGIT	SKAGIT RIVER	0.10
SKAGIT	SKAGIT RIVER	2.00
SKAGIT	SKAGIT RIVER	0.80
SKAGIT	SKAGIT RIVER	0.10
SKAGIT	SKAGIT RIVER	42.00
SKAGIT	SKAGIT RIVER	0.30
SKAGIT	SKAGIT RIVER	0.75
SKAGIT	SKAGIT RIVER	5.50
SKAGIT	SKAGIT RIVER	0.10
SKAMANIA	COLUMBIA RIVER	0.30
SKAMANIA	COLUMBIA RIVER	
SKAMANIA	WIND RIVER	0.80
SKAMANIA	WIND RIVER	0.20
SKAMANIA	WIND RIVER	0.10
SNOHOMI	CANYON CREEK	2.44
SNOHOMI	CANYON CREEK	0.60
SNOHOMI	CANYON CREEK	1.50
SNOHOMI	FRENCH SLOUGH	
SNOHOMI	PILCHUCK RIVER	0.10
SNOHOMI	PILCHUCK RIVER	0.10
SNOHOMI	PILCHUCK RIVER	0.10
SNOHOMI	PILCHUCK RIVER	0.10
SNOHOMI	PILCHUCK RIVER	2.20
SNOHOMI	SKYKOMISH RIVER	
SNOHOMI	SKYKOMISH RIVER	0.20

SNOHOMI	SKYKOMISH RIVER	0.50
SNOHOMI	SKYKOMISH RIVER	1.50
SNOHOMI	SKYKOMISH RIVER	0.75
SNOHOMI	SKYKOMISH RIVER	0.10
SNOHOMI	SKYKOMISH RIVER	1.15
SNOHOMI	SKYKOMISH RIVER	0.37
SNOHOMI	SKYKOMISH RIVER	0.10
SNOHOMI	SKYKOMISH RIVER	0.10
SNOHOMI	SNOHOMISH RIVER	
SNOHOMI	SNOHOMISH RIVER	
SNOHOMI	SNOHOMISH RIVER	0.10
SNOHOMI	SNOHOMISH RIVER	0.10
SNOHOMI	SNOQUALMIE RIVER	0.10
SNOHOMI	SNOQUALMIE RIVER	0.10
SNOHOMI	SNOQUALMIE RIVER	0.10
SNOHOMI	STILLAGUAMISH RIVEF	0.30
SNOHOMI	STILLAGUAMISH RIVEF	0.30
SNOHOMI	STILLAGUAMISH RIVER	
SNOHOMI	STILLAGUAMISH RIVEF	0.10
SNOHOMI	STILLAGUAMISH RIVEF	0.50
SNOHOMI	STILLAGUAMISH RIVEF	0.10
SNOHOMI	STILLAGUAMISH RIVER	
SNOHOMI	STILLAGUAMISH RIVEF	2.10
SNOHOMI	STILLAGUAMISH RIVEF	0.20
SNOHOMI	STILLAGUAMISH RIVEF	2.20
SNOHOMI	STILLAGUAMISH RIVEF	0.10
SNOHOMI	STILLAGUAMISH RIVEF	95.50
SNOHOMI	STILLAGUAMISH RIVEF	0.10
SNOHOMI	STILLAGUAMISH RIVEF	0.10
SNOHOMI	STILLAGUAMISH RIVEF	0.75
SNOHOMI	STILLAGUAMISH RIVEF	0.10
SNOHOMI	STILLAGUAMISH RIVEF	0.10
SNOHOMI	STILLAGUAMISH RIVEF	0.10
SNOHOMI	STILLAGUAMISH RIVEF	0.60
SNOHOMI	STILLAGUAMISH RIVEF	0.10
SNOHOMI	STILLAGUAMISH RIVEF	0.10
SNOHOMI	STILLAGUAMISH RIVEF	0.10
SNOHOMI	STILLAGUAMISH RIVEF	0.10
SNOHOMI	STILLAGUAMISH RIVEF	0.10
SNOHOMI	STILLAGUAMISH RIVEF	0.10
SNOHOMI	STILLAGUAMISH RIVEF	0.10
SNOHOMI	SULTAN RIVER	2.40
SNOHOMI	WALLACE RIVER	
SNOHOMI	WALLACE RIVER	0.40

THURSTON	BLACK RIVER	0.10
THURSTON	DESCHUTES RIVER	0.10
THURSTON	NISQUALLY RIVER	0.10
THURSTON	NISQUALLY RIVER	0.10
THURSTON	NISQUALLY RIVER	0.10
WAHKIAKU	ELOCHOMAN RIVER	
WAHKIAKU	ELOCHOMAN RIVER	
WAHKIAKU	ELOCHOMAN RIVER	
WAHKIAKU	ELOCHOMAN RIVER	1.30
WAHKIAKU	ELOCHOMAN RIVER	1.40
WAHKIAKU	ELOCHOMAN RIVER	1.90
WAHKIAKU	ELOCHOMAN RIVER	22.90
WAHKIAKU	ELOCHOMAN RIVER	0.10
WAHKIAKU	ELOCHOMAN RIVER	1.60
WAHKIAKU	ELOCHOMAN RIVER	1.40
WAHKIAKU	GRAYS RIVER	0.50
WAHKIAKU	GRAYS RIVER	2.40
WAHKIAKU	GRAYS RIVER	1.20
WHATCOM	NOOKSACK RIVER	0.30
WHATCOM	NOOKSACK RIVER	0.10
WHATCOM	NOOKSACK RIVER	0.10
WHATCOM	NOOKSACK RIVER	0.10
WHATCOM	NOOKSACK RIVER	0.10
WHATCOM	NOOKSACK RIVER	0.10
WHATCOM	NOOKSACK RIVER	0.10
WHATCOM	NOOKSACK RIVER	0.10
WHATCOM	NOOKSACK RIVER	0.10
WHATCOM	NOOKSACK RIVER	0.10
WHATCOM	NOOKSACK RIVER	0.10
WHATCOM	NOOKSACK RIVER	0.10
WHATCOM	NOOKSACK RIVER	0.10
WHATCOM	NOOKSACK RIVER	0.10
WHATCOM	NOOKSACK RIVER	0.60
WHATCOM	NOOKSACK RIVER	0.10
WHATCOM	NOOKSACK RIVER	0.10
WHATCOM	NOOKSACK RIVER	0.10
WHATCOM	NOOKSACK RIVER	1.00
WHATCOM	NOOKSACK RIVER	0.10
WHATCOM	NOOKSACK RIVER	0.10
WHATCOM	NOOKSACK RIVER	1.00
WHATCOM	NOOKSACK RIVER	6.10
WHATCOM	NOOKSACK RIVER	0.10
WHATCOM	NOOKSACK RIVER	0.10
WHATCOM	NOOKSACK RIVER	0.10
WHATCOM	NOOKSACK RIVER	0.10

WHATCOM	NOOKSACK RIVER	0.10
WHATCOM	NOOKSACK RIVER	0.10
YAKIMA	NACHES RIVER	0.50
YAKIMA	NACHES RIVER	0.10
YAKIMA	NACHES RIVER	0.10
YAKIMA	YAKIMA RIVER	
YAKIMA	YAKIMA RIVER	
YAKIMA	YAKIMA RIVER	0.10
YAKIMA	YAKIMA RIVER	1.00
YAKIMA	YAKIMA RIVER	
YAKIMA	YAKIMA RIVER	0.10
YAKIMA	YAKIMA RIVER	3.50
YAKIMA	YAKIMA RIVER	3.00
YAKIMA	YAKIMA RIVER	0.10
YAKIMA	YAKIMA RIVER	0.10
YAKIMA	YAKIMA RIVER	0.10
YAKIMA	YAKIMA RIVER	0.10
YAKIMA	YAKIMA RIVER	0.30
YAKIMA	YAKIMA RIVER	1.10
YAKIMA	YAKIMA RIVER	

WDFW Region	Wildlife Area	Species Code	Common Name	Scientific Name	State Status	Federal Status	PHS Priority	
1	Asotin	AQCH	Golden eagle	Aquila chrysaetos	C		Y	
1	Asotin	CEELN	Rocky Mountain elk	Cervus elaphus nelsoni			Y	
1	Asotin	COBE	Piute sculpin	Cottus beldingi	M			
1	Asotin	MELE	Lewis' woodpecker	Melanerpes lewis	C		Y	
1	Asotin	ODHEH	Mule deer	Odocoileus hemionus hemionus			Y	
1	Asotin	OVCA	Bighorn sheep	Ovis canadensis			Y	
1	Asotin	SOME	Merriam's shrew	Sorex merriami	C			
1	Asotin	WAFO	Waterfowl Concentrations				Y	
1	Chief Joseph	ALCH	Chukar	Alectoris chukar			Y	
1	Chief Joseph	BALO	Upland sandpiper	Bartramia longicauda	E			
1	Chief Joseph	CEEL	Elk	Cervus elaphus			Y	
1	Chief Joseph	CEELN	Rocky Mountain elk	Cervus elaphus nelsoni			Y	
1	Chief Joseph	HALE	Bald eagle	Haliaeetus leucocephalus	S	FCo	Y	
1	Chief Joseph	ODHEH	Mule deer	Odocoileus hemionus hemionus			Y	
1	Chief Joseph	ODVIO	Northwest white-tailed deer	Odocoileus virginianus ochrourus			Y	
1	Chief Joseph	OVCA	Bighorn sheep	Ovis canadensis			Y	
1	Chief Joseph	WAFO	Waterfowl Concentrations				Y	
1	Le Clerc	CEELN	Rocky Mountain elk	Cervus elaphus nelsoni			Y	
1	Le Clerc	ODVIO	Northwest white-tailed deer	Odocoileus virginianus ochrourus			Y	
1	Le Clerc	PAHA	Osprey	Pandion haliaetus	M			
1	Le Clerc	URAR	Grizzly bear	Ursus arctos	E	T		
1	Le Clerc	WAFO	Waterfowl Concentrations				Y	
1	Revere	PHCO	Ring-necked pheasant	Phasianus colchicus			Y	
1	Revere	STEPPE	Prairies and Steppe				Y	
1	Sherman Creek	ACGE	Northern goshawk	Accipiter gentilis	C	FCo		
1	Sherman Creek	ANBO	Western toad	Anaxyrus boreas	C	FCo		
1	Sherman Creek	AQCH	Golden eagle	Aquila chrysaetos	C		Y	
1	Sherman Creek	COLCO	Racer	Coluber constrictor	M			
1	Sherman Creek	GUGU	Wolverine	Gulo gulo	C	FCo		
1	Sherman Creek	HALE	Bald eagle	Haliaeetus leucocephalus	S	FCo	Y	
1	Sherman Creek	LYCA	Lynx	Lynx canadensis	T	T	Y	
1	Sherman Creek	MELE	Lewis' woodpecker	Melanerpes lewis	C		Y	
1	Sherman Creek	ODHEH	Mule deer	Odocoileus hemionus hemionus			Y	
1	Sherman Creek	ODVIO	Northwest white-tailed deer	Odocoileus virginianus ochrourus			Y	
1	Sherman Creek	PAHA	Osprey	Pandion haliaetus	M			
1	Sherman Creek	PIAL	White-headed woodpecker	Picoides albolarvatus	C			
1	Sherman Creek	RALU	Columbia spotted frog	Rana luteiventris	C			
1	Swanson Lakes	AMTI	Tiger salamander	Ambystoma tigrinum	M			
1	Swanson Lakes	ATCU	Burrowing owl	Athene cunicularia	C	FCo	Y	
1	Swanson Lakes	CEUR	Greater Sage-grouse	Centrocercus urophasianus	T	C	Y	
1	Swanson Lakes	CHNI	Black tern	Chlidonias niger	M			
1	Swanson Lakes	CYCO	Trumpeter swan	Cygnus buccinator			Y	
1	Swanson Lakes	LALU	Loggerhead shrike	Lanius ludovicianus	C	FCo	Y	
1	Swanson Lakes	LALU	Loggerhead shrike	Lanius ludovicianus	C	FCo	Y	
1	Swanson Lakes	LETO	White-tailed jackrabbit	Lepus townsendii	C		Y	
1	Swanson Lakes	MEGA	Wild turkey	Meleagris gallopavo			Y	
1	Swanson Lakes	PEER	American white pelican	Pelecanus erythrorhynchos	E		Y	
1	Swanson Lakes	SOME	Merriam's shrew	Sorex merriami	C			
1	Swanson Lakes	TYPH	Sharp-tailed grouse	Tympanuchus phasianellus	T	FCo		
1	Swanson Lakes	WAFO	Waterfowl Concentrations				Y	
1	Swanson Lakes	WET	Wetlands				Y	
1	Wooten	ACGE	Northern goshawk	Accipiter gentilis	C	FCo		
1	Wooten	ANBO	Western toad	Anaxyrus boreas	C	FCo		
1	Wooten	BOBE	Meadow fritillary	Boloria bellona ssp.	M			
1	Wooten	CEELN	Rocky Mountain elk	Cervus elaphus nelsoni			Y	
1	Wooten	COMA	Margined sculpin	Cottus marginatus	S	FCo		
1	Wooten	LATR	Pacific lamprey	Lampetra tridentata	M	FCo		
1	Wooten	MYTH	Fringed myotis	Myotis thysanodes	M			
1	Wooten	ODHEH	Mule deer	Odocoileus hemionus hemionus			Y	
1	Wooten	OVCA	Bighorn sheep	Ovis canadensis			Y	
1	Wooten	RALU	Columbia spotted frog	Rana luteiventris	C			
2	Chelan	ACGE	Northern goshawk	Accipiter gentilis	C	FCo		
2	Chelan	ALCH	Chukar	Alectoris chukar			Y	
2	Chelan	AQCH	Golden eagle	Aquila chrysaetos	C		Y	
2	Chelan	ASPEN	Aspen Stands				Y	
2	Chelan	CALU	Gray wolf	Canis lupus	E	E		
2	Chelan	CLIFF	Cliffs/Bluffs				Y	
2	Chelan	DEOB	Blue grouse	Dendragapus obscurus			Y	
2	Chelan	HALE	Bald eagle	Haliaeetus leucocephalus	S	FCo	Y	
2	Chelan	HIHI	Harlequin Duck	Histrionicus histrionicus			Y	
2	Chelan	HYTO	Night snake	Hypsiglena torquata	M			
2	Chelan	MEADOW	Meadows					
2	Chelan	MELE	Lewis' woodpecker	Melanerpes lewis	C		Y	
2	Chelan	ODHEH	Mule deer	Odocoileus hemionus hemionus			Y	
2	Chelan	OVCA	Bighorn sheep	Ovis canadensis			Y	
2	Chelan	PAHA	Osprey	Pandion haliaetus	M			
2	Chelan	SCGRI	Western gray squirrel	Sciurus griseus	T		Y	
2	Chelan	WAFO	Waterfowl Concentrations				Y	
2	Chelan	WET	Wetlands				Y	
2	Columbia Basin	AECL	Clark's grebe	Aechmophorus clarkii	M		Y	

2	Columbia Basin	AEOC	Western grebe	Aechmophorus occidentalis	C		Y	
2	Columbia Basin	ALCH	Chukar	Alectoris chukar			Y	
2	Columbia Basin	AMBE	Sage sparrow	Amphispiza belli	C			
2	Columbia Basin	AMSA	Grasshopper sparrow	Ammodramus savannarum	M			
2	Columbia Basin	AMTI	Tiger salamander	Ambystoma tigrinum	M			
2	Columbia Basin	AQCH	Golden eagle	Aquila chrysaetos	C		Y	
2	Columbia Basin	ARALB	Great egret	Ardea alba	M			
2	Columbia Basin	ARHE	Great blue heron	Ardea herodias	M		Y	
2	Columbia Basin	ATCU	Burrowing owl	Athene cunicularia	C	FCo	Y	
2	Columbia Basin	BUIS	Barrow's goldeneye	Bucephalia islandica			Y	
2	Columbia Basin	BURE	Ferruginous hawk	Buteo regalis	T	FCo		
2	Columbia Basin	BUSW	Swainson's hawk	Buteo swainsoni	M			
2	Columbia Basin	CEUR	Greater Sage-grouse	Centrocercus urophasianus	T	C	Y	
2	Columbia Basin	CHNI	Black tern	Chlidonias niger	M			
2	Columbia Basin	CLIFF	Cliffs/Bluffs				Y	
2	Columbia Basin	COLCO	Racer	Coluber constrictor	M			
2	Columbia Basin	CYCO	Trumpeter swan	Cygnus buccinator			Y	
2	Columbia Basin	DIOR	Ord's kangaroo rat	Dipodomys ordii	M			
2	Columbia Basin	DUNE	Sand Dunes					
2	Columbia Basin	FAME	Prairie falcon	Falco mexicanus	M		Y	
2	Columbia Basin	FAPE	Peregrine falcon	Falco peregrinus	S	FCo	Y	
2	Columbia Basin	GAIM	Common loon	Gavia immer	S		Y	
2	Columbia Basin	GRCA	Sandhill crane	Grus canadensis	E		Y	
2	Columbia Basin	HALE	Bald eagle	Haliaeetus leucocephalus	S	FCo	Y	
2	Columbia Basin	HIME	Black-necked stilt	Himantopus mexicanus	M			
2	Columbia Basin	HYTO	Night snake	Hypsiglena torquata	M			
2	Columbia Basin	ISLAND	Islands					
2	Columbia Basin	LALU	Loggerhead shrike	Lanius ludovicianus	C	FCo	Y	
2	Columbia Basin	LECA	Black-tailed jackrabbit	Lepus californicus	C			
2	Columbia Basin	LETO	White-tailed jackrabbit	Lepus townsendii	C		Y	
2	Columbia Basin	LIARLA	Viceroy	Limenitis archippus lahontani	M			
2	Columbia Basin	MUVI	Mink	Mustela vison				
2	Columbia Basin	MYCI	Ash-throated flycatcher	Myiarchus cinerascens	M			
2	Columbia Basin	MYOCI	Small-footed myotis	Myotis ciliolabrum	M			
2	Columbia Basin	MYVO	Long-legged myotis	Myotis volans	M			
2	Columbia Basin	NUAM	Long-billed curlew	Numenius americanus	M			
2	Columbia Basin	NYNY	Black-crowned night-heron	Nycticorax nycticorax	M			
2	Columbia Basin	ODHEH	Mule deer	Odocoileus hemionus hemionus			Y	
2	Columbia Basin	ORMO	Sage thrasher	Oreoscoptes montanus	C			
2	Columbia Basin	PEER	American white pelican	Pelecanus erythrorhynchos	E		Y	
2	Columbia Basin	PETR	SAND ROLLER	PERCOPSIS TRANSMONTANA	M			
2	Columbia Basin	PHCO	Ring-necked pheasant	Phasianus colchicus			Y	
2	Columbia Basin	PHPAS	Pasco pearl crescent	Phyciodes tharos pascoensis	M			
2	Columbia Basin	PIHE	Western pipistrelle	Pipistrellus hesperus	M			
2	Columbia Basin	RALU	Columbia spotted frog	Rana luteiventris	C			
2	Columbia Basin	RAPI	Northern leopard frog	Rana pipiens	E	FCo	Y	
2	Columbia Basin	RNOS	Rural Natural Open Space				Y	
2	Columbia Basin	SCGRA	Sagebrush lizard	Sceloporus graciosus	C	FCo		
2	Columbia Basin	SHBI	Shorebird concentrations				Y	
2	Columbia Basin	SHRUB	Shrub-steppe				Y	
2	Columbia Basin	SNAG	Snag-rich areas				Y	
2	Columbia Basin	STCA	Caspian tern	Sterna caspia	M			
2	Columbia Basin	STFO	Forster's tern	Sterna forsteri	M		Y	
2	Columbia Basin	TATA	American Badger	Taxidea taxus	M			
2	Columbia Basin	UNOS	Urban Natural Open Space				Y	
2	Columbia Basin	URWA	Washington ground squirrel	Urocitellus washingtoni	C	C		
2	Columbia Basin	WAFO	Waterfowl Concentrations				Y	
2	Columbia Basin	WET	Wetlands				Y	
2	Methow	AMTI	Tiger salamander	Ambystoma tigrinum	M			
2	Methow	AQCH	Golden eagle	Aquila chrysaetos	C		Y	
2	Methow	BOBE	Meadow fritillary	Boloria bellona ssp.	M			
2	Methow	CANED	Cavity-nesting Ducks				Y	
2	Methow	COTO	Townsends Big-eared Bat	Corynorhinus townsendii	C	FCo		
2	Methow	EUMA	Spotted bat	Euderma maculatum	M		Y	
2	Methow	FAME	Prairie falcon	Falco mexicanus	M		Y	
2	Methow	HALE	Bald eagle	Haliaeetus leucocephalus	S	FCo	Y	
2	Methow	HIHI	Harlequin Duck	Histrionicus histrionicus			Y	
2	Methow	LYCA	Lynx	Lynx canadensis	T	T	Y	
2	Methow	MELE	Lewis' woodpecker	Melanerpes lewis	C		Y	
2	Methow	ODHEH	Mule deer	Odocoileus hemionus hemionus			Y	
2	Methow	ODVIO	Northwest white-tailed deer	Odocoileus virginianus ochrourus			Y	
2	Methow	RALU	Columbia spotted frog	Rana luteiventris	C			
2	Methow	SCGRI	Western gray squirrel	Sciurus griseus	T		Y	
2	Methow	SIME	Western bluebird	Sialia mexicana	M			
2	Methow	STOC	Northern Spotted Owl	Strix occidentalis	E	T		
2	Methow	TYPH	Sharp-tailed grouse	Tympanuchus phasianellus	T	FCo	Y	
2	Methow	WET	Wetlands				Y	
2	Sagebrush Flat	ALCH	Chukar	Alectoris chukar			Y	
2	Sagebrush Flat	AMBE	Sage sparrow	Amphispiza belli	C			
2	Sagebrush Flat	BRID	Pygmy rabbit	Brachylagus idahoensis	E	E	Y	
2	Sagebrush Flat	CALU	Gray wolf	Canis lupus	E	E		

2	Sagebrush Flat	CEUR	Greater Sage-grouse	Centrocercus urophasianus	T	C	Y	
2	Sagebrush Flat	CLIFF	Cliffs/Bluffs				Y	
2	Sagebrush Flat	LALU	Loggerhead shrike	Lanius ludovicianus	C	FCo	Y	
2	Sagebrush Flat	LECA	Black-tailed jackrabbit	Lepus californicus	C			
2	Sagebrush Flat	LECU	Sagebrush vole	Lemmiscus curtatus	M			
2	Sagebrush Flat	LETO	White-tailed jackrabbit	Lepus townsendii	C		Y	
2	Sagebrush Flat	ODHEH	Mule deer	Odocoileus hemionus hemionus			Y	
2	Sagebrush Flat	ORMO	Sage thrasher	Oreoscoptes montanus	C			
2	Sagebrush Flat	SHRUB	Shrub-steppe				Y	
2	Sagebrush Flat	TATA	American Badger	Taxidea taxus	M			
2	Sagebrush Flat	TYPH	Sharp-tailed grouse	Tympanuchus phasianellus	T	FCo	Y	
2	Sagebrush Flat	URWA	Washington ground squirrel	Urocitellus washingtoni	C	C		
2	Scotch Creek	ALCH	Chukar	Alectoris chukar			Y	
2	Scotch Creek	AQCH	Golden eagle	Aquila chrysaetos	C		Y	
2	Scotch Creek	BUIS	Barrow's goldeneye	Bucephalia islandica			Y	
2	Scotch Creek	CANED	Cavity-nesting Ducks				Y	
2	Scotch Creek	CLIFF	Cliffs/Bluffs				Y	
2	Scotch Creek	HALE	Bald eagle	Haliaeetus leucocephalus	S	FCo	Y	
2	Scotch Creek	NUAM	Long-billed curlew	Numenius americanus	M			
2	Scotch Creek	ODHEH	Mule deer	Odocoileus hemionus hemionus			Y	
2	Scotch Creek	ODVIO	Northwest white-tailed deer	Odocoileus virginianus ochrourus			Y	
2	Scotch Creek	TYPH	Sharp-tailed grouse	Tympanuchus phasianellus	T	FCo	Y	
2	Sinlahekin	ACGE	Northern goshawk	Accipiter gentilis	C	FCo		
2	Sinlahekin	ALCH	Chukar	Alectoris chukar			Y	
2	Sinlahekin	AQCH	Golden eagle	Aquila chrysaetos	C		Y	
2	Sinlahekin	CANED	Cavity-nesting Ducks				Y	
2	Sinlahekin	CLIFF	Cliffs/Bluffs				Y	
2	Sinlahekin	COTO	Townsends Big-eared Bat	Corynorhinus townsendii	C	FCo		
2	Sinlahekin	GAIM	Common loon	Gavia immer	S		Y	
2	Sinlahekin	HALE	Bald eagle	Haliaeetus leucocephalus	S	FCo	Y	
2	Sinlahekin	LYCA	Lynx	Lynx canadensis	T	T	Y	
2	Sinlahekin	LYHE	Purplish Copper	Lycaena helloides	M			
2	Sinlahekin	MEGA	Wild turkey	Meleagris gallopavo			Y	
2	Sinlahekin	MYEV	Long-eared myotis	Myotis evotis	M			
2	Sinlahekin	MYOCI	Small-footed myotis	Myotis ciliolabrum	M			
2	Sinlahekin	MYTH	Fringed myotis	Myotis thysanodes	M			
2	Sinlahekin	MYVO	Long-legged myotis	Myotis volans	M			
2	Sinlahekin	ODHEH	Mule deer	Odocoileus hemionus hemionus			Y	
2	Sinlahekin	ODVIO	Northwest white-tailed deer	Odocoileus virginianus ochrourus			Y	
2	Sinlahekin	ORAM	Mountain goat	Oreamnos americanus			Y	
2	Sinlahekin	OVCA	Bighorn sheep	Ovis canadensis			Y	
2	Sinlahekin	PAHA	Osprey	Pandion haliaetus	M			
2	Sinlahekin	POGR	Red-necked grebe	Podiceps grisegena	M			
2	Sinlahekin	TYPH	Sharp-tailed grouse	Tympanuchus phasianellus	T	FCo	Y	
2	Sinlahekin	URAR	Grizzly bear	Ursus arctos	E	T		
2	Sinlahekin	WAFO	Waterfowl Concentrations				Y	
2	Wells	ALCH	Chukar	Alectoris chukar			Y	
2	Wells	AMTI	Tiger salamander	Ambystoma tigrinum	M			
2	Wells	ARHE	Great blue heron	Ardea herodias	M		Y	
2	Wells	ATCU	Burrowing owl	Athene cunicularia	C	FCo	Y	
2	Wells	CLIFF	Cliffs/Bluffs				Y	
2	Wells	GAIM	Common loon	Gavia immer	S		Y	
2	Wells	HALE	Bald eagle	Haliaeetus leucocephalus	S	FCo	Y	
2	Wells	LALU	Loggerhead shrike	Lanius ludovicianus	C	FCo	Y	
2	Wells	NYNY	Black-crowned night-heron	Nycticorax nycticorax	M			
2	Wells	ODHEH	Mule deer	Odocoileus hemionus hemionus			Y	
2	Wells	PAHA	Osprey	Pandion haliaetus	M			
2	Wells	PEER	American white pelican	Pelecanus erythrorhynchos	E		Y	
2	Wells	PHCO	Ring-necked pheasant	Phasianus colchicus			Y	
2	Wells	SHRUB	Shrub-steppe				Y	
2	Wells	TYPH	Sharp-tailed grouse	Tympanuchus phasianellus	T	FCo	Y	
2	Wells	WAFO	Waterfowl Concentrations				Y	
2	Wells	WET	Wetlands				Y	
3	Colockum	ACGE	Northern goshawk	Accipiter gentilis	C	FCo		
3	Colockum	AQCH	Golden eagle	Aquila chrysaetos	C		Y	
3	Colockum	AQCH	GOLDEN EAGLE	AQUILA CHRYSAETOS	C		Y	
3	Colockum	ARHE	Great blue heron	Ardea herodias	M		Y	
3	Colockum	CEEL	Elk	Cervus elaphus			Y	
3	Colockum	CEELN	Rocky Mountain elk	Cervus elaphus nelsoni			Y	
3	Colockum	CEUR	Greater Sage-grouse	Centrocercus urophasianus	T	C	Y	
3	Colockum	CLIFF	Cliffs/Bluffs				Y	
3	Colockum	CLIFF	Cliffs/Bluffs				Y	
3	Colockum	DRPI	Pileated woodpecker	Dryocopus pileatus	C		Y	
3	Colockum	FAME	Prairie falcon	Falco mexicanus	M		Y	
3	Colockum	FAPE	Peregrine falcon	Falco peregrinus	S	FCo	Y	
3	Colockum	LETO	White-tailed jackrabbit	Lepus townsendii	C		Y	
3	Colockum	LYCA	Lynx	Lynx canadensis	T	T	Y	
3	Colockum	MEADOW	Meadows					
3	Colockum	ODHEH	Mule deer	Odocoileus hemionus hemionus			Y	
3	Colockum	PIAL	White-headed woodpecker	Picoides albolarvatus	C			
3	Colockum	SCGRI	Western gray squirrel	Sciurus griseus	T		Y	

3	Colockum	SHRUB	Shrub-steppe				Y	
3	Colockum	STOC	Northern Spotted Owl	Strix occidentalis	E	T		
3	L.T. Murray	ACGE	Northern goshawk	Accipiter gentilis	C	FCo		
3	L.T. Murray	AQCH	Golden eagle	Aquila chrysaetos	C		Y	
3	L.T. Murray	CAAF	Immaculate green hairstreak	Callophrys affinus affinis	M			
3	L.T. Murray	CALU	Gray wolf	Canis lupus	E	E		
3	L.T. Murray	CEEL	Elk	Cervus elaphus			Y	
3	L.T. Murray	CEELN	Rocky Mountain elk	Cervus elaphus nelsoni			Y	
3	L.T. Murray	CEUR	Greater Sage-grouse	Centrocercus urophasianus	T	C	Y	
3	L.T. Murray	CLIFF	Cliffs/Bluffs				Y	
3	L.T. Murray	COLCO	Racer	Coluber constrictor	M			
3	L.T. Murray	CONTE	Sharptail snake	Contia tenuis	C	FCo		
3	L.T. Murray	DIPU	Ringneck snake	Diadophis punctatus	M			
3	L.T. Murray	DRPI	Pileated woodpecker	Dryocopus pileatus	C		Y	
3	L.T. Murray	FAME	Prairie falcon	Falco mexicanus	M		Y	
3	L.T. Murray	FAPE	Peregrine falcon	Falco peregrinus	S	FCo	Y	
3	L.T. Murray	HYTO	Night snake	Hypsiglena torquata	M			
3	L.T. Murray	LECA	Black-tailed jackrabbit	Lepus californicus	C			
3	L.T. Murray	LECU	Sagebrush vole	Lemmiscus curtatus	M			
3	L.T. Murray	LETO	White-tailed jackrabbit	Lepus townsendii	C		Y	
3	L.T. Murray	LYCA	Lynx	Lynx canadensis	T	T	Y	
3	L.T. Murray	ODHE	Mule and Black-tailed deer	Odocoileus hemionus			Y	
3	L.T. Murray	ODHEH	Mule deer	Odocoileus hemionus hemionus			Y	
3	L.T. Murray	OG	Old-growth/Mature Forest				Y	
3	L.T. Murray	OTFL	Flammulated owl	Otus flammeolus	C			
3	L.T. Murray	OVCA	Bighorn sheep	Ovis canadensis			Y	
3	L.T. Murray	PAHA	Osprey	Pandion haliaetus	M			
3	L.T. Murray	PIAL	White-headed woodpecker	Picoides albolarvatus	C			
3	L.T. Murray	RALU	Columbia spotted frog	Rana luteiventris	C			
3	L.T. Murray	RANCA	Cascades frog	Rana cascadae	M			
3	L.T. Murray	RNOS	Rural Natural Open Space				Y	
3	L.T. Murray	SCGRI	Western gray squirrel	Sciurus griseus	T		Y	
3	L.T. Murray	SHRUB	Shrub-steppe				Y	
3	L.T. Murray	SOME	Merriam's shrew	Sorex merriami	C			
3	L.T. Murray	STNE	Great gray owl	Strix nebulosa	M			
3	L.T. Murray	URTO	Townsend's Ground Squirrel	Urocitellus townsendii		FCo		
3	Oak Creek	ACGE	Northern goshawk	Accipiter gentilis	C	FCo		
3	Oak Creek	AISP	Wood duck	Aix sponsa			Y	
3	Oak Creek	AQCH	Golden eagle	Aquila chrysaetos	C		Y	
3	Oak Creek	ASPEN	Aspen Stands				Y	
3	Oak Creek	CAAUR	Turkey vulture	Cathartes aura	M			
3	Oak Creek	CAVE	Caves or cave-rich areas				Y	
3	Oak Creek	CEEL	Elk	Cervus elaphus			Y	
3	Oak Creek	CEELN	Rocky Mountain elk	Cervus elaphus nelsoni			Y	
3	Oak Creek	CLIFF	Cliffs/Bluffs				Y	
3	Oak Creek	COBE	Piute sculpin	Cottus beldingi	M			
3	Oak Creek	DIPU	Ringneck snake	Diadophis punctatus	M			
3	Oak Creek	ELMU	Southern alligator lizard	Elgaria multicarinata	M			
3	Oak Creek	ERIC	Dreamy duskywing	Erynnis icelus	M			
3	Oak Creek	FAME	Prairie falcon	Falco mexicanus	M		Y	
3	Oak Creek	HALE	Bald eagle	Haliaeetus leucocephalus	S	FCo	Y	
3	Oak Creek	HYTO	Night snake	Hypsiglena torquata	M			
3	Oak Creek	MELE	Lewis' woodpecker	Melanerpes lewis	C		Y	
3	Oak Creek	OAK	Oak Woodland				Y	
3	Oak Creek	ODHE	Mule and Black-tailed deer	Odocoileus hemionus			Y	
3	Oak Creek	ODHEH	Mule deer	Odocoileus hemionus hemionus			Y	
3	Oak Creek	ORAM	Mountain goat	Oreamnos americanus			Y	
3	Oak Creek	OVCA	Bighorn sheep	Ovis canadensis			Y	
3	Oak Creek	PIAL	White-headed woodpecker	Picoides albolarvatus	C			
3	Oak Creek	RALU	Columbia spotted frog	Rana luteiventris	C			
3	Oak Creek	SCGRI	Western gray squirrel	Sciurus griseus	T		Y	
3	Oak Creek	SHRUB	Shrub-steppe				Y	
3	Oak Creek	TALUS	Talus Slopes				Y	
3	Oak Creek	URTOT	Townsend's Ground Squirrel - townsendii	Urocitellus townsendii townsendii	C	FCo		
3	Oak Creek	WET	Wetlands				Y	
3	Sunnyside-Snake River	ARHE	Great blue heron	Ardea herodias	M		Y	
3	Sunnyside-Snake River	ATCU	Burrowing owl	Athene cunicularia	C	FCo	Y	
3	Sunnyside-Snake River	BURE	Ferruginous hawk	Buteo regalis	T	FCo		
3	Sunnyside-Snake River	CEUR	Greater Sage-grouse	Centrocercus urophasianus	T	C	Y	
3	Sunnyside-Snake River	GAIM	Common loon	Gavia immer	S		Y	
3	Sunnyside-Snake River	LALU	Loggerhead shrike	Lanius ludovicianus	C	FCo	Y	
3	Sunnyside-Snake River	LECA	Black-tailed jackrabbit	Lepus californicus	C			
3	Sunnyside-Snake River	NUAM	Long-billed curlew	Numenius americanus	M			
3	Sunnyside-Snake River	ODHEH	Mule deer	Odocoileus hemionus hemionus			Y	
3	Sunnyside-Snake River	PAHA	Osprey	Pandion haliaetus	M			
3	Sunnyside-Snake River	PHCO	Ring-necked pheasant	Phasianus colchicus			Y	
3	Sunnyside-Snake River	RHFA	Leopard dace	Rhinichthys falcatus	C			
3	Sunnyside-Snake River	RNOS	Rural Natural Open Space				Y	
3	Sunnyside-Snake River	SHRUB	Shrub-steppe				Y	
3	Sunnyside-Snake River	UNOS	Urban Natural Open Space				Y	
3	Sunnyside-Snake River	URTON	Townsend's Ground Squirrel - nancyae	Urocitellus townsendii nancyae		FCo		

3	Sunnyside-Snake River	URWA	Washington ground squirrel	Urocitellus washingtoni	C	C		
3	Sunnyside-Snake River	WAFO	Waterfowl Concentrations				Y	
3	Sunnyside-Snake River	WET	Wetlands				Y	
3	Wenas	ACGE	Northern goshawk	Accipiter gentilis	C	FCo		
3	Wenas	AQCH	Golden eagle	Aquila chrysaetos	C		Y	
3	Wenas	ATCU	Burrowing owl	Athene cunicularia	C	FCo	Y	
3	Wenas	CALU	Gray wolf	Canis lupus	E	E		
3	Wenas	CEEL	Elk	Cervus elaphus			Y	
3	Wenas	CEUR	Greater Sage-grouse	Centrocercus urophasianus	T	C	Y	
3	Wenas	CLIFF	Cliffs/Bluffs				Y	
3	Wenas	COBE	Piute sculpin	Cottus beldingi	M			
3	Wenas	COLCO	Racer	Coluber constrictor	M			
3	Wenas	CONTE	Sharptail snake	Contia tenuis	C	FCo		
3	Wenas	DEOB	Blue grouse	Dendragapus obscurus			Y	
3	Wenas	DIPU	Ringneck snake	Diadophis punctatus	M			
3	Wenas	ELMU	Southern alligator lizard	Elgaria multicarinata	M			
3	Wenas	EMWR	Gray flycatcher	Empidonax wrightii	M			
3	Wenas	FAME	Prairie falcon	Falco mexicanus	M		Y	
3	Wenas	HALE	Bald eagle	Haliaeetus leucocephalus	S	FCo	Y	
3	Wenas	HYTO	Night snake	Hypsiglena torquata	M			
3	Wenas	LALU	Loggerhead shrike	Lanius ludovicianus	C	FCo	Y	
3	Wenas	LECA	Black-tailed jackrabbit	Lepus californicus	C			
3	Wenas	LECU	Sagebrush vole	Lemmiscus curtatus	M			
3	Wenas	LESPP	Jackrabbit	Lepus SPP	C			
3	Wenas	LETO	White-tailed jackrabbit	Lepus townsendii	C		Y	
3	Wenas	MELE	Lewis' woodpecker	Melanerpes lewis	C		Y	
3	Wenas	NUAM	Long-billed curlew	Numenius americanus	M			
3	Wenas	ODHEH	Mule deer	Odocoileus hemionus hemionus			Y	
3	Wenas	ONLE	Northern grasshopper mouse	Onychomys leucogaster	M			
3	Wenas	ORMO	Sage thrasher	Oreoscoptes montanus	C			
3	Wenas	OVCA	Bighorn sheep	Ovis canadensis			Y	
3	Wenas	PIAL	White-headed woodpecker	Picoides albolarvatus	C			
3	Wenas	RALU	Columbia spotted frog	Rana luteiventris	C			
3	Wenas	SCGRI	Western gray squirrel	Sciurus griseus	T		Y	
3	Wenas	STNE	Great gray owl	Strix nebulosa	M			
3	Wenas	TALUS	Talus Slopes				Y	
3	Wenas	URTO	Townsend's Ground Squirrel	Urocitellus townsendii		FCo		
3	Wenas	URTOT	Townsend's Ground Squirrel - townsendii	Urocitellus townsendii townsendii	C	FCo		
4	Skagit	ANBO	Western toad	Anaxyrus boreas	C	FCo		
4	Skagit	CACA2	Salish sucker	Catostomus catostomus	M			
4	Skagit	CYBU	Trumpeter swan	Cygnus buccinator			Y	
4	Skagit	ESTUR	Estuarine Zone				Y	
4	Skagit	FAPE	Peregrine falcon	Falco peregrinus	S	FCo	Y	
4	Skagit	HALE	Bald eagle	Haliaeetus leucocephalus	S	FCo	Y	
4	Skagit	HALE	Bald eagle	Haliaeetus leucocephalus	S	FCo	Y	
4	Skagit	HALE	Bald eagle	Haliaeetus leucocephalus	S	FCo	Y	
4	Skagit	HALE	Bald eagle	Haliaeetus leucocephalus	S	FCo	Y	
4	Skagit	HIHI	Harlequin Duck	Histrionicus histrionicus			Y	
4	Skagit	ISLAND	Islands					
4	Skagit	PHVI	Harbor seal	Phoca vitulina	M		Y	
4	Skagit	SLOUGH	Slough				Y	
4	Skagit	UNOS	Urban Natural Open Space				Y	
4	Skagit	WAFO	Waterfowl Concentrations				Y	
4	Skagit	WET	Wetlands				Y	
4	Snoqualmie	AISP	Wood duck	Aix sponsa			Y	
4	Snoqualmie	ARHE	Great blue heron	Ardea herodias	M		Y	
4	Snoqualmie	HALE	Bald eagle	Haliaeetus leucocephalus	S	FCo	Y	
4	Snoqualmie	UNOS	Urban Natural Open Space				Y	
4	Snoqualmie	WAFO	Waterfowl Concentrations				Y	
4	Snoqualmie	WET	Wetlands				Y	
4	Whatcom	AISP	Wood duck	Aix sponsa			Y	
4	Whatcom	ARHE	Great blue heron	Ardea herodias	M		Y	
4	Whatcom	CALU	Gray wolf	Canis lupus	E	E		
4	Whatcom	CANED	Cavity-nesting Ducks				Y	
4	Whatcom	CLIFF	Cliffs/Bluffs				Y	
4	Whatcom	CYBU	Trumpeter swan	Cygnus buccinator			Y	
4	Whatcom	ESTUR	Estuarine Zone				Y	
4	Whatcom	FAPE	Peregrine falcon	Falco peregrinus	S	FCo	Y	
4	Whatcom	GAIM	Common loon	Gavia immer	S		Y	
4	Whatcom	UNOS	Urban Natural Open Space				Y	
4	Whatcom	WAFO	Waterfowl Concentrations				Y	
4	Whatcom	WET	Wetlands				Y	
5	Cowlitz	AISP	Wood duck	Aix sponsa			Y	
5	Cowlitz	ARHE	Great blue heron	Ardea herodias	M		Y	
5	Cowlitz	BUBO	Western toad	Bufo boreas			Y	
5	Cowlitz	CAAUR	Turkey vulture	Cathartes aura	M			
5	Cowlitz	CANED	Cavity-nesting Ducks				Y	
5	Cowlitz	CEEL	Elk	Cervus elaphus			Y	
5	Cowlitz	DICO	Cope's giant salamander	Dicamptodon copei	M			
5	Cowlitz	DRPI	Pileated woodpecker	Dryocopus pileatus	C		Y	
5	Cowlitz	HALE	Bald eagle	Haliaeetus leucocephalus	S	FCo	Y	

5	Cowlitz	HIHI	Harlequin Duck	Histrionicus histrionicus			Y	
5	Cowlitz	MAPE	Fisher	Martes pennanti	E	FCo		
5	Cowlitz	MEGA	Wild turkey	Meleagris gallopavo			Y	
5	Cowlitz	ODHE	Mule and Black-tailed deer	Odocoileus hemionus			Y	
5	Cowlitz	PAHA	Osprey	Pandion haliaetus	M			
5	Cowlitz	WAFO	Waterfowl Concentrations				Y	
5	Klickitat	ACGE	Northern goshawk	Accipiter gentilis	C	FCo		
5	Klickitat	ACMAR	Pacific Pond Turtle	Actinemys marmorata	E	FCo		
5	Klickitat	AISP	Wood duck	Aix sponsa			Y	
5	Klickitat	ANBO	Western toad	Anaxyrus boreas	C	FCo		
5	Klickitat	ASPEN	Aspen Stands				Y	
5	Klickitat	CLIFF	Cliffs/Bluffs				Y	
5	Klickitat	CLMA	Pacific pond turtle	Clemmys marmorata			Y	
5	Klickitat	CONTE	Sharptail snake	Contia tenuis	C	FCo		
5	Klickitat	DIPU	Ringneck snake	Diadophis punctatus	M			
5	Klickitat	ELMU	Southern alligator lizard	Elgaria multicarinata	M			
5	Klickitat	EMWR	Gray flycatcher	Empidonax wrightii	M			
5	Klickitat	HALE	Bald eagle	Haliaeetus leucocephalus	S	FCo	Y	
5	Klickitat	LAZO	California mountain kingsnake	Lampropeltis zonata	C			
5	Klickitat	MEGA	Wild turkey	Meleagris gallopavo			Y	
5	Klickitat	MELE	Lewis' woodpecker	Melanerpes lewis	C		Y	
5	Klickitat	OAK	Oak Woodland				Y	
5	Klickitat	ODHE	Mule and Black-tailed deer	Odocoileus hemionus			Y	
5	Klickitat	PIAL	White-headed woodpecker	Picoides albolarvatus	C			
5	Klickitat	SCGRI	Western gray squirrel	Sciurus griseus	T		Y	
5	Klickitat	SPPS	Lesser goldfinch	Spinus psaltria	M			
5	Klickitat	STOC	Northern Spotted Owl	Strix occidentalis	E	T		
5	Mount Saint Helens	ARHE	Great blue heron	Ardea herodias	M		Y	
5	Mount Saint Helens	BRCA	Canada goose	Branta canadensis				
5	Mount Saint Helens	CANED	Cavity-nesting Ducks				Y	
5	Mount Saint Helens	CEELR	Roosevelt elk	Cervus elaphus roosevelti			Y	
5	Mount Saint Helens	HALE	Bald eagle	Haliaeetus leucocephalus	S	FCo	Y	
5	Mount Saint Helens	ISLAND	Islands					
5	Mount Saint Helens	ODVIL	Columian white-tailed deer	Odocoileus virginianus leucurus	E	E	Y	
5	Mount Saint Helens	PHVI	Harbor seal	Phoca vitulina	M		Y	
5	Mount Saint Helens	WAFO	Waterfowl Concentrations				Y	
5	Mount Saint Helens	WET	Wetlands				Y	
5	Shillapoo	ARHE	Great blue heron	Ardea herodias	M		Y	
5	Shillapoo	BRCAO	Dusky Canada goose	Branta canadensis occidentalis				
5	Shillapoo	CANED	Cavity-nesting Ducks				Y	
5	Shillapoo	GRCA	Sandhill crane	Grus canadensis	E		Y	
5	Shillapoo	OAK	Oak Woodland				Y	
5	Shillapoo	WAFO	Waterfowl Concentrations				Y	
6	Chehalis	AISP	Wood duck	Aix sponsa			Y	
6	Chehalis	CAAUR	Turkey vulture	Cathartes aura	M			
6	Chehalis	CEELR	Roosevelt elk	Cervus elaphus roosevelti			Y	
6	Chehalis	CYBU	Trumpeter swan	Cygnus buccinator			Y	
6	Chehalis	HALE	Bald eagle	Haliaeetus leucocephalus	S	FCo	Y	
6	Chehalis	MUVI	Mink	Mustela vison				
6	Chehalis	NOHU	Olympic mudminnow	Novumbra hubbsi	S		Y	
6	Chehalis	NOHU	Olympic mudminnow	Novumbra hubbsi	S		Y	
6	Chehalis	PAHA	Osprey	Pandion haliaetus	M			
6	Chehalis	SHBI	Shorebird concentrations				Y	
6	Chehalis	WAFO	Waterfowl Concentrations				Y	
6	Johns River	AISP	Wood duck	Aix sponsa			Y	
6	Johns River	BRCAO	Dusky Canada goose	Branta canadensis occidentalis				
6	Johns River	BRMA	Marbled murrelet	Brachyramphus marmoratus	T	T		
6	Johns River	CEELR	Roosevelt elk	Cervus elaphus roosevelti			Y	
6	Johns River	CHAL	Snowy plover	Charadrius alexandrinus	E	T	Y	
6	Johns River	COFA	Band-tailed pigeon	Columba fasciata			Y	
6	Johns River	COPE	Reticulate sculpin	Cottus perplexus	M			
6	Johns River	CYBU	Trumpeter swan	Cygnus buccinator			Y	
6	Johns River	CYCO	Trumpeter swan	Cygnus buccinator			Y	
6	Johns River	FAPE	Peregrine falcon	Falco peregrinus	S	FCo	Y	
6	Johns River	FARU	Gyrfalcon	Falco rusticolus	M			
6	Johns River	HALE	Bald eagle	Haliaeetus leucocephalus	S	FCo	Y	
6	Johns River	MUVI	Mink	Mustela vison				
6	Johns River	NYSC	Snowy owl	Nyctea scandiaca	M			
6	Johns River	SHBI	Shorebird concentrations				Y	
6	Johns River	SPZE	Zerene fritillary	Speyeria zerene				
6	Johns River	WAFO	Waterfowl Concentrations				Y	
6	Johns River	WET	Wetlands				Y	
6	North Olympic	AISP	Wood duck	Aix sponsa			Y	
6	North Olympic	ANBO	Western toad	Anaxyrus boreas	C	FCo		
6	North Olympic	ARHE	Great blue heron	Ardea herodias	M		Y	
6	North Olympic	CEELR	Roosevelt elk	Cervus elaphus roosevelti			Y	
6	North Olympic	CLIFF	Cliffs/Bluffs				Y	
6	North Olympic	CYBU	Trumpeter swan	Cygnus buccinator			Y	
6	North Olympic	ESTUR	Estuarine Zone				Y	
6	North Olympic	FAPE	Peregrine falcon	Falco peregrinus	S	FCo	Y	
6	North Olympic	HIHI	Harlequin Duck	Histrionicus histrionicus			Y	

6	North Olympic	LAGOON	Lagoons				Y	
6	North Olympic	PAHA	Osprey	Pandion haliaetus	M			
6	North Olympic	PHVI	Harbor seal	Phoca vitulina	M		Y	
6	North Olympic	PRSU	Purple martin	Progne subris	C		Y	
6	North Olympic	SHBI	Shorebird concentrations				Y	
6	North Olympic	WAFO	Waterfowl Concentrations				Y	
6	North Olympic	WET	Wetlands				Y	
6	Olympic	CEELR	Roosevelt elk	Cervus elaphus roosevelti			Y	
6	Olympic	HIHI	Harlequin Duck	Histrionicus histrionicus			Y	
6	Scatter Creek	AISP	Wood duck	Aix sponsa			Y	
6	Scatter Creek	ARHE	Great blue heron	Ardea herodias	M		Y	
6	Scatter Creek	BUVIRE	Green heron	Butorides virescens	M			
6	Scatter Creek	CEEL	Elk	Cervus elaphus			Y	
6	Scatter Creek	CLMA	Pacific pond turtle	Clemmys marmorata			Y	
6	Scatter Creek	EUEDTA	Taylor's Checkerspot	Euphydryas editha taylori	E	C	Y	
6	Scatter Creek	HALE	Bald eagle	Haliaeetus leucocephalus	S	FCo	Y	
6	Scatter Creek	HECOOR	Oregon branded skipper	Hesperia comma oregonia	M			
6	Scatter Creek	HIHI	Harlequin Duck	Histrionicus histrionicus			Y	
6	Scatter Creek	MUVI	Mink	Mustela vison				
6	Scatter Creek	NOHU	Olympic mudminnow	Novumbra hubbsi	S		Y	
6	Scatter Creek	PLICER	Puget blue	Plebejus icarioides blackmorei	C		Y	
6	Scatter Creek	POMA	Mardon skipper	Polites mardon	E	C	Y	
6	Scatter Creek	POSOSI	Sonora skipper	Polites sonora siris	M			
6	Scatter Creek	PRAIR	Prairie				Y	
6	Scatter Creek	RAPR	Oregon spotted frog	Rana pretiosa	E	C	Y	
6	Scatter Creek	SCGRI	Western gray squirrel	Sciurus griseus	T		Y	
6	Scatter Creek	SPZEBR	Valley silverspot	Speyeria zerene bremnerii	C		Y	
6	Scatter Creek	THMA	Mazama (Western) pocket gopher	Thomomys mazama	T	C	Y	
6	Scatter Creek	THMAY	Yelm pocket gopher - Mazama	Thomomys mazama yelmensis	T	C		
6	Scatter Creek	UNOS	Urban Natural Open Space				Y	
6	Scatter Creek	WET	Wetlands				Y	
6	South Puget Sound	AISP	Wood duck	Aix sponsa			Y	
6	South Puget Sound	ARHE	Great blue heron	Ardea herodias	M		Y	
6	South Puget Sound	CEEL	Elk	Cervus elaphus			Y	
6	South Puget Sound	COFA	Band-tailed pigeon	Columba fasciata			Y	
6	South Puget Sound	CYBU	Trumpeter swan	Cygnus buccinator			Y	
6	South Puget Sound	ESTUR	Estuarine Zone				Y	
6	South Puget Sound	HALE	Bald eagle	Haliaeetus leucocephalus	S	FCo	Y	
6	South Puget Sound	ISLAND	Islands					
6	South Puget Sound	PHVI	Harbor seal	Phoca vitulina	M		Y	
6	South Puget Sound	POMA	Mardon skipper	Polites mardon	E	C	Y	
6	South Puget Sound	SLOUGH	Slough				Y	
6	South Puget Sound	THMA	Mazama (Western) pocket gopher	Thomomys mazama	T	C	Y	
6	South Puget Sound	THMAY	Yelm pocket gopher - Mazama	Thomomys mazama yelmensis	T	C		
6	South Puget Sound	UNOS	Urban Natural Open Space				Y	
6	South Puget Sound	WAFO	Waterfowl Concentrations				Y	
6	South Puget Sound	WET	Wetlands				Y	

Appendix 2: Inventory of Wildlife Areas by Recreational Activities

	Chief Joseph & Asotin	Colockum	Columbia Basin	Cowlitz	Klickitat	L.T. Murray & Wenas	Methow	Mt. St. Helens & Shillapoo	Oak Creek
Upland Small Game Hunting				X				X	
Upland Large Game Hunting	X	X	X	X	X	X	X	X	X
Furbearing Hunting								X	
Upland Bird Hunting	X	X	X	X	X	X	X	X	X
Waterfowl Hunting			X	X				X	
Bird Watching	X	X	X	X	X	X	X	X	X
Wildlife Watching	X		X	X	X	X	X	X	X
Photography	X	X	X	X	X	X	X	X	X
Warm Water Fish			X	X			X	X	
Salmonid Fishing	X	X	X	X	X	X	X	X	X
Trout Fishing			X	X	X	X	X		
Dog Trials								X	
Trapping		X	X	X		X	X	X	X
Interpretive Center									X
Educational Tours									X
Natural Preserve									
Falconry									
Clam Digging									
Hiking	X	X	X	X	X	X	X	X	X
Camping*			X				X		

	Olympic-Willapa Hills & S. Puget Sound	Scotch Creek	Sinlahekin	Snoqualmie & Skagit	Swanson Lakes & Sherman Creek	Sunnyside & Snake River	Wells, Sagebrush Flats & Chelan	Whatcom	Wooten
Upland Small Game Hunting			X					X	
Upland Large Game Hunting	X	X	X		X	X	X	X	X
Furbearing Hunting		X			X				
Upland Bird Hunting	X		X	X	X	X		X	X
Waterfowl Hunting	X			X	X	X	X	X	
Bird Watching	X	X	X	X	X	X	X	X	X
Wildlife Watching	X	X	X	X	X	X	X		X
Photography	X	X	X	X	X	X	X	X	X
Warm Water Fish			X	X		X		X	X
Salmonid Fishing	X			X	X	X			X
Trout Fishing		X	X	X	X			X	X
Dog Trials	X				X			X	
Trapping		X	X	X	X	X	X	X	X
Interpretive Center	X							X	
Educational Tours	X			X					
Natural Preserve	X								
Falconry								X	
Clam Digging				X					
Hiking	X	X	X	X	X	X	X	X	X
Camping*			X						X

Updated December, 2009

*Dispersed camping opportunities are available in most wildlife areas.

Washington's Biodiversity

Status and Threats

WASHINGTON
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ABOUT THIS REPORT

This report is a summary assessment of the status of, and threats to, the biodiversity of Washington State. Its goal is to be brief yet comprehensive; it is not meant to be exhaustive. Detailed information is available in the cited sources.

John Gamon of the Washington Department of Natural Resources Natural Heritage Program prepared this report for the Washington Biodiversity Council. The report's primary purpose is to assist the Council in identifying priorities and recommendations for a 30-year statewide biodiversity conservation strategy.

While this report is meant to cover all of Washington's biodiversity, terrestrial environments are discussed more comprehensively than are marine environments

Some biological concepts used here are defined generally, rather than adhering to their strict academic origins. For clarification, see the Glossary.

This report does not cover the many conservation mechanisms and existing protections in Washington State, which are addressed in other materials prepared for the Council.

For more information about these materials, or the Council generally, please visit our website, or contact us directly:

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EXECUTIVE SUMMARY

Washington has an exceptional array of environments, which provide the foundation for our state's rich biodiversity. Yet we cannot take the continued existence of our biodiversity for granted. Tremendous population growth and development, increasing land-use conflicts, and increasing lists of species and ecosystems that are of concern suggest that we are losing ground.

In 2004, Governor Locke issued an executive order creating the Washington Biodiversity Council and giving the Council the task of developing a 30-year strategy for the conservation of Washington's biodiversity. As part of the preparation for developing a 30-year strategy, the Biodiversity Council commissioned this report on the current status of Washington's biodiversity.

Yellow sandverbena. *B. Legler photo*

Garter snake. *J. Jacobsen photo*

What do we mean by 'biodiversity'?

The Council defines biodiversity as follows:

> Biodiversity is the full range of life in all its forms. This includes the habitats in which life occurs, the ways that species and habitats interact with each other, and the physical environment and the processes necessary for those interactions.

For the purposes of this report, and to help the Council identify appropriate strategies, biodiversity is characterized at three principal levels: genetic, species, and ecosystems. Conservation must occur at each of these levels to successfully conserve "the full range of life in all its forms" in Washington.

Why is it important to conserve Washington's biodiversity?

Native species and ecosystems contribute billions of dollars annually to fisheries, timber harvest, outdoor recreation, and other sectors of Washington's economy. Native ecosystems provide clean water, clean air, natural flood control, habitats for fish, wildlife, and plant species, and numerous other services. Native ecosystems provide a laboratory for students at all levels (grade school to graduate school) to learn about the environment. Washington's species, ecosystems and natural landscapes provide a foundation for our cultural heritage and our spiritual values; they provide a sense of what it means to be a Washingtonian.

What does Washington's biodiversity include?

Genetic diversity

Although this is the most fundamental level of biodiversity, we generally have little direct knowledge of how genetic diversity is distributed within or between species. However, genetic variability is important for long-term survival of individual species.

Species diversity

Washington provides home to 3,100 vascular plant species, an estimate of thousands of mosses, lichens, liverworts and fungi, 140 mammals, 470 freshwater and marine fishes, 341 birds, 25 amphibians, 21 reptiles, an estimated 20,000 invertebrates, including more than 2,000 moths and butterflies, and a rich and largely unknown array of microorganisms. And we know that the cataloging of our biodiversity is not yet complete; new species are still being discovered and described within Washington. Of the better known groups of species, Washington ranks 13th among the 50 states, with 53 endemic species (NatureServe 2002).

EXECUTIVE SUMMARY

Ecosystems diversity

Washington is very rich in ecosystems diversity, with marine, freshwater, forest, shrubland, and grassland ecosystems. Ecologists have developed systematic classifications of ecosystems in Washington, and although the approaches have been different in terrestrial, freshwater, and marine environments, classification provides a common language and a framework for establishing conservation priorities. Ecosystems are also used as a 'coarse filter' to help ensure the conservation of common species.

Landscape Patterns

Scientists and planners recognize that the distribution of biodiversity does not conveniently follow political lines (international or state borders, county lines, etc.). Furthermore, the geographic extent of Washington makes it impractical to simply assess conservation needs statewide. Scientists have therefore developed different approaches to stratifying the state into units that make sense from a biological perspective.

Terrestrial ecologists in Washington have applied the concept of ecoregions. Portions of nine terrestrial ecoregions occur within Washington. Each of these ecoregions extends well beyond our borders into neighboring states and provinces

Fish biologists and others interested in the aquatic realm have delineated 'Ecological Drainage Units' and 'Salmon Recovery Regions.' Ten 'Ecological Drainage Units' and nine 'Salmon Recovery Regions' account for the distribution of freshwater aquatic biodiversity in Washington.

Puget Sound beach. *B. Legler photo*

How are we doing in terms of biodiversity conservation?

Species

A limited number of native species have increased in numbers. However, many species have experienced significant declines in Washington. Currently 40 animal species (including 15 fish) and 10 plant species that occur in Washington are listed under the federal Endangered Species Act. But the ESA provides only one measure of the status of our species. When one takes into account those species that are stable elsewhere, but declining or at-risk in Washington, the total number of species that are of conservation concern increases dramatically. There are more than 500 species of plants and animals that are of concern.

Sea stars. *N. Sefton, NOAA photo*

A number of specific factors have contributed to the declines. For terrestrial species, conversion of land to human-made environments and ecosystems degradation associated with land management practices are the most significant factors. For freshwater and marine species, pollution and contamination have contributed to declines.

What do we expect in the future? Additional species will need special management attention, particularly in those areas with the greatest amount of habitat loss—the Puget Trough and the Columbia Plateau.

EXECUTIVE SUMMARY

The combination of fragmented landscapes, compromised ecosystem functioning, and a changing climate will limit species' natural ability to migrate to suitable habitat. The probable result will be an increasing number of species facing significant declines.

Ecosystems

Many of Washington's ecosystems have also undergone significant declines. More than 60% of the recognized terrestrial plant associations occurring in Washington are considered vulnerable, imperiled, or critically imperiled. The declines have been primarily the result of conversion of land to human-made environments and/or degradation. The two ecoregions with the greatest amount of conversion of land have been the Puget Trough and the Columbia Plateau, each with 50% or greater conversion.

Ecosystems of particular concern include the following:

- Marine, estuarine, and nearshore ecosystems, particularly within Puget Sound, have been converted, modified, and contaminated.
- Riparian and freshwater aquatic ecosystems have been eliminated or degraded by construction of dams, dikes, and drainage ditches and by land use practices such as livestock grazing, timber harvest, and mining.
- Forested ecosystems have been converted and altered by management practices and fire suppression.
- Shrub-steppe and grassland ecosystems have been converted to agriculture.

Ecosystem processes, in particular natural disturbances, have also been disrupted or eliminated from the environment. The disruption of three natural disturbance processes in particular (fire, floods, and erosion along saltwater shorelines) has had a tremendous impact on the current status and condition of species and ecosystems in Washington.

Status of the Conservation Landscape

Significant protections exist, but given the current numbers of species and ecosystems of conservation concern, they are limited and inadequate.

Land ownership is one of the primary factors influencing protection of biodiversity, although ownership does not in and of itself determine the level of protection (or degree of threat). Public lands management typically includes at least some explicit policy directives regarding management for biodiversity values. On privately owned lands, voluntary landowner actions play an important role, particularly those at lower elevations. Protection of aquatic, particularly marine, environments is not as strongly correlated with ownership because of the fluid nature of the ecosystem and the mobility of many of the component species.

Thin-leaved peavine. *DNR photo*

What threatens our biodiversity?

Population growth has been a driving factor for landscape changes affecting biodiversity in Washington. Growth has been associated with:

- habitat loss and degradation,
- pollution and contamination of the environment,
- water quality and availability problems, and
- interruption of natural processes.

Mountain bog gentian.
B. Legler photo

West Cascades forest.
B. Legler photo

What threatens our biodiversity?

Population growth has been a driving factor for landscape changes affecting biodiversity in Washington. Growth has been associated with:

- habitat loss and degradation,
- pollution and contamination of the environment,
- water quality and availability problems, and
- interruption of natural processes.

Our population is currently more than 6 million, having doubled in the last 40 years. By 2030, Washington is expected to have more than 8 million residents. Future conversion of land to residential, business, and other purposes will further reduce availability of suitable habitat for species and ecosystems and increase the degree to which such lands are fragmented and isolated. As the land base for maintaining biodiversity decreases, appropriate management of the remaining land base takes on increasing significance. In particular, working landscapes (e.g., forests, grazing lands) will play an increasingly important role in maintaining biodiversity.

Pollution and contamination of Puget Sound pose huge challenges, particularly in light of the projected continued growth in western Washington.

Invasive species are also of great concern. In recognition of the tremendous economic and environmental impact caused by non-native plants and animals, the Legislature created the Washington Invasive Species Council in 2006.

Climate change is expected to have dramatic impacts on the status of our biodiversity, including the erosion and loss of nearshore habitats as sea level rises, altered flows and water temperatures in our rivers and streams affecting salmon, and changes in the frequency, severity, and duration of natural disturbances, such as fire and pest outbreaks. As our population grows, and as climate change results in a decreasing snow pack, there will likely be a trend toward insufficient water availability during the summer to meet the needs of people, farms, and our native biodiversity.

Conservation Assessments

Conservation needs assessments have been undertaken in Washington at various geographic scales. Many have been designed independently, and may not complement assessments at different scales or by neighboring jurisdictions. Improved communication and broader engagement of stakeholders is needed to strengthen coordination of state assessment efforts. Currently, ecoregional assessments are the only planning effort at this scale designed to capture the full range of biodiversity. Their comprehensive nature

provides a potential framework by which to organize state and local assessment efforts to better complement one another.

Assessments done to date generally have some important limitations. One is that natural processes, and the degree to which they have been interrupted, are not generally addressed in assessments, regardless of scale. Another limitation is that there has not yet been a comprehensive statewide threat analysis. A third limitation is that assessments represent a point in time, yet the status and conditions of our biodiversity are not static. Therefore a funded, systemic approach to update key assessments is needed.

Bird survey, Pierce County. *J. Jacobsen photo*

Information Needs

Sufficient information is available to support the development of biodiversity conservation strategies for Washington. While more information could always enhance our efforts, we have a pretty good sense of which species and ecosystems are most imperiled. However, some definite information gaps exist.

Chinook salmon. *IAC photo*

Species

Our knowledge of which species in the state are of conservation concern is well-developed for some taxonomic groups, less so for others, and clearly inadequate for yet others. Even within the groups of rare species that are reasonably well-known, additional inventory and mapping would make conservation efforts more effective. Information regarding threats to species of conservation concern is often inadequate for identifying specific positive actions. Broad-brush information is available for most of the state's common species, but declines in common species are not detected very well.

Ecosystems

To ensure conservation of our ecosystems diversity, we need to fully understand it. Additional ecosystems classification efforts can help us gain that understanding. Further inventory and mapping of ecosystems is necessary.

Although definite information needs exist, we do know enough to take meaningful conservation action. Furthermore, the information that we do have regarding threats (population growth, climate change, etc.) suggests that we need to take action sooner rather than later. Unless significant actions are taken, we risk losing much of our rich natural heritage in Washington State.

Mouth of Snow Creek. *IAC photo*

INTRODUCTION

Washington has an exceptional diversity of environments, including the marine waters of Puget Sound and the outer coast, temperate rainforests, the subalpine parklands and meadows and alpine slopes of the Olympics and Cascades, the dry, open forests of the eastern flanks of the Cascades, the expansive shrub-steppe, the grasslands of the Palouse, the mighty Columbia River, and more. The diversity of these environments provides the foundation for the richness of our state's biodiversity.

Temperate rain forest within Olympic National Park. *NPS photo*

Yet we cannot take the continued existence of our biodiversity for granted. The tremendous growth and development all around us, the increasing degree of conflict over land-use decisions among environmental, economic, and social values, and the growing list of species covered by the Endangered Species Act suggest that we are losing ground.

In 2004, Governor Locke issued an executive order creating the Washington Biodiversity Council and giving the Council the task of developing a 30-year strategy for the conservation of Washington's biodiversity.[1] As part of the preparation for developing a 30-year strategy, the Biodiversity Council has commissioned this report on the current status of Washington's biodiversity.

What is biodiversity?

Use of the term biodiversity has become increasingly common, yet it can mean different things to different people. The Washington Biodiversity Council has defined biodiversity as follows:

> Biodiversity is the full range of life in all its forms. This includes the habitats in which life occurs, the ways that species and habitats interact with each other, and the physical environment and the processes necessary for those interactions.

This definition includes all species that occur within the state, from the large and visible (most plants and many animals) to the microscopic (soil microbes, plankton, etc.). It includes migratory and/or wide-ranging animals that spend only a portion of their life here. And while this definition does not distinguish between native and non-native species, i.e., between those that occur here naturally and those that have either invaded or been purposefully imported, the Governor's Executive Order[1] refers to the risk of losing our "…rich natural diversity." This report, therefore, emphasizes the native components of our biodiversity.

Coastal estuary. *DNR photo*

The definition includes the interactions that help sustain each species. Some of these interactions are with other species (predator / prey relationships, symbiotic relationships, etc.). Other interactions are between the species and the physical environment. The definition includes natural processes, such as fire and flooding. These natural processes are critical in maintaining the full suite of species and ecosystems that constitute our biodiversity.

Scientists view biodiversity at three principal levels: genetic, species, and ecosystems. They are not independent levels, but rather intricately woven together. Conservation biologists and planners also recognize that interactions between ecosystems form landscape patterns that are important. The concept of ecoregions (see below) is intended to capture landscape level diversity.

Conservation must occur at genetic, species, ecosystems, and landscape levels to successfully conserve "the full range of life in all its forms in Washington.

Shrub-steppe landscape. *DNR photo*

Genetic diversity is the most fundamental level of biodiversity; it results in differences among individuals within a single species. Genes within individual organisms, and their frequencies in a population, are the basic level at which evolution occurs. Genetic variability is important to long-term survival of a species; it allows species to respond to environmental change.

Species diversity is probably the level of biodiversity with which people are most familiar. We recognize different plants in our yards. We distinguish between different birds and other wildlife that we see in our neighborhoods or out in the countryside. We recognize and distinguish different species, even though we may not think of them in terms of a biologist's definition of species. Biologists have several definitions of species; for this report, species will be defined using the 'biological species concept,' which defines a species as a group of organisms that can interbreed in the wild and produce fertile offspring. Organisms can look alike, yet be members of different species (e.g., Western and Eastern meadowlarks). Conversely, organisms may look different, yet be members of the same species (e.g., male and female differences in many bird species, or different color forms in many plant species).

Species diversity of species richness? Ecologists often distinguish between *species richness* – the number of species in a particular area – and *species diversity* – the number of different species in a particular area (i.e., species richness) weighted by some measure of abundance, such as the number of individuals. The distinction can be important when setting goals and/or prioritizing conservation actions. However, for this report, the term *species diversity* is used simply to refer to species richness.

Another concept important to the understanding of biological diversity is that of evolutionary lineages. As a result of their individual evolutionary lineages, some species have many close relatives (e.g., there are more than a dozen recognized native species of the wildflower paintbrush in Washington), while others have few or no close living relatives (e.g., water howellia, a diminutive aquatic plant that is the only member of its genus). The loss of a species with few or no living relatives represents a greater loss of distinct genetic diversity than would the loss of one species within a large genus.

Ecosystems diversity encompasses the full variety of environments and species assemblages in the state. Forests, grasslands, wetlands, and subalpine meadows all reflect the concept of ecosystems; they are assemblages of species occurring within particular physical environments. But not all forests are the same; they do not all include the same mix of species, or undergo the same natural processes, or occur within the same physical environments. This is true for grasslands, wetlands, etc.

It is assumed that conservation of the full array of ecosystem types will result in the conservation of common species. In other words, ecosystems are used as a *coarse filter* in conservation planning to help account for common species.

It is also important to note that the term 'ecosystem' does not have a fixed scale in its general usage. It has been used to characterize areas that vary in size from a small puddle of water to large landscapes. The appropriate scale depends on the question(s) being addressed. In part because of this, and in order to better understand the diversity of ecosystems, ecologists have developed various ecosystem classification systems. Conservation biologists and planners have increasingly looked to ecosystem classification systems as tools for their conservation efforts.

Ecologists distinguish between *communities* – all of the organisms that live in a particular area – and *ecosystems* – the communities of organisms plus the physical environment, including the interactions between the two components. Because community types are often used by biologists and conservation planners to represent ecosystem types, the term *ecosystem* is used in this report to include both concepts.

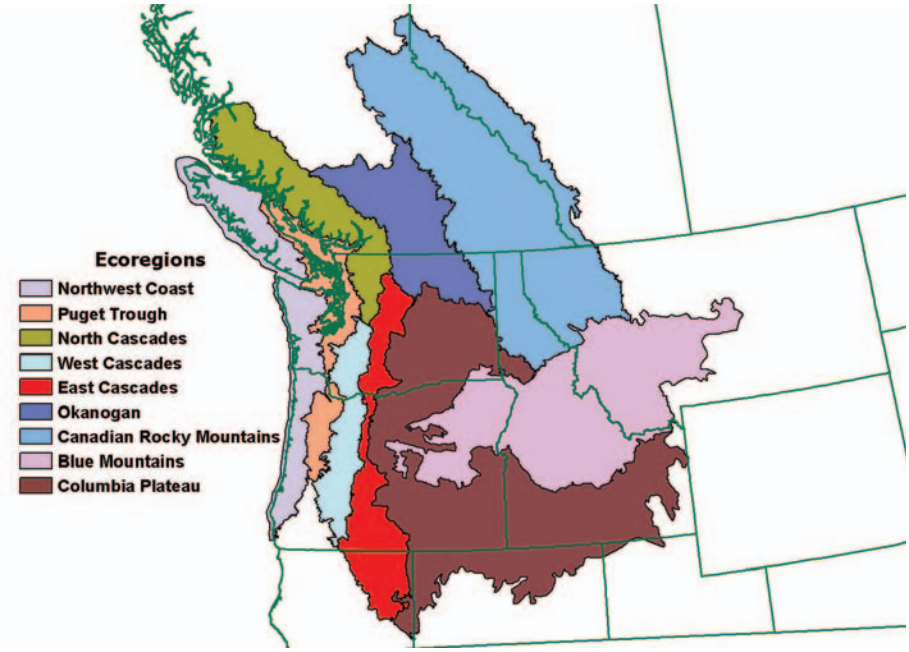


Figure 1.1. Washington's Terrestrial Ecoregions. Please note: Ecoregion names have been modified to increase name familiarity for Washingtonians (e.g., the full name for the Puget Trough ecoregion is the Willamette Valley-Puget Trough-Georgia Basin ecoregion). See footnote 2.

Ecoregions – As noted above, ecologists and conservation biologists recognize that ecosystems (and their component parts) interact with each other to form a higher level of diversity, i.e., the patterns of ecosystems distributed across the landscape. The concept of ecoregions was developed to reflect these broad ecological patterns. They have been delineated at a spatial scale at which ecological and evolutionary processes operate. As a result, each ecoregion has a distinctive composition and pattern of species distributions. Portions of nine terrestrial ecoregions have been delineated within Washington (Figure 1.1).[2]

Puget Sound and the marine waters of the Strait of Juan De Fuca and the outer coast add significant landscape diversity to the state of Washington that is not reflected in the delineation of the terrestrial ecoregions.

Conservation planning at the ecoregional scale can accommodate the needs of wide-ranging species and can consider natural disturbances that may be important for the maintenance of biodiversity.

Selected Biodiversity Contributions to Washington's Economy

Fisheries: $145,850,000 in 2004[3]

Timber products:

- $229 million in revenue generated in 2005 from DNR lands alone.[4]
- $9.23 billion in revenue for manufacturing wood and paper products and exporting logs and chips.[5]

Outdoor recreation: an estimated $2 billion/year.[6]

Why is it important to conserve Washington's biodiversity?

There are several compelling reasons to conserve biodiversity. Many are measurable in terms of providing a healthy environment or contributing to a robust economy, while others reflect personal value systems.

Native species and ecosystems contribute billions of dollars annually to Washington's economy. Natural resources play a vital role in Washington state's economy, from fisheries[3], to timber production[4,5], to the many ways that people enjoy the outdoors.[6] Investing in maintaining healthy ecosystems helps sustain natural resource based economies.

Native ecosystems provide life support for Washington. Healthy, functioning ecosystems provide us with clean water[7,8] and clean air, which would otherwise require the application of expensive technologies to produce. Ecosystems also provide natural flood control, pollination, natural pest controls, carbon storage to help buffer against climate change, and habitat for fish, wildlife, and plant species.

Natural ecosystems provide a laboratory to learn about the environment. In order to successfully manage natural resources, current and future generations of managers need healthy ecosystems to study. The knowledge gained can be applied to managed landscapes (e.g., forests, grasslands, or cultivated crops). Students of all ages can also benefit from natural laboratories.

Washington's species and natural landscapes provide a foundation for our cultural heritage and our spiritual values. Although we do not all share the same cultural and spiritual values, most of us identify with the many natural features that make Washington special. Many people rely on these natural values for their wellbeing and believe that they should be conserved for future generations.

The Cedar River Watershed supplies clean drinking water to 1.3 million people. It is one of only six major drinking water systems in the country that does not require any specially fabricated filtration.[7,8]

Students on a Watershed field trip.
DNR photo

Native species are critical in the development of medicines and food crops. Humans rely on naturally occurring species for food and medicines. A mere 20 species of plants provide about 90 percent of the world's food. Forty percent of all prescriptions dispensed in the United States are from substances derived from plants, animals, or microorganisms.[9] A prime example comes from the Pacific Northwest. The Pacific yew tree provided the original compound (taxol) upon which treatment for advanced ovarian cancer is based. Prior to the discovery of its anti-cancer properties, the Pacific yew tree was of little interest; it had little commercial value as a timber product.[10]

Pacific yew tree. Native species are critical in the development of medicines and food crops.
C. Antieau photo

Footnotes

[1] Governor Locke. 2004. Executive Order 04-02. http://www.biodiversity.wa.gov/documents/EO_0402.pdf

[2] Map reprinted from: Washington Department of Natural Resources. 2003. State of Washington Natural Heritage Plan. Olympia. 64 p. The delineation of these ecoregions was developed by The Nature Conservancy and many partners on the basis of work done by Robert G. Bailey (U.S. Forest Service), James Omernik (EPA), and other scholars.

[3] State of Washington Office of Financial Management. 2005 Data Book: http://www.ofm.wa.gov/databook/resources/nt15.asp

[4] Washington Department of Natural Resources. 2005. Annual Report. Olympia. 48p.

[5] U.S. Census Bureau Economic Report. 2004.

[6] Washington Department of Fish and Wildlife. 2005. Lands 20/20. A Clear Vision for the Future. 40p.

[7] Cedar River Watershed Education Center. 2006. http://www. cedarriver.org/watershed/supply.shtml

[8] Seattle Public Utilities. 2006. http://www.ci.seattle.wa.us/util/About_SPU/Water_System/Water_Sources_&_Treatment/Cedar_River_Watershed/index.asp

[9] NatureServe. 2006. http://www.natureserve.org/consIssues/ten Reasons.jsp

[10] U.S. Fish and Wildlife Service. 2005. Why Save Endangered Species? an online brochure http://www.fws.gov/endangered/Why_Save_End_Species_July_2005.pdf

As noted in the Introduction, biodiversity can be characterized at various levels, including genes, species, ecosystems, and landscapes (or ecoregions). This report presents information on Washington's ecoregions, ecosystems, and species. There is generally very little information available regarding the distribution of genetic diversity within species.

Landscape Diversity – The Concept of Ecoregions

Ecologists have devised different systems for characterizing the landscape-level diversity of terrestrial, freshwater, and marine environments. The various systems work well for their respective environments, although having multiple systems creates challenges for coordinating efforts that extend beyond or across the different environments.

Portions of nine terrestrial ecoregions have been delineated within Washington (Figure 2.1).[1] Ecoregions are delineated to reflect broad ecological patterns. As a result each ecoregion has a distinctive composition and pattern of species distributions. Note that each of these ecoregions extends beyond our borders. As a result, Washington shares many species and ecosystems with neighboring states and provinces; we have a mix of flora and fauna from the Great Basin, the Rocky Mountains, etc.

The terrestrial ecoregions do not adequately represent freshwater aquatic or marine ecosystems diversity. At a landscape level, freshwater ecosystems are better characterized in terms of their hydrologic relationships, i.e., whether or not they are part of the same watershed. The Nature Conservancy has developed a freshwater classification system for Washington, making use of the concept of Ecological Drainage Units (EDUs). There are portions of ten EDUs in Washington (Figure 2.2).[2] The agencies involved in salmon recovery have delineated separate Salmon Recovery Regions (Figure 2.3).[3] The interface between aquatic (including both freshwater and marine) and terrestrial landscapes is not particularly well accounted for in any of the approaches to terrestrial or aquatic landscape delineation.

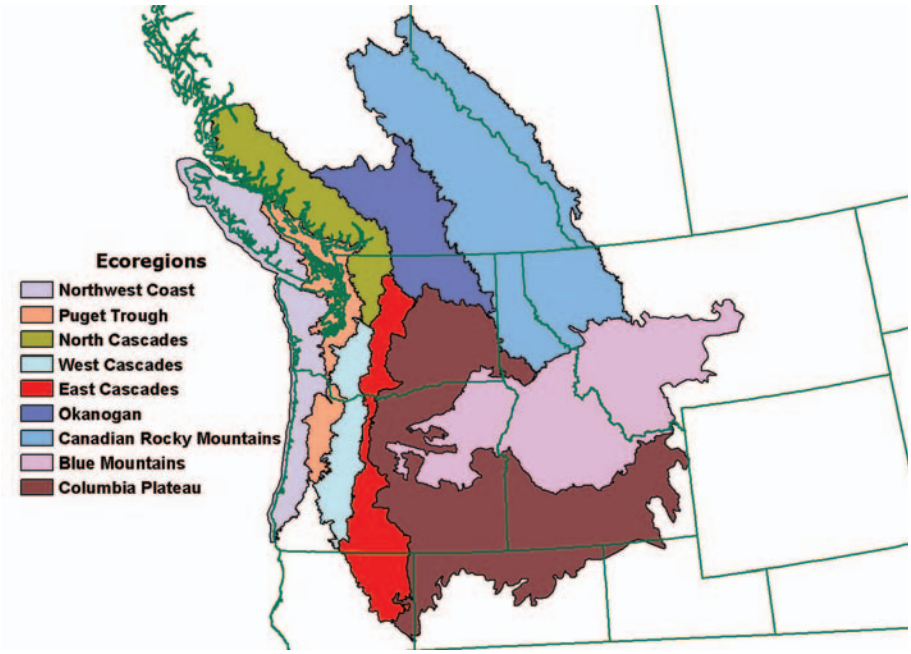


Figure 2.1. Washington's Terrestrial Ecoregions. See footnote 1.

The importance of Puget Sound is somewhat masked by the delineation of terrestrial ecoregions, ecological drainage units, and salmon recovery regions. None of these landscape delineation systems adequately highlights Puget Sound's unique biological characteristics as an inland fjordal system.

Ecosystems Diversity

Washington has a tremendous variety of ecosystems. The diversity of ecosystems is a reflection of the presence within Washington of nine ecoregions, each of which extends well beyond our state borders. As a result, we have a mixture of ecosystem types from the Rocky Mountains, the Great Basin, the southern Cascades, and the boreal forests to the north. We also have a variety of estuarine, nearshore and marine ecosystems that add to our diversity.

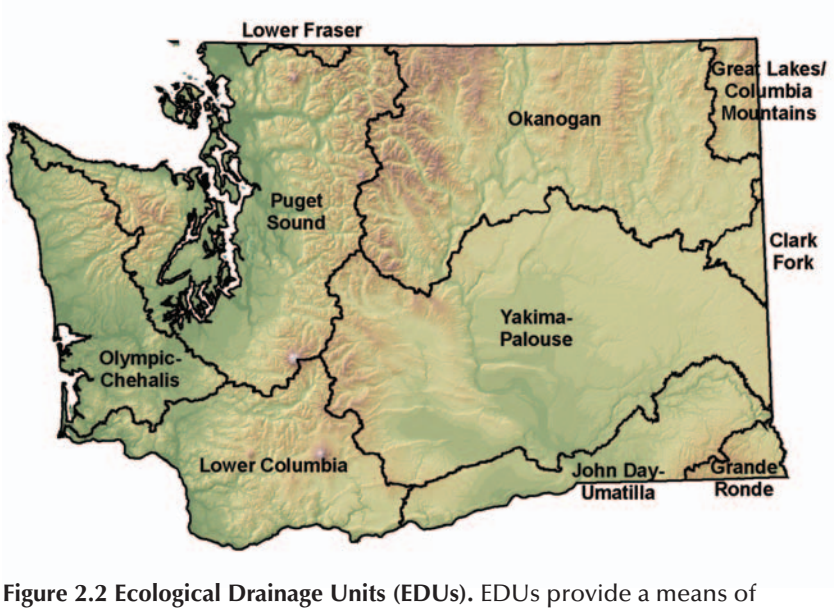


Figure 2.2 Ecological Drainage Units (EDUs). EDUs provide a means of characterizing and assessing ecological components within defined hydrologic systems. See footnote 2.

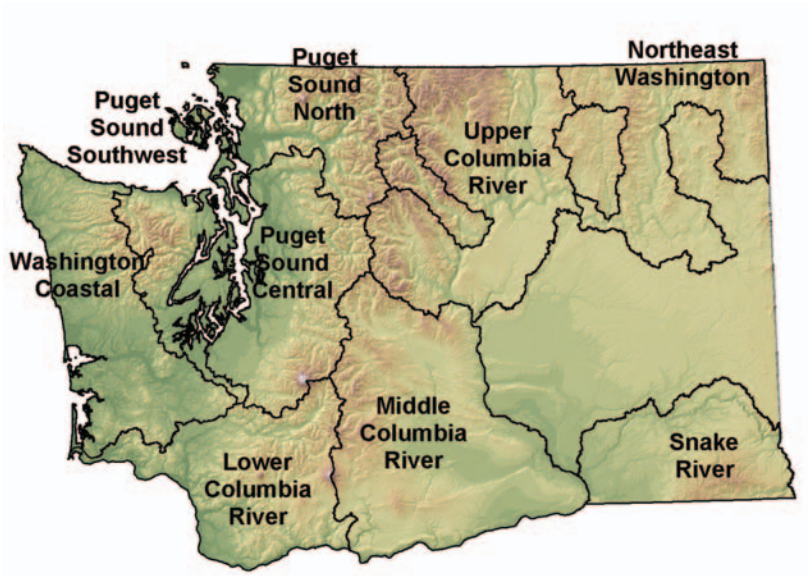


Figure 2.3 Salmon Recovery Regions. Recovery planning and implementation is organized by regions. See footnote 3.

Washington's Diversity of Ecosystems:

- Marine environments, from deep waters to nearshore habitats
- Estuaries
- Coastal beaches and dunes
- Forests (variously dominated by one of more than a dozen conifer tree species)
- Woodlands (e.g., oak woodlands of lowland western Washington)
- Grasslands dominated by bunchgrasses
- Shrub-steppe dominated by various species of sagebrush and bunch-grasses
- Freshwater environments, including lakes, rivers, streams, bogs, vernal ponds, etc.
- Subalpine and alpine environments
- Interior sand dunes, talus slopes, and other special habitats

Formal classification of ecosystems is a useful tool for conservation planning. As noted in the Introduction, the term 'ecosystem' does not have a fixed scale in its general usage. It has been used to characterize areas that vary in size from an individual stand of trees to large landscapes. In part because of this, and in order to better understand the diversity of ecosystems, ecologists have developed various ecosystem classification systems. Classification results in a reasonably definitive list of ecosystem types and a common language to refer to those types, which then allow the setting of priorities necessary for conservation planning. Ecosystems can be used as a coarse filter in conservation planning. By ensuring the conservation of ecosystem types, the conservation of the common species that make up those types can be achieved in a more efficient manner.

The approach to ecosystems classification has been different in terrestrial, freshwater aquatic, and marine environments. The relative diversity of ecosystems between these environments is therefore difficult to assess. This also means that conservation assessment and prioritization efforts have not been seamless across terrestrial and aquatic environments.

Terrestrial Ecosystems

- Classification based upon vegetation and/or utility as wildlife habitat.
- There are an estimated 100 ecological systems[4] in Washington, which have been reduced to 29 wildlife habitats.[5]

Freshwater Aquatic Ecosystems

- Classification relies primarily on physical parameter data (e.g., stream gradient, elevation). How well the classification represents distribution patterns of the biotic components needs to be tested.

Marine Ecosystems

- Classification uses physical and biotic parameter data, resulting in identification of 60 intertidal and subtidal ecosystem types.[6]
- Estuarine and marine shorelines in Washington State have also been mapped according to the ShoreZone Mapping System by the DNR Nearshore Habitat Program.[7]

Pygmy rabbits. *WDFW photo*

Death camas.
B. Legler photo

Species Diversity

Washington is home to a great number of species. We have grizzly bears and pygmy rabbits, sea anemones and sagebrush, diminutive lichens and giant Palouse earthworms, deer-ferns and death camas.

The species diversity is a reflection of our ecosystems diversity, from marine and freshwater aquatic to terrestrial. Our flora and fauna are a mix of species from the north, south, east, and west. Some of our species are at the center of their range in Washington, while others occur here at the very edge of their range.

Many of our species are migratory, spending part, but not all, of their lives in Washington. Salmon, gray whales, southern resident orcas, and many marine bird species utilize marine and inland waters outside of our borders. Migratory waterfowl and neotropical migratory birds are here only seasonally.

Washington's Species Diversity [8]

- 3,100 vascular plant species
- An estimate of thousands of mosses, lichens, liverworts, and fungi
- 140 mammals
- 470 freshwater and marine fishes
- 341 birds[9]
- 25 amphibians
- 21 reptiles
- An estimated 20,000 invertebrates, including more than 2,000 moths and butterflies

On the other hand, some of our species are endemic, i.e., unique to Washington, occurring nowhere else on Earth.[8,9] Endemism provides one measure of Washington's biodiversity. According to NatureServe (2002), Washington ranks 13th among the 50 states, with 53 endemic species.[10]

Of the 53 species endemic to Washington, 49 are plant species:

- 20 occur in the East Cascades Ecoregion, primarily within the Wenatchee Mountains.
- 18 occur within the Columbia Plateau Ecoregion.
- 9 occur within the NW Coast Ecoregion, primarily within the Olympic Mountains.

Basalt daisy is a narrow endemic. Its global range is limited to an area approximately 10 miles x 2 miles in Washington State. *DNR photo*

Exciting new discoveries in the millipede world. Recent work has resulted in the discovery of 69 new species of millipedes in the Pacific Northwest, including one new family. These discoveries represent a 64% increase in the recognized millipede diversity in the Pacific Northwest.[11]
W. Leonard photo

The four endemic animal species include two salamanders, one fish, and one mammal. All occur in western Washington; three occur on the Olympic Peninsula.

The cataloging of Washington's biodiversity is not yet complete. Species new to science are still being discovered in Washington.[11] Range extensions also continue to be documented, resulting in a growing list of species that are known to occur in Washington.

Genetic Diversity

Genetic diversity within most species is poorly known. There are exceptions, such as salmon, where detailed knowledge of genetic variability helps form the basis for conservation actions. For some

species, particularly those that are extremely rare, information regarding the genetic diversity within the species is critical to recovery planning. Such information has helped shape conservation strategies for both animal species (e.g., greater sage-grouse, pygmy rabbit, western gray squirrel, and streaked horned larks) and plant species (e.g., golden paintbrush) in Washington.

For most species, however, where such detailed information is lacking, an assumption is made that genetic diversity is best captured or represented by increasing the number of populations conserved and by maximizing the range of environments of those populations that are protected.

Footnotes

[1] Map reprinted from: Washington Department of Natural Resources. 2003. State of Washington Natural Heritage Plan. Olympia. 64 p. The delineation of these ecoregions was developed by The Nature Conservancy and many partners on the basis of work done by Robert G. Bailey (U.S. Forest Service), James Omernik (EPA), and other scholars.

[2] Map of Ecological Drainage Units obtained from The Nature Conservancy, Washington Field Office.

[3] Map from Washington State Governor's Salmon Recovery Office website: http://www.governor.wa.gov/gsro/regions/default.htm.

[4] The concept of ecological systems is described on the NatureServe Explorer website at: http://www.natureserveexplorer.org.

[5] Johnson, D.A. and T. O'Neil, managing directors. 2001. *Wildlife-habitat relationships in Oregon and Washington*. Oregon State University Press, Corvallis, Oregon. 736 p.

[6] Dethier, M.N. 1990. *A Marine and Estuarine Habitat Classification System for Washington State*. Natural Heritage Program, Washington Department of Natural Resources. 60 p.

[7] Berry, H.D., J.R. Harper, T.F. Mumford Jr., B.E. Bookheim, A.T. Sewell, L.J. Tamayo. 2001. The Washington State ShoreZone Inventory User's Manual. Report for Washington Department of Natural Resources, Aquatic Resources Division, Olympia, WA.

[8] This information was synthesized from a number of sources, including major herbaria and natural history museums, the Washington Natural Heritage Program, Washington Department of Fish and Wildlife, NatureServe, Audubon Washington, and many others.

[9] Species that either breed or stop in Washington on their annual migrations. Washington Department of Fish and Wildlife. 2005. *Comprehensive Wildlife Conservation Strategy*.

[10] NatureServe 2002. *States of the Union: Ranking America's Biodiversity. A NatureServe Report to The Nature Conservancy*. 25 p. NatureServe (2002) data do not include subspecies or varieties. A significant number of recognized subspecies and varieties are endemic to Washington. However, because the same is true for other states, including subspecies and varieties would not likely significantly change Washington's overall ranking of 13th among the 50 states.

[11] Shear, W.A. and Leonard, W.P. 2007. The millipede family Anthroleucosomatidae new to North America: *Leschius mcallisteri*, n. gen., n. sp. (Diplopoda: Chordeumatida: Antrholeucosomatoidea) *Zootaxa* 609:1-7. Also William Leonard, personal communication (2006).

Pick up a newspaper on any given day and you are likely to see a story featuring some important aspect of biodiversity conservation: designation of much of Puget Sound as critical habitat for killer whales, the death of the last male pygmy rabbit from Washington, importation of natural predators to combat invasive species, closure of Puget Sound beaches to shellfish harvest due to high toxin levels. The stories and the issues vary from day to day, but all signal changes occurring to our native species and ecosystems.

Last male purebred Columbia Basin pygmy rabbit dies

The Associated Press

Seattle Times headline – May 17, 2006

And although the biodiversity of any given place does not remain static—colonization and extinction are both natural processes—the pace and scope of species' declines and extinctions occurring today are cause for concern. Such concern for Washington's native species and ecosystems led to the creation of the Biodiversity Council and the development of this report.

Species Overview

A limited number of native species have increased in numbers. In general, those species that can take advantage of disturbances or colonize altered environments have increased. Species that have undergone population increases or that have expanded their range are generally not of conservation concern (e.g., western scrub jay). However, they often are the species with which many people have the most interactions (e.g., crows, robins), and thus they provide an important means for understanding biodiversity issues.

Federal Endangered Species Act listings in Washington[1]:

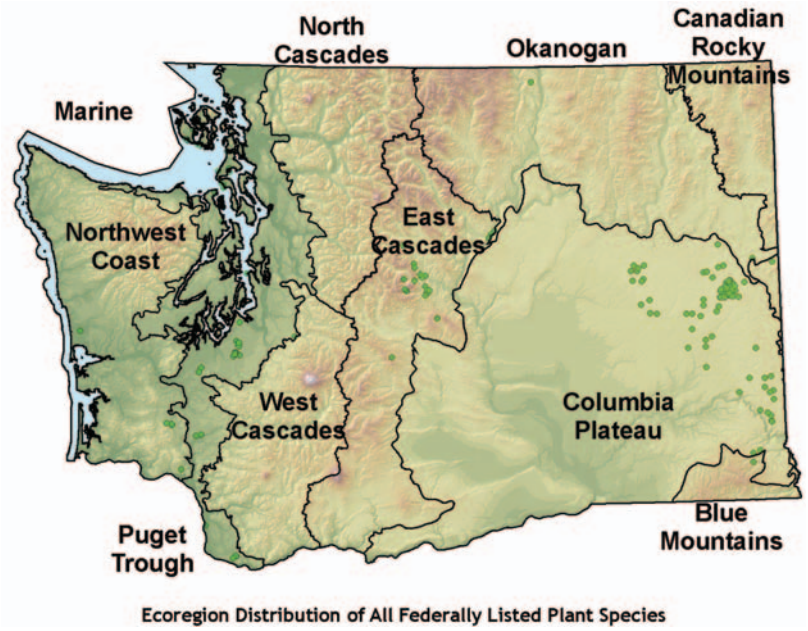
40 animal species
- 14 mammals
- 6 birds
- 4 reptiles
- 15 fish
- 1 invertebrate

10 plant species

Many species have experienced significant declines in Washington. The changes in the landscape over the last 200 years have resulted in significant declines for many of Washington's native species, both aquatic and terrestrial. Various state and federal agencies and some conservation organizations maintain lists of species that are of conservation concern; all of these lists continue to grow as landscape changes overshadow conservation efforts.

One measure of decline is the number of species listed as endangered or threatened under the federal Endangered Species Act (ESA). There are currently 40 animal species (including 15 fish) and 10 plant species that occur in Washington that are listed under the ESA.[1] Known occurences of the listed species are mapped in Figure 3.1.[2] More federally listed species occur within the Northwest Coast and Puget Trough than in other ecoregions in the state as a result of the number of listed marine species.

ESA listings are high profile and have legal implications. Many of the listed species are in immediate danger of extinction. However, the federal list of endangered and threatened species is not a true reflection of the number of species that warrant conservation attention. Many additional species are of conservation concern because their numbers have declined or because they are naturally rare and today find themselves within a landscape setting where they face human-related threats. Additionally, some species are of concern in Washington, but are more abundant and stable elsewhere. Lists maintained by the Washington Department of Fish and Wildlife (for animals) and by the Natural Heritage Program (for plants) provide a more comprehensive view of the status of Washington's species. Tables 3.1 and 3.2 identify the numbers of species of animals and plants, respectively, that have been identified as Endangered, Threatened, or Sensitive in Washington.



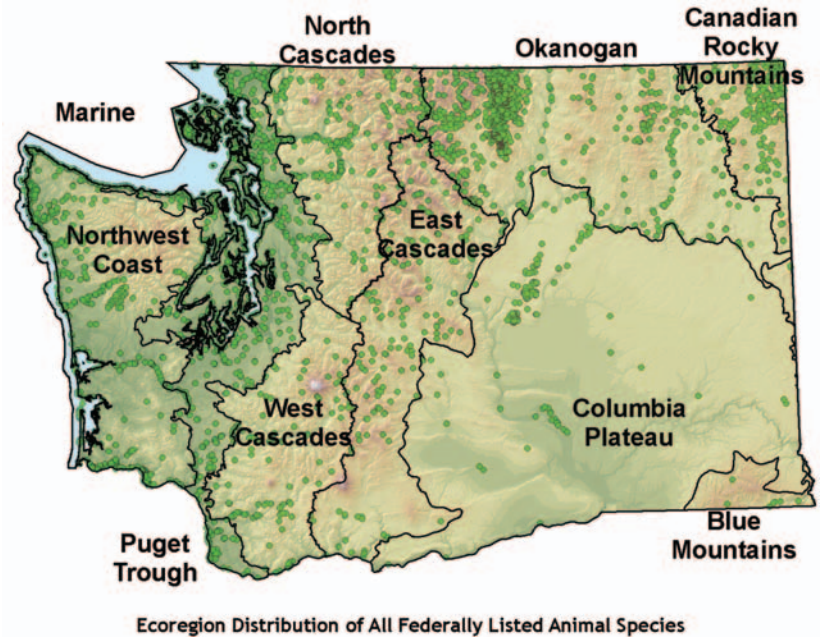


Figure 3.1. Known occurrences of plant and animal species listed under the federal Endangered Species Act. The top map depicts known occurrences of the ten listed plant species. The bottom map depicts the 40 listed animal species. Both maps include some occurrences that are historic only, i.e., not all dots represent existing occurrences. See footnote 2.

Note that for animal species there is a backlog of 109 candidate species being considered for state-listing as endangered, threatened or sensitive. There are many additional invertebrate species for which there is insufficient information, but which may ultimately warrant being considered for listing. Fifty-four plant species are also under review.

As noted above, some species are of concern in Washington, but may be more stable elsewhere. Table 3.3 shows the number of Washington plant and animal species that are of conservation concern both globally and within Washington. Many of the species in this category are either at the edge of their range in Washington or occur here in populations that are disjunct from the major part of their range. The distinction emphasized in Table 3.3—global vs. state status—may provide one approach to prioritizing conservation effort.

When one takes into account those species that are stable elsewhere, but declining or of concern in Washington, the total number of species that are of conservation concern increases dramatically. There are more than 500 species of plants and animals that are of concern.[6] These species face an uncertain future in Washington unless they are given special management consideration. Complete lists of species considered of conservation concern by the Washington Natural Heritage Program and the Washington Department of

Fish and Wildlife are available on the respective agency websites. The list of Washington's rare plant species with their respective ranks can be found at: http://www.dnr.wa.gov/nhp/refdesk/lists/plantrnk.html. Animal species identified in the *Comprehensive Wildlife Conservation Strategy* can be found at: http://wdfw.wa.gov/wlm/cwcs/.

Species that are of conservation concern are not distributed evenly across the state. Table 3.4 shows the number of plant and animal species of conservation concern by ecoregion. It should be noted that while marine species are included in the numbers, they are somewhat masked by the lack of a marine ecoregion in the table. Figure 3.2 depicts the distribution of the plant species that are of conservation concern in Washington.[9] Similar data are available for animal species of concern.

A number of specific factors have contributed to the declines. For terrestrial species, conversion of land to human-made environments and ecosystems degradation associated with land management practices are the most significant factors. The Puget Trough and Columbia Plateau ecoregions have had the highest level of conversion (see Figure 3.3), and not surprisingly have the greatest number of species of conservation concern. Marine species have also been impacted by land cover change and urban development

Table 3.1 WDFW-listed animal species by taxonomic group.[3]

Animal Group	Endangered	Threatened	Sensitive	Candidates
Mammals	14	4	1	11
Birds	7	5	2	23
Reptiles	2	2	0	4
Amphibians	2	0	1	6
Fish	0	0	3	37
Mollusks	0	0	0	10
Insects	3	0	0	18
Total	28	11	7	109

Table 3.2 DNR-Natural Heritage Program-listed plant species.[4]

Status Category	Number of Species
Endangered	39
Threatened	107
Sensitive	143
Possibly Extirpated	16
Under Review	54

Table 3.3 Number of Washington species of global and state conservation concern.[5]

Global Rank	Plants	Animals
Critically imperiled globally	13	38
Imperiled globally	53	68
Vulnerable globally	118	113
State Rank	**Plants**	**Animals**
Critically Imperiled w/in WA	172	93
Imperiled w/in WA	140	87
Vulnerable w/in WA	49	204

Please Note: There is significant overlap between the lists of species tallied under the global and state ranking categories. For example, all of the 'critically imperiled globally' species are also 'critically imperiled in WA.' See the NatureServe Explorer website for an explanation of global and state ranking (www.natureserveexplorer.org).

as stormwater and other surface water makes its way to Puget Sound, carrying contaminants, excess nutrients, and pathogens into the marine waters. Shoreline alteration has caused changes in near-shore habitat structure. Overharvest has contributed to the decline of many fish species.

Despite the long list of species that are of conservation concern, the fact that there are still extant populations of most of the species provides us with an opportunity for success. In fact, there are only two plants and two animals native to Washington that are currently thought to be globally extinct. The pale bugseed *(Corispermum pallidum)* and thistle milk-vetch *(Astragalus kentrophyta var. douglasii)* are both known only from old specimens collected from the Columbia Plateau.[10] The Tacoma pocket gopher *(Thomomys mazama tacomaensis)* and the Cathlamet pocket gopher *(Thomomys mazama louiei)* are known from limited historic records, but recent survey efforts have failed to find any extant individuals.[11] There are a number of other species that appear to be extirpated from Washington. Twenty-one plant species fall into this category as well as a number of animal species, including the fisher, Columbia River tiger beetle, and the yellow-billed cuckoo.[12] Opportunities to restore these species may exist since they are still extant elsewhere within their range, although there may be little or no suitable habitat remaining in Washington. However, the extirpation of local populations represents a loss of genetic diversity.

Table 3.4. Distribution of species of conservation concern by ecoregion

Ecoregion	Plants[7]	Animals[8]	Total
NW Coast	69	84	153
Puget Trough	56	101	157
North Cascades	36	29	65
West Cascades	36	50	86
East Cascades	87	41	128
Okanogan	68	54	122
Canadian Rockies	38	31	69
Blue Mountains	28	43	71
Columbia Plateau	104	70	174

Please Note: There is considerable overlap between ecoregions of individual species. The total numbers reflected in this table includes 359 plant species and 179 animal species (not including salmonids).

Figure 3.2. Distribution of plant species of conservation concern.
Similar information is available for animal species of conservation concern from the Washington Department of Fish and Wildlife. See footnote 9.

For extinct species, there are no options. For species extirpated from Washington, but still extant elsewhere, the possibility of reintroduction and recovery exists. However, the extirpation of Washington populations represents a permanent loss of genetic diversity.

What do we expect in the future? Additional species will need special management attention, particularly in those areas with the greatest amount of habitat loss—the Puget Trough and the Columbia Plateau. The combination of fragmented landscapes, compromised ecosystem functioning, and a changing climate will limit species' natural ability to migrate to suitable habitat. The probable result will be an increasing number of species facing significant declines.[13,14]

More than 500 species of plants and animals are of concern (face an uncertain future) in Washington unless they receive special management consideration.[13] Audubon Washington[14] reports that 93 species and 4 subspecies, or one-third of our birds, are vulnerable to drastic population declines.

Ecosystems Overview

Many of Washington's ecosystems have undergone significant declines. More than 60% of the recognized terrestrial plant associations (the finest, most-detailed level in the National Vegetation Classification[15]) occurring in Washington are considered vulnerable, imperiled, or critically imperiled.[16] To the extent that these ecosystems are in trouble, their usefulness as a coarse filter for conservation of common species is seriously compromised (see Introduction, page 2 for a brief explanation of the coarse filter concept). That is, as more ecosystems are degraded or reduced in their extent, more species will decline to the point of imperilment. Although similar rankings and numbers are not available for marine and freshwater ecosystems, they are in similar jeopardy, as evidenced by other datasets such as miles of shoreline that have been modified.

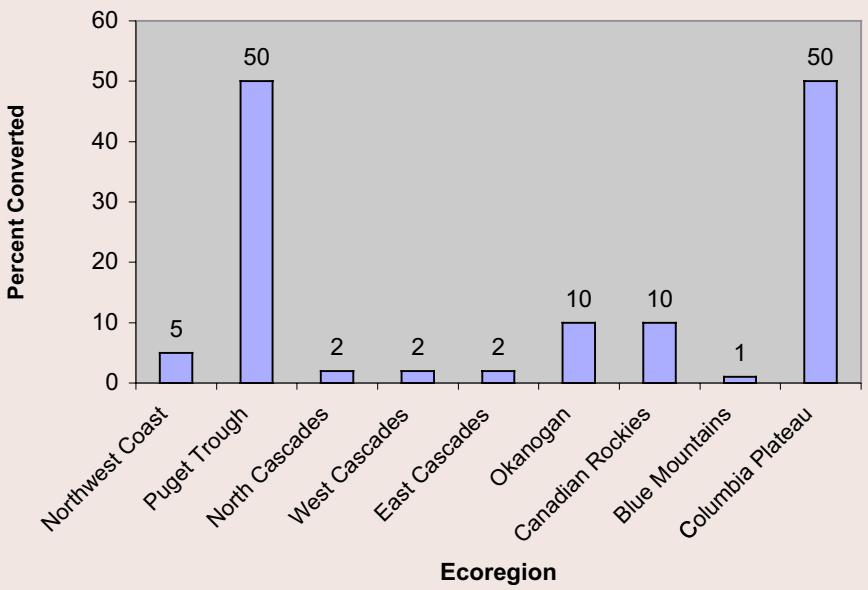


Figure 3.3 Land conversion by ecoregion. See footnote 17.

The declines have been primarily the result of conversion to other land uses and/or degradation. The two ecoregions with the greatest amount of conversion of land have been the Puget Trough and the Columbia Plateau, each with 50% or greater conversion (Figure 3.3).[17] In the Puget Trough, there has been significant loss of marine, estuarine, and terrestrial ecosystems. For aquatic environments, contamination has been one of the major factors responsible for ecosystem declines. The data upon which Figure 3.3 is based are now 10 or more years old, so the percentage of converted land within each ecoregion is higher than the figure indicates. The figure also only indicates land that has been virtually entirely converted; it does not include lands that have been significantly degraded through intensive land management practices.

Ecosystems of particular concern due to declines or degradation include the following:

Marine, estuarine, and nearshore ecosystems, particularly within Puget Sound, have been converted, modified, and contaminated. Up to 52 percent of the central Puget Sound shoreline has been modified by port development, armoring of beaches, etc.[18] The Duwamish River estuary in Seattle has been almost entirely converted to a human-managed waterway through filling the original mudflats and dredging a channel for shipping. The Puyallup River estuary has undergone similar changes, with 99 percent of its marsh ecosystem and 95 percent of the intertidal mud flats converted to port facilities.[19] There are 31 Superfund sites within the Puget Sound basin. Shellfish, fish, birds, and marine mammals in the Central and South Puget Sound regions have all been measured with high levels of toxic chemicals.[20] Killer whales have been identified as among the most contaminated marine mammals in the world, containing high levels of PCBs.[21] While these compounds continue to cycle through the food chain, new and emerging toxics, such as flame retardants and chemicals used in the manufacture of plastics, pose an array of new threats to biodiversity.

The Duwamish River. The estuary and tideflats were filled to make land more suitable for building upon and a channel was excavated for shipping. *DOE photo*

Although Puget Sound has been receiving considerable attention, and large-scale efforts are underway to help return it to a healthy condition, the growing human population will continue to present challenges to successful conservation of marine, estuarine, and nearshore ecosystems. Increases in impervious surfaces, altered hydrology, compromised water quality, and altered weather regimes associated with climate change will continue to put more of these marine, estuarine, and nearshore ecosystems at risk.

Riparian and freshwater aquatic ecosystems have been eliminated and/or degraded by construction of dams, dikes, and drainage ditches and by land use practices such as livestock grazing, timber harvest, and mining. There are more than 1,000 dams affecting the flow of Washington's waterways (Figure 3.4).[22, 23] The Hanford Reach is the only "free-flowing" portion of the Columbia River. But even through the Hanford Reach the river's flow is controlled by release of water at Priest Rapids dam. A natural flood regime has been entirely removed from both the Columbia and Snake rivers. Other rivers are similarly affected. In fact, three-fifths of Washington's rivers have been deemed to be in poor to fair health.[24]

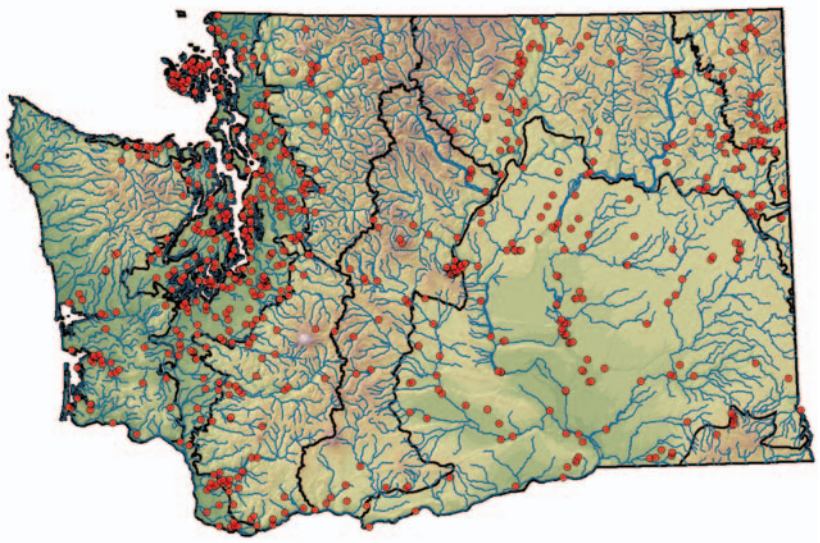


Figure 3.4. Dams in Washington. See footnote 23.

In addition to the major river systems, smaller riparian systems have been negatively impacted by land management practices. Past timber harvest practices resulted in increased stream temperatures, increased sediment loads, and they

often altered stream flows. In the Columbia Plateau ecoregion many natural riparian ecosystems have been replaced by ecosystems dominated by non-native species, little to no shrub or tree cover, and stream profiles altered by straightened channels and the effects of bank down-cutting by livestock.

Western red cedar stump.
B. Legler photo

Forested ecosystems have been converted and altered by management practices and fire suppression. Estimates of the percentage of Washington's historical old-growth that has been harvested vary from two-thirds to as high as 87%.[25,26] The change has been most evident in southwestern Washington and in the lowlands throughout the Puget Trough. Not only were these areas relatively easy to access for timber harvest, they were (and still are) primarily private land. Significant loss of old-growth occurred on public lands up through the 1970s and 1980s. We have also lost to development more than one million acres of Washington timberland in just the past two decades,[27] a majority of that in the Puget lowlands. Naturally-occurring stands with a mix of species and tree ages have generally been replaced by single species plantations. There has also been a significant reduction in the number of downed logs and standing snags, important components of habitat for wildlife species and for ecosystem processes.

Low elevation forests in eastern Washington (primarily ponderosa pine and oak woodland ecosystems) have been changed by timber harvest practices and fire suppression. For example, on the lower elevations of the eastern flank of the Cascades, forests historically were characterized by open stands of large ponderosa pine trees, which are relatively resistant to fire. Douglas-fir, on the other hand, is more susceptible to fire. This susceptibility was reduced or eliminated from many stands. However, with the advent of fire suppression, Douglas-fir is not eliminated from the stands. Over time, Douglas-fir gains ground, eventually overtopping ponderosa pine and out-competing its shade-intolerant seedlings. Harvest of the large ponderosa pine trees exacerbated the effects of fire suppression. The end result is that these ecosystems today have a significantly different structure and different species composition, including changes in pathogens, insects, and wildlife than they did historically.

As urban centers expand, forested ecosystems will continue to be subject to residential and urban development. At greater distances from urban centers, forests will be fragmented by suburban, exurban, and rural development. The movement of more people to rural landscapes will add complexity to fire suppression issues, particularly in eastern Washington where fire frequency, size, and severity are typically greater.

Shrub-steppe and grassland ecosystems have been converted to agriculture. More than 50% of the Columbia Plateau has been converted, primarily to agriculture (see Figure 3.3 above and Figure 3.5 below).[28,29] The remaining shrub-steppe is significantly fragmented, with many small, isolated remnants that will likely undergo further degradation and loss of function over time. Fragmented landscapes have more edge adjacent to converted and disturbed habitat, making them more vulnerable to encroachment by non-native species. Lack of continuous habitat also poses challenges for species that need to move around.

The Palouse portion of the ecoregion provides an extreme example of conversion. Since 1870, 94% of the original Palouse grasslands have been converted to crops, hay, or pasture.[30] The remaining Palouse grasslands are often in small north-facing slopes that were too steep to plow. These narrow strips are subject to gradual degradation from weed encroachment, loss of pollinators for native plants, etc.

ca. 1850

1995

Figure 3.5. Loss and fragmentation of shrub-steppe and grassland habitats from circa 1850 to 1995. Shrub-steppe and grassland is represented by the olive green color. Note the change from primarily olive to predominantly gray, representing the reduction in area dominated by native shrub-steppe vegetation. Johnson and O'Neil (2001). See footnote 29.

Within the shrub-steppe, inland sand dunes have recently become of conservation concern. Dunes have been converted to agriculture, used for recreational purposes, and stabilized to prevent the sand from moving around. Many of the historical dunes were inundated as dams along the Columbia River were built. We have also lost to development more than one million acres of Washington farmland in just the past two decades.[31] This represents an even greater impact on native species and ecosystems.

Ecosystem processes, in particular natural disturbances, have been disrupted or eliminated from the environment. Natural disturbances (e.g., fire, flooding, windstorms, outbreaks of disease, etc.) play an important role in the abundance, distribution, and species composition of ecosystems, creating the mosaic pattern of early, mid-, and late seral stages of individual ecosystem types. To the extent that our human activities have disrupted these processes, we have affected the current status and future trends of ecosystems and their component species.

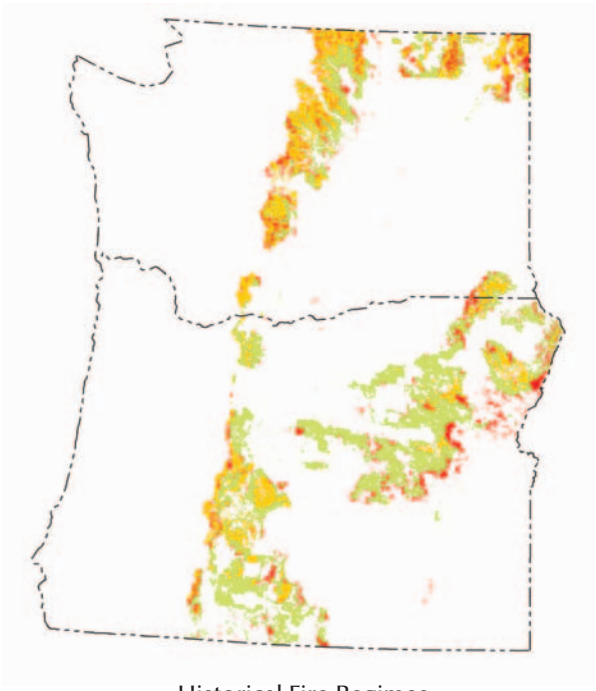
The disruption of three natural disturbance processes in particular has had a tremendous impact on the current status and condition of species and ecosystems in Washington: fire, floods, and erosion along saltwater shorelines. The disruption of these processes has had landscape level impacts.

Fire—We have aggressively put out fires in natural landscapes for many decades. This has shifted species composition away from fire resistant and fire dependent species. For forested ecosystems, this has resulted in stands that have more trees per acre, and the species composition gradually has shifted to increasing presence of fire-susceptible species. Figure 3.6 indicates the changes in fire regimes for eastern Washington (and eastern Oregon) federal lands.

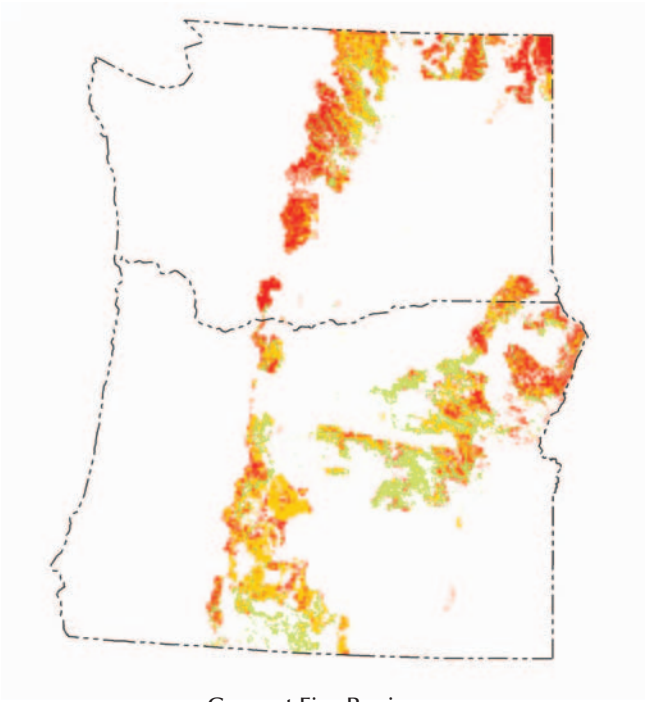
Impacts of Fire Suppression

- Fire-susceptible species increase.
- Fire dependent species decline.
- Dense, even-aged stands replace open and/or multi-layered canopies.
- Invasion of grasslands by woody vegetation.
- Homogeneity in landscape increases.
- Susceptibility to disease (at least in the case of forested ecosystems) increases.
- Fires, when they do eventually burn, are often very severe.

Floods—Our efforts to control the flow of water across and through the landscapes in which we work and live have had tremendous impacts on riparian and wetland ecosystems throughout the state. The impacts of dams on these ecosystems have already been mentioned (see Figure 3.2.). By controlling the flow of water, we have altered the delivery



Historical Fire Regimes



Current Fire Regimes

Figure 3.6 Historical and current fire regimes on east-side federal forest lands (reprinted by permission from U.S.D.A. Forest Service, Pacific Northwest Research Station, Science Update Issue 2, September 2002). Green indicates low severity and red indicates high severity fire regimes (orange indicates mixed effects). Note the significant increase in the severity of fires. See footnote 32.

Impacts of Altering Flow Regime

- Riparian systems upstream from dams inundated
- Sediments not carried downstream; no deposition of new materials in flood plains, estuaries, etc.
- Early seral riparian and floodplain ecosystems eliminated
- Seasonal flow patterns altered

of sediments and nutrients downstream, we have inundated many ecosystems, and we have virtually eliminated all early seral riparian and floodplain ecosystems. Impounding water has also dramatically impacted upland ecosystems; conversion of land for agriculture has been made feasible by the availability of water for irrigation.

Saltwater shoreline erosion—The development along the shorelines of Puget Sound has included construction of bulkheads intended to protect property from erosion. However, armoring the beaches has actually increased erosion and resulted in beaches that are steeper and rockier as a result of the sand being carried away. The end result is a loss of those animals and plants that require sand and small pebbles as their substrate.

Impacts of Armoring Beaches

- Erosion increases, leading to steeper, rockier beaches
- Animals and plants that require the gentler slope with sand and small pebbles eliminated from these beaches
- Sand lance—an important forage fish for other species—declines

Status of the Conservation Landscape

Significant protections exist, but they are limited and inadequate, given the current numbers of species and ecosystems of conservation concern. A number of conservation tools that contribute to the protection of our biodiversity are available and are being applied in Washington:

- Sustainable land management practices, including market-driven ecologically sound stewardship as well as voluntary landowner actions
- Public agency policies (e.g., U.S. Forest Service and Bureau of Land Management sensitive species policies)
- Designation of Marine Protected Areas
- Restoration of degraded ecosystems (e.g., Scot's broom control efforts on prairies in the South Puget Sound area)
- Laws and regulations (e.g., Endangered Species Act, Growth Management Act, Forest Practices Act, etc.)

Each tool has its strengths and its limitations, in part because individual species and ecosystems have different conservation needs. For example, a rare plant species occurring on a very limited number of acres within areas dominated by private ownership may benefit greatly from voluntary landowner actions. In contrast, wildlife species with larger ranges spanning a variety of ownerships, with potentially conflicting land management objectives, may require more than voluntary actions.

Land ownership is one of the primary factors influencing protection of biodiversity, although ownership does not in and of itself determine the level of protection (or degree of threat). Land ownership is a common thread for several of the conservation tools listed above: voluntary landowner actions, implementation of public agency policies, acquisition/designation of lands for conservation purposes, and restoration.

Public lands are often considered to provide a greater likelihood of successful conservation due to laws, policies, public expectations, etc. One reason that public lands are assumed to provide a greater likelihood of successful conservation is that state and federal land-managing agencies have policies in place to implement various laws, such as the Clean Water Act, Clean Air Act, Endangered Species Act, National Forest Management Act, the National Environmental Policy Act, and others. Private lands also often need to generate profits to support industry or family incomes. As a result, public lands have been less subject to outright conversion and the components of biodiversity have often been less subject to significant degradation.

In Washington, public ownership is greatest at higher elevations (see Figure 3.7).[33] Gap Analysis revealed that whereas more than 12% of Washington is in public ownership and receives a relatively high level of protection, "…the distribution of these lands is highly skewed toward high-elevation zones."[34] The national parks, federal wilderness areas, national forest lands, etc. are primarily at mid- to high elevations. The features on these lands—both the ecosystem types and the suite of common and rare species—are, by virtue of the land ownership and management objectives, at lesser risk from conversion and degradation.

Public lands are not, however, limited to mid- and higher elevations. Significant public ownership exists within the Columbia Plateau ecoregion, although much of it occurs in a checkerboard pattern with private ownership (see Figure 3.7). The checkerboard pattern of land ownership in the Columbia Plateau ecoregion has contributed to its severe fragmentation.

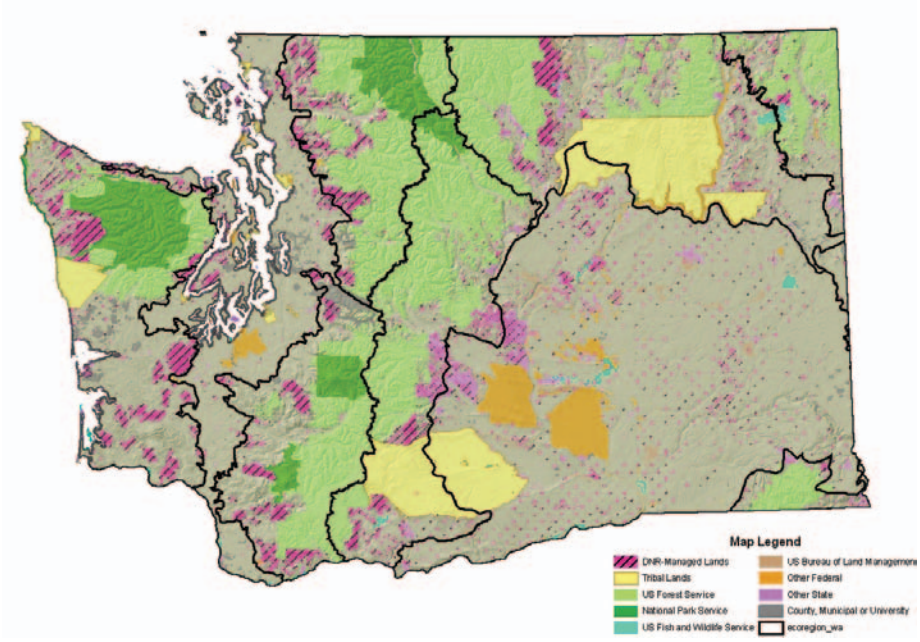


Figure 3.7. Public lands in Washington. See footnote 33.

Public lands specifically designated for conservation contribute to the protection of biodiversity. National parks and national wildlife refuges are perhaps the highest profile example of such lands. Federal and state agencies also identify lands for inclusion within the statewide system of natural areas in Washington. This system includes Natural Area Preserves, Natural Resources Conservation Areas, Research Natural Areas, and other federal or state land designations that provide conservation for significant ecological features. [35]

Non-profit organizations have also used ownership as one tool to achieve conservation. Land trusts have increased in Washington over the last ten years. Many land trusts emphasize conservation of natural ecosystems and protect lands through outright acquisition or the purchase of conservation easements.

Voluntary landowner actions play an important role on privately owned lands, particularly those at lower elevations. Lower elevation lands, in general, are more likely to be privately owned. Species and ecosystems occurring on these lands do not enjoy the same degree of legal and policy-level protection as species and ecosystems on public lands. As a result, the voluntary actions of even a limited number of land-owners can make a significant difference.

Puget Sound Action Team. ***2005-2007 Puget Sound Conservation and Recovery Plan Highlights:***

- Improve water quality in Hood Canal
- Clean up contaminated sites and sediments
- Conserve and recover orca, salmon, forage fish, and groundfish
- Prevent nutrient and pathogen pollution caused by human and animal wastes
- Protect shorelines and other critical areas that provide important ecological functions
- Restore degraded nearshore and freshwater habitats
- Reduce the harm from stormwater runoff
- Reduce toxic contamination and prevent future contamination

Ownership has different implications in aquatic, particularly marine, environments. The aquatic environment presents significant challenges to direct management of species and their habitats since much of the physical environment moves with the currents and tides. In essence, resource managers have less direct control over the environment.

Restoration of degraded ecosystems has been undertaken locally and is just beginning on larger scales. In a broad sense, restoration includes a wide range of projects, from simply making incremental improvement in a site's ecological condition, to reclamation of significantly degraded land with native species and at least some improvement in ecosystem functioning. In that broader sense, a number of impressive projects have been underway in Washington. For example, land management agencies and non-profit conservation organizations within the southern Puget Sound region have been cooperating for a number of years on the restoration of prairie and oak woodland ecosystems. The U.S. Forest Service and others have been using prescribed fire to restore ecosystems in the Cascades to a healthier condition. And most recently there has been considerable effort to identify and take action on the restoration needs for Puget Sound. Additional large-scale restoration efforts that take into account natural processes and ecosystem functioning will be needed for the successful conservation of Washington's biodiversity.

Footnotes

[1] U.S. Fish and Wildlife Service and U.S. Fish and Wildlife Service and National Oceanic and Atmospheric Administration – National Marine Fisheries Service have the authority and responsibility to list species under the federal Endangered Species Act. Data on federally listed species obtained from Washington Department of Fish and Wildlife and Washington Department of Natural Resources Natural Heritage Program websites.

[2] Plant occurrence data obtained from the Washington Department of Natural Resources Natural Program (2006). Animal occurrence data obtained from the Washington Department of Fish and Wildlife (2006).

[3] Washington Department of Fish and Wildlife. 2006. State Listed Species. Revised March, 2006.

[4] Washington Department of Natural Resources. 2006. Natural Heritage Program website: http://www.dnr.wa.gov/nhp/refdesk/lists/plantrnk.html

[5] NatureServe (www.natureserveexplorer.org) and Washington Natural Heritage Program (www.dnr.wa.gov) websites.

[6] Information sources: (1) Washington State Department of Natural Resources. 2005. *State of Washington Natural Heritage Plan. Update*. 52 p. Olympia. (2) Washington Department of Fish and

Wildlife's *Comprehensive Wildlife Conservation Strategy*.

[7] Washington State Department of Natural Resources. 2005. *State of Washington Natural Heritage Plan. Update*. 52 p. Olympia.

[8] Washington State Department of Fish and Wildlife. 2005. *Comprehensive Wildlife Conservation Strategy*.

[9] Plant occurrence data obtained from the Washington Department of Natural Resources Natural Heritage Program (2006).

[10] This statement does not include species that became extinct or extirpated from Washington prior to Euro-American settlement.

[11] Stinson, D. 2005. Status report for the Mazama pocket gopher, Streaked horned lark, and Taylor's checkerspot. Washington Department of Fish and Wildlife. Olympia.

[12] Washington Natural Heritage Program Information System. 2006.

[13] Information sources: (1) Washington State Department of Natural Resources. 2005. *State of Washington Natural Heritage Plan. Update*. 52 p. Olympia. (2) Washington State Department of Fish and Wildlife. 2005. *Comprehensive Wildlife Conservation Strategy*.

[14] Audubon Washington. Date unknown. State of the Birds. Executive summary.

[15] Grossman, D. H., D. Faber-Langendoen, A. S. Weakley, M. Anderson, P. Bourgeron, R. Crawford, K. Goodin, S. Landaal, K. Metzler, K. D. Patterson, M. Pyne, M. Reid, and L. Sneddon. 1998. International classification of ecological communities: terrestrial vegetation of the United States. Volume I. *The National Vegetation Classification System: development, status, and applications*. The Nature Conservancy, Arlington, Virginia, USA.

[16] Data sources: NatureServe's website (www.natureserveexplorer.org) and the Washington Natural Heritage Program's information system.

[17] Information based on: Cassidy, K.M., C.E. Grue, M.R. Smith, and K.M. Dvornich, eds. 1997. *Washington State Gap Analysis – Final Report*. Washington Cooperative Fish and Wildlife Research Unit, University of Washington, Seattle, Volumes 1-5.

[18] Berry, H.D., J.R. Harper, T.F. Mumford Jr., B.E. Bookheim, A.T. Sewell, L.J. Tamayo. 2001. The Washington State ShoreZone Inventory User's Manual. Report for Washington Department of Natural Resources, Aquatic Resources Division, Olympia, WA.

[19] Graeber, Bill. 1999. Puyallup River delta estuary landscape restoration plan: Washington State Department of Natural Resources.

[20] Washington State Department of Ecology. 2004. *Washington's Environmental Health 2004*. Publication No. 04-01-011. Olympia, Washington. 61 p.

[21] From Washington Department of Natural Resources. 2000. *Changing Our Waterways: Trends in Washington's Water Systems*. Original source of information: Ross, P.S., G.M. Ellis, M.G. Ikonomou, L.L. Barrett, and R.F. Addison. 2000. High PCB concentrations in free-ranging Pacific killer whales, *Orcinus orca* – Effects of age, sex, and dietary preference. *Marine Pollution Bulletin*, v. 40, no. 6, p. 504-515.

[22] Governor's Sustainable Washington Advisory Panel. 2003. A new path forward: action plan for a sustainable Washington. Achieving long-term economic, social, and environmental vitality. Submitted to Governor Gary Locke. February, 2003.

[23] Washington Department of Ecology Office of Dam Safety. 1999. 1998 report to the Legislature – Status of high and significant hazard dams in Washington with safety deficiencies: Washington State Department of Ecology report # WR 99-150.

[24] Washington Department of Ecology. 1998 Washington State Water Quality Assessment, Section 305(b) Report, Publication Number 97-13, August 1997, in *Washington State Office of Financial Management Environmental Chartbook: A Collection of Indicators on Washington's Environment*, June 1999.

[25] Timberland Acres in Washington State, Washington Department of Natural Resources, in

Washington State Office of Financial Management Environmental Chartbook: A Collection of Indicators on Washington's Environment, June 1999.

[26] Booth, D.E. 1991. *Estimating Prelogging Old-Growth in the Pacific Northwest*. Journal of Forestry 89 (10), pp. 25-29.

[27] Timberland Acres in Washington State, Washington Department of Natural Resources, in *Washington State Office of Financial Management Environmental Chartbook: A Collection of Indicators on Washington's Environment*, June 1999.

[28] Information based on: Cassidy, K.M., C.E. Grue, M.R. Smith, and K.M. Dvornich, eds. 1997. *Washington State Gap Analysis – Final Report*. Washington Cooperative Fish and Wildlife Research Unit, University of Washington, Seattle, Volumes 1-5.

[29] Johnson, D.A. and T. O'Neil, managing directors. 2001. *Wildlife-habitat relationships in Oregon and Washington*. Oregon State University Press, Corvallis, Oregon. 736 p.

[30] U.S.G.S. website: Land Use History of North America: http://biology.usgs.gov/luhna/chap10.html

[31] Acres of Land in Farmland in Washington State, in *Washington State Office of Financial Management Environmental Chartbook: A Collection of Indicators on Washington's Environment*, June 1999.

[32] Rapp, V. 2002. U.S.D.A. Forest Service, Pacific Northwest Research Station. *Fire Risk in East-Side Forests*. Science Update Issue 2, September 2002.

[33] Washington State Department of Natural Resources. 2006. Major public lands GIS coverage.

[34] Cassidy, K.M., C.E. Grue, M.R. Smith, and K.M. Dvornich, eds. 1997. *Washington State Gap Analysis – Final Report*. Washington Cooperative Fish and Wildlife Research Unit, University of Washington, Seattle, Volumes 1-5.

[35] The statewide system of natural areas is authorized under RCW 79.70 – the Natural Area Preserves Act. The criteria for selection and the process for establishment of natural areas are described in the biennial *State of Washington Natural Heritage Plan*.

People have had a tremendous impact on Washington's landscapes and biodiversity. Changes were initiated when the first human arrived in the Pacific Northwest. Native Americans made use of the natural resources that were here, but two significant changes occurred following Euro-American contact and settlement: the human population grew rapidly and advancing technologies were applied to the management and extraction of natural resources. As a result, our native species and ecosystems have undergone declines and degradation. The threats to our biodiversity posed by population growth, conversion and degradation of ecosystems, invasions by non-native species, contamination of the environment, overexploitation for economic and recreational purposes, and climate change are also discussed briefly below.

Population Growth

Population growth has been a driving factor for landscape changes in Washington. This growth is positively correlated with habitat loss and degradation, pollution and contamination of the environment, water quality and availability problems, and the interruption of natural processes, such as species migrations and naturally occurring fires.

Our population is currently more than 6 million, having doubled in the last 40 years.[1] By 2030, Washington is expected to have more than 8 million residents (Figure 4.1).[2] Statewide, we currently have a density of almost 90 people per square mile (see Figure 4.2).[3] The 2030 projection is almost 130 people per square mile. Population growth is expected to be greatest in four Puget Sound counties (King, Snohomish, Pierce, and Kitsap), as well as in Clark and Spokane counties.[4] New buildings, roads, sewers, and water supply systems will be needed. All of these developments will add to the pressures on our species and ecosystems.

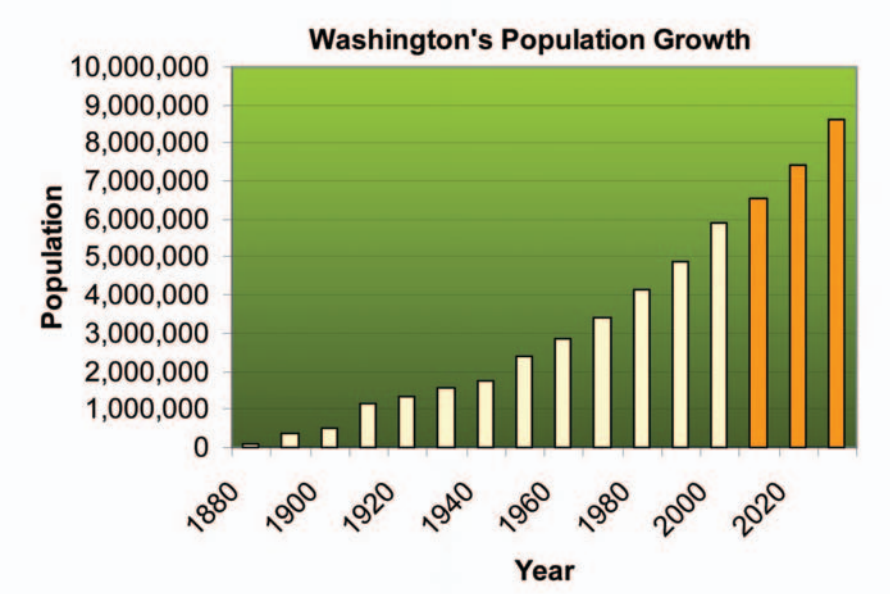


Figure 4.1 Population growth in Washington. Census data from 1890 to 2000, with projections to 2030. See footnotes 1, 2.

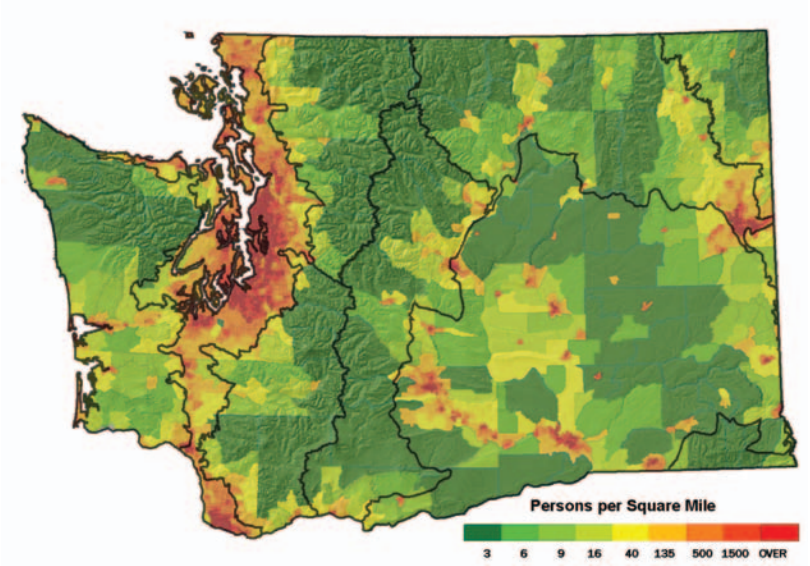


Figure 4.2. Population density in the year 2000. See footnote 3.

Conversion of land for agricultural, residential, and commercial uses

Humans have made significant changes in the land in terms of its suitability as habitat for individual species and in terms of the land's ability to sustain healthy, functioning ecosystems. In some places there has been total conversion to human-made environments. In other places, our activities have resulted in degraded ecosystems, i.e., ecosystems that are missing components and are not functioning as they would be naturally. This section addresses conversion to human-made environments.

Lots for sale in eastern Washington. New businesses, recreational opportunities, and relatively inexpensive land are contributing to growth and development. *DNR photo*

Land conversion resulting in the loss of suitability of habitat is arguably the single most significant factor responsible for the long lists of species and ecosystems of concern in Washington. Lands have been, and continue to be, converted for residential, commercial, and agricultural purposes, construction of roads and railroads, and construction of dams and other means of controlling the flow of water. Rates of conversion have been associated with both population growth and the development of technologies and transportation systems.

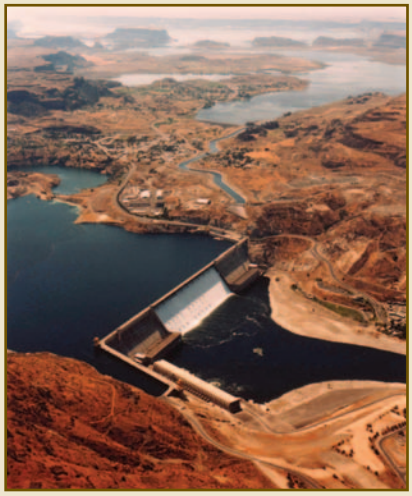
Future conversion will accompany the projected growth in our state's population. As noted above, population growth is expected to be greatest in King, Snohomish, Pierce, Kitsap, Clark, and Spokane counties. Growth in the western Washington counties will very likely result in continued reduction in the extent of lowland forested ecosystems. Since 1997, the conversion of forest to developed land has begun outpacing the conversion of agricultural lands. Washington and Oregon west of the Cascades are projected to see 1.9 million net acres of forest converted by 2030.[5]

Rapid population growth. Lowland ecosystems have been converted to a variety of land uses, including residential and commercial. *DNR photo*

And although the rate is lower, population growth is having a noticeable impact in eastern Washington as well. New businesses are becoming established, recreational opportunities are being marketed, and real estate is less expensive than in western Washington. With the rapid projected human population growth, how we manage conversion of land and degradation of our ecosystems will likely have a significant impact on how successful we are at maintaining our state's biodiversity.

Not all future conversion of land will be a direct result of population growth. Conversion for agricultural purposes continues today. Shrub-steppe continues to be converted to orchards, vineyards, organic farms, and center pivot irrigated cropland. In addition to the outright reduction in the total area covered by shrub-steppe, what remains is being increasingly fragmented, resulting in isolated remnants. Species dependent upon a healthy functioning shrub-steppe ecosystem within the Columbia Plateau ecoregion are at risk of significant declines and extirpation.

The continued loss of shrub-steppe is exacerbated by the increased fragmentation of that which remains, compromising the healthy functioning of these ecosystems.



Grand Coulee Dam. Riparian ecosystems behind dams have disappeared with inundation. *U.S. Army Corps photo*

"Water storage projects that reduce or eliminate natural flooding events in a river system will likely need to address the potential implications to natural functions in the watershed" (Water Storage Task Force 2001).[6]

Past impacts to riparian systems continue to threaten riparian dependent species and ecosystems today. Construction of dams inundated upstream riparian systems, while downstream systems were deprived of flooding, scouring, and sediment deposition. Sediments accumulate behind dams rather than being distributed to riparian areas, estuaries, and deltas on the way to the ocean. Dams have also created major problems for salmon and other migratory fish.

Meeting water storage needs for the state, particularly in light of climate change projections, may pose additional risks for species and ecosystems. Construction of additional water storage facilities is a distinct possibility to meet the duel demands of a growing population and declining winter snowpack, which accounts for much of our water storage capacity in Washington. During the 2000 session of the Legislature, a water storage task force was created to examine the need for increased storage capacity. In its report to the Legislature,[6] the task force acknowledged potential ecological risks to declining species, and the role of natural flooding events in maintaining healthy riparian ecosystems. A number of sites for water storage are being evaluated, including some that are very rich in biodiversity. Decisions regarding selection of water storage sites will likely need to weigh the social and economic benefits against the environmental and ecological costs.

Degradation of Ecosystems

In addition to the outright conversion of the land to human-made environments, continued degradation of ecosystems poses a serious threat to Washington's biodiversity. There have been many sources of degradation in Washington, including land use activities, invasive species, and pollution and contamination. The latter two (i.e., invasive species and pollution/contamination) are dealt with as categories distinct from degradation due to their severity and resultant significance. The discussion that follows under this heading is limited to land use and land management activities.

Timber harvest practices have changed patterns of forest age, structure, and species composition across the landscape. Overall our forests are younger and more homogeneous as a result. The mix of wildlife and plant species within the forests has changed along with the changes in overstory tree composition. Fire suppression has also resulted in changes in the species composition of some of our forests. In some instances, the forests are now more susceptible to damaging insects and various pathogens. Construction of roads to facilitate timber harvest has increased sedimentation in streams, affected movement of wildlife species, and provided an avenue for the invasion of non-native plant species (see next section).

Although timber harvest practices have improved in terms of their impacts on biodiversity, the improvement varies across the landscape. Localized impacts will likely continue to occur.

Off-road vehicle use. A number of outdoor recreational activities are expected to continue to increase as our population grows. *IAC photo*

Livestock grazing has changed the relative mix of native species on our grasslands and shrub-steppe. Ecosystems in eastern Washington did not evolve with large numbers of heavy grazers. The introduction of large herds of horses, cattle, and sheep led to damage to and/or destruction of the cryptobiotic crust and the elimination in many places of native bunchgrasses. Such places became ripe for invasion by non-native species, such as cheatgrass. Heavy grazing in eastern Washington forests reduced the shrub and forb understory, which has resulted in the development of dense, fire-prone, forests. Grazing has also had negative impacts on stream, riparian, and wetland systems, including increased sedimentation, altered stream flow patterns, and increased nutrient loads. Those ecosystems hardest hit by past grazing practices, where there has been nearly total replacement of native by non-native species, may never fully recover.

Increased outdoor recreation pressure on natural and semi-natural environments will contribute to degradation of habitat. The Washington Department of Fish and Wildlife reports that there are more than 2.5 million outdoor recreation days accumulated annually in Washington for hunting, fishing, and wildlife-related recreation.[7] The Interagency Committee for Outdoor Recreation projects increases over the next 20 years for many outdoor-related activities: hiking (20%), various nature activities (37%), visiting beaches (33%), and off-road vehicle riding (20%).[8] Although these activities contribute to the economy, there are environmental costs. Construction of recreation-related infrastructure has left a footprint on the environment: beach resorts, ski areas, roads, trails, campgrounds, etc. Furthermore, trampling of vegetation, compaction of soils, alteration of runoff and erosion patterns, an increased likelihood of non-native species invasions, and changes in animal behavior are all impacts that have been associated with recreational uses. As our growing population seeks places for outdoor recreation opportunities, these impacts are likely to increase.

Wind farm in eastern Washington. *DNR photo*

Development of wind energy facilities (and perhaps other alternative energy sources) has the potential to impact the quality and suitability of the environment for species and ecosystems. Recent construction of wind farms has included new roads and enhancement of existing roads. Along with the construction of the tower pads, these activities result in ground disturbances that degrade the ecosystems, at least within the immediate vicinity. Of particular concern is the impact on nesting areas for shrub-steppe and grassland birds.

The disturbed areas, and the road corridors, also become suitable habitat for invasive species. There is also concern regarding direct mortality of birds and bats.

Invasive Species

Invasive species will likely increase in number and in economic and environmental impact. Non-native invasive plant and animal species cause significant economic impact to property owners, farmers/ranchers, aquaculture, fisheries, etc. as a result of reduced yields and the cost of control and/or eradication.[9] Recognizing the severity of the impacts of non-native species, the Washington State Legislature created the Invasive Species Council during the 2006 legislative session (amending RCW 79A.25). The Council is to develop and implement a statewide invasive species strategic plan.

> "In the U.S., introduced weeds are spreading and invading approximately 1.7 million acres per year of wildlife habitat alone… Noxious weeds result in U.S. crop losses extimated at $26 billion a year." (Washington State Noxious Weed Control Board 2006)[9]

In addition to the economic impacts, there are tremendous environmental impacts. Non-native species often out-compete native species for resources (water, nutrients, pollinators, etc.), change nutrient cycling (in the case of nitrogen-fixing species such as Scot's broom), and alter disturbance patterns (e.g., cheatgrass is associated with increased fire frequency, severity, and size). Invasive species also have been identified as a threat to more than 25% of the state's plant species that are of conservation concern.[11]

Non-native plant species: Approximately 650 non-native plant species have already been documented in Washington.[12] Almost 100 of these are considered noxious weeds, with a legal requirement that the landowner undertake control measures.[13] Others, such as Scot's broom and cheatgrass, are already considered too common and widespread to control other than on a localized scale. Non-native plant species are invading both terrestrial and aquatic habitats. As of 2004, the Department of Ecology had surveyed 412 lakes and rivers; 250 (61 percent) contained invasive exotic plant species, including Eurasian water-milfoil, Brazilian elodea, and parrotfeather.[14] Several species of cordgrass (*Spartina* spp.) have become established in our estuaries and saltmarshes, raising tidal elevations, displacing native eelgrass and other plant species, significantly degrading intertidal feeding grounds of shorebirds, and possibly negatively impacting fish species.[15]

Non-native animal species: Many of Washington's animal species invaders are not recognized as such by the general public. Eastern gray squirrels, possums, and bullfrogs were not part of our fauna

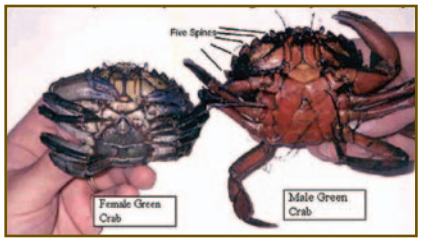
Scot's broom. This native of the Mediterranean is now widespread throughout lowland western Washington. *DNR photo*

In the U.S., non-native species are the second leading threat to imperiled and federally listed species, following only habitat degradation and loss (Stein et al. 2000). [10]

Dalmatian toadflax. A native of southeastern Europe, it was first recorded in Washington in 1911. It is now known from 23 counties. *DNR photo*

until fairly recently. Many other non-native animal species are basically unknown to the general public, but they have the potential to significantly and adversely affect both natural ecosystems and on natural resource-based economies. Gypsy moths provide one example. The European variety defoliates hardwood tree species and some shrubs, while the Asian variety also feeds on conifers. Due to their destructive potential, the Washington State Department of Agriculture invests significant effort each year to detect and eradicate any new infestations.[16]

Another example is the European green crab, which was not known from Washington's waters until 1998. It has the potential to significantly impact the state's clam, oyster, and mussel industries, and possibly even the commercially important Dungeness crab industry.[17] It may only be a matter of time until such notoriously destructive species as the zebra mussel arrive.



European Green Crab *WDFW photo*

While invasive species are a significant threat to biodiversity, their distribution is not uniform. Invasive plant species tend to be a greater threat where there is significant pre-existing disturbance to the ecosystem. There are notable exceptions, however, such as Dalmatian toadflax. Invasive animal species, due primarily to their mobility, are somewhat more likely to pose a threat to intact ecosystems.

According to an analysis of documented threats to biodiversity (primarily rare species) in Washington,[18] the threat to species of conservation concern posed by invasive species is greatest in the Columbia Plateau ecoregion (see Figure 4.3). These data, however, are heavily influenced by the total number of plant taxa that are of conservation concern.

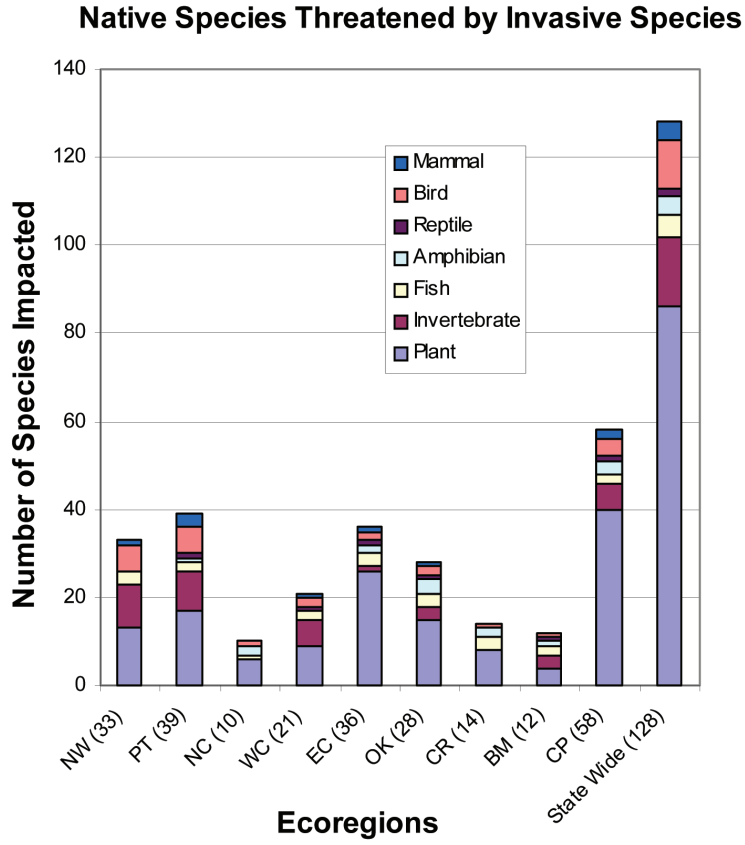


Figure 4.3. Invasive non-native species threat in Washington State. The number of rare native species impacted by invasive, non-native species, summarized by ecoregion and by general taxonomic groups. Total number of species impacted is listed in parentheses below ecoregion abbreviations. (see footnote 18)

Pollution / Contamination

Pollution and environmental contamination will likely accompany the projected growth in the population of the state. Increases in contamination of our environment, particularly via discharges of wastewater and stormwater runoff and atmospheric deposition of pollutants, such as those in automobile emissions, can be anticipated. As additional land in the Columbia Plateau ecoregion is converted to intensive agriculture, there is greater potential for contamination from the application of fertilizers and pesticides. With the on-going demand for petroleum, and with increased marine traffic of all kinds in Puget Sound waters, the danger of catastrophic oil spills increases. New chemicals and the inadequacy of assessing the impacts of chemicals' impacts on the environment are also risks.[19]

Our species and ecosystems will continue to be impacted by the legacy of past contamination: PCBs in the marine food chain have contributed to killer whales being one of the most contaminated marine mammals in the world and birds continue to get lead poisoning from shotgun pellets and from lead fishing sinkers.

Overexploitation

This section highlights overexploitation of individual species. Ecosystems that have been impacted by natural resource management, such as forests being impacted by timber harvest, or shrub-steppe by grazing practices, have been discussed in earlier sections.

The impacts of past overexploitation of species for economic or recreational purposes continues today. Overexploitation of species in Washington dates back to the 18th century arrival of fur trappers in the Pacific Northwest. International markets made it profitable for several companies to establish fur-trading forts within what would become the state of Washington. Beaver populations underwent dramatic declines that led to significant changes to riparian ecosystems throughout the Pacific Northwest.[20] Removal of beaver essentially eliminated a major natural disturbance from the landscape.

Predators such as wolves and fishers were also hunted and trapped to the point of near elimination from the state. The result is that predation as a major natural process has been significantly altered, and in some cases essentially removed from the state. Removal of predators has a ripple effect through the ecosystems of the individual predators, including increasing populations of prey species and resultant added pressure on their food resources.

More recently, the threat from overexploitation has been the greatest in the Puget Trough and Northwest Coast ecoregions, where fish and shellfish species have been heavily impacted. Overharvest has contributed to declines in salmon, several species of rockfish, Pacific herring and other forage fish, Olympia oyster, green sturgeon, bull trout, and other species. Several species of waterfowl are also vulnerable to overhunting.[21]

Hedgehog cactus *DNR photo*

Overexploitation is also a current concern for at least one of our rare native plants, the hedgehog cactus (*Pediocactus simpsonii* var. *robustior*). Individual plants have been dug from their native habitat and offered for sale. Although the harvest has not been quantified, it has the potential for significant negative effects.

Our growing population places many of our natural resources under increasing pressures. Many species of native plants

have become of interest within the floral greens industry in recent years, including salal, various ferns, and beargrass. Although these species do not appear to be currently threatened by overexploitation, there is little oversight regarding harvest levels.

As our population grows, and as climate change results in a decreasing snowpack, there will likely be a trend toward insufficient water being available during the summer to meet the needs of people, farms, and our native biodiversity.

Climate Change

Climate change will have dramatic impacts on the status of our biodiversity. According to the Climate Impacts Group at the University of Washington, we can expect significant changes to estuaries, nearshore habitats, the food web within Puget Sound, riparian habitats,[22] and our forested ecosystems. Salmon will face increasing pressures; their lifecycle makes them susceptible to climate change effects in freshwater, brackish estuaries, and the ocean.[23] Forests will change in their composition, structure, and distribution patterns as some species shift their geographic range while others simply decline. Rising temperatures could increase the frequency and intensity of fire and pest outbreaks, which could in turn reduce the diversity and extent of our forests.

Projected Impacts of Climate Change [22,23]

- Sea level rise will result in the erosion and loss of nearshore habitats
- Changes in temperature and nutrient availability may lead to declines in salt marsh and coastal wetland habitats
- Lower summer flows and warmer waters may negatively affect salmon
- Warmer water temperatures will impact plankton, which form the foundation of the marine food web
- Increased algal productivity in surface waters of Puget Sound would lead to a further depletion of oxygen at depth
- Frequency, severity, and duration of natural disturbances, such as fire and pest outbreaks, will likely change

Perhaps the most significant climate change impact on our biodiversity will be indirect: how will people respond to water storage and water usage challenges? Projections suggest that we will lose 63–87% of our winter snowpack by the end of this century, and that 50% will be lost by 2050. Washington relies heavily on this winter snowpack for our water storage system. Only 10% of our winter water storage is in man-made structures.[24] Constructing additional reservoirs to make up for what we lose in storage capacity provided by snowpack will further interrupt existing hydrologic regimes, adding additional stress to those systems.

How is future climate change and biodiversity's response to that change different from that of the past? Can species and ecosystems respond? What can we do to make a difference? Historically, climate change resulted in species migrations, altered dispersal patterns, and evolutionary processes, including extinction. For example, some species such as ponderosa pine and Garry oak, are likely of southern origin, having migrated northward during warmer times. Species' dispersal capabilities resulted in their colonizing appropriate habitat, even as it shifted spatially. Today, the suitable habitat base is limited due to conversion and degradation. Migration pathways are not continuous. Fragmentation of habitat isolates species into more localized populations, perhaps with compromised dispersal ability. This is likely to be the case particularly for those species that are rare and/or limited in their distribution to begin with.

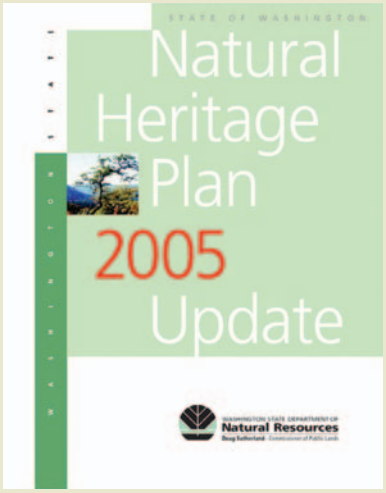
Climate experts also project an increased frequency of extreme warm events and intense precipitation events.[24] Such an increase in extreme conditions may subject isolated, remnant patches of native species to greater risk of degradation and even extirpation.

Footnotes

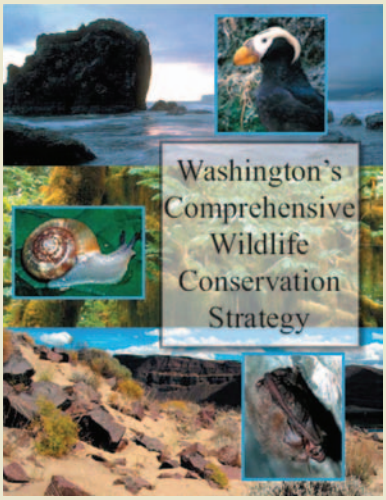
[1] Washington State Office of Financial Management. 2005 Data Book.
[2] Washington State Office of Financial Management: http://www.ofm.wa.gov/pop/gma/projections.asp
[3] Washington State Office of Financial Management: http://www.ofm.wa.gov/popden/colormap.asp
[4] Washington State Office of Financial Management, *Washington State County Growth Management Population Projections: 2000 to 2025*.
[5] Information from Cascadia Consulting Group, Inc. 2006. Developing a strategy for Biodiversity Conservation in Washington: Socioeconomic Conditions and Trends. Draft Task 2 Report. June 5, 2006. Original sources: (1) Washington State Department of Natural Resources website (Overview of Washington's Forest Legacy Program): http://www.dnr.wa.gov/htdocs/amp/forest_legacy/intro.html and (2) Alig, R.J. and A.J. Plantinga. 2004. Future Forestland Area: Impacts from Population Growth and Other Factors That Affect Land Values. *Journal of Forestry* 102 (8):19-24.
[6] Washington State Department of Ecology. 2001. Publication No. 01-11-002. *Water Storage Task Force Report to the Legislature*. Prepared by the Water Resources Program, Washington State Department of Ecology under the direction of The Water Storage Task Force.
[7] Washington Department of Fish and Wildlife. 2005. *Lands 20/20. A Clear Vision for the Future*. 40 p.
[8] Interagency Committee for Outdoor Recreation. 2003. *Estimates of Future Participation in Outdoor Recreation in Washington State*. 62 p.
[9] Washington State Noxious Weed Control Board. 2006. *Report of the Washington State Noxious Weed Control Board*. Steve McGonigal, editor. AGR PUB 820-146 (N/11/05)
[10] Stein, B.A., L.S. Kutner and J.S. Adams. 2000. *Precious Heritage: The Status of Biodiversity in the United States*. A joint project of The Nature Conservancy and the Association for Biodiversity Information. Oxford University Press. 399 p.
[11] Bishop, A., A. Dotolo, M. Grady, A. Lillenthal, J. Panza, A. Varlamov and C. Wilson. 2005. Threats to Biodiversity in Washington: A Report Prepared for the Washington Biodiversity Council.
[12] Rice, P.M. INVADERS Database System (http://invader.dbs.umt.edu).
[13] Washington State Noxious Weed Control Board website: http://www.nwcb.wa.gov/index.htm
[14] Washington State Department of Ecology. 2004. *Washington's Environmental Health 2004*. Publication No. 04-01-011. Olympia, Washington. 61 p.
[15] Washington Department of Natural Resources, Aquatic Resources Division website: http://www.dnr.wa.gov/htdocs/aqr/noxious_weeds/index.html
[16] Washington State Department of Agriculture website. Gypsy moth fact sheet. 2006. http://agr.wa.gov/PlantsInsects/InsectPests/GypsyMoth/FactSheet/docs/FactSheet2006.pdf
[17] Washington Department of Fish and Wildlife website: http://www.wdfw.wa.gov.
[18] Bishop, A., A. Dotolo, M. Grady, A. Lillenthal, J. Panza, A. Varlamov and C. Wilson. 2005. Threats to Biodiversity in Washington: A Report Prepared for the Washington Biodiversity Council.
[19] Redman, S., A. Criss, J. Dohrmann, and R. Shultz. 2006. *Toxics in Puget Sound. Review and analysis to support toxic controls*. Puget Sound Action Team. Office of the Governor. Olympia. 28 p.
[20] Robbins, W.G. and D.W. Wolf. 1994. *Landscape and the Intermontane Northwest: an environmental history*. Gen. Tech. Rep. PNW-GTR-319. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 32 p. (Everett, R.L., assessment team leader; Eastside forest eco system health assessment; Hessburg, P.F., science team leader and tech. Ed., Volume III: assessment).
[21] Washington Department of Fish and Wildlife. 2005. *Comprehensive Wildlife Conservation Strategy*.
[22] Snover, A.K., P.W. Mote, L. Whitely Binder, A.F. Hamlet and N.J. Mantua. 2005. *Uncertain Future: Climate Change and its Effects on Puget Sound*. A report for the Puget Sound Action Team by the Climate Impacts Group (Center for Science in the Earth System, Joint Institute for the Study of the Atmosphere and Oceans, University of Washington, Seattle).

[23] Casola, J.H., J.E. Kay, A.K. Snover, R.A. Norheim, L.C. Whitely Binder and the Climate Impacts Group. 2005. *Climate Impacts on Washington's Hydropower, Water Supply, Forests, Fish and Agriculture*. A report prepared for King County (Washington) by the Climate Impacts Group (Center for Science in the Earth System, Joint Institute for the Study of the Atmosphere and Ocean, University of Washington, Seattle).

[24] Washington State Department of Ecology. 2004. *Washington's Environmental Health 2004*. Publication No. 04-01-011. Olympia, Washington. 61 p.



Statewide assessments. The *State of Washington Natural Heritage Plan* and the *Comprehensive Wildlife Conservation Strategy* are two examples of statewide assessments of conservation need. Both assessments identify priority features (species and ecosystems) rather than providing spatially explicit conservation priorities.



This section provides a brief overview of conservation assessments in Washington. It also identifies information gaps that, if filled, would improve our statewide conservation planning capability.

Conservation Assessments

Conservation needs assessments have been undertaken in Washington at various geographic scales. Some are based on political boundaries (e.g., the state or an individual county), while others are based on ecological boundaries (e.g., individual watersheds, Puget Sound, or individual ecoregions). Many assessments have included spatial components, identifying priority places for conservation action. Others have focused only on identifying priority species and ecosystems, or on identifying threats and/or conservation actions, without being spatially explicit. And some have been limited to individual species or groups of species. A brief discussion of a range of these assessments follows; the discussion is not intended to be comprehensive, but rather to provide examples of different approaches that have been used that might be useful in crafting a statewide biodiversity conservation strategy.

Statewide Assessments

Statewide assessments include *Gap Analysis of Washington State,*[1] Washington Department of Fish and Wildlife's *Comprehensive Wildlife Conservation Strategy,*[2] and the *State of Washington Natural Heritage Plan*.[3] Each of these assessments is fundamentally different.

Gap Analysis mapped the land cover of the state, modeled the distributions of select terrestrial vertebrates, and identified land cover types, vertebrate species, and areas of high vertebrate species richness that are inadequately represented in protected areas. It emphasized land cover types and vertebrate species richness. It also assessed various groups of at-risk species for the degree to which they occur on protected lands. It is rich in its use of geographical information systems (GIS) technology, and it is spatially explicit, but at a relatively coarse scale.

The *Comprehensive Wildlife Conservation Strategy* focuses on identifying the wildlife species and habitats of greatest conservation need by each ecoregion in the state. It also identifies threats and strategies to address the threats. It is a compilation of a tremendous amount of information from many sources. It does not, however, identify specific priority places for conservation action.

The *State of Washington Natural Heritage Plan* establishes the list of priority species and ecosystems for inclusion within the statewide system of natural areas, which includes various natural area categories employed by state and federal agencies and private, non-profit

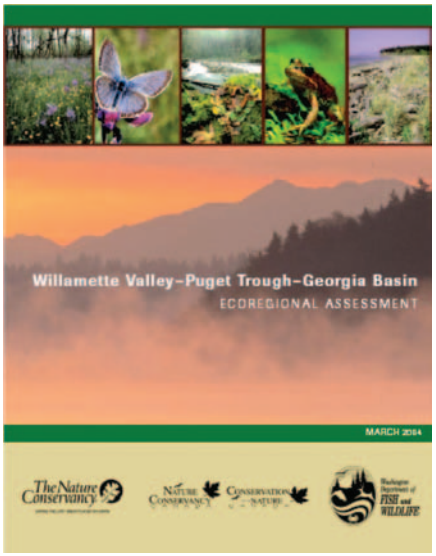
organizations. The *Natural Heritage Plan* does not directly identify priority places for conservation. Various local, state, and federal agencies use the priorities assigned in the *Natural Heritage Plan* to guide conservation actions and land-use decision-making.

Priorities for species and ecosystems established by both the Washington Department of Fish and Wildlife and the Department of Natural Resources (Natural Heritage Program) are also used in the process of evaluating land acquisition proposals under various federal and state grant programs.

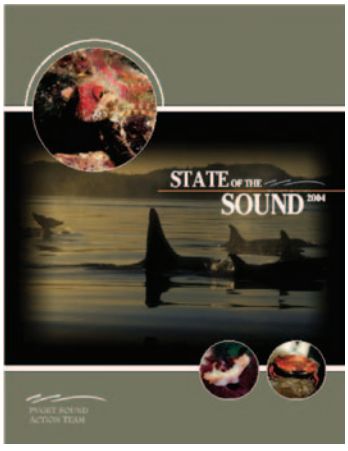
All three of the statewide assessments mentioned above use the concept of ecoregions to help characterize the distribution of species and ecosystems and as a means of assessing conservation priorities. However, none of these efforts comprehensively addresses the issue of conserving the full range of biodiversity over the long term.

Ecoregional Assessments

Conservation assessments at an ecoregional scale have been undertaken as a partnership between The Nature Conservancy, the Washington Department of Fish and Wildlife, the Department of Natural Resources, and many others. Because each of Washington's nine ecoregions extends beyond our state's borders, agencies and organizations from other states and the provinces of British Columbia and Alberta have participated in the process. The assessments are biodiversity-based; they are designed to account for the full range of biodiversity within each ecoregion. They identify the biological elements (generally species and ecosystem types) to be targeted for conservation. Through rigorous analysis and expert review, priority areas for conservation action are identified. As a result, the assessments are the most comprehensive and current efforts that support spatially explicit conservation priority setting at an ecoregional scale. They also provide a framework by which conservation actions at the local level can be measured. The current ecoregional assessments are limited, however, by gaps in availability of species occurrence data, the challenges of incorporating salmonid data, and different analytical approaches to marine, freshwater, and terrestrial environments.

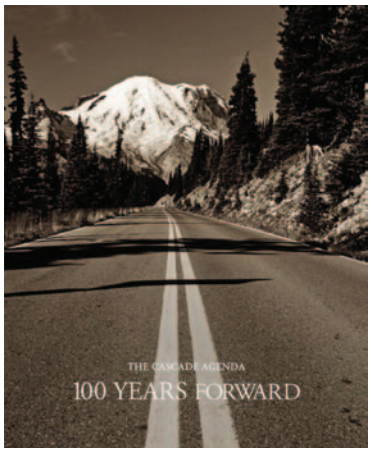


Ecoregional assessments. Assessments, such as the one completed for the Williamette Valley – Puget Trough-Georgia Basin, have been completed for Washington's nine ecoregions.



Mid-Scale Assessments

Significant coordinated effort has gone into assessing conservation needs within the Puget Sound region. These efforts are large in their geographic scope, they involve participation by many agencies, organizations, and governments, and they deal with complex, broad-scale issues. The Puget Sound Action Team has developed a conservation and recovery plan that is based on an assessment of needs within the Puget Sound basin.[4] The efforts undertaken to-date for Puget Sound focus more on threat abatement and recovery actions than identification of priority places to conserve as depicted in the ecoregional assessments. This may in part be due to the aquatic nature of the environment and the difficulties in conserving



habitats in such an environment. It also reflects a different approach to conservation action.

Another recent assessment at a relatively large scale is the Cascade Land Conservancy's project to create a vision for a sustainable future for King, Pierce, Snohomish and Kittitas counties. This project, called the Cascade Agenda, emphasizes maintenance of healthy economies and ecosystems.[5]

The Cascade Agenda starts with the premise that conservation and economic development need each other; you cannot have one without the other and maintain the quality of life that we expect in the Pacific Northwest. The report and the process attempt to look 100 years into the future. Through numerous community forums and meetings they identified the important features, including landscapes and natural areas, that participants wanted to see retained in the region. The vision that was developed from that process supports large-scale conservation of working landscapes, natural habitats, and recreational opportunities.

Local Assessments

Many assessments of conservation needs have been undertaken at more local scales, including county, watershed, and community levels. Such assessments appear to do a more comprehensive job of incorporating local values into the assessments. However, there is greater variability in the definition of the conservation values, often defined more generally in terms of open space or green space, or in terms of forest or wetlands, rather than as biodiversity conservation, which purposefully targets specific ecosystem types and species. To the extent that these local assessments do not purposefully target specific biological elements for conservation that potential contributions to regional or statewide conservation efforts are more difficult to assess.

There are, however, some local assessment efforts that have used an approach that is more readily incorporated into larger scale assessments. One example is the Pierce County Biodiversity Network. Developed as part of the county open space plan, the biodiversity network used GAP habitat maps to select a set of places that could potentially provide habitat for all native terrestrial vertebrate species in the county. It has also incorporated Priority Habitats and Species data from the Washington Department of Fish and Wildlife, rare plant and plant community data from the Natural Heritage Program, as well as data from many other sources. As a result, the contribution of Pierce County's plan to ecoregional and statewide efforts can be more readily measured.

Conservation Assessment Needs

As indicated above, many conservation assessments have been done in Washington using different approaches and covering different geographic scales. But taken as a whole, are they adequate? The following observations suggest ways in which the various assessments could lead collectively to more efficient and effective conservation.

Individual assessments generally have different purposes. Many have been designed independently and may not complement assessments at different scales or by neighboring jurisdictions. In particular, the biological elements that are the objects of conservation effort are often defined differently from one assessment to the next. The result is that it is difficult, if not impossible, to assess the collective

conservation need and/or the collective contribution of conservation actions. A land trust or a county may provide protection for green space or open space without knowledge of whether that space contributes to ecoregional or other mid-scale assessment goals. Conversely, mid-scale assessments may not adequately account for the contribution of open space to specific conservation targets, such as individual ecosystem types.

Adult cougar and cub. *WDFW photo*

For assessment efforts to complement each other, better communication and broader, proactive engagement of stakeholders is needed. Although each assessment has typically been designed for its own purposes, there are often overlapping areas of interest between different assessments. Groups working at any particular geographic scale could benefit from the knowledge and expertise available at other scales. Unfortunately, there is no framework to provide for such communication and coordination of efforts.

Natural processes, and the degree to which they have been interrupted, are not generally addressed in assessments, regardless of scale. Assessments done to date for terrestrial environments have generally focused on species and ecosystems that are of conservation concern. Some, such as ecoregional assessments, have identified priority places for conservation based on the presence of species and ecosystems. Few assessments have included examination of the interruption of natural processes, such as fire or flooding regimes, or of the impacts of fragmentation, isolation, and the loss of corridors. Such issues are acknowledged, but generally not analyzed to identify conservation actions that could be taken to abate or reverse the interruption. This is in part due to a lack of basic understanding regarding the processes and the impacts of interrupting them. The assessment efforts relating to Puget Sound have placed greater emphasis on threats and the impact of natural processes being interrupted than have terrestrial assessments.

Threats are typically identified and addressed in terms of their impacts on individual species and ecosystems or how they impact individual sites. Many threats, such as invasive species and environmental contamination, will require a comprehensive, statewide approach to complement efforts at individual sites or within individual ecosystem types.

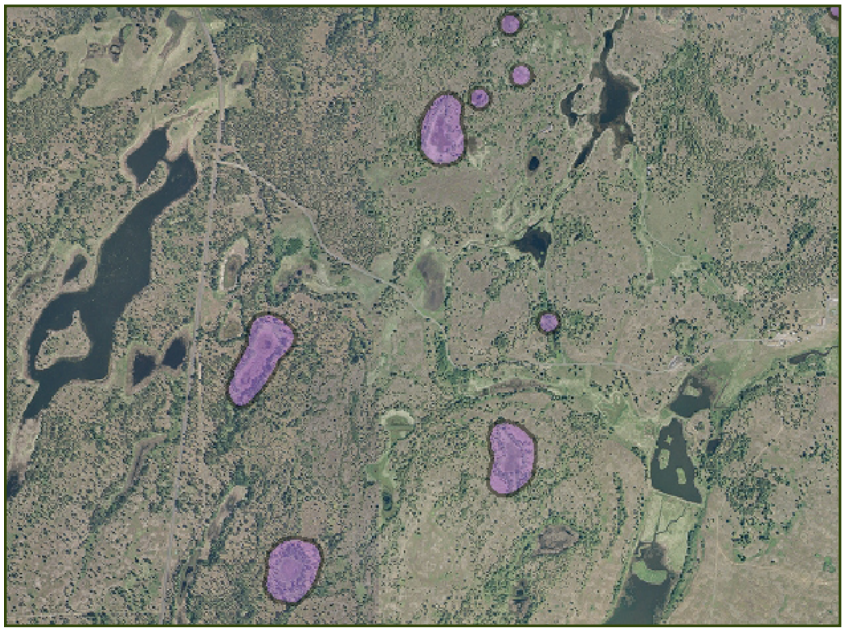
Assessments represent a point in time, yet the status and condition of our biodiversity is not static. In order to improve the useful lifetime of conservation assessments, we need to improve our ability to update them quickly and easily. This may require the development of new tools to manage and analyze information. It will also require the identification of appropriate components of biodiversity to monitor over time.

Information Gaps

Species Information

Our knowledge of which species in the state are of conservation concern is well-developed for some taxonomic groups, less so for others, and clearly inadequate for yet others. Taxonomic groups with generally well-developed information and understanding of rarity and priorities include vascular plants, vertebrates, and select groups of invertebrates (e.g., butterflies). There are, of course, exceptions within

these groups. Taxonomic groups with only moderately developed information include mosses, lichens, some groups of fungi, some fishes, some invertebrates (e.g., dragonflies, beetles, and mollusks), and marine species in general. Taxonomic groups that are largely unknown include most terrestrial and aquatic invertebrate species, including many rare endemics, as well as many underground species, such as soil microbes and many fungi. Without better information regarding which species to target for conservation action, we may inadvertently lose some components of our native biodiversity.



Rare species mapping. Precise locations for many high priority rare species are known and managed in GIS. Known locations of water howellia, a federally listed plant species that occupies seasonal wetlands, are shown in the map above. *DNR photo*

Even within the groups of rare species that are reasonably well-known, additional inventory and mapping are needed. The needs fall into three basic categories. First, there are geographic areas of the state that have not been adequately inventoried. In particular, those areas of the state that are largely in private ownership are underrepresented in existing databases. Second, individual species and entire taxonomic groups have not been adequately inventoried. Third, although the Washington Department of Fish and Wildlife and the Washington Natural Heritage Program have extensive databases with information about the locations of species of conservation concern, the data for many species are old and insufficient to determine with confidence the species' current status. Inventory effort has not kept pace with the landscape changes that are occurring in Washington.

An on-going frustration shared by biologists and planners alike is a lack of negative survey data for rare species and quality ecosystems. As noted above, for many of the highest priority species, there is reasonably good knowledge (and resultant mapping) of where the species has been found. Unfortunately, not as much effort has gone into capturing spatial information regarding areas that have been surveyed for individual species when the species is not found. This is not as simple as it might sound. Negative survey results for a species do not always mean that the species is not present or that the habitat is not suitable. Surveys need to be conducted using appropriate techniques, at the appropriate time of year, and by trained observers.

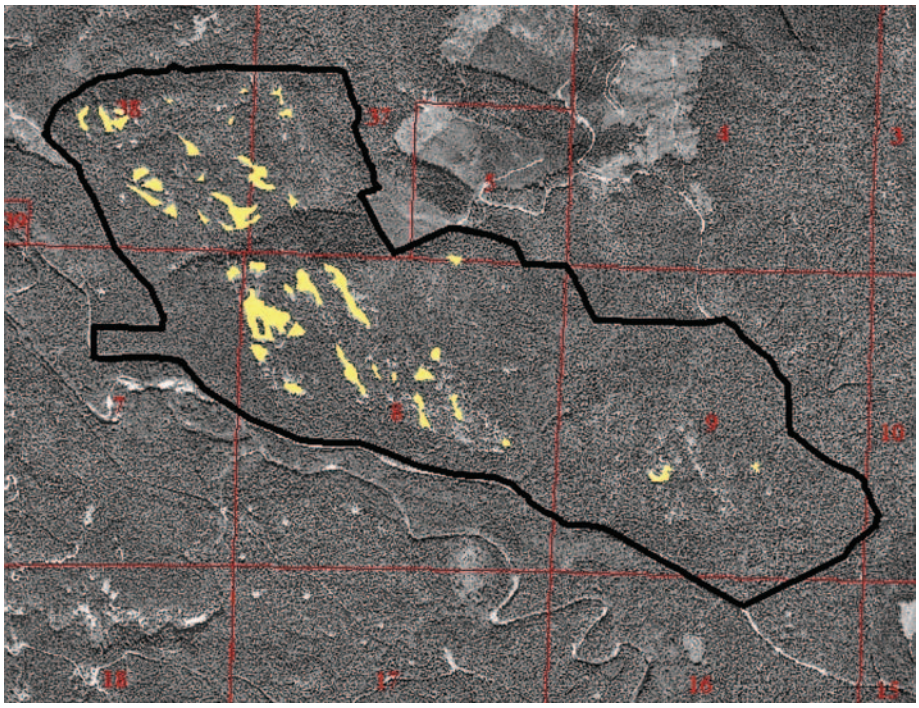
There is increasing interest in predictive habitat mapping for individual species, particularly those that are of conservation concern. The GAP analysis efforts in Washington in the 1990s modeled the distribution of animal species, resulting in maps that predicted the range of each species. Given that the number of conflicts between biodiversity conservation and legitimate land use practices appears to be increasing, there is a need for the development of new tools to more accurately predict where species of interest might occur. If nothing else, doing so would likely result in more efficiently getting the much-needed inventories started. An effort is underway to update the earlier GAP efforts for vertebrate species. There are also efforts, associated with forest sustainability certification, to create predictive range maps for plant communities and plant species that are of conservation concern.

Information regarding threats to species of conservation concern is often inadequate for identifying specific positive actions. Most of the information available regarding threats to individual rare species is observational rather than experimental. Furthermore, the information that is available has generally not undergone analyses that provide statistical validity. Conclusions regarding threat assessments are, therefore, often based upon best professional judgment. Fortunately, consensus often exists about such assessments, and conservation actions can be identified and undertaken with reasonable certainty regarding their appropriateness. In many cases, however, a more comprehensive understanding of threats would improve our ability to take positive restoration and recovery actions.

Broad-brush information is available for most of the state's common species, but declines in common species are not detected very well. Most effort currently is directed toward species that are already identified as being of conservation concern. Common species, with the exception of species that are hunted or fished, receive little attention; there are no systems to detect trends. Yet the pace of growth and development is likely to result in more and more species experiencing downward trends. This will likely become increasingly important if projections regarding population growth and accompanying development are realized. It would clearly be advantageous to identify species susceptible to changing trends as early as possible.

Ecosystems Information

To ensure conservation of our ecosystems diversity, we need to fully understand it. Additional ecosystems classification efforts can help us gain that understanding. Classification provides a consistent basis for characterizing different components of ecosystems across the landscape. Classification results in more precisely defined ecosystem units, which then provide a common language for different agencies, organizations, and land management jurisdictions as they jointly set priorities and identify ecosystem-specific conservation needs. Ecosystem classification needs are perhaps the greatest in marine (deep waters), freshwater aquatic (including riparian, vernal pools, etc.), and special at-risk terrestrial ecosystems (e.g., sand dunes). Essentially, we have not yet documented the full diversity of ecosystems within these environments. The better we understand our ecosystems diversity, the greater use we can make of ecosystems as a coarse filter to prioritize conservation of common species.



Detailed map of herbaceous bald ecosystems. Site-specific conservation actions for priority ecosystems require accurate and precise mapping, such as that shown here for herbaceous bald ecosystems on a portion of the Olympic Peninsula. *DNR photo*

To identify a desired future condition for ecosystems, an understanding of historical baseline conditions is necessary. However, many of our ecosystems have been altered to a point that we currently have little

understanding of what they looked like and how they functioned 100 or 200 years ago. Without additional information, a desired future condition for such ecosystems cannot be specifically identified.

Additional inventory and mapping of ecosystems is necessary. Many existing efforts are based on satellite imagery interpretation and computer modeling. Modeling efforts use physical parameter data (climate, topography, geology, soils, hydrology) along with available vegetation data to essentially predict the distribution of coarse ecosystem types (wildlife habitats, ecological systems). Map products at this scale are useful for gaining an overall understanding of how ecosystem types are distributed spatially and for initial prioritization for conservation effort. The statewide map of wildlife habitats produced by Johnson and O'Neill (2001)[6] is a good example of such a map. Ecological systems maps have also been produced for some of the ecoregions as part of the ecoregional assessment process being undertaken by The Nature Conservancy and its partners.[7]

However, more detailed inventory and mapping are needed as conservation actions begin to take place on the ground. That is, more ground truthing is needed to validate the mapping generated by imagery interpretation and modeling. Detailed mapping has been completed for a number of areas in the state, but these areas are generally relatively small and under a particular ownership or land management designation (e.g., many state parks and some natural areas have been mapped at a detailed scale). A major exception is that all estuarine and marine shorelines in Washington State were classified and mapped according to the ShoreZone Mapping System by the DNR Nearshore Habitat Program.[8]

Summary of Status of Conservation Assessments and Information Gaps

There is certainly sufficient information available to support the development of biodiversity conservation strategies for Washington. While more information could in some cases enhance our efforts, we have a pretty good sense of which species and ecosystems are most imperiled. There have also been numerous conservation assessments at a variety of geographic scales. The various assessments are not necessarily incompatible, but with greater coordination, they could be more complementary. That is, greater effectiveness and efficiency could be achieved.

The ecoregional assessments conducted by The Nature Conservancy, Washington Department of Fish and Wildlife, Washington Department of Natural Resources, and other partners are the most comprehensive and current assessments available. They identify species and ecosystems to target for conservation effort, and include information regarding where those species and ecosystems occur on the landscape. The assessments will be completed for all nine ecoregions within Washington soon. Currently, ecoregional assessments are the only planning effort covering the entire state designed to capture the full range of biodiversity.

Although the ecoregional assessments result in the mapping of high priority areas for conservation, they do not identify specific conservation actions that need to occur, or who should have responsibility for undertaking those actions. On-the-ground site conservation planning and implementation require more spatially precise information than is often currently available. Maximizing the usefulness of the ecoregional assessments will require active participation by various governmental entities (including land managing agencies, county planning departments, and others), and the private sector (including non-profit organizations and both industrial and individual landowners).

Improvements in our knowledge base regarding how ecosystems function, including how threats operate, would increase the likelihood of long-term successful conservation. Being able to detect

early declines in common species would also result in greater efficiency in the long run (i.e., an ounce of prevention is worth a pound of cure).

Finally, we do not currently have an adequate system in place to monitor the effectiveness of the overall biodiversity conservation effort in Washington. A system is needed (1) to provide the scientific basis for on-going adaptations to our overall effort and (2) that can be used to communicate to decision-makers and the public regarding biodiversity conservation needs.

Footnotes

[1] Cassidy, K.M., C.E. Grue, M.R. Smith, and K.M. Dvornich, eds. 1997. *Washington State Gap Analysis—Final Report*. Washington Cooperative Fish and Wildlife Research Unit, University of Washington, Seattle, Volumes 1-5.

[2] Washington Department of Fish and Wildlife. 2005. *Comprehensive Wildlife Conservation Strategy.*

[3] Washington Department of Natural Resources. 2005. *State of Washington Natural Heritage Plan 2005 Update.* Olympia. 52 p.

[4] Information obtained from the Puget Sound Action Team's website: http://www.psat.wa.gov.

[5] Information obtained from Cascade Land Conservancy's website: http://www.cascadeland.org.

[6] Johnson, D.A. and T. O'Neil, managing directors. 2001. *Wildlife-habitat relationships in Oregon and Washington*. Oregon State University Press, Corvallis, Oregon. 736 p.

[7] The Nature Conservancy has led an effort to undertake assessments in each of the ecoregions throughout the country. In Washington, the Department of Fish and Wildlife and the Department of Natural Resources have been major partners in this effort. Because each ecoregion in Washington extends beyond the state's boundaries, the process has included partners from neighboring states and provinces.

[8] Berry, H.D., J.R. Harper, T.F. Mumford Jr., B.E. Bookheim, A.T. Sewell, L.J. Tamayo. 2001. *The Washington State ShoreZone Inventory User's Manual*. Report for Washington Department of Natural Resources, Aquatic Resources Division, Olympia, WA.

GLOSSARY

Abatement. Reduction in degree or intensity.

Algal. Of or relating to algae.

Alpine. The general area in mountains that is above timberline.

Altered hydrology. Any condition in which the natural hydrologic regime has been changed. This includes spatial, temporal, and rate of flow of water through a given area.

Aquatic landscape. Basic ecological unit composed of living and non-living elements interacting within an aquatic environment.

Biodiversity. The full range of life in all its forms. This includes the habitats in which life occurs, the ways that species and habitats interact with each other, and the physical environment and the processes necessary for those interactions.

Boreal forests. Forests at northerly latitudes, characterized by conifers and long winters.

Brackish. Water that is saltier than fresh water but not as salty as sea water.

Carbon storage. The concept of counteracting the build-up of carbon dioxide in the atmosphere by either retaining carbon in a non-gaseous state or by capturing carbon dioxide and storing it underground or in the sea.

Center pivot irrigation. Type of irrigation system that consists of a wheel-driven frame supporting a series of sprinkler nozzles. The frame rotates around a central point to distribute water over a large circular area.

Coarse filter. An approach to conservation that uses some feature(s) of the landscape to represent several to many other features. For example, representative occurrences of a particular plant community, if adequately conserved, would provide protection for the suite of common species that make up that community.

Conservation. The protection, restoration, or sustainability of natural resources.

Conservation easement. A voluntary agreement between a private landowner and a municipal agency or qualified not-for-profit corporation to restrict the development, management, or use of land.

Conversion. The act of changing from one use, function, or purpose to another. In the context of this report, conversion refers to land being converted from a natural (or reasonably natural) state, to a non-natural state, such as an agricultural field or a housing development.

Corridors. Avenues or pathways by which individuals and populations can continue patterns of movement, which are sometimes necessary for the individual's or the population's survival.

Critically imperiled. As used in this document, the term constitutes a conservation status category defined by NatureServe. Critically imperiled means being at very high risk of extinction.

Cryptobiotic crust. A highly specialized community of cyanobacteria, mosses, lichens, and their by-products, which create a crust of soil particles bound together by organic materials.

Defoliate. To strip a plant of its leaves.

Degradation. Transition from a higher to a lower level or quality. In the context of this report, degradation refers to a lowering of overall ecological condition or to a state of being less natural than under pristine conditions. Degradation can be manifested in changes in composition, structure, or function.

Delta. A low, nearly flat accumulation of sediment deposited at the mouth of a river or stream, commonly triangular or fan-shaped.

Dispersal patterns. Refers to the spatial distribution of individuals within a species.

Ecological drainage units. Aggregates of watersheds that share ecological characteristics.

Ecoregion. A relatively large area characterized by fairly uniform climate and geology and a distinct assemblage of species and natural communities.

Ecosystem. All of the organisms that live in a particular area, the physical environment of that area, and the interactions between the species and the physical environment.

Ecosystem diversity. The variety of unique biological communities.

Endangered. In danger of becoming extinct or extirpated.

Endemic. Native to or limited to a certain region. Species endemic to Washington occur nowhere else.

Estuarine. Of, relating to, or occurring in an estuary.

Estuary. A semi-enclosed coastal body of water with one or more rivers or streams flowing into it, where salt and fresh water mix. Estuaries are typically the tidal mouth of a river.

Extant populations. Populations that still exist.

Extinct. No longer existing. Exterminated everywhere.

Extirpated. Destroyed or exterminated, generally from a specific area. In contrast to extinct, which is to be exterminated everywhere.

Fire dependent species. Species for which fire is essential to their long term survival. For example, the seeds of many plant species will not germinate unless they are exposed to fire.

Fire resistant species. Species with characteristics that give them a lower probability of being injured or killed by fire. For example, the bark of ponderosa pine trees conveys some fire resistance to large, mature trees.

Forage fish. Small fish that often breed prolifically and serve as food for predatory fish.

Forb. A broad-leaved herb or forage plant other than a grass.

Fragmentation. Refers to conversion or degradation of the natural landscape, resulting in isolated (or semi-isolated) remnant patches.

Genetic diversity. Variation within a species that is attributable to differences in hereditary material.

Genetic variability. The state of being genetically variable, of having more than one genetic state.

Ground fish. A bottom dwelling fish such as flounder or cod.

Homogeneity. The state or quality of being the same or similar in nature or kind.

Hydrologic relationship. Relationship that deals with the occurrence, circulation, distribution, and properties of the waters of the earth and its atmosphere.

Impervious surfaces. Hard, non-porous surfaces such as roads, parking lots, and rooftops that prevent precipitation from soaking into the ground, thus increasing surface runoff.

Invasive species. Non-native species that threaten ecosystems, habitats, or species.

Invertebrates. Animals without backbones, including slugs, snails, earthworms, insects, spiders.

Lichen. A fungus that harbors algae within its body; the fungus and algae function as if they were a single organism, being indistinguishable without a microscope.

Liverworts. A group of small, photosynthetic, non-vascular plants that occur in diverse habitats. Some species have lobe-shaped leaves that resemble a liver.

Microorganism. An organism that can be seen only through a microscope. Microorganisms include bacteria, protozoa, algae, and fungi.

Migratory. Tending to change location periodically, especially to move seasonally from one region to another.

Mollusks. A large group of invertebrates, found primarily in salt water. For example, clams, oysters, and snails.

NatureServe. A network of Natural Heritage Programs and Conservation Data Centers, which are

located throughout the western hemisphere; a non-profit, conservation organization with its main office in Arlington, Virginia. http://www.natureserve.org/

Nearshore. An indefinite zone extending seaward from the marine shoreline to below the low tide line.

Pathogen. Any disease-producing microorganism or material.

Plankton. Small to microscopic organisms that live in fresh or salt water and are carried along by the currents.

Predator/prey relationship. The interaction between a predator, a species that eats another species, which is its prey.

Puget Trough. The lowlands surrounding Puget Sound. Also, a defined ecoregion that embraces the lowlands and marine waters lying between the Cascades to the east and the coastal ranges and Olympics to the west, from sea level to an elevation of about 1,000 feet. Washington-centric shorthand for the Willamette Valley-Puget Trough-Georgia Basin ecoregion.

Riparian. Belonging or relating to the bank of a stream or river.

Salmonid. A member of the family Salmonidae, which includes salmon, trout, and whitefish.

Scouring. Removal of soil or sediment material by the flow of a river or stream, or by waves and currents.

Seral. A transitional stage of succession in a plant or animal community.

Shrub-steppe. Grassland with a shrub component. In Washington the shrubs are often, but not exclusively, species of sagebrush.

Soil microbes. Microscopic organisms that live in the soil and feed on organic matter.

Species. A group of organisms with the same ancestry that can reproduce only with each other.

Species diversity. The number of different species in a particular area (i.e., the species richness) weighted by a measure of abundance, such as the number of individuals. In this report, the term species diversity is used simply to refer to species richness.

Species richness. The number of different species in a particular area.

Subalpine. The zone that lies just below timberline in mountain areas.

Substrate. The surface on which a plant or animal grows or is attached.

Superfund sites. The United States federal government established the Superfund Program in 1980 to clean up the worst hazardous-waste sites nationwide.

Symbiotic relationship. A relationship between two entities that is mutually beneficial.

Talus slope. A slope formed by an accumulation of rock debris at the base of a cliff.

Taxonomic group. An animal or plant group with an evolutionary relationship.

Temperate rainforest. A coniferous or broadleaf forest that occurs in mid-latitudes areas of high rainfall.

Terrestrial. Growing on the ground and supported by soil.

Threatened. Likely in the near future to become endangered.

Understory. An underlying layer of vegetation, especially the plants that grow beneath a forest's canopy. May include trees, shrubs, and forbs.

Vascular plant. A plant that has an internal water and food transport system of specially modified cells (xylem and phloem) that form tube- or pipe-like structures.

Vernal pool. A pool of water forming in the spring, which usually dries up for part of the year.

Vertebrates. Animals with backbones, including fish, amphibians, reptiles, birds, and mammals.

Abbreviations

DOE. Department of Ecology.

DNR. Department of Natural Resources.

EPA. Environmental Protection Agency.

GAP. Gap analysis.

GIS. Geographical Information System.

IAC. Interagency Committee for Outdoor Recreation.

NPS. National Park Service.

WDFW. Washington Department of Fish and Wildlife.

Photo credits:

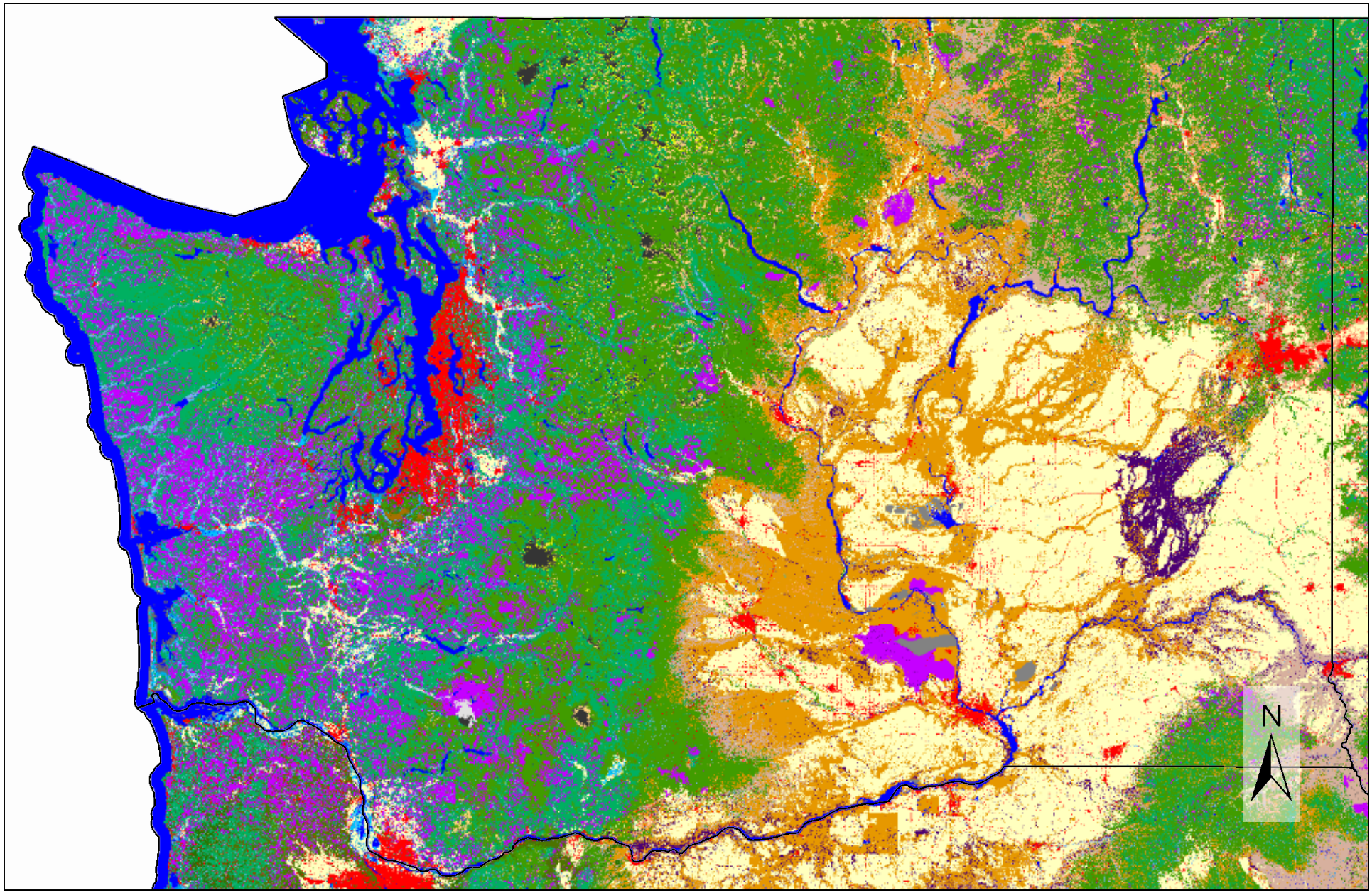
Front cover - *Carlisle Bog, DNR; Amanita mushrooms, K. Hanson; Shrub-steppe, M. Hallet; Oregon Spotted Frog, W. Leonard; Stream, PRT.*

Back cover - *Aster species, PRT; Perego's Lagoon at Ebey's Landing, B. Legler; Sandhill cranes, H. Ferguson; Methow hillside, S. Fitkin; Puget blue butterfly and lupine, K. McAllister.*

gap KEEPING COMMON SPECIES COMMON

National Biological Information Infrastructure

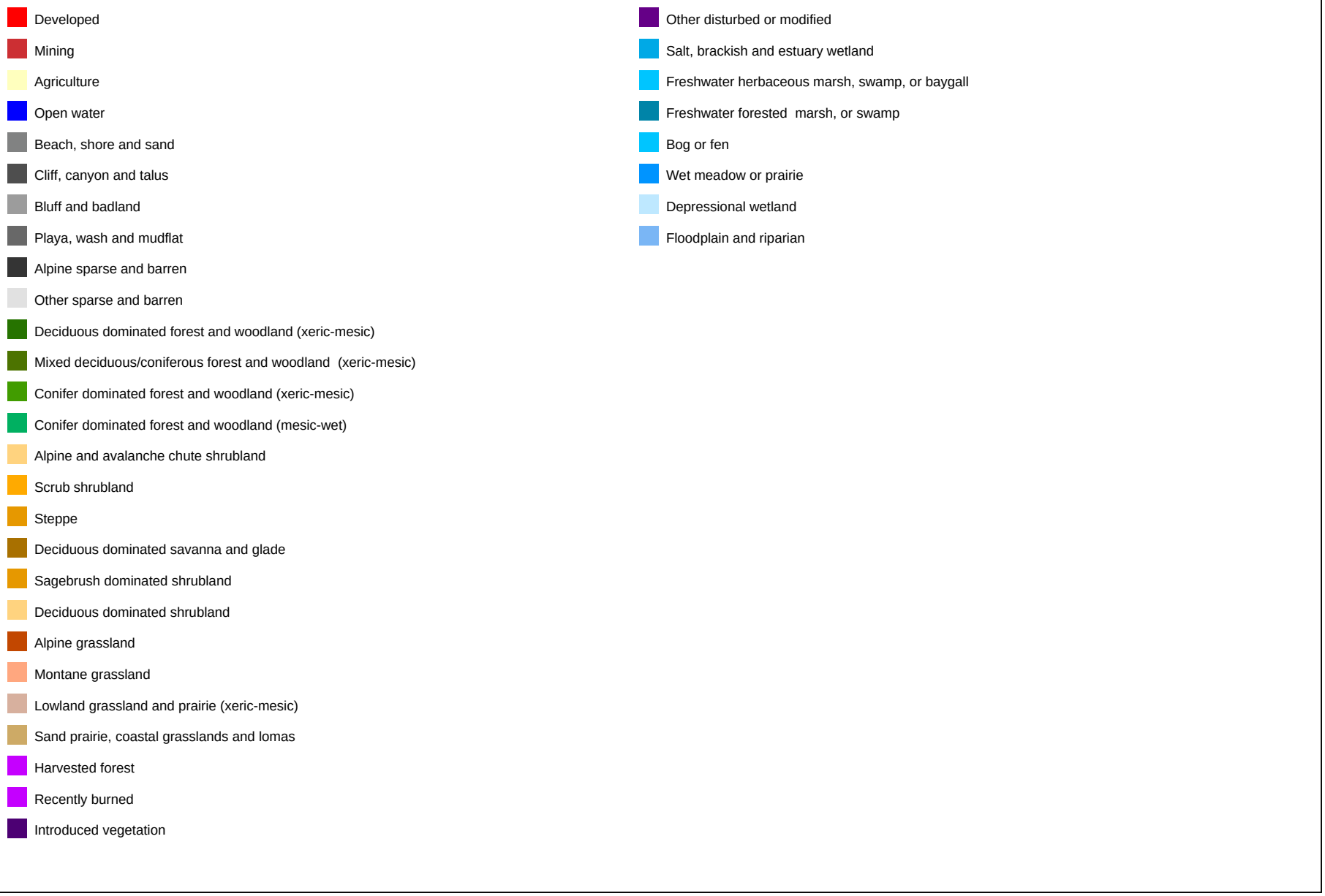
Land Cover Printable Map for Washington



DRAFT MAP - This map is for display purposes only and should not be used for larger scale analysis.

Scale: 1" = 73.0 mi

Land Cover Printable Map for Washington Legend: Level 2



Land Cover Report for Washington

Land Cover Name	Hectares	Sq. Miles	% Total Area
Human land use	3,937,163.22	15,201.47	22.57 %
Developed	477,426.87	1,843.36	2.74 %
Developed, Open Space	85,927.86	331.77	0.49 %
Developed, Low Intensity	355,734.18	1,373.50	2.04 %
Developed, High Intensity	35,764.83	138.09	0.20 %
Mining	532.62	2.06	0.00 %
Quarries, Mines, Gravel Pits and Oil Wells	532.62	2.06	0.00 %
Agriculture	3,459,203.73	13,356.06	19.83 %
Cultivated Cropland	3,049,616.16	11,774.63	17.48 %
Pasture/Hay	409,587.57	1,581.43	2.35 %
Aquatic	265,555.26	1,025.31	1.52 %
Open water	265,555.26	1,025.31	1.52 %
Open Water (Fresh)	256,789.89	991.47	1.47 %
Open Water (Brackish/Salt)	8,765.37	33.84	0.05 %
Sparse and barren systems	214,503.21	828.20	1.23 %
Beach, shore and sand	63,274.77	244.31	0.36 %
Unconsolidated Shore	15,524.46	59.94	0.09 %
Inter-Mountain Basins Active and Stabilized Dune	43,607.16	168.37	0.25 %
North Pacific Maritime Coastal Sand Dune and Strand	4,143.15	16.00	0.02 %
Cliff, canyon and talus	79,722.18	307.81	0.46 %
Rocky Mountain Cliff, Canyon and Massive Bedrock	15,773.76	60.90	0.09 %
North Pacific Montane Massive Bedrock, Cliff and Talus	55,913.31	215.88	0.32 %
North Pacific Coastal Cliff and Bluff	33.12	0.13	0.00 %
Inter-Mountain Basins Cliff and Canyon	8,001.99	30.90	0.05 %
Bluff and badland	29.16	0.11	0.00 %
Columbia Plateau Ash and Tuff Badland	29.16	0.11	0.00 %
Playa, wash and mudflat	7,992.36	30.86	0.05 %
Temperate Pacific Intertidal Mudflat	4,455.27	17.20	0.03 %
Temperate Pacific Freshwater Mudflat	170.37	0.66	0.00 %
North Pacific Serpentine Barren	2,450.88	9.46	0.01 %
Inter-Mountain Basins Playa	915.84	3.54	0.01 %
Alpine sparse and barren	55,274.13	213.41	0.32 %
North Pacific Alpine and Subalpine Bedrock and Scree	20,387.43	78.72	0.12 %
North American Alpine Ice Field	31,464.45	121.48	0.18 %
Rocky Mountain Alpine Bedrock and Scree	3,422.25	13.21	0.02 %
Other sparse and barren	8,210.61	31.70	0.05 %
North Pacific Volcanic Rock and Cinder Land	8,210.61	31.70	0.05 %
Forest and woodland systems	7,482,990.87	28,891.99	42.89 %
Deciduous dominated forest and woodland (xeric-mesic)	30,656.70	118.37	0.18 %
North Pacific Oak Woodland	6,652.89	25.69	0.04 %
Rocky Mountain Aspen Forest and Woodland	11,311.29	43.67	0.06 %
Inter-Mountain Basins Curl-leaf Mountain Mahogany Woodland and Shrubland	7.83	0.03	0.00 %
North Pacific Broadleaf Landslide Forest and Shrubland	12,684.69	48.98	0.07 %
Mixed deciduous/coniferous forest and woodland (xeric-mesic)	83,966.31	324.20	0.48 %
North Pacific Dry Douglas-fir-(Madrone) Forest and Woodland	76,008.96	293.47	0.44 %
Inter-Mountain Basins Aspen-Mixed Conifer Forest and Woodland	769.50	2.97	0.00 %
North Pacific Lowland Mixed Hardwood-Conifer Forest and Woodland	7,187.85	27.75	0.04 %
Conifer dominated forest and woodland (xeric-mesic)	4,549,798.35	17,566.87	26.08 %
Northern Rocky Mountain Western Larch Savanna	9,025.02	34.85	0.05 %
Columbia Plateau Western Juniper Woodland and Savanna	1,200.24	4.63	0.01 %
North Pacific Maritime Dry-Mesic Douglas-fir-Western Hemlock Forest	599,255.19	2,313.74	3.43 %
North Pacific Mountain Hemlock Forest	355,912.20	1,374.18	2.04 %
Northern Rocky Mountain Dry-Mesic Montane Mixed Conifer Forest	1,652,138.73	6,378.94	9.47 %
Northern Rocky Mountain Subalpine Woodland and Parkland	235,873.17	910.71	1.35 %
Rocky Mountain Lodgepole Pine Forest	44,781.66	172.90	0.26 %

Land Cover Report for Washington

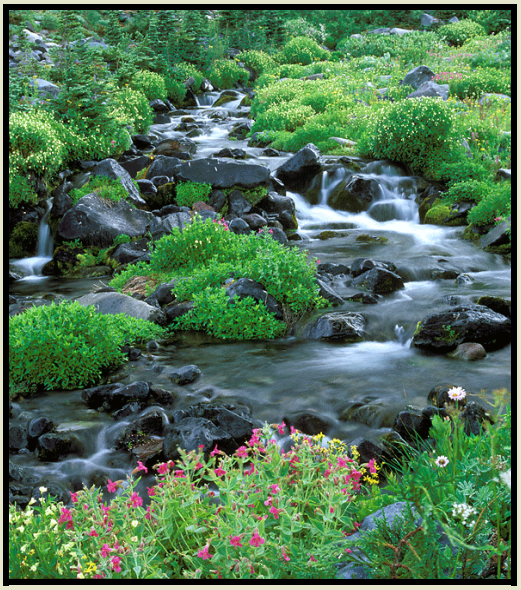
Land Cover Name	Hectares	Sq. Miles	% Total Area
Northern Rocky Mountain Ponderosa Pine Woodland and Savanna	498,005.10	1,922.81	2.85 %
Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland	291,735.18	1,126.40	1.67 %
Middle Rocky Mountain Montane Douglas-fir Forest and Woodland	6.30	0.02	0.00 %
Rocky Mountain Poor-Site Lodgepole Pine Forest	37.35	0.14	0.00 %
North Pacific Dry-Mesic Silver Fir-Western Hemlock-Douglas-fir Forest	787,304.61	3,039.80	4.51 %
East Cascades Oak-Ponderosa Pine Forest and Woodland	66,354.57	256.20	0.38 %
North Pacific Wooded Volcanic Flowage	8,169.03	31.54	0.05 %
Conifer dominated forest and woodland (mesic-wet)	2,818,569.51	10,882.56	16.16 %
East Cascades Mesic Montane Mixed-Conifer Forest and Woodland	334,423.80	1,291.22	1.92 %
North Pacific Hypermaritime Sitka Spruce Forest	202,936.05	783.54	1.16 %
North Pacific Maritime Mesic Subalpine Parkland	174,604.14	674.15	1.00 %
North Pacific Maritime Mesic-Wet Douglas-fir-Western Hemlock Forest	1,364,632.11	5,268.87	7.82 %
North Pacific Mesic Western Hemlock-Silver Fir Forest	151,045.47	583.19	0.87 %
Northern Rocky Mountain Mesic Montane Mixed Conifer Forest	207,621.36	801.63	1.19 %
Rocky Mountain Subalpine Mesic Spruce-Fir Forest and Woodland	279,927.00	1,080.80	1.60 %
North Pacific Hypermaritime Western Red-cedar-Western Hemlock Forest	103,379.58	399.15	0.59 %
Shrubland, steppe and savanna systems	**2,201,851.80**	**8,501.40**	**12.62 %**
Alpine and avalanche chute shrubland	91,082.70	351.67	0.52 %
North Pacific Dry and Mesic Alpine Dwarf-Shrubland, Fell-field and Meadow	15,408.36	59.49	0.09 %
Rocky Mountain Alpine Tundra/Fell-field/Dwarf-shrub Map Unit	24,070.41	92.94	0.14 %
North Pacific Avalanche Chute Shrubland	51,603.93	199.24	0.30 %
Scrub shrubland	8,250.75	31.86	0.05 %
Inter-Mountain Basins Mixed Salt Desert Scrub	8,250.75	31.86	0.05 %
Steppe	1,228,424.31	4,742.97	7.04 %
Columbia Plateau Steppe and Grassland	142,396.02	549.79	0.82 %
Columbia Plateau Low Sagebrush Steppe	4,910.58	18.96	0.03 %
Inter-Mountain Basins Big Sagebrush Steppe	1,059,234.48	4,089.73	6.07 %
Inter-Mountain Basins Montane Sagebrush Steppe	20,659.14	79.77	0.12 %
Inter-Mountain Basins Semi-Desert Shrub Steppe	1,224.09	4.73	0.01 %
Deciduous dominated savanna and glade	6,091.38	23.52	0.03 %
Willamette Valley Upland Prairie and Savanna	6,091.38	23.52	0.03 %
Sagebrush dominated shrubland	755,351.73	2,916.43	4.33 %
Columbia Plateau Scabland Shrubland	157,848.84	609.46	0.90 %
Inter-Mountain Basins Big Sagebrush Shrubland	597,502.89	2,306.97	3.42 %
Deciduous dominated shrubland	112,650.93	434.95	0.65 %
North Pacific Montane Shrubland	22,780.35	87.96	0.13 %
Northern Rocky Mountain Montane-Foothill Deciduous Shrubland	84,141.36	324.87	0.48 %
Northern Rocky Mountain Subalpine Deciduous Shrubland	5,729.22	22.12	0.03 %
Grassland systems	**852,571.62**	**3,291.80**	**4.89 %**
Alpine grassland	41,123.25	158.78	0.24 %
Rocky Mountain Alpine Fell-Field	878.85	3.39	0.01 %
North Pacific Alpine and Subalpine Dry Grassland	40,244.40	155.38	0.23 %
Montane grassland	227,303.82	877.62	1.30 %
Northern Rocky Mountain Lower Montane, Foothill and Valley Grassland	207,701.91	801.94	1.19 %
Northern Rocky Mountain Subalpine-Upper Montane Grassland	3,033.18	11.71	0.02 %
Rocky Mountain Subalpine-Montane Mesic Meadow	16,568.73	63.97	0.09 %
Lowland grassland and prairie (xeric-mesic)	577,322.55	2,229.05	3.31 %
Columbia Basin Foothill and Canyon Dry Grassland	533,341.71	2,059.24	3.06 %
Inter-Mountain Basins Semi-Desert Grassland	9,613.08	37.12	0.06 %
Columbia Basin Palouse Prairie	34,367.76	132.69	0.20 %
Sand prairie, coastal grasslands and lomas	6,822.00	26.34	0.04 %
North Pacific Hypermaritime Shrub and Herbaceous Headland	779.58	3.01	0.00 %
North Pacific Herbaceous Bald and Bluff	6,042.42	23.33	0.03 %
Recently disturbed or modified	**2,001,662.82**	**7,728.46**	**11.47 %**
Harvested forest	1,609,871.04	6,215.75	9.23 %

Land Cover Report for Washington

Land Cover Name	Hectares	Sq. Miles	% Total Area
Harvested Forest - Northwestern Conifer Regeneration	802,640.70	3,099.01	4.60 %
Harvested Forest - Shrub Regeneration	676,749.78	2,612.95	3.88 %
Harvested Forest - Grass/Forb Regeneration	130,480.56	503.79	0.75 %
Recently burned	104,455.53	403.31	0.60 %
Recently burned forest	20,870.91	80.58	0.12 %
Recently burned grassland	29,221.20	112.82	0.17 %
Recently burned shrubland	54,363.42	209.90	0.31 %
Introduced vegetation	281,048.85	1,085.14	1.61 %
Introduced Upland Vegetation - Treed	25.92	0.10	0.00 %
Introduced Upland Vegetation - Shrub	878.04	3.39	0.01 %
Introduced Upland Vegetation - Annual Grassland	275,051.07	1,061.98	1.58 %
Introduced Riparian and Wetland Vegetation	4,659.66	17.99	0.03 %
Introduced Upland Vegetation-Perennial Grassland and Forbland	434.16	1.68	0.00 %
Other disturbed or modified	6,287.40	24.28	0.04 %
Disturbed, Non-specific	6,287.40	24.28	0.04 %
Riparian and wetland systems	490,233.06	1,892.80	2.81 %
Salt, brackish and estuary wetland	13,343.40	51.52	0.08 %
North Pacific Maritime Eelgrass Bed	1,014.75	3.92	0.01 %
Temperate Pacific Tidal Salt and Brackish Marsh	12,328.65	47.60	0.07 %
Freshwater herbaceous marsh, swamp, or baygall	119,126.79	459.95	0.68 %
Laurentian-Acadian Swamp Systems	16.56	0.06	0.00 %
North Pacific Shrub Swamp	48,658.50	187.87	0.28 %
Temperate Pacific Freshwater Aquatic Bed	222.75	0.86	0.00 %
North Pacific Intertidal Freshwater Wetland	8,924.13	34.46	0.05 %
North American Arid West Emergent Marsh	4,022.10	15.53	0.02 %
Temperate Pacific Freshwater Emergent Marsh	57,282.75	221.17	0.33 %
Freshwater forested marsh, or swamp	24,025.77	92.76	0.14 %
Northern Rocky Mountain Conifer Swamp	137.79	0.53	0.00 %
North Pacific Hardwood-Conifer Swamp	23,887.98	92.23	0.14 %
Bog or fen	3,247.83	12.54	0.02 %
North Pacific Bog and Fen	3,163.77	12.22	0.02 %
Rocky Mountain Subalpine-Montane Fen	84.06	0.32	0.00 %
Wet meadow or prairie	15,461.37	59.70	0.09 %
Rocky Mountain Alpine-Montane Wet Meadow	12,619.53	48.72	0.07 %
Willamette Valley Wet Prairie	41.67	0.16	0.00 %
Temperate Pacific Montane Wet Meadow	2,800.17	10.81	0.02 %
Depressional wetland	1,232.55	4.76	0.01 %
Columbia Plateau Vernal Pool	43.83	0.17	0.00 %
Inter-Mountain Basins Alkaline Closed Depression	1,188.72	4.59	0.01 %
Floodplain and riparian	313,795.35	1,211.57	1.80 %
Inter-Mountain Basins Greasewood Flat	466.47	1.80	0.00 %
North Pacific Lowland Riparian Forest and Shrubland	208,374.57	804.54	1.19 %
North Pacific Montane Riparian Woodland and Shrubland	35,985.78	138.94	0.21 %
Northern Rocky Mountain Lower Montane Riparian Woodland and Shrubland	17,317.08	66.86	0.10 %
Rocky Mountain Lower Montane Riparian Woodland and Shrubland	2,693.70	10.40	0.02 %
Great Basin Foothill and Lower Montane Riparian Woodland and Shrubland	3,812.22	14.72	0.02 %
Columbia Basin Foothill Riparian Woodland and Shrubland	31,766.04	122.65	0.18 %
Rocky Mountain Subalpine-Montane Riparian Woodland	8,902.44	34.37	0.05 %
Rocky Mountain Subalpine-Montane Riparian Shrubland	4,477.05	17.29	0.03 %
Total Area	**17,446,531.86**	**67,361.44**	

STATE OF WASHINGTON August 2008

Priority Habitats and Species List



Washington Department of
FISH AND WILDLIFE

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Cover photos (clockwise from top left) by Don Geyer, from WDFW Image Library (Elk); Kelly McAllister, from WDFW Image Library (Western Toad); Kelly McAllister, from WDFW Image Library (Taylor's Checkerspot); Steve Penland (Stream); Dave Menke, from USFWS Image Library (Sage Grouse); Steve Penland (Nearshore and shorebirds).

Acknowledgements

Numerous individuals contributed their time and expertise in support of this update to the Priority Habitat and Species List (PHS List). The PHS List Technical Advisory Team's wide-ranging expertise in species, habitats, and land use matters was invaluable in guiding the direction of the list. Members of the team were Jeff Azerrad (PHS List Update Coodinator and Lead), Greg Bargman, Rex Crawford, Karin Divens, Pam Erstad, Howard Ferguson, Molly Hallock, Jennifer Hayes, Marc Hayes, Terry Johnson, Kelly McAllister, Aimee McIntyre, Noelle Nordstrom, Ann Potter, Chris Sato, Joanne Schuette-Hames, Derek Stinson, and Michelle Tirhi. Technical Advisory Subteams were also formed to address more specific matter that required expert input. These subteams were important in developing or revising definitions for the nearshore, herbaceous bald, shrub-steppe, eastside steppe, westside prairie, and biodiversity areas and corridors priority habitats. An expert subteam also determined which Species of Greatest Conservation Need should be added to the PHS List. Jeanne Miller provided support in generating all priority habitat and priority species distribution maps. Thanks go to all participants of an extensive agency and public comment period. A special thank you goes out to Jennifer Hayes, Stephen Penland, and Elizabeth Rodrick for their guidance and support.

State of Washington
DEPARTMENT OF FISH AND WILDLIFE

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Main Office Location: Natural Resources Building • 1111 Washington Street SE • Olympia, WA

August 1, 2008

A Message from the Director:

Clean water, abundant hunting and fishing opportunities, and rich biological diversity have always been icons of the Pacific Northwest. In Washington, we appreciate the quality these features bring to our lives. However, the condition of the state's fish and wildlife resources is approaching a significant crossroad.

By 2030, the number of people that call Washington their home is projected to increase by 2.2 million, requiring almost four additional cities the size of Seattle, or 11 the size of Spokane, to accommodate that growth. Although it is the smallest of the 11 western states, Washington is now the second most populous, generating unprecedented pressure on our natural resources. The federal designation of a number of Washington salmon stocks as threatened or endangered has been a wake-up call and an example of the need for a greater commitment to statewide conservation.

Fish and wildlife are public resources. Balancing human needs with those of fish and wildlife is a challenge and responsibility we all must accept. Although the Washington Department of Fish and Wildlife (WDFW) is charged with protecting and perpetuating fish and wildlife, WDFW has limited authority over much of the habitat on which animals depend. Instead, protection of Washington's fish and wildlife resources is achieved in partnership with landowners, cities, counties, and others through both voluntary conservation efforts and under the Growth Management Act, Shoreline Management Act, State Environmental Policy Act, Forest Practices Act, and similar laws and planning processes. New cooperative statewide strategies such as Washington's Comprehensive Wildlife Conservation Strategy and Biodiversity Conservation Strategy recommend ways to prevent fish and wildlife from declining to the point where they will need to be listed. Many local governments have taken proactive approaches to planning across the landscape for fish and wildlife habitat protection. The Priority Habitat and Species program is the cornerstone of many of these local conservation planning activities.

In this document, WDFW identifies fish and wildlife resources that are a priority for management and conservation. Landowners, agencies, governments, and members of the public have a shared responsibility to protect and maintain these resources. The information contained in this document is intended to assist all entities in this endeavor.

We are all resource stewards. The condition of our fish and wildlife mirrors our performance as stewards, and it represents our commitment to sustaining these resources for our children and future generations. Thank you for your efforts to preserve Washington State's rich fish and wildlife heritage.

Sincerely,

Jeff P. Koenings, Ph.D.
Director

Table of Contents

What is the PHS List?

The PHS List is a catalog of habitats and species considered to be priorities for conservation and management. *Priority species* require protective measures for their survival due to their population status, sensitivity to habitat alteration, and/or recreational, commercial, or tribal importance. *Priority species* include State Endangered, Threatened, Sensitive, and Candidate species; animal aggregations (e.g., heron colonies, bat colonies) considered vulnerable; and species of recreational, commercial, or tribal importance that are vulnerable. *Priority habitats* are habitat types or elements with unique or significant value to a diverse assemblage of species. A *priority habitat* may consist of a unique vegetation type (e.g., shrub-steppe) or dominant plant species (e.g., juniper savannah), a described successional stage (e.g., old-growth forest), or a specific habitat feature (e.g., cliffs).

In general, areas of priority habitats of greater importance to fish or wildlife tend to have one or more of these characteristics:

- Habitat areas that are larger are generally better than areas that are smaller,
- Habitat areas that are more structurally complex (e.g., multiple canopy layers, snags, geologically diverse) are generally better than areas that are simple.
- Habitat areas that contain native habitat types adjacent to one another are better than isolated habitats (especially aquatic associated with terrestrial habitat),
- Habitat areas that are connected are generally better than areas that are isolated.
- Habitat areas that have maintained their historical processes (e.g., historical fire regiems) are generally better than areas lacking such processes.

There are 20 habitat types, 152 vertebrate species, 41 invertebrate species, and 10 species groups currently in the PHS List. These constitute about 17% of Washington's approximately 1000 vertebrate species and a fraction of the state's invertebrate fauna.

Numerous individuals and groups use the PHS List as well as associated PHS products (e.g., PHS Data) to inform conservation-related activities. Typical users include cities and counties that use PHS to fulfill planning requirements under the Growth Management Act and Shoreline Management Act, non-profit organizations such as land trusts that use PHS information to prioritize habitat protection, community groups working on local biodiversity planning initiatives (e.g., Pierce County Biodiversity Alliance), as well as other state and federal government agencies. Although some apply PHS to regulatory matters, PHS has also been used to inform incentive-based conservation initiatives (e.g., local conservation futures programs).

Questions regarding Priority Habitat and Species data and products can be directed to the appropriate regional contact. An up-to-date list of contacts can be found in WDFW's *Fish and Wildlife Planner* newsletter. To obtain PHS data, call (360) 902-2543, or visit the PHS Website.

Preface

The Priority Habitats and Species (PHS) List is a catalog of those species and habitat types identified by the Washington Department of Fish and Wildlife (WDFW) as priorities for management and preservation. Because information on fish, wildlife, and their habitats is dynamic, the PHS List is updated periodically. All information in this list has gone through an extensive expert peer-review process.

The following section titled "PHS Definitions" explains and defines the terms used throughout this document. It also outlines criteria for including habitat types and animal species in the PHS system.

Fact sheets are included to provide descriptive information about each priority habitat and species (Figure 1). Each fact sheet summarizes:

- priority area for each species and habitat (i.e., area that can be mapped into the PHS Database)
- criteria by which each species is considered to be a priority
- a distribution map showing where each priority species and habitat is expected to occur
- status of state or federally listed priority species (i.e., whether the species is endangered, threatened, sensitive, or a candidate for one of these classifications)

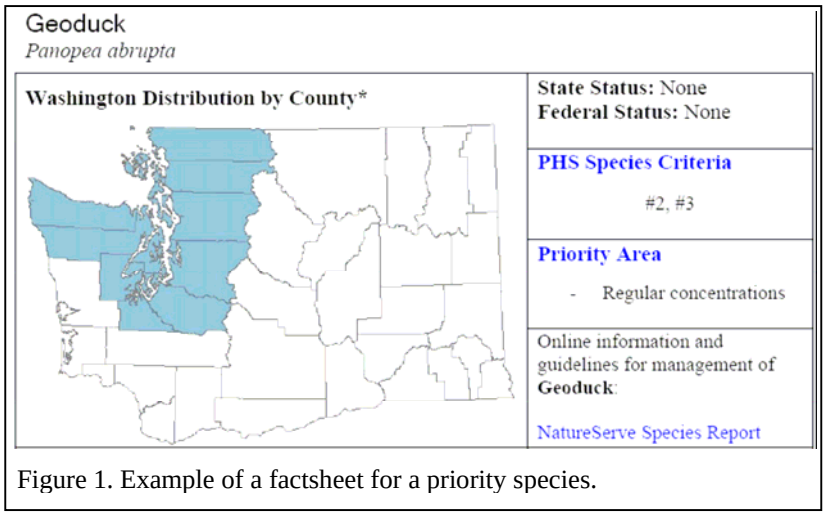


Figure 1. Example of a factsheet for a priority species.

Because the PHS List often is used to determine what species or habitats are management priorities, links to published information that may aid in developing management strategies (e.g., PHS Guidelines) are included with the descriptions when such information is available.

The PHS List can be used:

- for reviewing which habitats and species are considered priorities and by which criteria;
- to determine what priority species and priority habitats may occur within a specific planning area (e.g., county);
- in conjunction with management recommendations developed for priority habitats and species.

Mapping

Mapping of priority habitats and species was initiated in 1990. Mapping consists of recording locational and descriptive data in a Geographic Information System (GIS). These GIS databases represent WDFW's best knowledge of fish and wildlife resources and occurrences. It is important to note, however, that priority species or priority habitats may occur in areas not currently known to WDFW biologists or in areas for which comprehensive surveys have not been conducted. Site-specific surveys may be necessary to rule out the presence of priority habitats or species on individual sites that do not appear on PHS maps.

Data for priority habitats and species are located in more than one database. Databases that have information on the location of priority habitats and priority species include the following:

- Priority Habitat and Species Database:
  - This database provides the locations of priority species or habitats that can be mapped as a geographic area (i.e., polygonal dataset). This database does not include point data.

- Wildlife Survey Data Management Database:
  - Locational information for most terrestrial priority species and habitats. All non-game freshwater fish data also are located in this database.

- Washington Lakes Rivers Information System:
  - Salmon spawning, rearing, and distribution data.

- Spotted Owl Database:
  - Database specific to Spotted Owls.

- Bald Eagle Database:
  - Database specific to Bald Eagles.

- Other information sources include the Department of Natural Resources' Aquatic Lands Division database for kelp beds, and the U.S. Fish and Wildlife Service's National Wetlands Inventory (NWI) for wetlands.

Because fish and wildlife are mobile, and because priority habitats and species data are subject to change, project reviews for fish and wildlife should not rest solely on mapped information. PHS data can only show that a species or habitat type may be present. These data do not show that a species or habitat type is not present.

Sites identified as priority habitats or locations where a priority species is known to occur often are represented on a map as a point or a polygon. Although the exact mapped locations are undoubtedly important, the area surrounding these locations may also need to be evaluated to determine what land uses are compatible or incompatible with the requirements of species using an area. For example, Great Blue Heron colonies are often identified as a single point on a map. When considering changes in land use practices near a heron colony, it makes sence to look beyond the location of the mapped point since herons may be sensitive to disturbance at some distance away from that point.

To Receive Mapped Information:

Personnel at WDFW regional offices and headquarters maintain GIS-based maps and accompanying tabular data. Both hard copy and digital data are available by calling (360) 902-2543 or by writing the address below. Please go to http://wdfw.wa.gov/hab/release.htm to obtain more detailed information about accessing PHS Data. Those asking for data for a location of interest should request all PHS data to ensure that all relevant databases are reviewed to obtain all known occurrences of priority habitats and species.

Management Recommendations

The Washington Department of Fish and Wildlife develops management recommendations to assist landowners, managers, and others in conducting land use activities in a manner that incorporates the needs of fish and wildlife. Management recommendations are developed through a comprehensive review and synthesis of the best scientific information available. Management Recommendations for Washington's Priority Habitats and Species should be used in conjunction with the mapped locations of respective priority habitats and species. All published management recommendations can be accessed at http://wdfw.wa.gov/hab/phsrecs.htm.

Questions and requests for additional PHS information may be directed to:

Priority Habitats and Species
WDFW Habitat Program
600 Capitol Way North
Olympia WA 98501-1091

Internet Access

The PHS Internet Home Page can be accessed at http://wdfw.wa.gov/hab/phspage.htm

For information on rare plants and plant communities, contact:

Washington Department of Natural Resources
Natural Heritage Program
P.O. Box 47016
Olympia, WA 98504-7016
(360) 902-1667
http://www1.dnr.wa.gov/nhp/refdesk/gis/wnhpgis.html

PHS List update process

The update to the PHS List required a great deal of input from experts and potential users of the list. Updating the PHS List began with an initial information gathering (scoping) phase. During this period, numerous agency staff were asked to provide input on changes and revisions that might be necessary to improve the PHS List. PHS user groups were also notified and asked to provide similar feedback (a notice was included in WDFW's newsletter, the *Fish and Wildlife Planner*). All feedback was reviewed and prioritized. Comments made independently by more than one individual were given higher priority. A technical advisory team formed to direct the update to the list reviewed all suggestions. This team also provided their own suggestions for needed updates to the PHS List. This team was comprised of species, habitat, and land use experts. A core group that oversees all PHS matters also provided additional feedback during this pre-update scoping phase. This scoping phase was used to determine what parts of the PHS List would require update and revisions.

After priorities were identified for this update cycle, the process of addressing each priority was carried out, often using teams of experts. Major priorities included additions, deletions, or modifications to the list of priority habitats and species as well as revisions to the language used to define specific priority habitats. The PHS List Technical Advisory Team provided much direction and guidance in addressing major changes to the PHS List. In some instances the team requested that subteams be formed to deal with matters requiring specialized assistance. Each subteam was comprised of experts who have knowledge about a particular habitat or species group. Subteams were formed to help write or revise definitions for nearshore, herbaceous bald, shrub-steppe, eastside steppe, westside prairie, and biodiversity areas and corridors priority habitats. A subteam was also formed to see which Species of Greatest Conservation Need should be added to the PHS List. Each subteam helped write and review proposed changes to the list. In addition to the use of the Technical Advisory Team and Subteams, communications with other experts was critical in making other important decisions (e.g., reviewing priority species distribution maps). Important communications with the Technical Advisory Team, subteams, and other experts were documented.

The peer-review was initiated as the final stage of the update. The review period lasted three weeks and many individuals with various backgrounds were given opportunity to comment. Each comment was considered and the final decision for how each comment was handled was documented.

PHS definitions

PRIORITY HABITAT:

"Priority habitat" is a habitat type with unique or significant value to many species. An area identified and mapped as priority habitat has one or more of the following attributes:

- comparatively high fish and wildlife density
- comparatively high fish and wildlife species diversity
- important fish and wildlife breeding habitat
- important fish and wildlife seasonal ranges
- important fish and wildlife movement corridors
- limited availability
- high vulnerability to habitat alteration
- unique or dependent species

A priority habitat may be described by a unique vegetation type or by a dominant plant species that is of primary importance to fish and wildlife (e.g., oak woodlands, juniper savannah). A priority habitat may also be described by a successional stage (e.g., old growth and mature forests). Alternatively, a priority habitat may consist of a specific habitat features (e.g., talus slopes, caves, snags) of key value to fish and wildlife.

PRIORITY SPECIES:

"Priority species" are fish and wildlife species requiring protective measures and/or management actions to ensure their survival. A species identified and mapped as priority species fit one or more of the following criteria:

Criterion 1. State-Listed and Candidate Species:

State-listed species are native fish and wildlife species legally designated as Endangered (WAC 232-12-014), Threatened (WAC 232-12-011), or Sensitive (WAC 232-12-011). State Candidate species are fish and wildlife species that will be reviewed by the department (POL-M-6001) for possible listing as Endangered, Threatened, or Sensitive according to the process and criteria defined in WAC-232-12-297.

Criterion 2. Vulnerable Aggregations:

Vulnerable aggregations include species or groups of animals susceptible to significant population declines, within a specific area or statewide, by virtue of their inclination to aggregate. Examples include heron rookeries, seabird concentrations, marine mammal haulouts, shellfish beds, and fish spawning and rearing areas.

Criterion 3. Species of Recreational, Commercial, and/or Tribal Importance:

Native and non-native fish and wildlife species of recreational or commercial importance, and recognized species used for tribal ceremonial and subsistence purposes, whose biological or ecological characteristics make them vulnerable to decline in Washington or that are dependent on habitats that are highly vulnerable or are in limited availability.

FEDERAL AND STATE STATUS:

The "federal and state status" describes whether a species is listed by Washington State as a Species of Concern (i.e., endangered, threatened, sensitive, or candidate), and/or is listed by the federal governments under the Endangered Species Act. For the latest Species of Concern List, call (360) 902-2515, or visit http://wdfw.wa.gov/wlm/diversty/soc/soc.htm.

PRIORITY AREA:

Species are often considered a priority only within known limiting habitats (e.g., breeding areas) or within areas that support a relatively high number of individuals (e.g., regular large concentrations). These important areas are identified in the PHS List under the heading *Priority Area*. For example, great blue herons are often found feeding along shorelines, but they are considered a priority only in areas used for breeding (see Criterion 2). If limiting habitats are not known, or if a species is so rare that any occurrence is important in land use decisions, then the priority area is described as *any occurrence*.

Priority areas are described with the following terms:

- **Any Occurrence:** Applies to a priority species with limiting habitat that is not known or to a species that is so rare that any occurrence is important in a land use decision.
- **Artificial Nesting Feature:** Man-made features used for nesting (e.g., nest box, platform).
- **Breeding Area**: The area necessary to support reproduction and the rearing of young; includes breeding sites and adjacent foraging habitat, and may include a disturbance buffer.
- **Breeding Site**: The immediate area and features associated with producing and rearing young (e.g., nest tree, den). Typically, a breeding site is a point location.
- **Communal Roosts**: Habitat features (e.g., trees, caves, cliffs) that are regularly or traditionally used by a group of animals for resting, hibernation, breeding, or rearing young.
- **Foraging Area:** Feeding areas that are regularly used by an individual or a group of animals.
- **Haulouts**: Areas where marine mammals regularly remove themselves from the water for resting.
- **Lek:** An assembly area where sage grouse and sharp-tailed grouse engage in courtship behavior.
- **Migration Corridors**: Areas regularly or traditionally used by animals as travel routes between seasonal ranges.
- **Occurrence:** Fish and wildlife observation from a source deemed reliable by WDFW biologists. An occurrence may represent an observation of an individual animal or a group of animals.
- **Regular Concentration:** Areas that are commonly or traditionally used by a group of animals on a seasonal or year-round basis.
- **Regular Occurrence:** Areas or features (e.g., trees, cliffs) that are commonly or traditionally used on a seasonal or year-round basis by species that do not typically occur in groups.
- **Regularly Used Perches**: Habitat features (e.g., trees, cliffs) that are regularly or traditionally used by the priority bird species for perching.

WASHINGTON DISTRIBUTION BY COUNTY:

Within each priority species and habitat description, a map is included showing where individual priority habitats and species are distributed on a county-by-county scale. It is possible for a species or habitat to be considered a priority only within certain parts of its Washington range. For example, a species may be found throughout Washington but breeds only in eastern Washington. If the priority

area for this species is only its breeding area, then the western Washington portion of its range would not be included in the map depicting the species' distribution.

Maps showing species and habitat distribution in this list were developed using pertinent sources of information including published maps, locational datasets, models (e.g., GAP vertebrate distribution maps) as well as expert opinion. Distribution maps for species show counties where each priority species is known to occur as well as counties where the likelihood is high that the species could be present where suitable habitat exists, recognizing that species may naturally change their distribution over time. Although each map represents the best information available at the time they were developed, species and habitats not identified on these distribution maps may still occur in other counties. Major sources that were used to develop distribution maps for priority habitats and species include:

- *An Atlas of Washington Butterflies*, The Evergreen Aurelians
- *Birds of Washington*, Oregon State University Press
- *Game Status and Trend Report*, WDFW
- GAP and REGAP vertebrate distribution and landcover maps
- Individual species recovery plans and status reports
- *Inland Fishes of Washington*, University of Washington Press
- *Managemement Recommendations for Washington's Priority Species*, WDFW
- Spatial databases administered by WDFW (e.g., Washington Lakes Rivers Information System, Wildlife Survey Data Management)
- *Washington Herp Atlas*, Washington Natural Heritage Program

Distribution maps for very rare species sometimes include counties where there are no recent records. Rare priority species (e.g., Yellow-billed Cuckoo, Upland Sandpiper) may only be known from a handful of counties, an individual county, or may be presumed extirpated from the state. Given their extreme rarity, these species are often under-surveyed or are difficult to survey. Consequently, it will often be the case that these species will not be documented in a county even if they are present. Given that their distribution often includes places where they have yet to be documented, counties where suitable habitat exists have also been included on the distribution maps in this publication.

Notable changes to the layout of the PHS List

In addition to adding or removing certain species and habitats, significant changes were made to the list's format and layout. A major change is the increased use of electronic technology that includes using hyperlinks to direct individuals to useful resources. The following are some other notable changes in the 2008 PHS List.

SPECIES AND HABITAT DISTRIBUTION MAPS:

The past versions of the PHS List described where priority habitats and species are found by using the agency's administrative regions. Because WDFW administrative regions can encompass up to 10 counties, this provided a very coarse description of places where priority species or habitats are likely to occur. To better meet the needs of users of PHS, WDFW now shows the distribution of priority habitats and species at a county-by-county level. This finer scale will be useful to individual cities and counties that need a more accurate list of what potentially occurs within their jurisdictional boundaries.

LINKING PHS USERS TO USEFUL INFORMATION:

Through the use of hyperlinks, we have made the list a better place to find more than just a list of species and habitats. Within each species and habitat fact sheet are links to a variety of information. One useful type of information is the status of a species. The 2008 PHS List directly links readers to information about the most recent federal and state status of all species that are listed as being endangered, threatened, sensitive, and those that are a candidate for possible listing. The list also links readers to published information that can aid in the management of priority habitats and species.

GREATER USE OF ELECTRONIC FORMAT CAPABILITIES:

In past versions of the PHS List, WDFW has distributed the PHS List in two forms, electronic and hard copy. Because the list provides much more detailed information, WDFW will produce only a limited number of hard copies for those individuals who do not have access to the PHS List on a computer.

Similarities and differences between the PHS List and other WDFW lists

The PHS List differs from other lists published by WDFW, such as WDFW's Species of Concern List and the list of Species of Greatest Conservation Need that is found in WDFW's Comprehensive Wildlife Conservation Strategy. Although these and other WDFW lists somewhat differ from the PHS List, they were used into the development of the PHS List.

Given that WDFW maintains several lists of species and habitats, this section was added to clarify the differences and similarities among different species and habitat lists that are maintained by WDFW.

SPECIES OF CONCERN LIST:

The Species of Concern list includes all State Endangered, Threatened, Sensitive, and Candidate species. Species of Concern also include Federal Endangered, Threatened, and Candidate fish stocks. All Species of Concern are automatically included as priority species in the PHS List.

LISTS THAT ARE PART OF WDFW'S COMPREHENSIVE WILDLIFE CONSERVATION STRATEGY:

WDFW developed the state's Comprehensive Wildlife Conservation Strategy (CWCS). All U.S. states and territories are required to develop a strategy to obtain future State Wildlife Grants from the federal government. Congress required that every strategy meet eight elements, two of which lead to the creation of a Species of Greatest Conservation Needs list as well as a list of Habitats of Conservation Concern. These lists include many species and habitats found in the PHS List. However, a minority of the CWCS species and habitats are not on the PHS List. Those not included primarily consist of species and habitats where knowledge about their status is limited. Without such certainty, it is not possible to know if these particular species and habitats meet the PHS criteria.

RECOMMENDATION:

The PHS List contains elements of these other WDFW lists. WDFW recommends that users of our agency's products should primarily refer to the PHS List to inform their conservation planning activities.

WDFW PRIORITY SPECIES LIST (see key to abbreviations at end)

ELCODE	TAXON	COMMON_NAME	*SCIENTIFIC_NAME*	PHS_Criteria	SGCN	G_RANK	S_RANK	FED_STAT	ST_STAT
AAAAJ01030	Amphibian	Cascade Torrent Salamander	*Rhyacotriton cascadae*	1	Y	G3	S3		C
AAABH01290	Amphibian	Columbia Spotted Frog	*Rana luteiventris*	1	Y	G4	S4	PS:C	C
AAAAD12040	Amphibian	Dunn's Salamander	*Plethodon dunni*	1	Y	G4	S3		C
AAAAD12100	Amphibian	Larch Mountain Salamander	*Plethodon larselli*	1	Y	G3	S3	SC	S
AAABH01170	Amphibian	Northern Leopard Frog	*Rana pipiens*	1	Y	G5	S1	SC	E
AAABH01180	Amphibian	Oregon Spotted Frog	*Rana pretiosa*	1	Y	G2	S1	C	E
AAABA01020	Amphibian	Rocky Mountain Tailed Frog	*Ascaphus montanus*	1	Y	G4	S2?	SC	C
AAAAD12190	Amphibian	Van Dyke's Salamander	*Plethodon vandykei*	1	Y	G3	S3		C
AAABB01030	Amphibian	Western Toad	*Anaxyrus boreas*	1	Y	G4	S3		C
ABNJB05035	Bird	Aleutian Cackling Goose	*Branta hutchinsii leucopareia*	1	N	G5T4	SNA	SC	
ABNFC01010	Bird	American White Pelican	*Pelecanus erythrorhynchos*	1,2	Y	G3	S1B		E
ABNKC10010	Bird	Bald Eagle	*Haliaeetus leucocephalus*	1	Y	G5	S4B,S4N	LT	T
ABNPB01080	Bird	Band-tailed Pigeon	*Columba fasciata*	3	N	G4	S3S4B,S4N		
ABNJB18020	Bird	Barrow's Goldeneye	*Bucephala islandica*	2,3	N	G5	S3B,S4N		
ABNYF07090	Bird	Black-backed Woodpecker	*Picoides arcticus*	1	Y	G5	S3		C
ABNNB02010	Bird	Black-bellied Plover	*Pluvialis squatarola*	2	N	G5	S4N		
ABNGA11010	Bird	Black-crowned Night Heron	*Nycticorax nycticorax*	2	N	G5	S3B,S3N		M
ABNLC09020	Bird	Blue Grouse	*Dendragapus obscurus*	3	N	G5	S4		
ABNFD01040	Bird	Brandt's Cormorant	*Phalacrocorax penicillatus*	1,2	N	G5	S3B,S4N		C
ABNJB05010	Bird	Brant	*Branta bernicla*	2,3	Y	G5	S3N		
ABNFC01020	Bird	Brown Pelican	*Pelecanus occidentalis*	1,2	N	G4	S3N	LE	E
ABNJB18030	Bird	Bufflehead	*Bucephala albeola*	2,3	N	G5	S4N		
ABNSB10010	Bird	Burrowing Owl	*Athene cunicularia*	1	Y	G4	S2B	SC	C
ABNNN08010	Bird	Cassin's Auklet	*Ptychoramphus aleuticus*	1,2	Y	G4	S3	SC	C
ABNJB18010	Bird	Common Goldeneye	*Bucephala clangula*	2,3	N	G5	S5N		
ABNBA01030	Bird	Common Loon	*Gavia immer*	1,2	Y	G5	S2B,S4N		S
ABNNN02010	Bird	Common Murre	*Uria aalge*	1,2	Y	G5	S4B,S5N		C
ABNKC19120	Bird	Ferruginous Hawk	*Buteo regalis*	1	Y	G4	S2B	SC	T
ABNSB01020	Bird	Flammulated Owl	*Otus flammeolus*	1	Y	G4	S3B		C
ABNKC22010	Bird	Golden Eagle	*Aquila chrysaetos*	1	Y	G5	S3		C
ABNGA04010	Bird	Great Blue Heron	*Ardea herodias*	2	Y	G5	S4S5B,S5N		M
ABNLC12010	Bird	Greater Sage-grouse	*Centrocercus urophasianus*	1,3	Y	G4	S1	C	T
ABNNF01020	Bird	Greater Yellowlegs	*Tringa melanoleuca*	2	N	G5	S4S5N		
ABNJB15010	Bird	Harlequin Duck	*Histrionicus histrionicus*	2,3	N	G4	S2B,S3N		
ABNJB20010	Bird	Hooded Merganser	*Lophodytes cucullatus*	3	N	G5	S3N,S4B		
ABNNF11100	Bird	Least Sandpiper	*Calidris minutilla*	2	N	G5	S4N		
ABNYF04010	Bird	Lewis' Woodpecker	*Melanerpes lewis*	1	Y	G4	S2S3		C
ABPBR01030	Bird	Loggerhead Shrike	*Lanius ludovicianus*	1	Y	G4	S3B	SC	C
ABNNF08040	Bird	Marbled Godwit	*Limosa fedoa*	2	Y	G5	S3N		M
ABNNN06010	Bird	Marbled Murrelet	*Brachyramphus marmoratus*	1,2	Y	G3G4	S3	LT	T

ABNKD06030	Bird	Merlin	*Falco columbarius*	1	N	G5	S3B,S4N		C
ABNLC24010	Bird	Mountain Quail	*Oreortyx pictus*	3	Y	G5	S1		
ABNKC12060	Bird	Northern Goshawk	*Accipiter gentilis*	1	Y	G5	S2S3B,S3N	SC	C
ABNSB12011	Bird	Northern Spotted Owl	*Strix occidentalis caurina*	1	Y	G3T3	S1	LT	E
ABPBX95011	Bird	Oregon Vesper Sparrow	*Pooecetes gramineus affinis*	1	Y	G5T3	S1B		C
ABNKD06070	Bird	Peregrine Falcon	*Falco peregrinus*	1	Y	G4	S2B,S3N	SC	S
ABNYF12020	Bird	Pileated Woodpecker	*Dryocopus pileatus*	1	Y	G5	S4		C
ABNKD06090	Bird	Prairie Falcon	*Falco mexicanus*	3	Y	G5	S3B,S3N		M
ABPAU01010	Bird	Purple Martin	*Progne subis*	1	Y	G5	S3B		C
ABNNF20030	Bird	Red Phalarope	*Phalaropus fulicarius*	2	N	G5	S4N		
ABNNF20020	Bird	Red-necked Phalarope	*Phalaropus lobatus*	2	N	G4G5	S4N		
ABNNF09010	Bird	Ruddy Turnstone	*Arenaria interpres*	2	N	G5	S4N		
ABPBX97020	Bird	Sage Sparrow	*Amphispiza belli*	1	Y	G5	S3B		C
ABPBK04010	Bird	Sage Thrasher	*Oreoscoptes montanus*	1	Y	G5	S3B		C
ABNNF11030	Bird	Sanderling	*Calidris alba*	2	N	G5	S4N		
ABNMK01010	Bird	Sandhill Crane	*Grus canadensis*	1	Y	G5	S1B,S3N		E
ABNLC13030	Bird	Sharp-tailed Grouse	*Tympanuchus phasianellus*	1,3	Y	G4	S1S2	SC	T
ABNNF16010	Bird	Short-billed Dowitcher	*Limnodromus griseus*	2	N	G5	S4N		
ABNDA01020	Bird	Short-tailed Albatross	*Phoebastria albatrus*	1	N	G1	SNA	LE	C
ABPAZ01021	Bird	Slender-billed White-breasted Nuthatch	*Sitta carolinensis aculeata*	1	Y	G5TU	S1		C
ABNJB04010	Bird	Snow Goose	*Chen caerulescens*	2,3	N	G5	S3N		
ABPAT0201L	Bird	Streaked Horned Lark	*Eremophila alpestris strigata*	1	Y	G5T2	S1B	C	E
ABNJB02030	Bird	Trumpeter Swan	*Cygnus buccinator*	2,3	Y	G4	S3N		
ABNNN12010	Bird	Tufted Puffin	*Fratercula cirrhata*	1,2,3	Y	G5	S3S4B,S4N		C
ABNJB02010	Bird	Tundra Swan	*Cygnus columbianus*	2,3	N	G5	S4N		
ABNNF06010	Bird	Upland Sandpiper	*Bartramia longicauda*	1	Y	G5	SHB		E
ABNUA03020	Bird	Vaux's Swift	*Chaetura vauxi*	1	Y	G5	S3S4B		C
ABNNF03010	Bird	Wandering Tattler	*Heteroscelus incanus*	2	N	G5	S3N		
ABNCA04010	Bird	Western Grebe	*Aechmophorus occidentalis*	1,2	Y	G5	S3B,S3N		C
ABNNF11050	Bird	Western Sandpiper	*Calidris mauri*	2	N	G5	S4S5N		
ABNNB03031	Bird	Western Snowy Plover	*Charadrius alexandrinus nivosus*	1	Y	G4T3	S1	LT	E
ABNNF07020	Bird	Whimbrel	*Numenius phaeopus*	2	N	G5	S3N		
ABNYF07070	Bird	White-headed Woodpecker	*Picoides albolarvatus*	1	Y	G4	S2S3		C
ABNNF02010	Bird	Willet	*Catoptrophorus semipalmatus*	2	Y	G5	S3N		M
ABNJB09010	Bird	Wood Duck	*Aix sponsa*	3	N	G5	S3N,S4B		
AFC4A06350	Fish	Black Rockfish (Puget Sound)	*Sebastes melanops*	1,2,3	Y	GNR	SNR		
AFC4A06440	Fish	Bocaccio Rockfish	*Sebastes paucispinis*	1,2,3	Y	G4	SNR	PS:SC	
AFC4A06040	Fish	Brown Rockfish	*Sebastes auriculatus*	1,2,3	N	GNR	SNR		
AFCHA05024	Fish	Bull Trout (Coastal/Puget Sound)	*Salvelinus confluentus*	1,2,3		G3T2Q	SNR	LT	C
AFCHA05024	Fish	Bull Trout (Coastal/Puget Sound)	*Salvelinus confluentus pop. 3*	1,2,3	Y	G3T2Q	SNR	LT	C
AFCHA05023	Fish	Bull Trout (Columbia River)	*Salvelinus confluentus pop. 2*	1,2,3	Y	G3T2Q	SNR	LT	C
AFC4A06460	Fish	Canary Rockfish	*Sebastes pinniger*	1,2,3	Y	GNR	SNR		
AFC4A06410	Fish	China Rockfish	*Sebastes nebulosus*	1,2,3	Y	GNR	SNR		

AFCHA02050	Fish	Chinook	*Oncorhynchus tshawytscha*	1,2,3		G5	S3S4	FT	C
AFCHA02020	Fish	Chum Salmon	*Oncorhynchus keta*	1,2,3		G5	S3	FT	C
AFCHA02080	Fish	Coastal Cutthroat	*Oncorhynchus clarkii clarkii*	3	N	G4	S4	PS:SC	
AFCHA02030	Fish	Coho	*Oncorhynchus kisutch*	1,2,3		G4	S3	FT	C
AFC4A06100	Fish	Copper Rockfish	*Sebastes caurinus*	1,2,3	Y	GNR	SNR		
AFCHA05040	Fish	Dolly Varden	*Salvelinus confluentus/malma*	1,2,3	N	G5	S3	PSAT	
AFCTB16100	Fish	English Sole	*Parophrys vetulus*	3		GNR	SNR		
AFCHB04010	Fish	Eulachon	*Thaleichthys pacificus*	1,2,3	Y	G5	S4		C
AFCAA01030	Fish	Green Sturgeon	*Acipenser medirostris*	1,2,3	Y	G3	S2N	LT,SC	
AFC4A06180	Fish	Greenstriped Rockfish	*Sebastes elongatus*	1,2,3	Y	GNR	SNR		
AFCHA02092	Fish	Inland Redband Trout	*Oncorhynchus mykiss*	1,3		G5	S5		
AFCHA02040	Fish	Kokanee	*Oncorhynchus nerka*	3		G5	S2S3	FT	C
AFCJB06010	Fish	Lake Chub	*Couesius plumbeus*	1	N	G5	S2S3		C
AFCJB37040	Fish	Leopard Dace	*Rhinichthys falcatus*	1	Y	G4	S2S3		C
AFC4D02010	Fish	Lingcod	*Ophiodon elongatus*	2,3		GNR	SNR		
AFCHB03010	Fish	Longfin Smelt	*Spirinchus thaleichthys*	2,3	N	G5	S3		
AFC4E02170	Fish	Margined Sculpin	*Cottus marginatus*	1	Y	G3	S1?	SC	S
AFCJC02160	Fish	Mountain Sucker	*Catostomus platyrhynchus*	1	Y	G5	S2S3		C
AFCHD03010	Fish	Olympic Mudminnow	*Novumbra hubbsi*	1	Y	G3	S2S3		S
AFCMA08010	Fish	Pacific Cod (S&C Puget Sound)	*Gadus macrocephalus*	1,2,3	N	GNR	SNR		
AFCMA10020	Fish	Pacific Hake (C Puget Sound)	*Merluccius productus*	1,2,3	N	GNR	SNR	PS:SC	
AFCFA07030	Fish	Pacific Herring (Cherry Pt, Discovery Bay)	*Clupea pallasi*	1,2,3	Y	GNR	SNR		C
AFBAA02100	Fish	Pacific Lamprey	*Lampetra tridentata*	3	Y	G5	S3S4	SC	
AFCS601030	Fish	Pacific Sand Lance	*Ammodytes hexapterus*	2,3		G5	SNR		
AFCHA02010	Fish	Pink Salmon	*Oncorhynchus gorbuscha*	2,3		G5	S2		
AFCHA03020	Fish	Pygmy Whitefish	*Prosopium coulteri*	1,2	Y	G5	S1S2	SC	S
AFC4A06330	Fish	Quillback Rockfish	*Sebastes maliger*	1,2,3	Y	GNR	SNR		
AFCHA02090	Fish	Rainbow Trout	*Oncorhynchus mykiss*	1,3		G5	S5		
AFC4A06480	Fish	Redstripe Rockfish	*Sebastes proriger*	1,2,3	Y	GNR	SNR		
AFBAA02030	Fish	River Lamprey	*Lampetra ayresi*	1	Y	G4	S2	SC	C
AFCTB16080	Fish	Rock Sole	*Lepidopsetta bilineata*	3		GNR	SNR		
AFCHA02040	Fish	Sockeye Salmon	*Oncorhynchus nerka*	1,2,3		G5	S2S3	FT	C
AFCHA0209	Fish	Steelhead	*Oncorhynchus mykiss*	1,3		G5	S5	FT	C
AFCHB01030	Fish	Surf Smelt	*Hypomesus pretiosus*	2,3	Y	G5	SNR		
AFC4A06420	Fish	Tiger Rockfish	*Sebastes nigrocinctus*	1,2,3	Y	GNR	SNR		
AFCJB37120	Fish	Umatilla Dace	*Rhinichthys umatilla*	1	N	G4	S2		C
AFCMA14010	Fish	Walleye Pollock (S. Puget Sound)	*Theragra chalcogramma*	1,2,3	N	GNR	SNR		
AFCHA02088	Fish	Westslope Cutthroat	*Oncorhynchus clarkii lewisi*	3	Y	G4T3	SNR	SC	
AFCAA01050	Fish	White Sturgeon (Columbia River)	*Acipenser transmontanus pop.2*	2,3	N	G4	S3B,S4N		
AFC4A06210	Fish	Widow Rockfish	*Sebastes entomelas*	1,2,3	N	GNR	SNR		
AFC4A06530	Fish	Yelloweye Rockfish	*Sebastes ruberrimus*	1,2,3	Y	GNR	SNR		
AFC4A06240	Fish	Yellowtail Rockfish	*Sebastes flavidus*	1,2,3	N	GNR	SNR		
IICOL4H010	Invertebrate	Beller's Ground Beetle	*Agonum belleri*	1	Y	G3	S3	SC	C

IILEPG801G	Invertebrate	Blackmore's (Puget) Blue (butterfly)	*Plejebus icarioides blackmorei*	1	Y	G5T3	S2		C
IMGAS62030	Invertebrate	Bluegray Taildropper (slug)	*Prophysaon coeruleum*	1	Y	G3G4	S1		C
IICOL4J010	Invertebrate	Bog Idol Leaf Beetle	*Donacia idola*	1	Y	GNR	S3?		C
IMBIV62010	Invertebrate	Butter Clam	*Saxidomus giganteus*	2,3		G5	SNR		
IMBIV04020	Invertebrate	California Floater (bivalve)	*Anodonta californiensis*	1,2	Y	G3Q	S2	SC	C
IILEPC8012	Invertebrate	Chinquapin Hairstreak (butterfly)	*Habrodais grunus herri*	1	Y	G4G5T2T3	S1		C
IIODO08150	Invertebrate	Columbia (Lynn's) Clubtail (dragonfly)	*Gomphus lynnae*	1	Y	G2	S1	SC	C
IMGAS93030	Invertebrate	Columbia Oregonian (snail)	*Cryptomastix hendersoni*	1	Y	G1G2	S1		C
IICOL02090	Invertebrate	Columbia River Tiger Beetle	*Cicindela columbica*	1	Y	G2	SH		C
IMGASC7030	Invertebrate	Dalles Sideband	*Monadenia fidelis*	1		G4G5	S4		
ICMALC2010	Invertebrate	Dungeness Crab	*Cancer magister*	2,3	N	G5	SNR		
IMBIVA1020	Invertebrate	Geoduck	*Panopea abrupta*	2,3		G5	SNR		
IMGASL6010	Invertebrate	Giant Columbia River Limpet	*Fisherola nuttalli*	1,2	N	G2	S2		C
IAOLI01010	Invertebrate	Giant Palouse Earthworm	*Driloleirus americanus*	1	N	G1	S1		
IILEPP1021	Invertebrate	Great Arctic (butterfly)	*Oeneis nevadensis gigas*	1	Y	G5TU	SH		C
IMGASG3040	Invertebrate	Great Columbia River Spire Snail	*Fluminicola columbiana*	1,2		G2	S2	SC	C
IICOL4K010	Invertebrate	Hatch's Click Beetle	*Eanus hatchii*	1	Y	G2?	S1	SC	C
IILEPA5011	Invertebrate	Island Marble (butterfly)	*Euchloe ausonides insulanus*	1	Y	G5T1	S1	SC	C
IILEPE2100	Invertebrate	Johnson's Hairstreak (butterfly)	*Mitoura johnsoni*	1	Y	G3G4	S2S3		C
IILEPE2137	Invertebrate	Juniper Hairstreak (butterfly)	*Mitoura grynea barryi*	1	Y	G5TU	S2?		C
0000000000	Invertebrate	Leschi's Millipede	*Leschius mcallisteri*	1		N/A	N/A		
IICOL4L110	Invertebrate	Mann's Mollusk-eating Ground Beetle	*Scaphinotus mannii*	1	Y	GNR	SNR		C
IILEP66030	Invertebrate	Mardon Skipper (butterfly)	*Polites mardon*	1	Y	G2G3	S1	C	E
IMBIV61010	Invertebrate	Native Littleneck Clam	*Protothaca abrupta*	2,3		G5	SNR		
IMGASR3010	Invertebrate	Newcomb's littorine snail	*Littorina subrotundata*	1,2	N	G1G2	S1	SC	C
IMGASV2040	Invertebrate	Northern Abalone	*Haliotis kamtschatkana*	1,2,3	N	G3G4	SNR	SC	
IMBIVB9030	Invertebrate	Olympia Oyster	*Ostrea conchaphila*	1,2,3	N	G5	SNR		
IILEPJ6087	Invertebrate	Oregon Silverspot (butterfly)	*Speyeria zerene hippolyta*	1	Y	G5T1	SX	LT	E
IIODO08330	Invertebrate	Pacific Clubtail (dragonfly)	*Gomphus kurilis*	1	Y	G4	S1		
ICMALC3010	Invertebrate	Pandalid Shrimp	*Pandalus spp.*	2,3		GNR	SNR		
IMGAS93080	Invertebrate	Poplar Oregonian (snail)	*Cryptomastix populi*	1		G2	S1S2		C
IILEPC1152	Invertebrate	Queen Charlotte Copper (butterfly)	*Lycaena mariposa charlottensis*	1	Y	G5T5	S2	SC	C
IMBIV63010	Invertebrate	Razor Clam	*Siliqua patula*	2,3	N	G5	SNR		
IEECH11010	Invertebrate	Red Urchin	*Strongylocentrotus franciscanus*	3	N	GNR	SNR		
IILEYKP140	Invertebrate	Sand-verbena Moth	*Copablepharon fuscum*	1	Y	G1G2	S1?		C
IILEP90021	Invertebrate	Shepard's Parnassian (butterfly)	*Parnassius clodius shepardi*	1	Y	G5TNR	S1		C
IILEPJ7030	Invertebrate	Silver-bordered Fritillary (butterfly)	*Boloria selene atrocostalis*	1	Y	G5	S3		C
IILEPK405K	Invertebrate	Taylor's Checkerspot (butterfly)	*Euphydryas editha taylori*	1	Y	G5T1	S1	C	E
IILEPJ608A	Invertebrate	Valley Silverspot (butterfly)	*Speyeria zerene bremnerii*	1	Y	G5T3T4	S2S3		C
IILEP72040	Invertebrate	Yuma Skipper (butterfly)	*Ochlodes yuma*	1	Y	G5	S1		C
AMAJF01010	Mammal	American Marten (Coastal population)	*Martes americana*	3	Y	G5	S4		
AMACC04010	Mammal	Big Brown Bat	*Eptesicus fuscus*	2	N	G5	S5		
AMALE04010	Mammal	Bighorn Sheep	*Ovis canadensis*	3	N	G4	S3S4	SC	

AMAEB03050	Mammal	Black-tailed Jackrabbit	*Lepus californicus*	1,3	Y	G5	S2S3		C
AMAJC04010	Mammal	California Sea Lion	*Zalophus californianus*	2	N	G5	SNA		
AMALC02022	Mammal	Columbian White-tailed Deer	*Odocoileus virginianus leucurus*	1	Y	G5T2Q	S1	LE	E
AMAGF02010	Mammal	Dall's Porpoise	*Phocoenoides dalli*	2	N	G4G5	SNR		M
AMAJF01021	Mammal	Fisher	*Martes pennanti pacifica*	1	Y	G5T2T3Q	SH	C,SC	E
AMAGG01010	Mammal	Gray Whale	*Eschrichtius robustus*	1,2	N	G4	SNA		S
AMAJA01030	Mammal	Gray Wolf	*Canis lupus*	1	Y	G4	S1	LT	E
AMAFF11170	Mammal	Gray-tailed Vole	*Microtus canicaudus*	1,2	Y	G4	S2		C
AMAJB01020	Mammal	Grizzly Bear	*Ursus arctos*	1	Y	G4	S1	LT	E
AMAGF01010	Mammal	Harbor Porpoise	*Phocoena phocoena*	1,2	Y	G4G5	SNR		C
AMAJG01010	Mammal	Harbor Seal	*Phoca vitulina*	2	N	G5	S4?		M
AMACC01060	Mammal	Keen's Myotis	*Myotis keeni*	1,2	Y	G2G3	S1		C
AMAGE07010	Mammal	Killer Whale	*Orcinus orca*	1,2	Y	G4G5	S1S2		
AMACC01010	Mammal	Little Brown Myotis	*Myotis lucifugus*	2		G5	S4S5		
AMAJH03010	Mammal	Lynx	*Lynx canadensis*	1	Y	G5	S1	LT	T
AMAJF01010	Mammal	Marten (Cascade population)	*Martes americana*	3	N	G5	S4		
AMABA01230	Mammal	Merriam's Shrew	*Sorex merriami*	1	Y	G5	S3S4		C
AMAJF02050	Mammal	Mink	*Mustela vison*	3	N	G5	S5		
AMALC03010	Mammal	Moose	*Alces americanus*	3	N	G5	S2S3		
AMALE02010	Mammal	Mountain Goat	*Oreamnos americanus*	3	N	G5	S2S3		
AMALC02010	Mammal	Mule or Black-tailed Deer	*Odocoileus hemionus*	3	N	G5	S5		
AMACC10010	Mammal	Pallid Bat	*Antrozous pallidus*	2	N	G5	S2S3		M
AMACC08014	Mammal	Pallid Townsend's Big-eared Bat	*Corynorhinus townsendii pallascens*	1,2	Y	G4T4	S2S3		C
AMAEB04010	Mammal	Pygmy Rabbit	*Brachylagus idahoensis*	1	Y	G4	S1	LE	E
AMAJF09010	Mammal	Sea Otter	*Enhydra lutris*	1,2	Y	G4	S2S3	SC	E
AMAJC03010	Mammal	Steller's Sea Lion	*Eumetopias jubatus*	1,2	Y	G3	S2N	LT	T
AMAFB05010	Mammal	Townsend's Ground Squirrel ssp. townsendii	*Spermophilus townsendii townsendii*	1	Y	G4	S3	SC	C
AMACC08015	Mammal	Townsend's Western Big-eared Bat	*Corynorhinus townsendii townsendii*	1,2	Y	G4T3T4	S2S3	SC	C
AMAFB05020	Mammal	Washington Ground Squirrel	*Spermophilus washingtoni*	1	Y	G2	S2	C	C
AMAFB07020	Mammal	Western Gray Squirrel	*Sciurus griseus*	1	Y	G5	S2	SC	T
AMAFC01060	Mammal	Western Pocket Gopher	*Thomomys mazama*	1	Y	G4	S2	C	T
AMALC02020	Mammal	White-tailed Deer	*Odocoileus virginianus ochrourus*	3	N	G5	S5	PS:LE	
AMAEB03040	Mammal	White-tailed Jackrabbit	*Lepus townsendii*	1,3	Y	G5	S2S3		C
AMAJF03010	Mammal	Wolverine	*Gulo gulo*	1	Y	G4	S1	SC	C
AMALC04011	Mammal	Woodland Caribou	*Rangifer tarandus caribou*	1	Y	G5T4	S1	LE	E
ARADB19060	Reptile	California Mountain Kingsnake	*Lampropeltis zonata*	1	Y	G4G5	S2?		C
ARAAD02031	Reptile	Pacific Pond Turtle	*Actinemys marmorata*	1	Y	G3G4T3Q	S1	SC	E
ARACF14030	Reptile	Sagebrush Lizard	*Sceloporus graciosus*	1	Y	G5	S3	SC	C
ARADB09010	Reptile	Sharp-tailed Snake	*Contia tenuis*	1	Y	G5	S3	SC	C
ARADB21040	Reptile	Striped Whipsnake	*Masticophis taeniatus*	1	Y	G5	S1		C

PHS - WDFW Priority Habitats and Species Criteria

Criterion 1. State-Listed and Candidate Species: State-listed species are native fish and wildlife species legally designated as Endangered (WAC 232-12-014), Threatened (WAC 232-12-011), or Sensitive (WAC 232-12-011). State Candidate species are fish and wildlife species that will be reviewed by the department (POL-M-6001) for possible listing as Endangered, Threatened, or Sensitive according to the process and criteria defined in WAC-232-12-297.

Criterion 2. Vulnerable Aggregations: Vulnerable aggregations include species or groups of animals susceptible to significant population declines, within a specific area or statewide, by virtue of their inclination to aggregate. Examples include heron rookeries, seabird concentrations, marine mammal haulouts, shellfish beds, and fish spawning and rearing areas.
Criterion 3. Species of Recreational, Commercial, and/or Tribal Importance: Native and non-native fish and wildlife species of recreational or commercial importance, and recognized species used for tribal ceremonial and subsistence purposes, whose biological or ecological characteristics make them vulnerable to decline in Washington or that are dependent on habitats that are highly vulnerable or are in limited availability.

SGCN - WDFW Species of Greatest Conservation Need (This is a classification that qualifies a species for State Wildlife Grant funding by U. S. Fish and Wildlife Service)

Natural Heritage Program Conservation Status Codes (This information is maintained by WDNR and NatureServe)

G1	Critically imperiled globally (5 or fewer occurrences)
G2	Imperiled globally (6 to 20 occurrences)
G3	Either very rare and local throughout its range or found locally in a restricted range (21 to 100 occurrences)
G4	Apparently secure globally
G5	Demonstrably secure globally
GH	Of historical occurrence throughout its range
GX	Believed to be extinct throughout former range

S1	Critically imperiled (5 or fewer occurrences)
S2	Imperiled (6 to 20 occurrences), very vulnerable to extirpation
S3	Rare or uncommon (21 to 100 occurrences)
S4	Apparently secure, with many occurrences
S5	Demonstrably secure in state
SH	Historical occurrences only but still expected to occur.
SN	Regularly occurring, usualy migratory, nonbreeding animals
SZ	Not of conservation concern (not SE or SA)
SNA	Not applicable (element is not a suitable target for conservation)
SNR	Not yet ranked
B and N	Qualifiers that are used to indicate breeding and nonbreeding status, respectively, of migrant species whose nonbreeding status (rank) may be quite different from their breeding status in the state (e.g. S1B, S4N for a very rare breeder that is a common winter resident.)

STATE STATUS: WASHINGTON

E	Endangered. In danger of becoming extinct or extirpated from Washington.
T	Threatened. Likely to be come Endangered in Washington.
S	Sensitive. Vulnerable or declining and could become Endangered or Threatened in the state.
C	Candidate animal. Under review for listing.
M	Monitor. Taxa of potential concern.

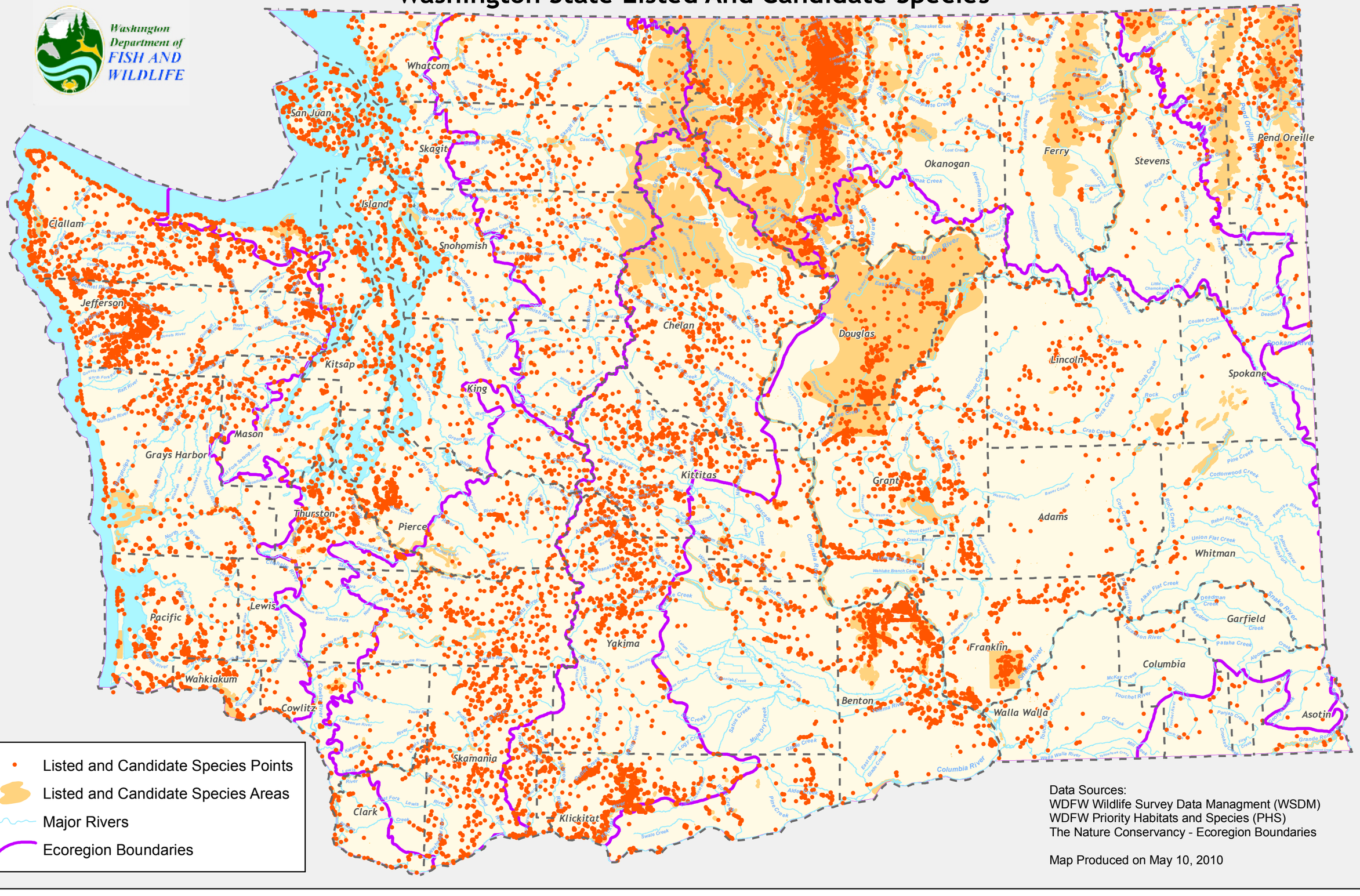
FEDERAL STATUS (ESA)

E	Endangered. In danger of extinction.
T	Threatened. Likely to become Endangered.

C	Candidate species. Sufficient information exists to support listing as Endangered or Threatened.
SC	Species of concern. An unofficial status, the species appears to be in jeopardy, but insufficient information to support listing.

Washington State Listed And Candidate Species

Washington Department of FISH AND WILDLIFE



Data Sources:
WDFW Wildlife Survey Data Managment (WSDM)
WDFW Priority Habitats and Species (PHS)
The Nature Conservancy - Ecoregion Boundaries

Map Produced on May 10, 2010

Washington State Critical and Depressed Salmonid Stocks

Legend

- Critical/Depressed Salmonids
- Major Rivers
- Major Lakes and Waterbodies
- County Boundaries

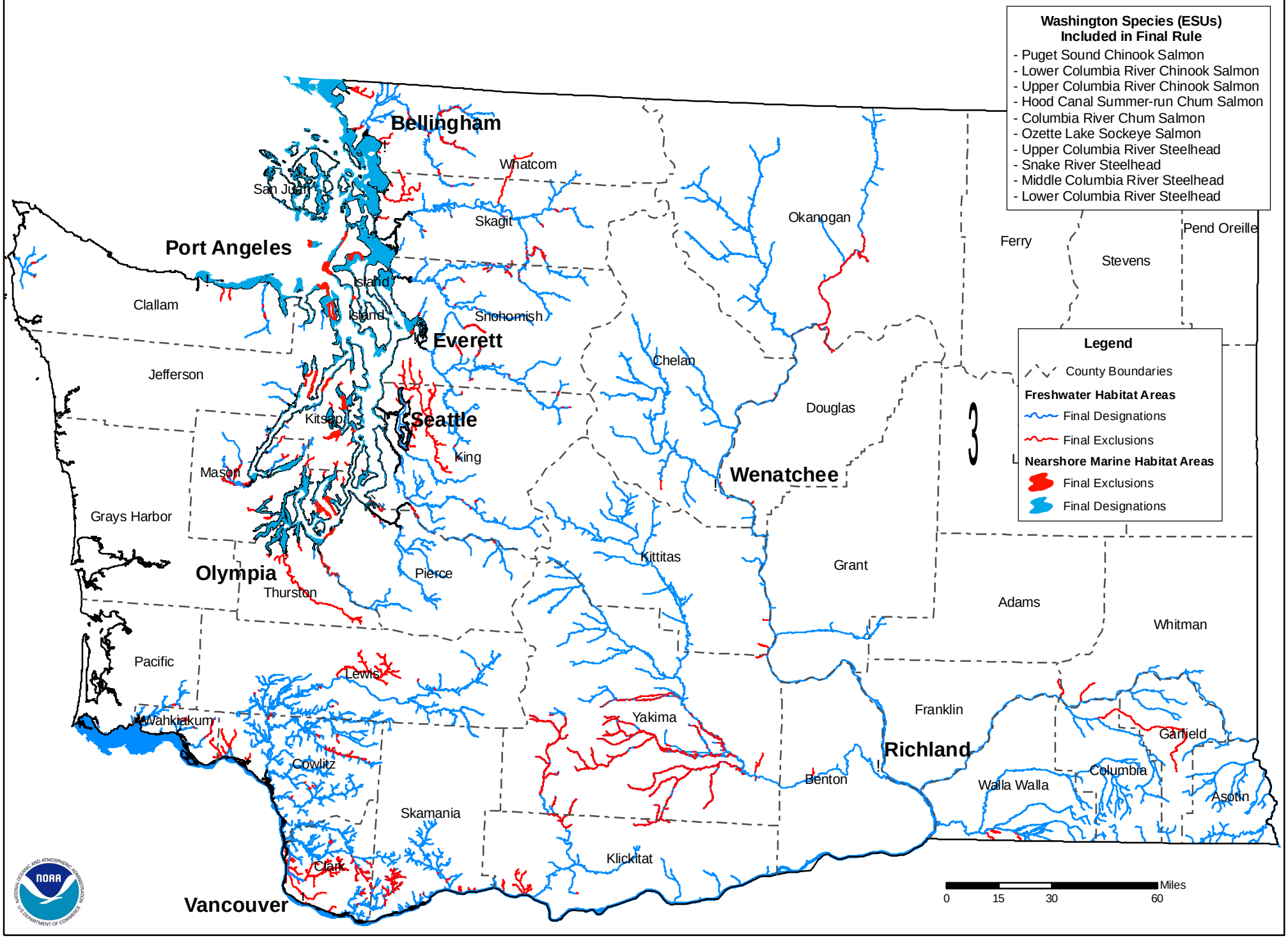
Please Note:
Spawner distribution data are not intended to be comprehensive. They are intended to indicate the watershed in which spawning for a given stock occurs. For some stocks spawner distribution is distinct but unmapped because specific spawning locations are unknown.

Data Source:
2007 WDFW Salmonid Stock Inventory (SaSI)

Washington Department of FISH AND WILDLIFE

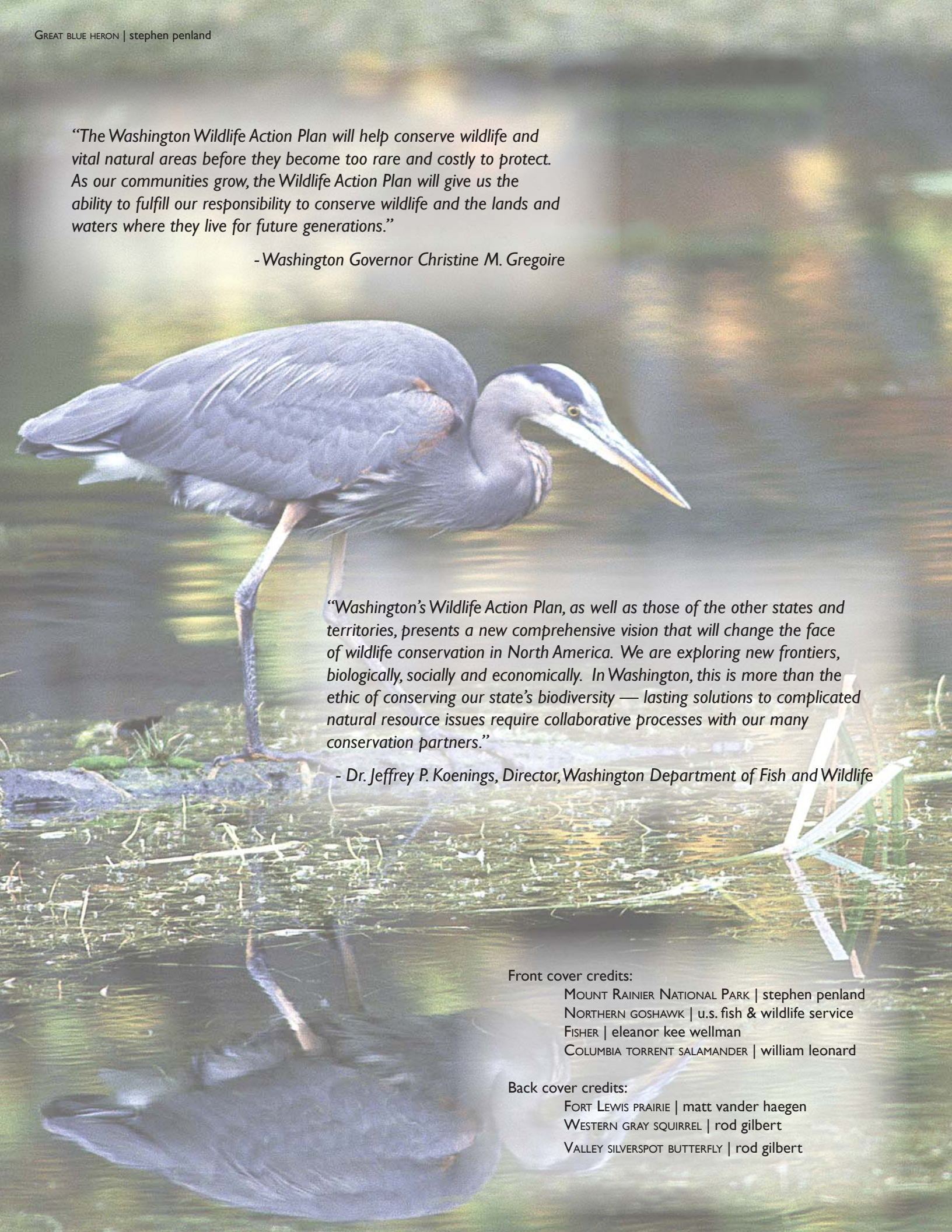
Map created on November 24, 2009
by WDFW Habitat Program GIS

NOAA Fisheries Northwest Region Critical Habitat Designations for West Coast Salmon and Steelhead in Washington - August 2005



Washington's

Comprehensive Wildlife Conservation Strategy



Great blue heron | stephen penland

"The Washington Wildlife Action Plan will help conserve wildlife and vital natural areas before they become too rare and costly to protect. As our communities grow, the Wildlife Action Plan will give us the ability to fulfill our responsibility to conserve wildlife and the lands and waters where they live for future generations."

- Washington Governor Christine M. Gregoire

"Washington's Wildlife Action Plan, as well as those of the other states and territories, presents a new comprehensive vision that will change the face of wildlife conservation in North America. We are exploring new frontiers, biologically, socially and economically. In Washington, this is more than the ethic of conserving our state's biodiversity — lasting solutions to complicated natural resource issues require collaborative processes with our many conservation partners."

- Dr. Jeffrey P. Koenings, Director, Washington Department of Fish and Wildlife

Front cover credits:

Mount Rainier National Park | stephen penland
Northern goshawk | u.s. fish & wildlife service
Fisher | eleanor kee wellman
Columbia torrent salamander | william leonard

Back cover credits:

Fort Lewis prairie | matt vander haegen
Western gray squirrel | rod gilbert
Valley silverspot butterfly | rod gilbert

Greater sandhill cranes | sunny walter

strategies for action

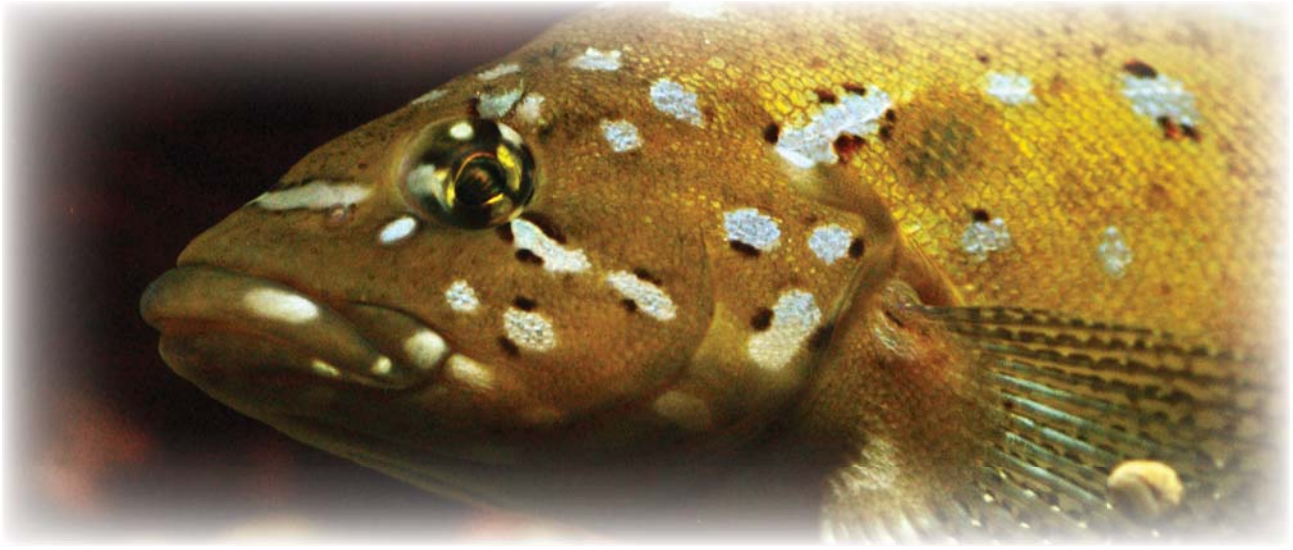
A Comprehensive Wildlife Conservation Strategy

Each state and territory in the U.S. has developed a proactive plan to conserve wildlife species before they become too rare and before conservation actions become more costly. This is a summary of Washington's plan — the Comprehensive Wildlife Conservation Strategy (CWCS). The CWCS was approved by the U.S. Fish and Wildlife Service in October 2005. It qualifies Washington for an important new federal funding source: the State Wildlife Grants program.

The CWCS is part of Teaming with Wildlife, a broad national bipartisan wildlife conservation coalition that includes more than 3,000 organizations across the nation.

The CWCS was developed by scientists and planners, with input from conservationists, natural resource users, and the general public. Washington is one of the most ecologically diverse states in the United States. Seacoasts and estuaries, grasslands and prairies, dry shrub-steppe and various types of forest create many habitats for many species of wildlife. The CWCS provides a solid biological foundation and strategic framework for the Washington Department of Fish and Wildlife, its conservation partners and Washington residents to take action with specific action plans:

- To identify and safeguard wildlife and natural habitats important to many of our family traditions and for future generations.
- To conserve all wildlife and the habitats they live in, starting with the animals and places most in need of help.
- To assure that the natural habitats needed by wildlife are healthy enough to provide clean water and air for both wildlife and people.



Canary rockfish | victoria o'donnell

Male Puget Blue butterfly | kelly mcallister

Washington's biodiversity

What's unique about our state?

Two of the state's ecosystems — the channeled scablands of eastern Washington and the Olympic rainforest — are found nowhere else in the world!

These varied landscapes and the animals and plants that live there create Washington's biodiversity — a natural heritage important to the long-term health and economic security of every resident of the state.

Change is normal in naturally evolving environments, but Washington's rapid human population growth and activities associated with increased economic vitality have stressed portions of our natural environment. The combined effects of multiple stressors has disrupted functioning habitats and damaged fish and wildlife populations. The CWCS recognizes this fact, but also acknowledges that both people and wildlife are vital to the Evergreen State. The CWCS seeks to guide the protection and enhancement of habitats critical to the future of our state's wildlife and thus, to our way of life.

How much have we lost?

- ✓ 70% of estuarine wetlands
- ✓ 50 to 90% of riparian habitat
- ✓ 90% of old growth forest
- ✓ 70% of arid grasslands
- ✓ 50% of shrub-steppe habitat

Some of these habitats are among the most diverse and productive for native fish and wildlife.

What's at Stake

In many areas of our state, natural places are no longer able to provide for the basic needs of both people and wildlife, including clean air and water, food, and shelter. The losses and changes are considerable in urbanizing areas like the Puget Sound region, where communities are pushing out from the shoreline up into the watersheds to the very foothills of the Cascade Mountains. Wild runs of Pacific salmon used to teem throughout these watersheds, only to be threatened by land use changes and development projects. On the Columbia Plateau, much of the natural shrub-steppe and grasslands are now growing food for people rather than for native wildlife such as the greater sage-grouse. A new threat has emerged from invasive plant and animal species that have no natural enemies, and thus expand rapidly into new areas every year. They are a common enemy to native wildlife and upland farmland, as well as commercial shellfish.

The stakes are high, but responding to change is the Washington way. Moving Washington forward requires a focused effort — and that focal point is the CWCS. The CWCS recognizes that fragmented upland habitats can be enlarged, riparian areas can be restored, estuarine nearshore can be functional, and water can be cool and clean. It also recognizes that people will continue to raise families in and around these habitats. And that a balance needs to be created between the two.

COMPREHENSIVE WILDLIFE CONSERVATION STRATEGIES		CWCS ACTIONS
Leave no species behind	Protect wildlife and habitats most in need of help, while working to keep common species common.	✓ Identify Species of Greatest Conservation Need ✓ Determine priority habitats ✓ Identify the most serious conservation problems ✓ Identify the most effective conservation actions
Build a plan of plans	Use existing plans, assessments, and scientific tools.	Review and synthesize hundreds of conservation plans that provide information and recommendations for priority wildlife species and the habitats upon which they depend.
Strengthen conservation partnerships	Leverage taxpayer dollars by expanding on WDFW's existing partnerships and identifying new opportunities for cooperating with other organizations.	Partners: Federal and state agencies Local governments Farmers and forest landowners Treaty Indian tribes Nonprofit conservation organizations Local and regional land trusts
Emphasize biodiversity conservation	Identify, protect and restore areas that support the greatest diversity of wildlife.	Coordinate development and implementation of the CWCS with the Washington Biodiversity Council.

In keeping with WDFW's mission, the CWCS focuses on animals and animal habitat diversity. It does not directly address rare plants, plant associations or landscape features that are protected by the Washington Department of Natural Resources Natural Heritage Plan.

Pygmy rabbit | tara davila

Oregon spotted frog metamorph | wdfw

the CWCS toolbox

Protect the wildlife and habitats most in need of help, while working to keep common species common

Species of Greatest Conservation Need

Washington's list of 193 Species of Greatest Conservation Need (SGCN) is the driving force behind the CWCS. It builds on current efforts to protect fish and wildlife species, including those listed on state and federal endangered, threatened and sensitive species lists. It also includes species not yet listed but for which conservation actions or additional information is needed. Life history details and other information about all wildlife on the SGCN list are included in the full CWCS text.

Priority Habitats

The CWCS includes habitats that are crucial for the conservation of at-risk wildlife species and for keeping common species common. This list of 20 habitats was developed using two detailed scientific assessments (the WDFW Priority Habitats and Species list and *Wildlife Habitat Relationships in Oregon and Washington*), as well as the list of Species of Greatest Conservation Need.

Some examples of Species of Greatest Conservation Need and their associated priority habitats are shown in photos throughout this booklet.

Greater sage-grouse | u.s. forest service

Sharptailed snake | william leonard

Most Effective Conservation Actions

- Conserve and restore habitat on public, private and tribal lands.
- Implement species conservation strategies and coordinated salmon recovery plans.
- Ensure that local, state and federal laws are implemented to protect fish, wildlife and habitat.
- Conduct biological assessments, research, surveys and monitoring of fish, wildlife and habitat.
- Identify scientific information for local governments and planners.
- Expand wildlife information and conservation education programs.

Greatest Conservation Challenges

- Reverse habitat loss due to conversion, fragmentation, and degradation.
- Curb the spread of invasive alien plant and animal species.
- Improve the diversion and allocation of surface water to leave more water for fish and wildlife.
- Improve water quality.
- Recover salmon populations.
- Implement updated forest conservation and management practices.
- Implement updated agricultural and livestock grazing practices.
- Reverse the spread of plant and animal diseases and pathogens.
- Improve our knowledge of wildlife species, populations and habitats.

Olympic marmot | stephen penland

California Mountain Kingsnake | adam p. summers

in depth:

Top conservation challenges and effective conservation actions for wildlife

Top Conservation Challenges

Habitat loss through conversion, fragmentation, and degradation

Habitat loss through conversion to other uses, fragmentation and degradation is the most serious statewide threat to Washington's native fish and wildlife. More than half the state's highest priority wildlife habitats have been lost since statehood in 1889. Once native habitat is converted to other uses, remaining habitat is left as isolated fragments in a maze of multiple land uses. Wildlife populations associated with these fragmented habitats may be blocked from their normal movement patterns and migration routes, and isolated from other breeding populations. Thirty thousand to 80,000 acres of functional habitat for wildlife are lost or altered every year.

Invasive alien plant and animal species

Invasive, non-native plants and animals outcompete and displace native species, profoundly changing natural systems. Invasive alien species evolve in other parts of the world and arrive in Washington without the natural predators and diseases that control their growth in their native environment. This is a critical problem for native fish, wildlife and biodiversity, and for our vital agricultural industry.

Bullfrog eating duckling | william radke

Cordgrass (*Spartina*) outcompetes and eliminates native salt marsh vegetation and fills in tidal mudflats, which are important habitat for native salmon, shellfish, shorebirds and other migratory bird populations. *Spartina* infestations are present in Willapa Bay, and are gaining a foothold in the inland marine waters of Puget Sound.

Cheatgrass has replaced native grassland communities all over the Intermountain West, including Washington. Originally from Asia, it has limited or no food value for wildlife and livestock and is a major fire hazard in shrub-steppe deserts and ponderosa pine forests.

Bullfrogs have a severe impact in freshwater habitats on declining species such as western pond turtles, northern leopard frogs, and other native amphibian, fish and even bird species.

Other alien invasive species include, but are not limited to: Japanese eelgrass, oyster drill, varnish clam, European green crab, yellow starthistle, knapweed species, Dalmatian toadflax and sulfur cinquefoil.

WDFW biologist and friends at Puyallup Fair | wdfw

Effective Conservation Actions

Identify scientific information for local governments and planners.

The CWCS identifies the types of reliable landscape-scale data and biological information needed by local governments for good decision-making to conserve important wildlife habitat, protect natural areas critical for clean air and water, and administer the state Growth Management Act and other locally administered land use laws.

Enhance and conserve habitat on public, private, and tribal lands and waterways.

The CWCS includes specific conservation and acquisition recommendations for each priority habitat type. These recommendations will be used to:

- Make up-to-date management decisions on the statewide network of more than 840,000 acres owned or managed by WDFW.
- Help WDFW improve its role in providing other public agencies with wildlife information and habitat recommendations for the lands they manage. Forty percent of Washington's land base is in public ownership.
- Work with Indian tribal councils to identify and conserve important wildlife habitat on tribal lands. About 16% of Washington is within tribal reservations.
- Boost financial and non-financial incentives for private landowners and provide technical assistance for private conservation organizations, county extension agents, and conservation districts. Approximately 60% of Washington's land base is privately owned.

CWCS and Lands 20/20

In 1990, at the urging of the Washington Wildlife and Recreation Coalition, the Legislature created the Washington Wildlife and Recreation Program (WWRP). This program makes grants to state and local government entities to permanently protect habitat and recreational lands across the state. The program has made over $450 million available and funded 775 projects. The WWRP has enabled the Washington Department of Fish and Wildlife (WDFW) to acquire more than 80,000 acres of critical habitat to support species such as sharptail grouse, pygmy rabbits, salmon, elk, deer and upland game.

Land acquisition is a powerful conservation tool that entails more than just the fee title purchase of lands; it also includes conservation easements and other types of landowner agreements. In order to better articulate the relationship between land acquisition and conservation goals, WDFW published Lands 20/20: A Clear Vision for the Future in July, 2005. Lands 20/20 clearly defines those values by which WDFW will make land acquisition decisions in the future, and lays out a process that incorporates scientific review and public involvement.

Lands 20/20 recognizes the legacy established by WDFW after 70 years of acquiring lands for fish and wildlife and related recreation. It also recognizes acquisition as just one conservation tool, and that to be truly successful, conservation of Washington's remaining fish, wildlife and habitat will require public understanding and support of many different conservation strategies. These strategies are outlined in Washington's Comprehensive Wildlife Conservation Strategy (CWCS). Lands 20/20 also utilizes the CWCS to inform the acquisition process and to place it in the context of other conservation tools.

- Identify areas with high habitat or biodiversity values that can best be conserved through fee-title acquisition, land donations, land trades, or conservation easements.

Implement species conservation strategies and coordinated salmon recovery.

The CWCS focuses attention on wildlife species included on the statewide Species of Greatest Conservation Need (SGCN) list. A range of conservation actions is recommended for these species, from the development of recovery plans for wildlife most in need of help, to baseline population surveys for other species.

Large-scale, coordinated salmon recovery efforts are well underway in Washington. The CWCS does not duplicate these efforts, but implementation of the CWCS will enhance salmon recovery by focusing on priority habitats throughout the state.

Expand wildlife information and conservation education programs.

Effective conservation of habitat and biodiversity can only be accomplished if the public and policy makers understand the biological needs of wildlife. The CWCS identifies a wide range of necessary education and information actions.

Conduct biological assessments, research, monitoring and surveys of fish, wildlife and habitat.

The CWCS recommends targeting areas where knowledge should be improved to ensure that conservation priorities and programs reflect the current needs of wildlife and habitats.

Ensure implementation of local, state, and federal laws to protect fish, wildlife and habitat.

The CWCS recommends enhanced enforcement of existing harvest and habitat laws, as well as partnerships with other agencies to publicize and implement laws, regulations, and permit conditions that prevent the destruction or degradation of important habitat.

Building a Plan of Plans

WDFW and its many partners are involved in a range of conservation planning and assessment efforts for fish and wildlife species, habitats, and biodiversity. This work was accomplished through collaboration among policy makers, years of field investigation and analysis by scientists, and input from the public. Some of these efforts are management and recovery plans for individual species such as salmon or lynx. Others focus on managing certain types of habitat. Others address biodiversity statewide. We consulted many plans and assessments to build the CWCS on a solid foundation of both previous and ongoing work, including:

Ecoregional Assessments

Ecoregional assessments (EAs) address species and habitat conservation targets and map biodiversity for each of Washington's nine ecoregions. The CWCS incorporates the results of the EAs to enable us to address biodiversity needs on a landscape scale, as well as problems and management priorities that vary throughout the state.

Ecoregions of Washington | wa dept. of natural resources

Ecoregions are broad ecological patterns in the landscape. Each ecoregion has a unique combination of soils, geology, hydrology and climate that in turn create the right conditions for unique plant communities and wildlife. Washington has nine ecoregions, ranging from the marine-influenced lowlands of the Puget Trough to the dry shrub-steppe of the Columbia Plateau.

Washington Natural Heritage Plan

This program provides the framework for a statewide system of state-owned natural areas that provide habitat for rare and declining species and places for healthy, functioning ecosystems.

Other plans include:

- Northwest Forest Plan
- Northwest Power and Conservation Council subbasin plans
- Puget Sound Water Quality Management Plan
- Salmon recovery plans and assessments
- Washington GAP Project
- WDFW Wildlife Area Plans

Western pond turtle hatching | wdfw

Killer whale (orca) | noaa

from strategy to action

Implementing the Wildlife Action Plan

From the Bottom Up

Washington Department of Fish and Wildlife staff and local stakeholders are building on CWCS strategies by implementing a Wildlife Action Plan in each of Washington's nine ecoregions. These people have the localized knowledge and expertise to determine conservation priorities for their ecoregion.

Action #1. Determine which species, habitats and landscapes represent the greatest conservation opportunities for each ecoregion.

Drawing on the CWCS toolbox, they will work at three scales. First, they will use the statewide list of Species of Greatest Conservation Need and species recovery plans to determine priority species for their ecoregion. Working at the landscape scale, they will consult Ecoregional Assessments and specialized maps to identify areas of highest biodiversity. Finally, they will examine the CWCS list of priority habitats to make sure that "all the bases are covered."

Action #2. Identify specific actions needed to realize ecoregional conservation opportunities.

Next, each group will consider conservation challenges identified in the CWCS and evaluate conservation actions already underway by WDFW and other agencies and organizations. They will conduct a "gap analysis" to determine what still needs to be done. And they will explore ways to create corridors of connectivity between protected landscapes.

Action #3: Activate partnerships; identify conservation roles.

Although WDFW has primary responsibility for wildlife conservation in Washington, implementing the Wildlife Action Plan will require the cooperation and active participation of the public as well as other agencies and conservation organizations. WDFW will work with these conservation partners to prioritize on-the-ground actions and identify roles for each partner.

Operation Dark Goose | wdfw

Northern leopard frog | john dudak

From the Top Down

Secure adequate funding for wildlife conservation

The Washington Department of Fish and Wildlife (WDFW) will work closely with other state wildlife agencies and the nationwide Association of Fish and Wildlife Agencies to get the CWCS in the hands of state, federal and local decision-makers, business interests, the conservation community and the general public. In particular, WDFW will make copies of the CWCS available to members of Congress and federal agency administrators who will help provide the necessary funding to implement the Wildlife Action Plan.

Emphasize biodiversity conservation

The Washington Biodiversity Council is developing a proactive blueprint for Washington's first-ever biodiversity strategy. This 30-year vision will include a strategy for educating the public about biodiversity and will incorporate statewide and ecoregional priorities and benchmarks for conservation of land and water (both fresh and marine).

Implementation partners

- USDA Forest Service
- U.S. Fish and Wildlife Service
- Bureau of Land Management
- Bureau of Reclamation
- Department of Defense
- National Park Service
- Washington Department of Natural Resources
- Washington State Parks and Recreation Commission
- Tribal land management agencies
- Private forest landowners
- Local governments
- Local conservation districts, irrigation districts, and weed boards.

Other public and private conservation partners:

- Governmental partners who establish policy, administer programs and regulations, or direct funding to wildlife conservation include the National Marine Fisheries Service, Northwest Power and Conservation Council, Salmon Recovery Funding Board, Puget Sound Action Team, and Washington Departments of Ecology and Transportation.
- Nonprofit conservation and wildlife recreation groups such as The Nature Conservancy, Audubon Washington, People for Puget Sound, Cascade Land Conservancy, Trust for Public Land, Washington Wildlife Federation, Trout Unlimited, Ducks Unlimited, Rocky Mountain Elk Foundation, and local land trusts.

Pacific Townsend's Bats | darrell pruett

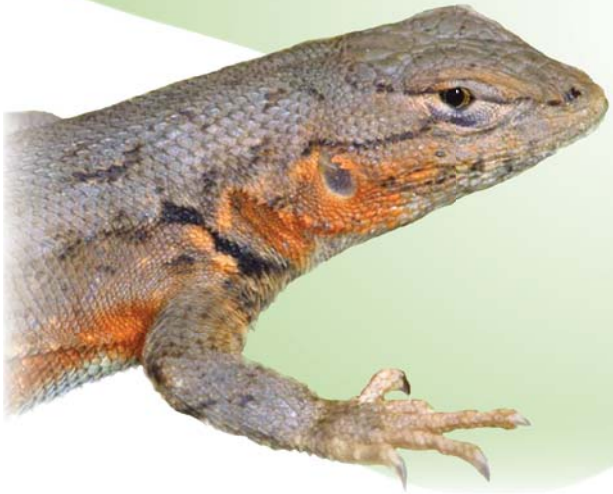
Detailed implementation

The CWCS is a dynamic planning strategy designed to be continually examined, refined and adapted to meet changing circumstances. The WDFW, with advice from its public and private partners, will carry on this effort. They will:

- Continue to re-examine and refine the relative priority of wildlife species and associated habitats.
- Integrate the CWCS into the 30-year Biodiversity Conservation Strategy currently being crafted by the new Washington Biodiversity Council.
- Coordinate multi-agency land acquisition with other state and local agencies through the Interagency Committee for Outdoor Recreation (IAC).
- Accelerate coordinated planning for species and habitat conservation among federal and state land management agencies.
- Complete local habitat assessments and develop new and better databases and mapping products for local governments to use in Growth Management Planning.
- Better integrate management of marine and aquatic ecosystems with terrestrial ecosystems, both within WDFW and among state and federal agencies.
- Incorporate identified species and habitat conservation priorities into operational work plans within WDFW and other conservation partners.
- Incorporate specific conservation actions into WDFW's cost accounting systems to help develop and monitor project budgets and priorities.

What role does science play in wildlife and biodiversity conservation?

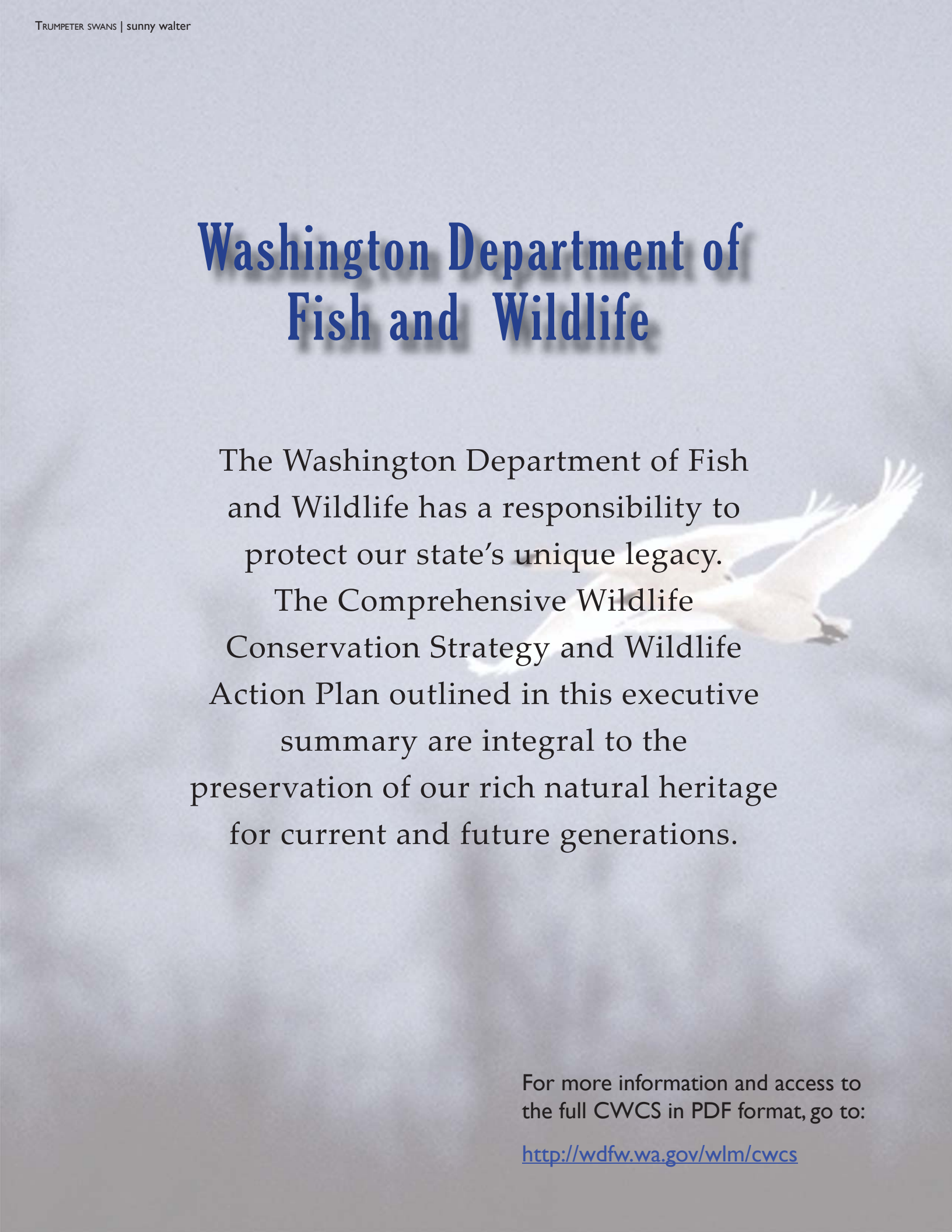
- ✓ Identifies ***what*** should be conserved.
- ✓ Determines ***how*** it should be conserved.
- ✓ Measures and monitors the ***effect*** of conservation actions.



What role do Washingtonians play in wildlife and biodiversity conservation? They use the science to influence or decide:

- ✓ ***How much*** wildlife and biodiversity should be conserved.
- ✓ ***Where*** wildlife habitat should be conserved.
- ✓ ***How much*** money and other public resources should be applied to conservation.

Sagebrush Lizard | adam p. summers



Trumpeter swans | sunny walter

Washington Department of Fish and Wildlife

The Washington Department of Fish and Wildlife has a responsibility to protect our state's unique legacy. The Comprehensive Wildlife Conservation Strategy and Wildlife Action Plan outlined in this executive summary are integral to the preservation of our rich natural heritage for current and future generations.

For more information and access to the full CWCS in PDF format, go to:

http://wdfw.wa.gov/wlm/cwcs

"In the end, we will conserve only what we love;
We will love only what we understand;
We will understand only what we have been taught."

- Baba Dioum,
Senegalese ecologist

APPENDIX 10: SGCN CONSERVATION PROBLEMS AND ACTIONS CHECKLIST

09/12/2005

		CONSERVATION PROBLEMS																			CONSERVATION ACTIONS																			
								Habitat													Research and data collection				Planning		Population management					Habitat management							
Type	Species Common Name	Agriculture	Disease and/or predation	Environmental Contaminants	Fire regime alteration	Forest practices	Grazing practices	Harvest and/or persecution	Conversion	Degradation	Fragmentation	Loss	Human development	Human disturbance	Hydrologic impacts	Invasive species	Lack of information	Limited distribution	Loss of prey/ food source	Mining	Transportation systems	Distribution and abundance	Limiting factors	Suitable habitat	Monitor population trends	Determine and recommend status	Develop recovery, strategy, management plan	Protect known populations	Augment/reintroduce population	Control and monitor mortality	Control and monitor disturbance	Protect or manage prey base/food source	Monitor habitat status	Restore/ enhance habitat	Permanet habitat conservation	Control invasive species	Control and monitor contaminants	Other habitat protection	Education and cooperation	Enforcement
Mammal	Preble's shrew			x	x					x	x	x					x	x				x		x	x	x		x		x								
Mammal	Merriam's shrew	x		x	x		x			x	x	x					x					x	x	x				x						x				
Mammal	Keen's myotis					x					x	x		x			x	x				x	x	x									x					
Mammal	Pallid Townsend's big-eared bat	x							x			x	x	x						x				x						x				x				x
Mammal	Pacific Townsend's big-eared bat											x		x										x										x				
Mammal	White-tailed jackrabbit	x	x						x			x					x	x				x			x	x		x	x	x			x	x				
Mammal	Black-tailed jackrabbit	x	x						x			x					x	x				x			x	x	x		x	x	x			x	x			
Mammal	Pygmy rabbit										x	x						x					x		x			x	x	x				x	x			
Mammal	Olympic marmot		x											x				x						x	x	x				x		x				x			
Mammal	Townsend's ground squirrel *townsendii*		x					x	x	x		x	x				x					x		x	x	x	x			x			x			x	x		
Mammal	Washington ground squirrel	x			x			x	x		x	x	x			x	x							x	x	x			x	x		x	x	x	x		x	x
Mammal	Townsend's ground squirrel *nancyae*		x					x	x	x		x	x				x					x		x	x	x	x			x		x				x	x	
Mammal	Western gray squirrel		x		x	x						x	x			x		x				x		x	x			x		x		x		x	x	x	x	x
Mammal	Brush Prairie pocket gopher							x		x	x	x	x			x		x				x			x	x						x	x	x	x		x	x
Mammal	Mazama (western) pocket gopher							x		x	x	x	x			x		x				x			x			x					x	x			x	x
Mammal	Kincaid meadow vole																x					x		x		x												
Mammal	Shaw Island Townsend's vole																x	x				x		x		x												
Mammal	Gray-tailed vole											x	x				x	x				x		x	x							x						
Mammal	Killer whale			x						x				x					x			x	x								x				x	x	x	x
Mammal	Pacific harbor porpoise			x				x					x	x							x	x			x	x								x				
Mammal	Gray wolf							x			x	x		x				x	x		x	x			x	x				x	x	x	x	x		x	x	x
Mammal	Grizzly bear										x	x		x				x			x				x				x	x			x			x		x
Mammal	Steller sea lion			x				x										x	x		x	x			x				x	x	x			x				
Mammal	Marten (Coastal population)																x	x			x				x		x	x										
Mammal	Fisher							x			x	x					x	x			x		x	x				x				x						
Mammal	Wolverine									x	x	x		x				x			x			x	x				x			x	x					x

		CONSERVATION PROBLEMS																				CONSERVATION ACTIONS																		
									Habitat													Research and data collection				Planning		Population management					Habitat management							
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Mammal	American badger	x									x	x	x				x					x		x	x	x							x							
Mammal	Sea otter		x	x				x										x				x			x												x		x	
Mammal	Lynx					x	x			x		x						x			x	x		x	x								x		x			x	x	
Mammal	Elk (Nooksack herd, mixed)							x										x				x		x	x						x				x			x		x
Mammal	Columbian white-tailed deer							x				x						x				x			x				x	x			x		x			x		x
Mammal	Woodland caribou		x			x												x											x	x					x			x	x	
Mammal	Pronghorn antelope											x						x						x			x		x				x							
Bird	Common loon			x						x		x	x	x	x									x				x		x					x		x	x	x	
Bird	Western grebe			x				x						x								x								x	x		x		x		x	x		x
Bird	American white pelican			x				x				x		x	x										x						x		x		x		x	x	x	
Bird	Great blue heron											x	x	x			x					x			x								x		x			x	x	
Bird	Trumpeter swan	x		x					x			x												x											x		x	x		
Bird	Tule greater white-fronted goose			x						x		x	x				x									x								x	x		x			
Bird	Brant			x						x		x	x	x					x												x			x	x		x	x		
Bird	Northern pintail							x	x	x		x	x																					x	x			x		x
Bird	Redhead							x		x		x	x	x	x				x															x	x			x	x	x
Bird	Greater scaup			x				x		x		x	x	x																	x			x			x		x	x
Bird	Lesser scaup	x						x	x			x		x																					x			x	x	x
Bird	Long-tailed duck			x				x				x	x						x				x	x									x	x	x		x	x		x
Bird	Black scoter			x				x				x	x						x					x									x	x	x		x	x		x
Bird	Surf scoter			x				x				x	x						x					x									x	x	x		x	x		x
Bird	White-winged scoter			x				x				x	x						x					x									x	x	x			x		x
Bird	Bald eagle			x		x		x		x		x	x	x					x						x			x		x	x	x	x	x	x		x	x	x	x
Bird	Northern goshawk				x	x						x	x				x					x			x								x		x			x	x	
Bird	Ferruginous hawk	x			x				x	x		x	x	x					x													x		x	x			x	x	
Bird	Golden eagle			x						x	x	x	x	x					x											x	x	x		x	x	x		x		
Bird	Peregrine falcon			x										x											x			x			x						x	x	x	x
Bird	Prairie falcon	x			x				x	x		x	x	x					x												x				x			x		
Bird	Greater sage-grouse	x	x	x	x		x		x	x		x	x			x		x							x				x	x	x			x	x	x		x	x	

		CONSERVATION PROBLEMS							Habitat													CONSERVATION ACTIONS: Research and data collection				Planning		Population management					Habitat management							
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Bird	Sharp-tailed grouse	x	x				x		x			x	x					x							x				x	x	x			x	x			x	x	
Bird	Mountain quail			x			x					x	x																					x	x			x	x	
Bird	Sandhill crane (greater)	x					x			x		x	x	x	x						x							x			x			x	x			x	x	
Bird	Snowy plover			x								x		x		x															x				x	x	x	x		x
Bird	Black oystercatcher			x						x				x																	x						x		x	
Bird	Willet			x								x	x																						x		x	x		
Bird	Upland sandpiper						x			x		x	x		x	x																			x	x		x	x	
Bird	Marbled godwit			x						x		x	x																						x		x	x	x	
Bird	Red knot			x						x						x																				x	x			
Bird	Rock sandpiper			x						x		x																									x			
Bird	Arctic tern			x				x		x		x		x																	x						x		x	x
Bird	Common murre		x	x				x						x					x											x	x	x					x		x	
Bird	Marbled murrelet			x		x		x			x	x	x				x					x	x	x			x						x		x		x	x		
Bird	Ancient murrelet			x				x																													x		x	x
Bird	Cassin's auklet		x	x				x						x																x	x						x		x	x
Bird	Tufted puffin			x				x									x					x	x	x	x								x				x			
Bird	Yellow-billed cuckoo											x										x												x						
Bird	Flammulated owl			x		x				x		x					x					x		x	x									x	x		x	x		
Bird	Burrowing owl	x		x						x		x																						x	x		x	x	x	
Bird	Northern spotted owl					x						x				x								x	x		x							x	x			x	x	
Bird	Great gray owl					x				x							x					x		x	x		x							x	x			x	x	
Bird	Vaux's swift					x						x					x					x	x	x	x										x			x		
Bird	Lewis' woodpecker				x	x	x			x		x	x			x	x					x	x		x										x	x		x		
Bird	Acorn woodpecker																x					x		x																
Bird	White-headed woodpecker					x				x		x					x					x		x	x									x	x			x		
Bird	Black-backed woodpecker				x	x						x					x					x	x	x	x									x	x			x		
Bird	Pileated woodpecker					x						x					x					x	x		x									x	x			x		
Bird	Streaked horned lark				x							x				x		x					x						x					x	x			x		
Bird	Purple martin															x																				x				

		CONSERVATION PROBLEMS																				CONSERVATION ACTIONS																					
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Bird	Slender-billed white-breasted nuthatch								x			x					x	x				x	x	x	x				x							x	x		
Bird	Pygmy nuthatch				x	x	x			x		x	x				x					x							x							x			
Bird	Western bluebird (W WA)				x	x				x		x	x			x	x					x			x	x										x			
Bird	Sage thrasher	x		x			x				x	x	x				x					x			x	x										x	x		
Bird	Loggerhead shrike	x							x			x					x					x		x	x											x	x		
Bird	Oregon vesper sparrow	x		x	x							x	x			x	x					x		x											x	x				
Bird	Sage sparrow	x			x					x	x	x	x			x	x				x	x			x	x									x	x	x			
Reptile	Western pond turtle		x									x	x			x		x										x							x	x	x			
Reptile	Pygmy horned lizard	x						x				x	x				x					x													x		x	x		
Reptile	Sagebrush lizard	x								x		x				x	x	x				x		x											x	x	x			
Reptile	Racer (W WA)																x					x																		
Reptile	Sharptail snake											x		x			x	x				x	x													x				
Reptile	California mountain kingsnake							x				x	x				x	x				x		x	x											x		x	x	
Reptile	Striped whipsnake											x	x				x					x	x				x			x						x		x		
Reptile	Pacific gopher snake (W WA)																x					x																		
Amphibian	Tiger salamander							x								x						x	x	x												x	x		
Amphibian	Dunn's salamander					x				x	x	x		x			x	x				x	x	x	x			x				x				x	x		
Amphibian	Larch Mountain salamander					x						x					x					x	x													x				
Amphibian	Van Dyke's salamander			x		x						x					x	x				x		x	x											x				
Amphibian	Cascade torrent salamander					x				x		x						x				x	x	x								x				x				
Amphibian	Columbia torrent salamander					x				x		x					x					x	x	x								x				x				
Amphibian	Rocky Mountain tailed frog					x				x		x					x					x	x	x								x				x				
Amphibian	Western toad												x				x					x	x	x									x	x		x				
Amphibian	Northern leopard frog	x	x	x												x	x					x	x	x											x	x				
Amphibian	Oregon spotted frog											x			x	x	x					x	x	x											x	x				
Amphibian	Columbia spotted frog														x	x	x					x	x	x											x	x				
Fish	River lamprey														x		x						x	x	x							x	x							
Fish	Pacific lamprey														x		x						x	x	x							x	x							
Fish	Copper rockfish		x	x				x									x					x	x		x				x			x	x			x			x	

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Fish	Greenstriped rockfish		x	x				x									x					x	x		x				x						x			x		x
Fish	Quillback rockfish		x					x									x					x	x		x				x						x			x		x
Fish	Black rockfish (Puget Sound)		x					x									x					x	x		x				x						x			x		x
Fish	China rockfish							x									x					x	x		x										x			x		x
Fish	Tiger rockfish		x					x									x					x	x		x				x						x			x		x
Fish	Bocaccio rockfish		x					x									x					x	x		x				x						x			x		x
Fish	Canary rockfish		x					x									x					x	x		x				x						x			x		x
Fish	Redstripe rockfish		x					x									x					x	x		x				x						x			x		x
Fish	Yelloweye rockfish		x					x									x					x	x		x				x						x			x		x
Fish	Margined sculpin	x				x				x		x						x				x		x											x			x		
Fish	Green sturgeon			x		x	x	x		x					x		x					x			x											x		x	x	x
Fish	Pacific herring (Cherry Pt, Discovery Bay)									x		x	x				x					x	x		x				x						x			x		x
Fish	Westslope cutthroat															x																			x					
Fish	Inland redband trout	x				x						x			x																				x			x	x	
Fish	Bull trout	x		x		x	x	x		x		x	x		x	x	x					x	x	x	x			x			x				x	x	x	x	x	x
Fish	Pygmy whitefish			x		x				x		x			x	x						x													x	x	x	x		
Fish	Eulachon							x							x		x					x	x	x	x		x								x					
Fish	Olympic mudminnow											x	x		x	x		x				x													x	x				
Fish	Surfsmelt							x		x		x	x									x	x	x	x							x			x					
Fish	Leopard dace																x					x																		
Fish	Mountain sucker																x					x																		
Fish	Salish sucker											x	x				x	x				x		x	x											x				
Fish	Pacific sand lance									x		x	x				x					x	x	x	x							x				x			x	
Invertebrate	Columbia River tiger beetle											x			x		x					x	x	x												x				
Invertebrate	Siuslaw sand tiger beetle													x		x	x	x				x	x	x												x				
Invertebrate	Beller's ground beetle									x			x		x		x	x				x	x	x												x				
Invertebrate	Long-horned leaf beetle									x			x		x		x	x				x	x	x												x				
Invertebrate	Hatch's click beetle									x			x		x		x	x				x	x	x												x				
Invertebrate	Mann's mollusk-eating ground beetle						x					x	x				x	x				x	x	x								x		x		x				

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Invertebrate	Propertius' duskywing									x								x																		x				
Invertebrate	Oregon branded skipper											x	x			x								x		x										x				
Invertebrate	Mardon skipper				x		x		x			x		x		x		x										x								x	x			
Invertebrate	Dog star skipper			x								x				x							x		x	x										x				
Invertebrate	Yuma skipper												x	x				x								x										x	x			
Invertebrate	Shepard's parnassian												x			x						x				x										x				
Invertebrate	Island marble																	x				x	x	x												x				
Invertebrate	Makah (Queen Charlotte) copper								x			x	x									x														x				
Invertebrate	Chinquapin hairstreak		x	x		x												x				x		x												x	x			
Invertebrate	Johnson's hairstreak					x						x										x		x									x			x				
Invertebrate	Juniper hairstreak											x	x									x					x									x				
Invertebrate	Hoary elfin (W WA)									x	x	x	x					x															x			x				
Invertebrate	Blackmore's (Puget) blue									x		x				x															x				x	x			
Invertebrate	Puget Sound fritillary									x		x	x			x						x		x			x									x				
Invertebrate	Oregon silverspot butterfly									x		x	x			x												x					x			x				
Invertebrate	Valley silverspot									x		x				x								x				x					x	x	x				
Invertebrate	Silver-bordered fritillary											x			x							x			x							x			x					
Invertebrate	Taylor's checkerspot				x							x	x	x		x												x					x	x						
Invertebrate	Great arctic																x					x																			
Invertebrate	Sand-verbena moth													x		x	x	x				x		x												x	x			
Invertebrate	White-belted ringtail																x	x				x	x		x											x				
Invertebrate	Columbia (Lynn's) clubtail			x												x	x	x				x	x	x	x											x	x			
Invertebrate	Pacific clubtail																x	x				x	x	x	x											x				
Invertebrate	Subarctic darner																x	x				x	x	x	x											x				
Invertebrate	Boreal whiteface																x	x				x	x	x	x											x				
Invertebrate	Subarctic bluet																x	x				x	x	x	x											x				
Invertebrate	California floater			x											x	x	x	x				x	x		x				x						x	x				
Invertebrate	Western floater			x											x	x	x	x				x	x		x				x						x	x				
Invertebrate	Winged floater			x											x	x	x	x				x	x		x				x						x	x				

		CONSERVATION PROBLEMS																			CONSERVATION ACTIONS																				
									Habitat												Research and data collection				Planning		Population management				Habitat management									
Type	Species Common Name	Agriculture	Disease and/or predation	Environmental Contaminants	Fire regime alteration	Forest practices	Grazing practices	Harvest and/or persecution	Conversion	Degradation	Fragmentation	Loss	Human development	Human disturbance	Hydrologic impacts	Invasive species	Lack of information	Limited distribution	Loss of prey/ food source	Mining	Transportation systems	Distribution and abundance	Limiting factors	Suitable habitat	Monitor population trends	Determine and recommend status	Develop recovery, strategy, management plan	Protect known populations	Augment/reintroduce population	Control and monitor mortality	Control and monitor disturbance	Protect or manage prey base/food source	Monitor habitat status	Restore/ enhance habitat	Permanet habitat conservation	Control invasive species	Control and monitor contaminants	Other habitat protection	Education and cooperation	Enforcement
Invertebrate	Oregon floater			x											x	x	x	x				x	x		x				x											
Invertebrate	Western ridged mussel			x											x	x	x	x				x	x		x				x											
Invertebrate	Western pearlshell			x				x									x	x				x	x		x				x									x	x
Invertebrate	Bluegray taildropper					x						x	x				x	x				x		x	x				x											
Invertebrate	Crowned tightcoil																x	x				x		x	x				x											
Invertebrate	Columbia oregonian					x				x	x	x	x				x	x				x	x	x				x	x			x	x							
Invertebrate	Oregon megomphix				x	x						x	x				x	x				x		x	x				x											

WASHINGTON STATE DEPARTMENT OF TRANSPORTATION

AARON BARNA

UNIVERSITY OF WASHINGTON HERBARIUM

4

Conservation Opportunity Framework

Introduction

This chapter provides additional information about the development and intended use of the Conservation Opportunity Framework introduced in Chapter 3, Strategies 1.1 – 1.3. This framework establishes criteria for assessing both conservation value and risk, from a regional perspective, and for developing maps to display these criteria graphically across the landscape. The maps are intended to be used together with other information sources to guide investments in acquisition, management, and stewardship activities on the land.

Maps provide guidance on where to invest

The maps that the Biodiversity Council generated under this framework are intended to provide guidance on where to invest in conservation activities. They are based on ecoregional assessments, the best and most recent statewide analysis of Washington's biodiversity as it is currently understood[1], and on projections of future population growth and land use.

The maps are best viewed as illustrating a range of *opportunities* for voluntary and collaborative approaches, where people and organizations can work together to conserve biodiversity and maintain working lands and other important cultural attributes of a landscape. It is important to recognize that "conserve" is a multi-faceted verb, not limited to land acquisition. Conservation activities can range from individual actions, such as creating a backyard wildlife habitat or making informed shopping decisions, to system-wide changes, such as a community employing biodiversity-conscious land use planning measures or building innovative conservation markets. Please see the sidebar for a list of other types of possible approaches.

The maps show opportunities to conserve not only the rarest species or the richest habitats, but also to maintain common species and ecosystems. The methodology and criteria were designed in part to identify a full range of important habitats, and to help avoid future conservation crises.

Conservation Approaches

Conservation efforts can involve many different activities, including but not limited to:

- Best management practices
- Adaptive management
- Scientific inquiry and research
- Citizen science efforts
- Monitoring
- Invasive species control
- Restoration
- Mitigation
- Acquisition
- Conservation easements
- Education and technical assistance
- Land use planning
- Landowner incentives
- Recognition
- Transfer or purchase of development rights
- Conservation markets

Considerations in using the maps

While these maps do a good job of identifying areas of priority from an ecoregional perspective, they are not designed to replace more detailed or specialized assessments, and they do not prescribe specific actions or strategies. They are not intended to be used as the sole source for planning conservation initiatives.

1 Washington Biodiversity Council, ***The Scope and Range of Conservation Assessments in Washington State*** (2005).

For example, the recently completed assessment of freshwater systems (see p. 112) in the state is a tool that could be used to enhance the level of detail of these maps.[2] Similarly, information from the Washington Natural Heritage Program, Washington Department of Fish and Wildlife, and other agencies can help provide context and nuance to these maps.

The conservation opportunity maps also do not substitute for local conservation priorities. Some areas may have features important to local residents or communities, but the areas would not necessarily be indicated as high priorities from an ecoregional perspective. Such an area might be smaller than the landscape units measured on the map.

Conditions in Washington are changing rapidly, and these maps will need to be periodically updated. They rely on our current knowledge about biodiversity and about projected population growth. Rather than being static, the maps should be viewed as a dynamic tool, responsive to increased knowledge.

The Council emphasizes that all areas of the state can contribute to biodiversity conservation, no matter how an area ranks on these maps. The maps provide a high-level comprehensive look at a wide range of species, plant communities, and ecological systems in seven of Washington's nine ecoregions.

Methodology for Developing the Conservation Opportunity Maps

Ecoregions as the landscape unit for the Framework

The Council chose ecoregions as the basis for the Conservation Opportunity Framework, and it developed criteria for biodiversity significance and risk to construct the Conservation Opportunity maps. Maps have been developed for seven of the nine ecoregions in Washington State. The Blue Mountains and Canadian Rockies ecoregions' Conservation Opportunity Maps have yet to be completed.

Ecoregions are relatively large geographic areas of land and water, with shared characteristics of climate, vegetation, geology and other ecological and environmental patterns.

Ecoregions represent a practical unit to use for this framework because they are large enough to encompass populations of species and can help address habitat fragmentation, i.e., the breaking up of a habitat into unconnected patches, which is one of the major causes of biodiversity decline. An ecoregional focus also provides a means for planners to consider conservation on a scale larger than a single watershed or locality. Such a focus enables planners to address regional needs such as connectivity, which is important for wildlife corridors and is a key component of future biotic responses to climate change. Looking at regionally important areas also allows local conservation efforts to understand where and how their efforts contribute to conservation in the larger landscape.

Washington's ecoregional assessments are part of a national and international effort. Geographic information systems (GIS) are supplemented with expert local and regional knowledge.

2 Skidmore, P.B. 2006. Assessment of Freshwater Systems in Washington State. The Nature Conservancy, Seattle, WA

The Council has analyzed biodiversity significance, future risks, and conservation opportunities for seven of the state's nine ecoregions. As detailed below, the ***biodiversity significance*** analysis reveals low, medium, and high values for native biodiversity from an ecoregional perspective. The ***future risk*** analysis indicates low, medium, and high likelihood of increased development pressure in the next 30 years. The overlay of data from these two analyses constructs a map of ***conservation opportunities***.

Biodiversity Significance

Data Source: Ecoregional Assessments

The maps of biodiversity significance are based on products from ecoregional assessments that have been completed for seven of Washington's nine ecoregions. The Washington ecoregional assessments are part of a national and international effort, and they were developed in a multi-year collaboration among the Washington Department of Fish and Wildlife, Washington State Department of Natural Resources, The Nature Conservancy, and The Nature Conservancy of Canada.[3]

Washington's ecoregional assessments were developed over a 10-year period. The methodology evolved during this time and the landscape units differ.

Watersheds are used in these ecoregional assessments:

- Northwest Coast
- West Cascades
- East Cascades

Hexagons are used in these ecoregional assessments:

- Puget Trough
- North Cascades
- Okanogan
- Columbia Plateau

The ecoregional assessments use geographical information systems (GIS) analyses supplemented with expert local and regional knowledge. The participating specialists represented a diverse array of organizations, agencies, and institutions.

The Washington ecoregional assessments were developed over a 10-year period. The methodology evolved during this time and as a result the landscape units used for the assessments differ. Watersheds were used in three of the ecoregions (Pacific Northwest Coast, West Cascades, East Cascades), and hexagon-shaped units were used in the Puget Trough, North Cascades, Okanogan, and Columbia Plateau assessments. The Puget Trough land and nearshore hexagons are a little over one square mile (741 acres or 300 hectares), and the North Cascades, Okanogan, and Columbia Plateau hexagons are a little less than two square miles (1235 acres or 500 hectares).[4] Grid cells (988 acres or 400 acres) were used for the nearshore areas of the Pacific Northwest Coast.

The Canadian Rockies and the Blue Mountains ecoregions extend only a small way into Washington. Conservation opportunity maps have not yet been completed.

The areas that were analyzed, whether they are watersheds or hexagons, do not represent ownership, nor do they reflect actual parcels of land.

Measures of Biodiversity Significance

Three commonly accepted measures of biodiversity significance are richness, rarity, and representation.[5] ***Richness*** is the number of target species, plant communities, or ecological systems present in a given area. Common species are captured with this measure.[6]

3 Washington Science and Planning Web Portal, http://www.waconservation.org, last accessed August 2007.

4 Jesse Langdon and Molly Ingraham, The Nature Conservancy, personal communication (August–November 2007)

5 G. F. Wilhere and H. Wang, ***CVI: Conservation Value Indices – User's Manual and ArcGIS Script*** (Olympia, Wash.: Washington Department of Fish and Wildlife, 2006),.

6 The data sets used for these maps looked for richness of common ecological systems in a watershed or hexagon. These ecological systems serve as an umbrella for common species and plant communities. Molly Ingraham, The Nature Conservancy, 8/07, personal communication.

THE NATURE CONSERVANCY

Richness

The Olympic Peninsula is one example of Washington's biodiversity richness. It has a high number of organisms and varied ecosystems that range from ocean beaches to alpine meadows.

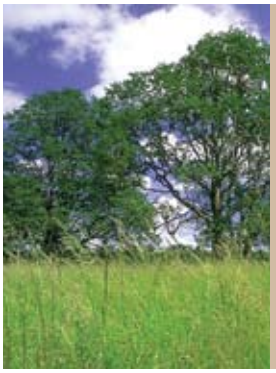
Rarity can refer to rare or imperiled species, plant communities, or ecological systems. Factors that characterize rarity are population size, geographic range, and habitat specificity.[7] If rare species, plant communities, or ecological systems occur in a watershed or hexagon, that will increase its score for biodiversity significance.

SHARON DAVIS

Rarity in a Species

The Greater sage-grouse has been declining in Washington primarily due to loss of habitat through conversion to cropland and degradation of habitat by the invasion of cheat grass and other weeds. The population is estimated to have declined 62% from 1970 to 2003. Sage-grouse currently occur on about 8% of their historical range in the state.

Washington Department of Fish and Wildlife, 2003. Final Sage-grouse Recovery Plan: Executive Summary. http://wdfw.wa.gov/wlm/diversty/soc/recovery/sage_grouse/index.htm, last accessed August 2007.



THE NATURE CONSERVANCY

Rarity in a Plant Community

Oak woodlands are a rare plant community in Washington State. Prior to the 1850s, Native Americans regularly set fire to the prairies. This maintained the special flora; the lack of this treatment contributes to the plant community's rarity by allowing trees like Douglas-fir to crowd out the oak communities. Oak woodlands are also rare because they have been converted to housing and farms, and they are susceptible to invasive species such as Scotch broom.

Chappell, C.B. 2006. Upland plant associations of the Puget Trough ecoregion, Washington. Natural Heritage Rep. 2006-01. Washington Department of Natural Resources, Natural Heritage Program, Olympia, Wash. http://www.dnr.wa.gov/nhp/refdesk/communities/pdf/quga-cain-caqu.pdf, last accessed August 2007.

DEPARTMENT OF NATURAL RESOURCES

Rarity in an Ecological System

Intact estuaries are an example of a rare ecological system in Washington. Many estuaries are threatened by changes in land cover of uplands, storm-water runoff, and shoreline development, such as armoring or bulkheading. These alterations can change nearshore processes and ultimately lead to declines in ecosystem function of the estuary.

Sarah Brace, Puget Sound Partnership, 8/07, personal communication.

Representation is the amount of a species, plant community, or ecological system that occurs in a local area (watershed or hexagon), expressed as a percentage of the total amount known to exist in an ecoregion. Areas with greater numbers of a species or habitat rank higher than those areas with only a single occurrence. Representation can point out largely intact landscapes, including managed or working landscapes, where ecological processes may be maintained.[8]

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7 Rabinowitz, D., 1981. 'Seven forms of rarity' in ***The Biological Aspects of Rare Plant Conservation***, edited by H. Synge. Wiley; Hartley, S. and W.Kunin, 2003. 'Scale dependency of rarity, extinction risk, and conservation priority.' ***Conservation Biology*** 3: 149-158.

8 G.F. Wilhere and H. Wang.'CVI: Conservation Value Indices. User's manual and ArcGIS script.' Washington Dept. of Fish and Wildlife, Olympia, Washington (2006); John Pierce, Washington Department of Fish and Wildlife, personal communication (July 2007); Molly Ingraham, The Nature Conservancy, personal communication (July 2007)

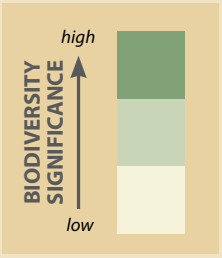
Scale for Biodiversity Significance[9]

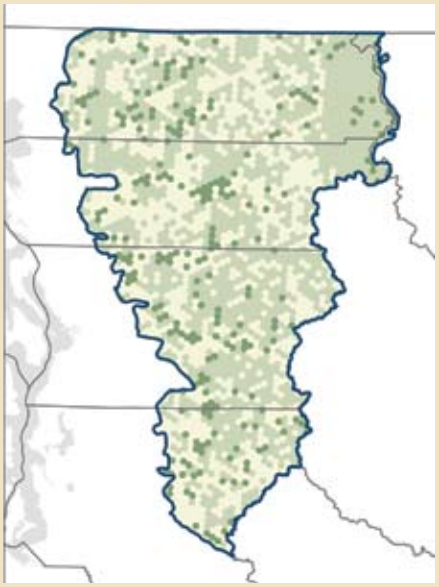
High biodiversity significance

- Significant numbers of rare species, plant communities, and/or ecosystems are known to be present, and they may not be present elsewhere.
- Biodiversity appears healthy; the area ranks high for richness.
- Ecosystems, plant communities, and populations of species are well-represented, more so than elsewhere in ecoregion.

Low biodiversity significance

- Common species or habitats may be abundant here. Biodiversity values found here can typically be found elsewhere in ecoregion.
- Biodiversity may have been affected by current or past disturbances that have lowered richness or representation.
- Ecosystems, plant communities, and/or populations of species may be fragmented compared to others in that region.
- Data or knowledge may be lacking; the analysis gives lower significance scores where data are sparse.





Sample Map of Biodiversity Significance (North Cascades Ecoregion)

9 Low biodiversity significance means that a small amount (less than or equal to 25%) of each target (species, plant community, or ecological system) is captured in the analysis. Medium biodiversity significance means that 25-50% is captured and high biodiversity significance means that 50% or greater known occurrences are captured. The underlying analysis is made through a computer program (e.g., the MARXAN), which runs fine- and coarse-filter targets 25 times at 10 different target representation levels. Fine-filter targets (species of concern) require conservation actions or strategies because they are at risk in some way. Coarse-filter targets (plant communities or ecological systems), if present in sufficient quantity, should conserve the vast majority of species. Coarse-filter targets act as a surrogate for habitats, common species, and data gaps. ***Okanagan Ecoregional Assessment*** (October 2006) available at Washington Science and Planning Web Portal, http://www.waconservation.org; John Pierce, Washington Department of Fish and Wildlife, personal communication (October 2007)

Future Risk to Biodiversity

Data Source: Population Projections

The Council based future risk on the likelihood of increased land conversion and development and a corresponding increase in human impact on the natural environment. Areas ranked high are at risk of significant degradation to existing native biodiversity in the next 30 years if directed conservation actions do not take place.

Most major risks to biodiversity are linked to human impact, and most risks intensify as that impact increases. Population growth is a rough but reasonably reliable proxy for future ecosystem stresses, and projected land use is also a reasonable determinant of risk.[10]

As discussed in Chapter 2, key threats are population growth and land conversion, invasive species, pollution, and interruption of natural processes. Increasing human densities can be expected to exacerbate these threats. Certain risks are not as directly linked to population density, such as climate change, catastrophic fire, and some infestations of insects or fungi.

Measures of Future Risk to Biodiversity

Projected population density and land use were employed to estimate where the most pressure on native biodiversity will occur. The Western Futures Growth Model, which is based on data from the 2000 U.S. Census, provided these projections.[11] The model projects future housing density by applying population estimates and a set of spatial rules to distribute future housing across the landscape. The criteria applied to the maps are current land use (protected lands) and projected population densities for 2040 (dwellings per acre). Due to the coarse nature of this methodology, buffers surrounding areas with relatively high population density may extend over some protected areas (such as Moran State Park in the San Juan Islands). These maps should be used in conjunction with finer scale ownership maps.

The Council has selected the following categories of future risk:

- At *low risk* are all lands regardless of ownership that are currently managed primarily as "protected lands." Protected lands as defined here are national parks, wilderness areas, wildlife areas and refuges, natural area preserves, and other lands designated as conservation areas.
- At *medium risk* are all lands where the projected population density is < 1 dwelling per 40 acres in year 2040, excluding those captured in the low- and high-risk areas.[12]
- At *high risk* are all lands where the projected population density is > 1 dwelling per 40 acres in year 2040, and all lands and all densities that occur within 5 miles of lands where the projected population density is > 1 dwelling per 10 acres in year 2040.[13]

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10 Washington Biodiversity Council, 'Washington's Biodiversity: Status and Threats.' (2007)

11 Travis, W.R., D.M. Theobald, G.W. Mixon, T.W. Dickinson, 2005. 'Western Futures: A look into the patterns of land use and development in the American West. Report #6 from the Center of the American West, University of Colorado at Boulder; http://www.centerwest.org/futures/

12 The density threshold of 1 dwelling per 40 acres was selected because as human density increases above this level, wildlife species that are mostly intolerant to human development (e.g. large wide-ranging mammals) begin to drop out of the landscape. J.P. Schuett-Hames, J.M. Azerrad, M.J. Tirhi, J.L. Hayes, J.E. Jacobson, C.L. Sato, J.P. Carleton, and G.F. Wilhere. Draft: Landscape Planning for Washington's Fish and Wildlife: Managing for Biodiversity in Developing Areas. Washington Department of Fish and Wildlife. Olympia, WA (2007); P. Beier. Dispersal of juvenile cougars in fragmented habitat. ***Journal of Wildlife Management*** 59:228-237. (1995)

13 A large number of species will be excluded from fragmented landscapes where human densities are greater than 1 dwelling per 10 acres. Using a buffer distance from projected human development also recognizes uncertainty in the projections of human density for 2040. High risk includes lands with human densities below 1 dwelling per 40 acres, but because they are near exurban areas (1 dwelling per 10 acres) the biodiversity values are more at risk than areas further away. J.P. Schuett-Hames, J.M. Azerrad, M.J. Tirhi, J.L. Hayes, J.E. Jacobson, C.L. Sato, J.P. Carleton, and G.F. Wilhere. Draft: Landscape Planning for Washington's Fish and Wildlife: Managing for Biodiversity in Developing Areas. Washington Department of Fish and Wildlife. Olympia, WA. (2007)

Scale for Future Risk to Biodiversity

Low future risk

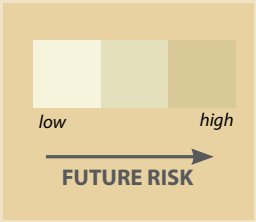
All lands regardless of ownership that are currently managed as "protected."

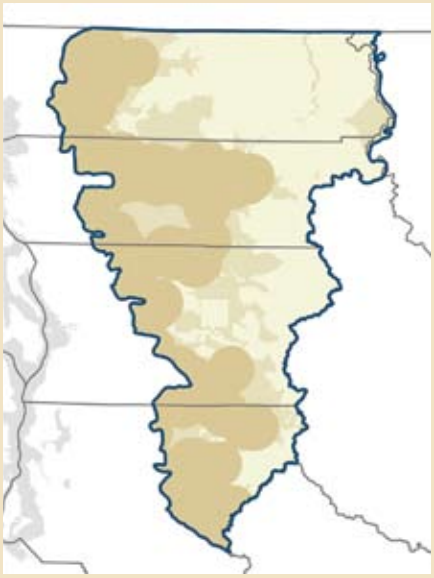
- Low risk of impacts from development or conversion exists here.
- Other threats may still be in play, such as climate change, invasive species, catastrophic fire.
- More flexibility here; time is available for conservation actions, but monitoring is needed.

High future risk

All lands where the projected population density is > 1 dwelling per 40 acres and all lands within 5 miles of those lands where projected population density is expected to be > 1 dwelling per 10 acres in 2040.

- Present and future impacts will probably be highest here.
- Future development and fragmentation are likely in addition to other threats such as climate change, invasive species, or severe fires.
- Urgency and less flexibility here. Pressures are expected to increase; conservation options are urgent and will probably become more costly.





Sample Map of Future Risk to Biodiversity (North Cascades Ecoregion)

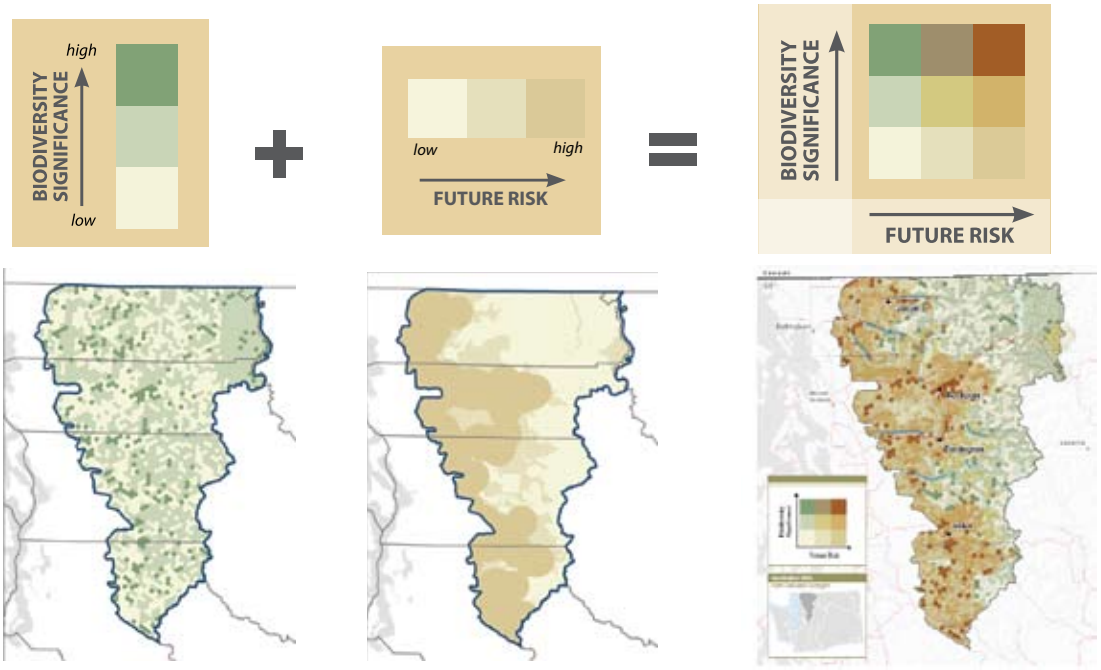


Figure 6. Biodiversity Conservation Opportunity maps. The one at the right is created by combining maps of biodiversity significance (left) with maps of future risk (center). This example shows the North Cascades ecoregion.

Conservation Opportunity and Approaches

The maps of conservation opportunities result from overlaying biodiversity significance and future risk, (Figure 6). These maps show places to target conservation approaches and actions, from an ecoregional perspective. Note that in the overlay, the "conservation opportunity map," up to nine different colors are present. Each of these colors represents a different level of biodiversity significance and degree of future risk caused by increasing growth and development. Different approaches will be appropriate and effective for each color.

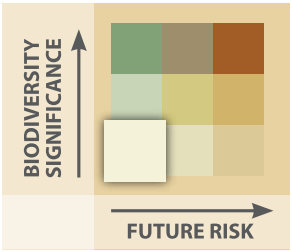
Some of the questions that will help determine appropriate conservation approaches include:

- What is the ownership and use of the land?
- Is the land use compatible with biodiversity conservation? If so, what resources are available to assist landowners with conservation or stewardship practices?
- What stressors and threats face the land?
- What elements of biodiversity are most abundant or most at risk here?
- What conditions are on the land? Does it need restoration?
- What scale is necessary to meet conservation objectives?

As noted previously, the different ecoregion maps were completed at different times, with slightly different methodologies. Thus, they set opportunities only within a given ecoregion and are not designed to compare opportunities between ecoregions. These maps do not replace detailed local knowledge, nor do they substitute for local priorities. Every place can contribute to the conservation of biodiversity in Washington.

The following sections provide general descriptions for areas classified in the corners of the nine color grid, as well as sample approaches and examples of how conservation tools can work on the ground.

Connect and Discover



Areas ranking Low in Biodiversity Significance and Low in Future Risk

- Known biodiversity not generally significant from an ecoregional perspective, but may be important locally and for human quality of life.
- Protected status likely to continue in the future; lack of imminent threat from land use conversion.
- Low biodiversity score may represent lack of information.
- Conservation concern generally less pressing.

Approaches

- Conservation of common species and habitats is especially important.
- Inexpensive, voluntary, local efforts will help, such as community wildlife habitat programs.
- Ongoing monitoring and management will be needed to understand the effects of climate change, to prevent degradation of native biodiversity by invasive species, and in some areas to reduce catastrophic fire risk.
- Large-scale state investment generally should not be targeted here to conserve biodiversity as we currently know it.
- Our knowledge is incomplete, however, and the ranking of these places may change with greater understanding of biodiversity.
- Increased survey and data collection will help fill knowledge gaps.

Example

Audubon Natural Area, Columbia Park, Kennewick, Columbia Plateau ecoregion

Columbia Park in Kennewick is 400 acres lying between a highway and the Columbia River.[14] The park houses a golf course, boat launches, picnic shelters, play areas, and a band shell. Eight acres make up the Audubon Natural Area, a wooded and well-loved corner of the park.

This small woodland is isolated from other natural areas, which decreases its significance in an ecoregional context. However, it offers an important opportunity for people to interact with natural elements of the ecoregion and provides critical habitat for the many plant and animal species found there.

14 City of Kennewick website: http://www.ci.kennewick.wa.us/recreational_services/parks/columbia.asp (accessed October 2007)
Lower Columbia Basin Audubon Society website: http://lowercolumbiabasinaudubon.org/history4.htm (accessed October 2007)

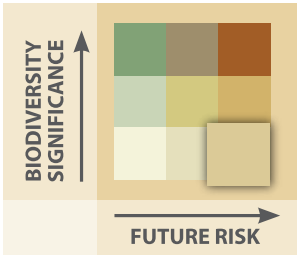
Thickets and groves of willow, cottonwood, and non-native Russian olive are typical for riverside areas of the Columbia Plateau ecoregion. Birdwatchers enjoy the variety of ducks and other birds that reside here or migrate through, including great blue herons, grebes, wrens, vireos, and warblers. Beaver, muskrat, painted turtles, and non-native bullfrogs find a home in marshy Redwing Pond.

As part of the Kennewick parks system, the natural area is protected. Four decades of community involvement, including Eagle Scout projects, service club donations, contributions of time, money, and materials from local businesses, volunteer work parties from the Lower Columbia Basin Audubon Society and other groups, and elementary school field trips indicate the value of this place. Even with these protections, the woodland faces threats such as invasive species, overuse and trampling, and pressure to develop for high intensity recreation uses.

The local community is well-versed in strategies for biodiversity conservation here. These include site management to control trampling, control of invasive species, and use of the park for education and awareness—clearly its proximity to the city center is a big plus. The community and the parks department could engage in a citizen science effort to monitor for species assemblage changes over time.

Learn and Restore

Areas Ranking Low in Biodiversity Significance and High in Future Risk



- Known biodiversity is not generally significant from an ecoregional perspective, though it may be important locally and for human quality of life.
- Areas likely face many pressures and threats from human impact.
- Often close to population centers and thus are important for quality of life (contact with nature and learning about the natural world).
- Conservation concern may be locally urgent.

Approaches

- Conservation of common species and habitats is important.
- Education, restoration, and proactive land use planning can be emphasized.
    - Restoration efforts could emphasize high levels of public engagement.
    - Citizen science projects can identify locally important areas and fill gaps in biodiversity data.
    - Residents could participate in backyard and community wildlife habitat enhancements.
    - Planners and officials can strive to design green spaces that maximize the public's ability to encounter nature in and around urban growth areas.
- Local conservation opportunities can be urgent. Future development and fragmentation are likely, and conversion pressures are expected to increase.
    - Conservation options will probably become costlier and less flexible in the future.
    - Habitat connectivity and wildlife corridors should be integral to decision-making process.

Example:

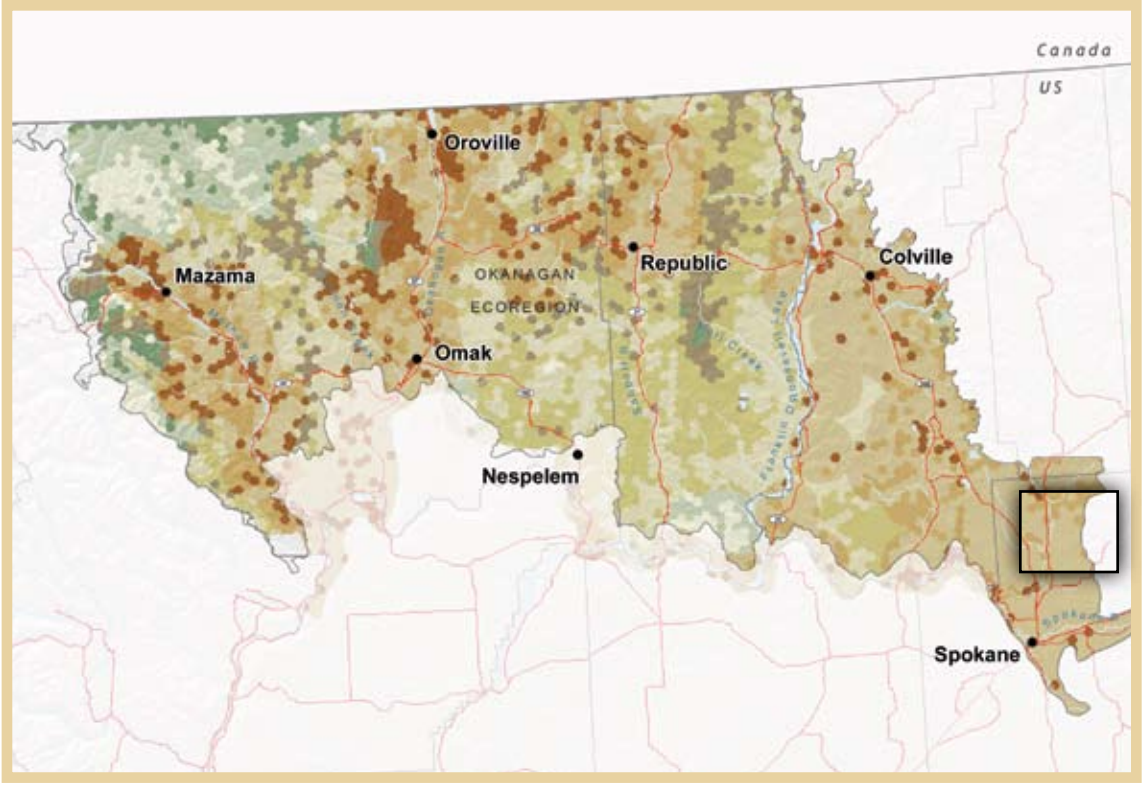
Spokane County Biodiversity Planning, Okanogan Ecoregion

Spokane County is growing rapidly. In the next 20 years, its population is expected to grow approximately 30%, and this growth is likely to put pressure on existing open space. Most of the ecosystems and plant communities in Spokane County are well-represented elsewhere in the ecoregion, which lessens much of the county's biodiversity significance in that larger context.

When the county updated its Comprehensive Plan in 2002, it adopted a new category, *Rural Conservation,* which encourages low impact development and uses clustering and other techniques to protect sensitive areas and preserve open space.[15] The Rural Conservation category is based on wildlife corridor and landscape linkage data that the University of Washington analyzed in a study.[16]

The Apple Tree Meadows development in Chattaroy, southeast of Deer Park, exhibits this type of open space planning. The developers have clustered 12 two-acre lots on 133 acres, leaving 82% of the land as open space. The open space includes forest, cliffs, and ponds, with their associated mix of habitats and species. Residents might choose to landscape with native plants or to participate in stewardship of the neighboring landscape.

By maintaining the open space now, present and future county residents will benefit from the ecosystem services that nearby forest and native vegetation provide. The natural area will also provide educational and recreational opportunities and possibilities for citizen science involvement in inventory and monitoring.

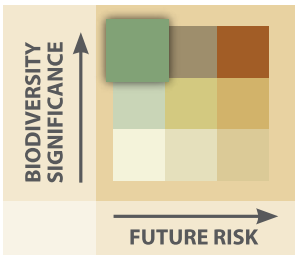


15 Steve Davenport, Department of Building and Planning, Spokane County, 5/29/07, personal communication; Spokane County Department of Building and Planning, 2006. 'Comprehensive Plan Summary and 5 Year Update.' http://www.spokanecounty.org/bp, last accessed 7/07.

16 University of Washington Department of Urban Design and Planning. Remote Sensing Applications Laboratory. 1998. Wildlife corridors and landscape linkages: An approach to biodiversity planning for Spokane County, Washington; Stephenson, M.R., 1998. 'Protecting Biodiversity: Applying GAP analysis in Spokane County, Washington.' Master's Thesis, University of Washington, Seattle.

Manage and Maintain

Areas Ranking High in Biodiversity Significance and Low in Future Risk



- Significant ecoregional biodiversity values occur in these areas.
- Protected status is likely to continue in the future; no imminent threat from land use conversion.
- Conservation concern generally less pressing.

Approaches

- Conservation of regionally important species and habitats is important. While these areas are at low risk, management needs include the following efforts:
    - Preventing degradation of native biodiversity by invasive species;
    - Reducing risk of catastrophic fire;
    - Minimizing adverse effects of recreation, grazing and other uses; and
    - Restoring ecosystem processes, such as natural fire regimes through prescribed burns, for example.
- Linkages to connect highly significant areas to one another need to be identified and conserved.
- Ongoing monitoring and research will be needed on the following topics:
    - To understand how climate change affects species and plant communities present in these areas; and
- To assess the accuracy of our understanding of biodiversity and ecological processes.
- Existing conservation lands are valuable and stewardship efforts should be supported.

Example

Holm Farm Conservation Easement, Thurston County, Puget Trough Ecoregion

The owners of Holm Farm have embraced a family tradition of stewardship on their farm in southwestern Thurston County.[17] The farm includes nearly 100 acres bounded by an oxbow of the Black River. Two of the owners were raised on the farm when their parents ran it as a dairy. Their grandparents bought the land in the 1920s. The owners now manage the farm for hay production, grazing, and wildlife habitat.

Much of the local wildlife depends on the health of the free-flowing Black River. River otters, muskrats, beaver, and mink live in the river corridor. A gravel bar nearby serves as a spawning area for salmon. Kingfishers, great blue herons, and wood ducks are among the birds foraging on the river. Raptors are also common, including eagles, osprey, red-tailed hawks, Cooper's hawks, kestrels, and northern harriers.

17 This area does not show up as dark green on the map for two reasons. 1) It is smaller than the landscape unit of 741 acres (300 hectares) measured on the map, and 2) areas protected with privately held conservation easements are not included in the database of protected lands used for this project. Functionally, however, they can be assumed to be of the same risk level as publicly held protected lands.

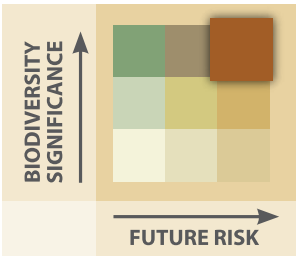
As in many rural parts of the Puget Trough ecoregion, southwestern Thurston County is increasingly seeing its working farmlands change to primarily residential use. The owners of Holm Farm decided to arrange a conservation easement to maintain the farm for conservation and open space. They designed their conservation easement, held by the Capitol Land Trust, so that development that might harm the farm's conservation values will not be permitted. The easement provides a way to bequeath the farm to their heirs, while saving its natural beauty and its role in protecting the Black River forever.

They worked with the Thurston Conservation District to enroll their land in the federal Conservation Reserve Enhancement Program. This incentive program helped them enhance the buffer along the Black River. These private landowners chose to be involved with local stewardship organizations such as the Chehalis River Council, and in 2005 the Thurston Conservation District recognized them as Wildlife Stewards of the Year.[18]

18 Stewardship Matters: Holm Farm http://www.biodiversity.wa.gov/ourbiodiversity/holmfarm.html (last accessed November 2007).

Collaborate and Innovate

Areas Ranking High in Biodiversity Significance and High in Future Risk



- Significant ecoregional biodiversity values occur in these areas.
- These areas likely face many pressures and threats from human impact, and they may be under imminent threat from land conversion.
- These areas are often close to population centers and thus are important for quality of life (contact with nature and learning about the natural world).
- Conservation concern most urgent.

Approaches

- Conservation of regionally important species and habitats is especially important.
- A full toolbox of strategies is needed and collaboration is critical. Tools can include the following efforts:
    - Targeting incentives, such as technical assistance, cost shares, and grant programs.
    - Engaging people in conservation activities, such as restoration, monitoring to understand the threats to biodiversity, and citizen science and stewardship efforts.
    - Restoration for ecological function, as well as public engagement, should be prioritized in these areas. These areas could be good places for mitigation banks and for developing other conservation market tools.
- State investment should be targeted here, where it is suitable, as conversion pressures are expected to increase.
    - Conservation options are urgent and will probably become more costly.
    - Existing conservation lands are especially important and should be managed for their special features.
- Linking conservation areas will be increasingly vital to sustaining healthy populations of some wildlife species.
    - Maintaining ecological processes may be especially challenging.

Example

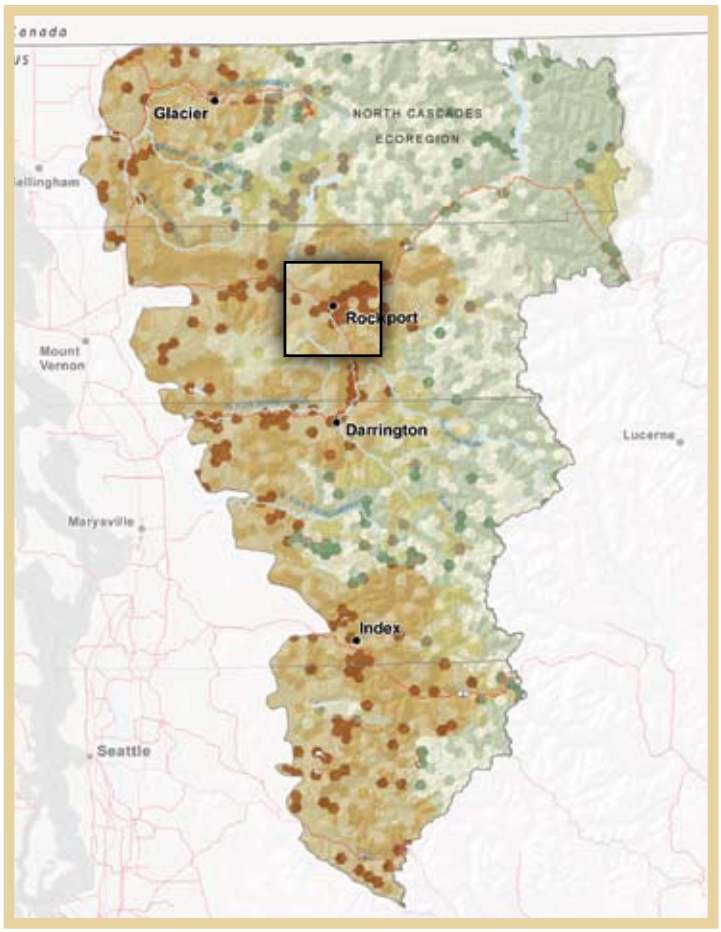
Upper Skagit River near Rockport, North Cascades ecoregion

The Skagit River drains Washington's second largest watershed, and it is considered the healthiest of the rivers flowing into Puget Sound. Federally designated as a Wild and Scenic River, the Skagit hosts a robust population of at-risk bull trout as well as all five species of wild Pacific salmon. The winter salmon run attracts one of the largest concentrations of bald eagles in the lower 48 states.

The stretch of river between Rockport and Marblemount faces many future risks. Skagit County has a fast-growing economy, which puts demands on its communities, as does the county's location between

the population centers of greater Seattle (including Everett) to the south and Bellingham to the north.

With the human population rising and the growth rate expected to increase, the Skagit valley faces a primary threat from conversion of agriculture and forest lands to residential use, resulting in increased habitat degradation and fragmentation. Real estate development is becoming more profitable for private landowners than other uses, even as residential land use may have a negative net fiscal impact on the county. As elsewhere, invasive species are present and likely to increase.



Community engagement and landowner incentives are two of the primary strategies here, incorporating stewardship, education, and conservation or agricultural easements.

The following groups and programs are examples of the types of strategies currently being employed along the Upper Skagit:

- **The Skagit County Farmland Legacy Program** is a county initiative that purchases agricultural easements and works to support policies, programs, and plans that enhance the local agricultural industries. It administers the **Skagit County Conservation Futures Program**, which purchases permanent conservation easements on strategically significant lands.
- **The Skagit Conservation District** administers diverse offerings, including technical assistance, Stream Team, Watershed Masters, and a Backyard Conservation program. In addition, the conservation district administers the Natural Resource Conservation Service and Farm Services Administration programs for landowners. An example is the **Conservation Reserve Enhancement Program** (CREP). CREP provides cost shares and technical assistance to improve wildlife habitat along rivers and streams.
- **Skagit Land Trust.** This land trust works in collaboration with more than 20 local and regional organizations. It focuses on permanently protecting all types of natural and resource lands through conservation easements.
- The **Upper Skagit Bald Eagle Fest** is an annual event that celebrates the eagles on the Skagit River, while educating tourists and building community among residents. It also generates economic activity, which translates biodiversity value directly into local financial returns.

- **The Nature Conservancy** works in cooperation with eight partner agencies and manages the Skagit River Bald Eagle Natural Area. The natural area's 7,800 acres lie along the river between Marblemount and Rockport.
- The **Skagit Fisheries Enhancement Group** is a nonprofit organization formed in 1990 to engage communities in habitat restoration and watershed stewardship to enhance salmon populations. They have cooperative relationships with local landowners, conservation groups, government agencies, and tribes.

Additional Resources and Research Needs

As noted above, these conservation opportunity maps are intended to be used in conjunction with other resources. Local knowledge and priorities, as well as more specialized evaluations of conditions and risks, will provide needed context and details to guide biodiversity conservation activities on the ground.

Existing Information Resources

The Nature Conservancy's recent assessment of freshwater systems in Washington State offers an example of one such specialized evaluation.[19] This assessment received extensive expert review. The tool provides a unique statewide look at watersheds, rivers, lakes, and wetlands. It examines several relevant factors, including the distribution of freshwater species at risk, current conditions, and expected threats to Washington's freshwater systems.

The freshwater assessment can be used in conjunction with the terrestrial and nearshore conservation opportunity maps presented in this document. While differences in methodology make merging the two assessments impractical, the freshwater assessment can add important information to guide conservation efforts.

Considerations for Future Research

Through the process of developing these maps, the Biodiversity Council has recognized the need to incorporate additional data sources. In particular, the Council identified a need for maps that consider restoration potential, wildlife corridors and habitat connectivity, effects of climate change, and deep-water marine areas.

The science of predicting potential impacts from climate change is in its early stages.[20] As these tools become more sophisticated, map products illustrating how conservation opportunities might shift should be developed.

Biodiversity conservation opportunities in deep-water marine areas are not indicated on the maps because adequate data are not yet available. The Puget Sound Partnership and The Nature Conservancy are working together to address this issue.

Enhancements to Future Maps

- Restoration potential
- Wildlife corridors and habitat connectivity
- Effects of climate change
- Deep-water marine areas

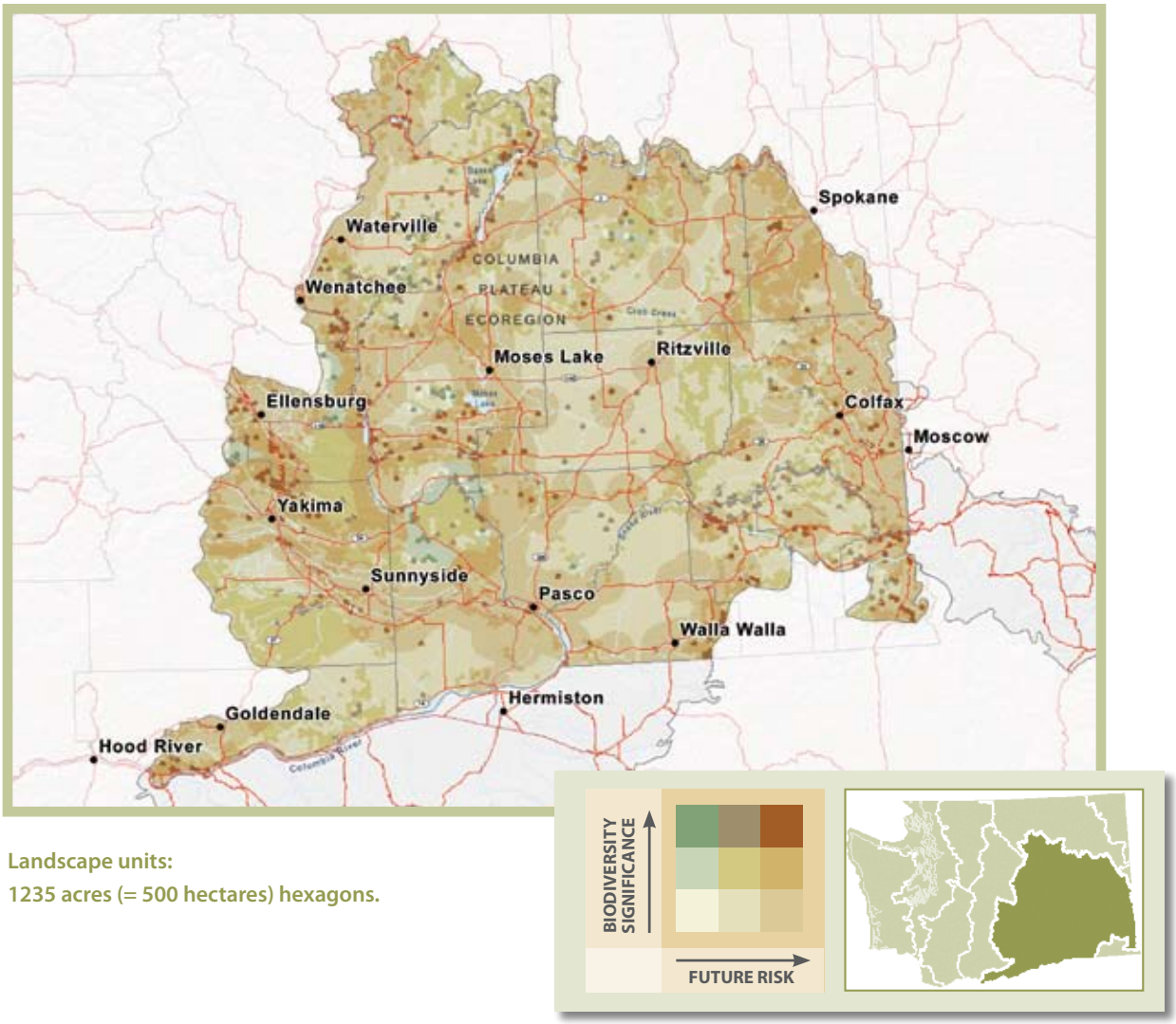
19 Skidmore, P.B. 2006. Assessment of Freshwater Systems in Washington State. The Nature Conservancy, Seattle, WA

20 Lawler J. J. and M. Mathias, 2007. "Report on Climate Change and the Future of Biodiversity in Washington" Report prepared for the Washington Biodiversity Council.

Figure 7. The river basins and lake areas shaded in gray provide the best opportunities for freshwater conservation activities. Rivers highlighted in yellow represent important systems with greater conservation challenges.

Conservation Opportunity Maps for Seven Ecoregions in Washington

Columbia Plateau Ecoregion



Landscape units:
1235 acres (= 500 hectares) hexagons.

A range of opportunities for voluntary and collaborative approaches exist in each area of this map (see pp 103-112). This map does not replace more detailed or specialized assessments or prescribe specific actions or strategies, and it is not intended to be used as the sole source for planning conservation initiatives. The Council recommends that this map be updated periodically.

About the Columbia Plateau Ecoregion

Two great rivers, the Columbia and the Snake, dominate the dramatic dry landscape of Washington's largest ecoregion—home to an inland sea of sagebrush and the state's fertile agricultural heartland.

Location

The semi-arid Columbia Plateau occupies nearly 33% of the state. It is a region bordered by the Cascades, the Okanogan Highlands, the Rockies, and the Blue Mountains. In Washington, the ecoregion is bisected by the Columbia River itself. The plateau tilts upward and southward into the Great Basin.

Outstanding Biodiversity Features

- **Dramatic geological history led to diverse habitats.** Millions of years ago, vast lava flows covered the region in basalt. In more recent millennia, epic glacial floods carved away the deep rock, leaving the coulees and Channeled Scablands of today.
- **Shrub-steppe and grasslands: home to unique plants and iconic birds.** The Columbia Plateau supports 18 endemic plant species and numerous at-risk birds, among them the sharp-tailed grouse and the sandhill crane.
- **The Palouse Hills: Washington's breadbasket.** The region's dryland grain and legume farming is vital to our food security. However, the native grasslands that once carpeted the Palouse have shrunk to just 1% of their original expanse.
- **Powerful rivers: shaping—and shaped by—regional economic development.** Hydropower development helped build the Northwest's economy. A cost has been the inundation and alteration of riparian habitats. Salmon, sturgeon, and lampreys—once abundant—struggle with the changed waterways.

People in the Ecoregion

Human history in the Columbia Plateau dates back 13,000 years, possibly earlier. For at least 5,000 years, native peoples lived in villages along the rivers, fishing for salmon, harvesting plant foods, and hunting. They burned large areas to promote productive habitats and improve grazing.

Lewis and Clark encountered numerous peoples, including the Cayuse, Nez Perce, Palouse, Tenino, Umatilla, Walla Walla, Wanapum, and Yakama. The Yakama Nation remains a large landholder.

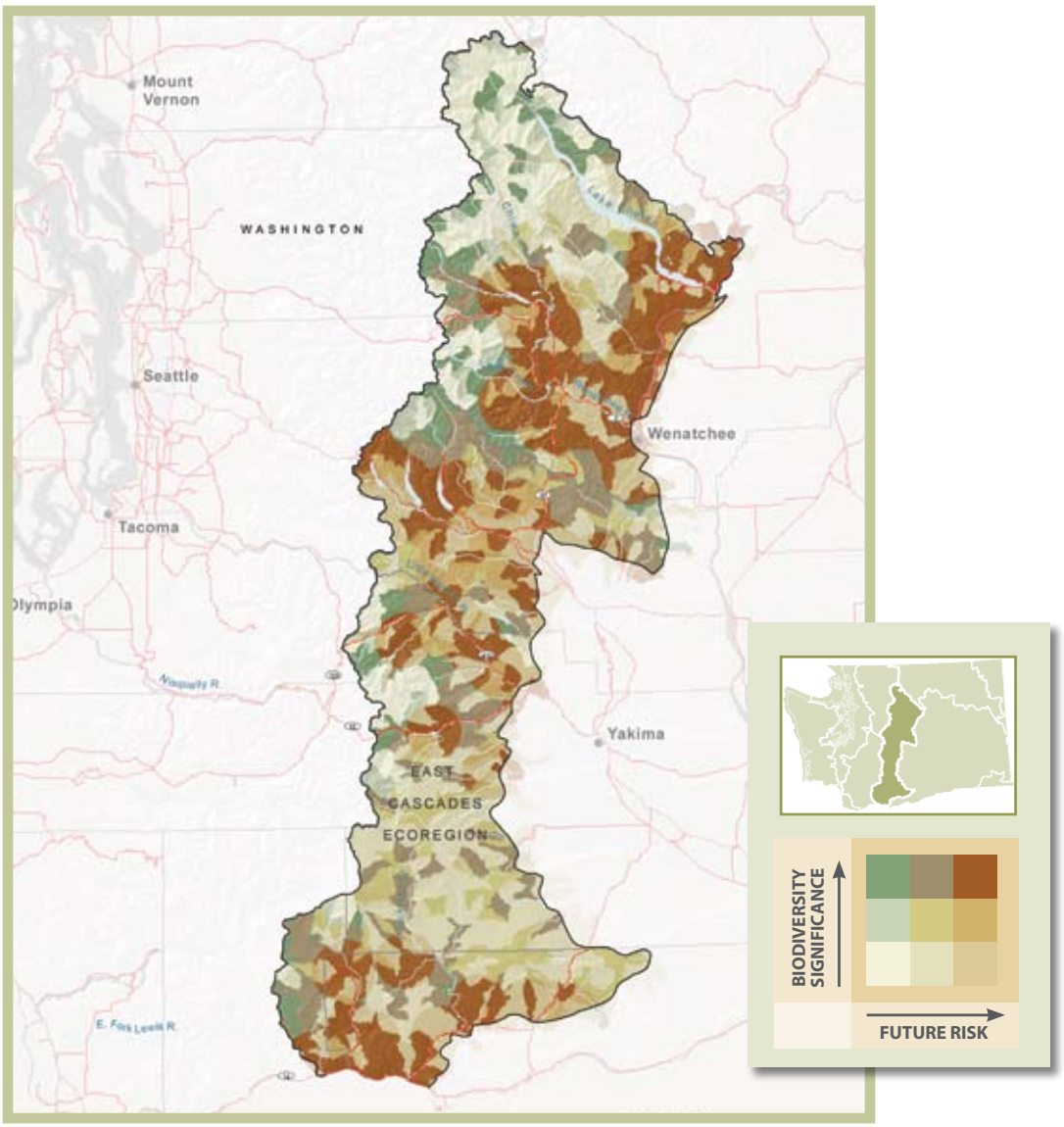
Euro-American settlers put the abundance of the Columbia Plateau to use by harvesting timber, growing crops, and grazing cattle and sheep. The mid-twentieth century brought tremendous changes. Grand Coulee Dam, among others, altered the basin's hydrology. The Hanford Nuclear Site, once central to the nation's atomic weapons program, introduced radioactive waste to the region.

More than 50% of the ecoregion has been converted to agriculture and urban development, with considerable impact on biodiversity. Despite the numerous changes, sizable pieces of the Columbia Plateau's shrub-steppe remain, much of it on lands managed by the Departments of Defense and Energy.

Many partnerships have emerged to tackle the ecoregion's challenges. Programs work to monitor priority species, implement weed control, and encourage rural vitality and stewardship.

For more about this ecoregion visit www.biodiversity.wa.gov

East Cascades Ecoregion



Landscape units: watersheds.

A range of opportunities for voluntary and collaborative approaches exist in each area of this map (see pp 103-112). This map does not replace more detailed or specialized assessments or prescribe specific actions or strategies, and it is not intended to be used as the sole source for planning conservation initiatives. The Council recommends that this map be updated periodically.

About the East Cascades Ecoregion

On the dry side of the Cascades lies one of Washington's most diverse ecoregions, rich in biological wealth from its montane crest down through open stands of ponderosa pine and Garry oak to the edge of the shrub-steppe.

Location

The East Cascades ecoregion includes the mountains that lie east of the Cascade crest and the foothills descending into the Columbia Plateau. In Washington it stretches from roughly Lake Chelan to the Columbia River Gorge, encompassing about 10% of the state. The mountainous ecoregion continues south through Oregon.

Outstanding Biodiversity Features

- **High number of rare and endemic plants.** This ecoregion is home to at least 20 endemic plant species, including the Kittitas larkspur and Thompson's clover.
- **Diverse coniferous forests.** These forests include a range of dominant species, from high elevation whitebark pine to ponderosa pine.
- **Mardon skipper butterflies.** Carpets of fescue grass offer prime habitat for the endangered mardon skipper butterfly.

People in the Ecoregion

The ecoregion has long been inhabited by the Wenatchee, the Chelan, the Kittitas, and the Yakama. The East Cascades provide hunting, fishing, and plant foods, such as camas bulbs and biscuitroot—key ingredients for a traditional bread.

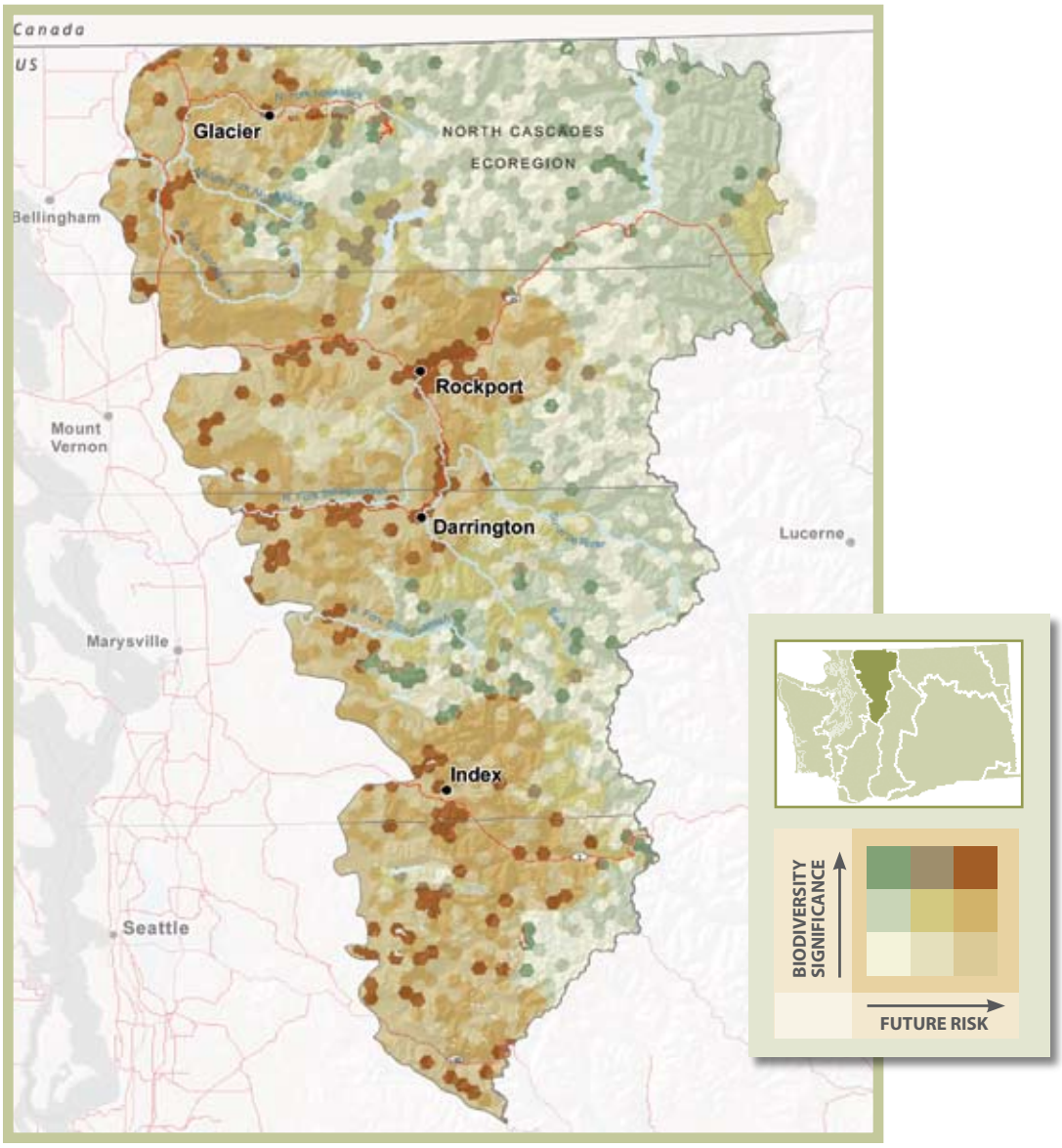
Settlement began about 1875. Farmers in the semi-arid valleys irrigated the land, and the area became well known for its bountiful fruit orchards as well as grazing and ranching. The climate also suits vineyards, an industry that has grown in recent years.

Logging in East Cascades' forests began more than a century ago and remains an important livelihood. A mining boom from the 1880s through the 1930s brought miners representing 20 different nationalities, who scoured the mountains for gold, copper, and coal.

Roughly three quarters of the East Cascades ecoregion is federally owned. Several wilderness areas, including Alpine Lakes and Mount Adams, offer protected high elevation habitats. Other major landholders are the Yakama Nation, with lands on the eastern slopes of Mount Adams, and Washington State, which manages more than 113,000 acres.

For more about this ecoregion visit www.biodiversity.wa.gov

North Cascades Ecoregion



Landscape units: 1235 acres (= 500 hectares) hexagons.

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About the North Cascades Ecoregion

Home to lynx and mountain goats, rare alpine daisies and thousand-year old cedars, the North Cascades ecoregion contains some of the largest expanses of wilderness in the lower forty-eight.

Location

The ecoregion (about 10% of Washington) includes the Cascade Mountains north of Snoqualmie Pass and west of the Cascade crest northward into British Columbia. Only a small part of this ecoregion lies in Washington; in British Columbia, it encompasses the entire mainland coast.

Outstanding Biodiversity Features

- **Important habitats for wide-ranging carnivores.** The North Cascades is one of the few ecoregions in Washington with a variety of large carnivores, including lynx, gray wolf, grizzly bear, and wolverine.
- **Semi-natural or natural vegetation is prevalent.** The North Cascades ecoregion contains large stretches of relatively intact vegetation, including low elevation western hemlock–Douglas-fir–western red cedar forests.
- **Home to several boreal species.** These species, including several rare plants, are at the southern edge of their geographic ranges.
- **Major concentration of over-wintering bald eagles** along the Skagit River. The eagles, feeding on salmon, are perhaps the largest concentration in the U.S. outside of Alaska

People in the North Cascades

People have inhabited the North Cascades for at least 8,400 years, perhaps 10,000 years. The ancestors of Salish-speaking peoples lived in the area, and archaeological evidence shows that they hunted, gathered, and processed plant foods here.

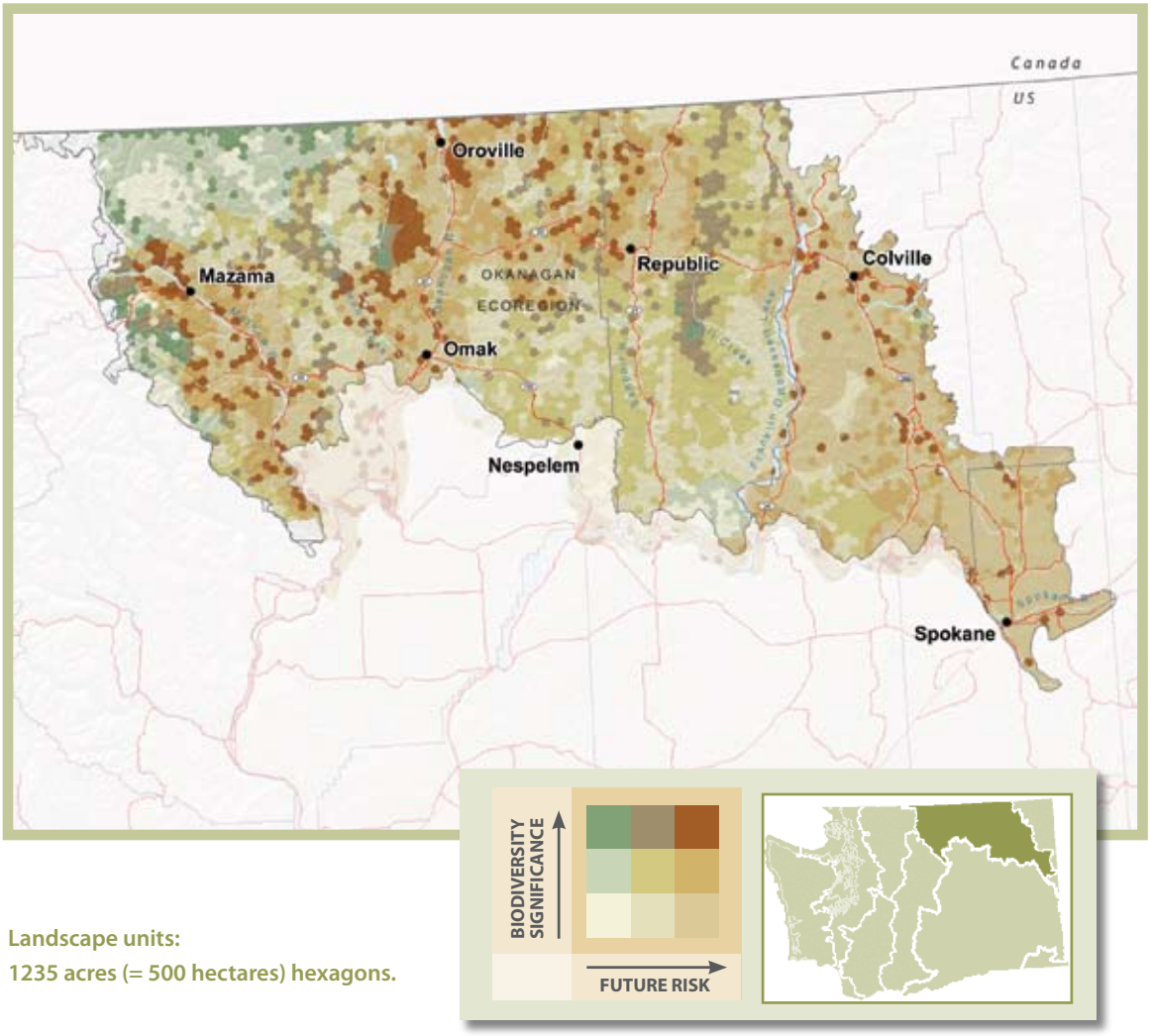
Euro-American settlement within the remote and rugged North Cascades occurred slowly. Access was difficult and good farmland was scarce. Much of the North Cascades ecoregion belongs to the public. It is administered by the National Park Service, the USDA Forest Service (Mt. Baker-Snoqualmie National Forest), and the Washington Department of Natural Resources. Much of the federal land is designated wilderness.

The Upper Skagit River Hydroelectric Project supplies about 20% of the electrical power used in the city of Seattle. It has three dams on the Skagit River. Planning for the dams began in 1905, and construction finished in 1961.

Private land in the ecoregion is a legacy of the 1864 Northern Pacific Land Grant, which bestowed vast amounts of land on the railroad that built a trans-continental link to the Pacific Northwest. Many towns in the region got their start by housing and feeding railroad construction workers. Now the economic activities for people in the North Cascades ecoregion are primarily forestry and tourism.

For more about this ecoregion visit www.biodiversity.wa.gov

Okanogan Ecoregion



Landscape units:
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About the Okanogan Ecoregion: Biodiversity

In north-central Washington, the Cascades, the Rockies, and the Columbia Plateau converge to form the Okanogan ecoregion, which boasts highland landscapes and lowland waterways, grizzly bears and sage grouse.

Location

The Okanogan ecoregion could be called the mountains between mountains—the broad highland area separating the North Cascades and the Canadian Rockies. Scenic river valleys, like the Methow, the Okanogan, and the Colville, run roughly north-south. The ecoregion covers about 14% of Washington, and it extends significantly into the shrub-steppe country of British Columbia.

Outstanding Biodiversity Features

- **Large tracts of little disturbed land.** Much of the Okanogan ecoregion's vegetation remains in a natural or semi-natural state, hosting 100 wildlife habitat types, from alpine grasslands and upland aspen forests to shrub-steppe.
- **North meets south in a diverse landscape.** Boreal species like snowshoe hares and northern flying squirrels share the ecoregion with Great Basin species like pallid bats and burrowing owls.
- **Park-like stands of ponderosa pine and Douglas-fir.** The Okanogan's dry climate results in open grassy stands of ponderosa pine and Douglas-fir.
- **Wide-roaming carnivores still find a home.** Though diminished in numbers, grizzly bears, wolves, and wolverines all range through large areas of Okanogan wild lands.

People in the Ecoregion

Numerous Interior Salish tribes have made their homes in the Okanogan for millennia. Okanogan tribes wintered in longhouses made of tules (hardstem bulrush), bark, and hides. They harvested scores of types of berries, nuts, and roots. Traveling seasonally, they hunted game and gathered at Kettle Falls to fish for salmon and to trade.

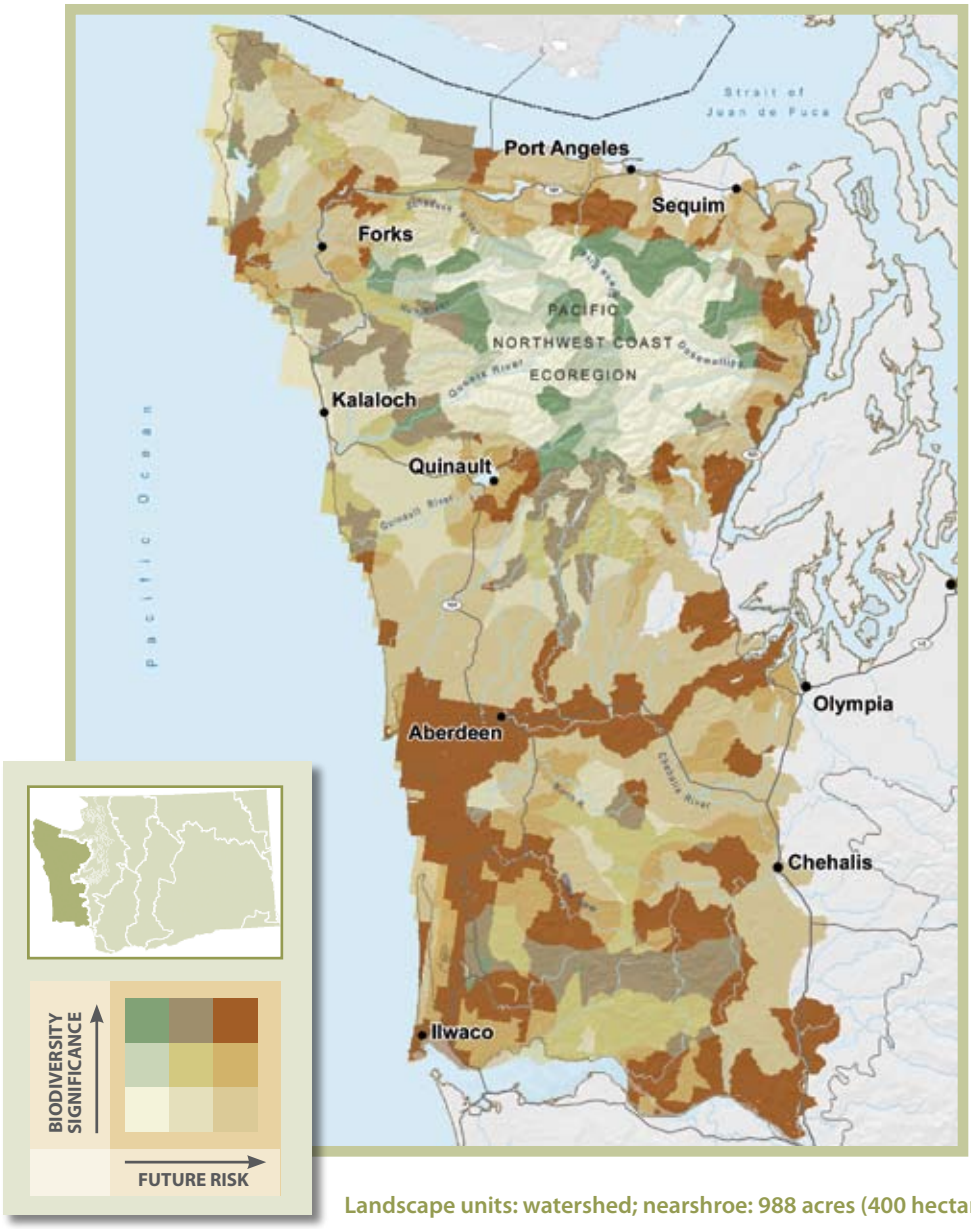
The Hudson Bay Company established a post at Kettle Falls in 1825, which speaks to the abundance of fur-bearing animals available. Gold was discovered near Republic in the 1890s and a mining boom followed. The timber industry developed about the same time.

Current land use varies and depends largely on elevation. The high country sees mostly recreational uses, though mineral exploration and development continue. At mid-elevations, logging and grazing occur. In the valleys, milder temperatures support agriculture (especially hay, alfalfa, and tree fruit) and ranching.

Grand Coulee Dam and boating opportunities in Franklin D. Roosevelt Lake draw people to the ecoregion. The sunny climate makes it popular for vacation homes. Roughly two-thirds of the Okanogan ecoregion is held by the state or federal governments, or by the Colville and Spokane tribes.

For more about this ecoregion visit www.biodiversity.wa.gov

Pacific Northwest Coast Ecoregion



Landscape units: watershed; nearshroe: 988 acres (400 hectares) grid.

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About the Pacific Northwest Coast Ecoregion

Washington's westernmost and wettest ecoregion extends from ocean depths to the Olympic Mountains' glaciated peaks. Steller sea lions swim among the greatest number of kelp species in the world, and the Olympic marmot burrows in alpine meadows.

Location

The Pacific Northwest Coast ecoregion fronts about 150 miles of shoreline and encompasses roughly 11% of Washington State. It runs from Cape Flattery in the north and to the mouth of the Columbia River in the south, extending into British Columbia and along the Oregon coast. Inland is a band of coastal plain, the Olympic Mountains, and the gentler Willapa Hills.

Outstanding Biodiversity Features

- **Geographic separation and unique species.** Isolated by ocean, strait, and Sound, a host of flora and fauna have evolved in the Olympic Mountains. These mountains offer the only home in the world to endemic rodents, trout, and rare plants, such as Piper's bellflower.
- **Tracts of verdant temperate rainforests.** In Olympic National Park, the world's largest remaining stands of temperate rainforest hold more living biomass than any tropical forest. The forest drips with ferns, mosses, and lichens.
- **Three vital estuaries for waterfowl, shorebirds, and fish.** The Columbia River Estuary is critical for waterfowl, fish, and the endangered Columbia white-tailed deer. The marshes and mudflats of Willapa Bay and Grays Harbor are vital nurseries for salmon and stopovers for tens of thousands of migrating shorebirds.
- **Iconic marine species facing threats.** Some of the most remarkable animals of the Northwest Coast—orcas, Steller sea lions, sea otters, snowy plovers, and marbled murrelets—are species at risk.

People in the Ecoregion

Indigenous peoples have long made their home on the Pacific Northwest Coast. The Makah, Quileute, Quinault, Queets, Humptulips, Satsop, Wynoochee, Copalis, Chinook, and Lower Chehalis are among those whose ancestors lived on the rainy coast. These peoples ate well: salmon, shellfish, game, whales, seals, berries, and many other plant foods.

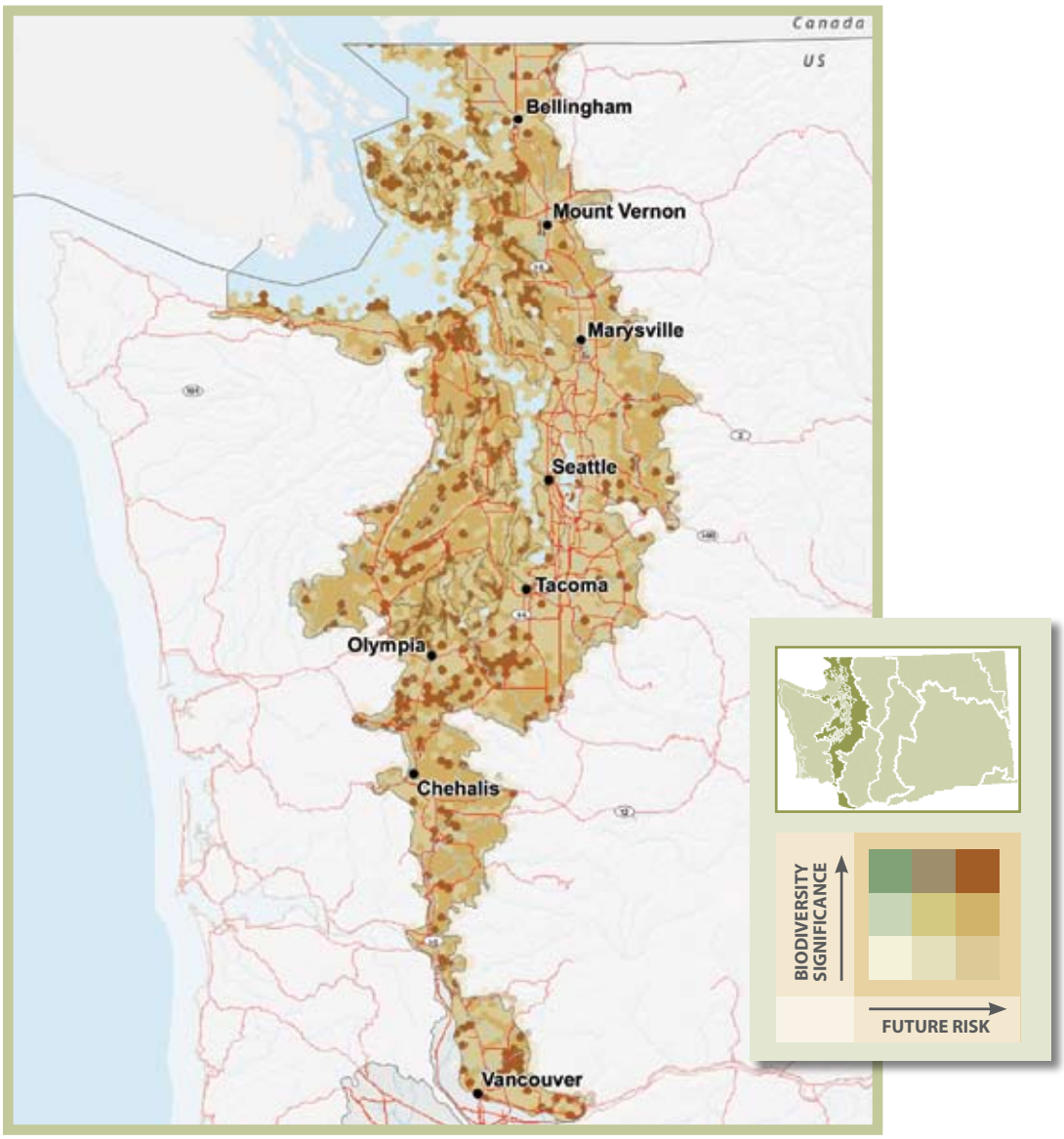
The rich timber resource of Douglas-fir, western red cedar, western hemlock, and Sitka spruce provided livelihoods for generations. While timber remains an economic powerhouse, non-timber forest products such as mushrooms, ferns, mosses, and salal are increasingly important.

The marine environment sustains commercial and sport fishing, crabbing, clamming, and oyster growing. On land, agriculture includes dairies and cranberry bogs. Tourism and recreation increase yearly.

More than 50% of the land is privately held—much of it by timber companies. Another 30% is federally owned, with Olympic National Park recognized as a global treasure. Biodiversity conservation in the Pacific Northwest Coast ecoregion, with its wealth of ecosystem diversity, holds both promise and challenge.

For more about this ecoregion visit www.biodiversity.wa.gov

Puget Trough Ecoregion



Landscape units: 741 acres (300 hectares) hexagons.

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About the Puget Trough Ecoregion

A great inland arm of the sea—Puget Sound—flanked by forested foothills and freshened by many rivers. The Puget Trough ecoregion is home to over 75% of Washington's people.

Location

The Puget Trough ecoregion runs the length of Washington, rising to about 1000 feet elevation between the Cascade Mountains on the east and the Olympic Peninsula on the west. Encompassing about 8% of the state, it is densely populated. The larger Willamette Valley-Puget Trough-Georgia Basin ecoregion extends into Oregon and British Columbia.

Outstanding Biodiversity Features

- **Puget Sound—a globally important estuary.** Home to orcas, porpoises, and harbor seals, with rich nearshore and deepwater habitats. Puget Sound's distinctive underwater topography makes it vulnerable to activities onshore and upstream.
- **Salmon, linking freshwater and saltwater habitats.** Several species of salmon—icons of the region—are at risk due to habitat degradation.
- **Grasslands and oak woodlands that support rare species.** Many grassland species are declining because their available habitat has dwindled. Fire suppression and invasive species are significant problems.
- **Accessibility, rich natural resources, and economic potential.** These factors have encouraged over 75% of Washingtonians to live here. The result is a mosaic of land uses that fragment high quality native habitats.

People in the Puget Trough ecoregion

The earliest archaeological evidence of people in the Puget Trough ecoregion in Washington dates back about 8,000 years. The ancestors of Salishan-speaking peoples flourished and developed eighteen or more linguistic traditions.

These peoples created prosperous maritime cultures. They employed the region's rich biodiversity, including salmon, shellfish, and western red cedar. Plants such as nettle, berries, bracken, and camas supplied food and fiber.

Euro-Americans also utilized the marine and forest resources. Land use patterns were established early, and by 1991 more than 50% of the Puget Trough had been converted to urban and agricultural uses, including intensive forestry, pasture, and cropland.

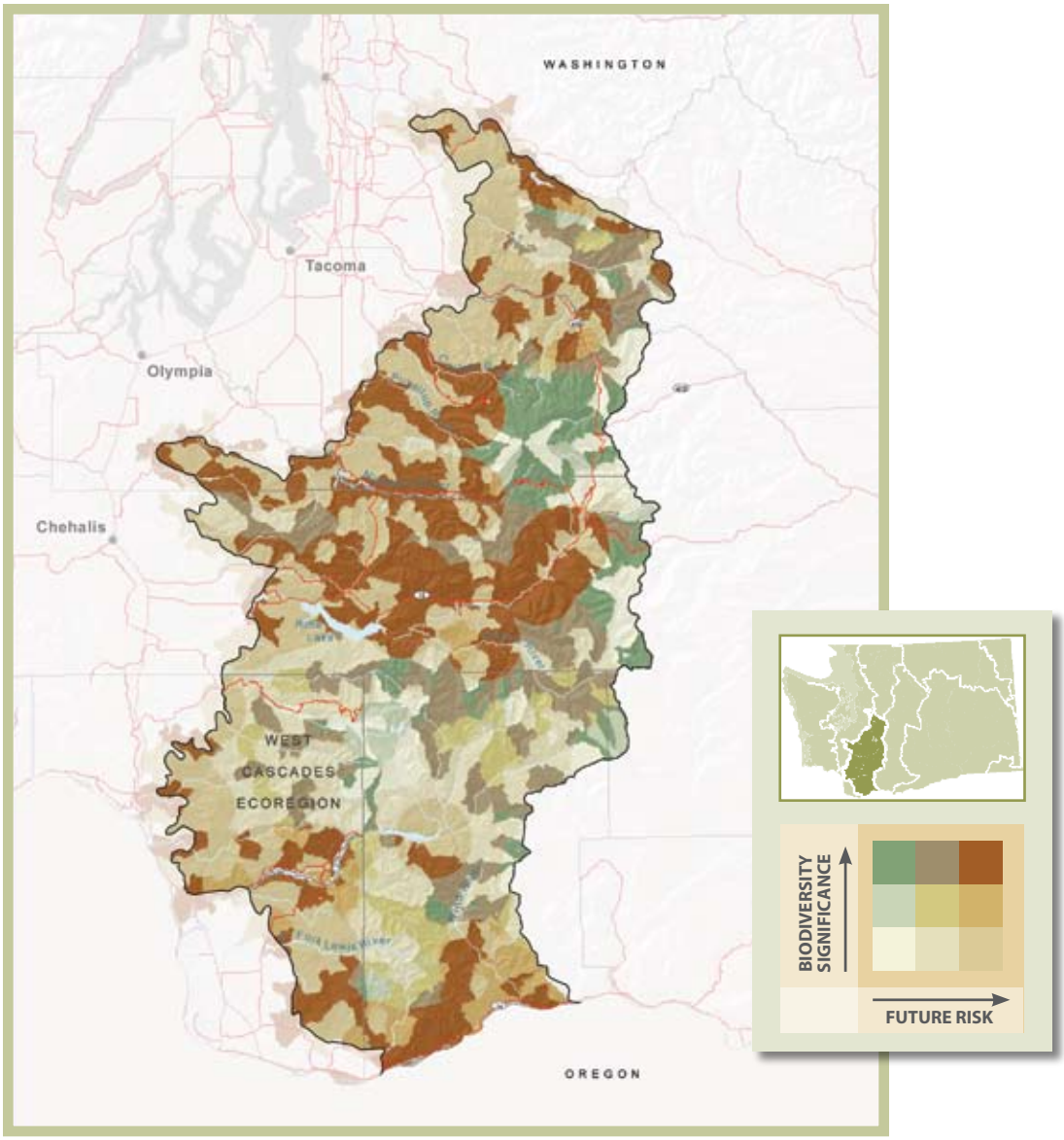
In 1999, the ecoregion's population was nearly 3.9 million—double that of the 1960s. It is expected to grow to 5 million by 2020. The remaining natural areas and working lands are under pressure.

Puget Sound itself suffers from pollution and other ills, including multiple Superfund sites. The Endangered Species Act listing of wild Chinook salmon was the first to affect such an urban area. The southern resident orca population has also been listed as endangered.

Although altered and under stress, both the terrestrial and marine environments of the Puget Trough ecoregion are still extremely productive. Partnerships, political will, and creativity will be key to biodiversity conservation in the face of rapid growth.

For more about this ecoregion visit www.biodiversity.wa.gov

West Cascades Ecoregion



Landscape units: watersheds.

A range of opportunities for voluntary and collaborative approaches exist in each area of this map (see pp 103-112). This map does not replace more detailed or specialized assessments or prescribe specific actions or strategies, and it is not intended to be used as the sole source for planning conservation initiatives. The Council recommends that this map be updated periodically.

About the West Cascades Ecoregion

Rumbling volcanoes and ancient forests distinguish Washington's West Cascades ecoregion.

Location

The West Cascades ecoregion encompasses the west-side midsection of the great Cascades cordillera. In Washington, the ecoregion runs southward from Snoqualmie Pass to the Columbia Gorge, the only lowland divide in the range. Across the Columbia, it extends south into Oregon. The crest of the Cascades marks the ecoregion's eastern edge. The western boundary dips to meet the foothills of the Puget Trough at about 1,000 feet. The ecoregion covers about 8% of state.

Outstanding Biodiversity Features

- **A great forested mountain range.** The West Cascades still retain significant tracts of natural, or at least semi-natural, forest, although management practices have altered forest structure at lower elevations.
- **Spectacular—and active—volcanoes host lowland to alpine species.** Mount Rainier is home to 723 native plants, amounting to 30% of the flora found in Washington. Mount Rainier and Mount Saint Helens are natural laboratories for studying how ecosystems respond to eruptions.
- **Columbia Gorge: a mountain range divided.** The Columbia Gorge, the ecoregion's low point at roughly 50 feet above sea level, splits the Cascades. It is notable as a place where coastal and inland species converge.

People in the Ecoregion

The West Cascades ecoregion is sparsely populated but long utilized. Human history in the West Cascades dates back at least 8,500 years, when the montane glaciers began to recede.

Tribes from both sides of the Cascades gathered huckleberries in the summer and fall. They hunted large and small game, from elk and mountain goats, to pikas and porcupines. The Nisqually, Puyallup, Squaxin Island, Muckleshoot, Yakama, and Cowlitz are among the peoples with long ties to the ecoregion.

The search for a wagon route over the Cascades led to some exploration of the West Cascades near Mount Rainier in the 1860s. That effort eventually resulted in settlement near Packwood in the 1880s. In the generations since, the timber industry has provided many livelihoods. Agriculture, particularly grazing and hay production, continues in the river valleys. Tourism has played an increasingly important role in recent years.

Nearly two-thirds of the ecoregion is public land, most of it federal. The ecoregion features numerous protected areas, including Mount Rainier National Park, Mount Saint Helens National Volcanic Monument, and several Forest Service wilderness areas.

This forested and mountainous ecoregion is near several urban centers, creating challenges to its future ecological integrity. Forward-thinking partnerships are looking for ways to conserve both the vitality of farms and working forests and the biodiversity of this ecoregion.

For more about this ecoregion visit www.biodiversity.wa.gov

WDFW SPECIES STATUS REPORTS, RECOVERY/MANAGEMENT PLANS, AND MANAGEMENT RECOMMENDATIONS, 2010

Species Status Reports: A status report includes a review of information relevant to the species' status in Washington and addresses factors affecting its status including, but not limited to: historic, current, and future population trends, natural history including ecological relationships, historic and current habitat trends, population demographics and their relationship to long-term sustainability, known and potential threats to populations, and historic and current species management activities.

Aleutian Canada goose, 2005
Bald eagle, 2007
Burrowing owl, draft 2004
Common loon, 2000
Fisher, 2006
Gray whale, 1997
Larch Mountain salamander, 1993
Lynx, 1993; 1999
Marbled murrelet, 1993
Mardon skipper, 1999
Margined sculpin, 1998
Mazama pocket gopher, 2005
Mountain quail, 1993
Northern leopard frog, 1999
Orca, 2004
Oregon silverspot butterfly, 1993
Oregon spotted frog, 1997
Peregrine falcon, 2002
Pygmy rabbit, 1993
Sage grouse, 1998
Sharp-tailed grouse, 1998
Steller sea lion, 1993
Streaked horned lark, 2005
Taylor's checkerspot, 2005
Washington ground squirrel, draft 2004
Western gray squirrel, 1993
Western pond turtle, 1993
Yelloweye rockfish, federal 2001
Yellowtail rockfish, federal 2000

Species Recovery/Management Plans: Recovery/management plans summarize the historic and current distribution and abundance of a species in Washington and describe factors affecting the population and its habitat. It prescribes strategies to recover the species, such as protecting the population, evaluating and managing habitat, and initiating research and education programs. Target population objectives and other criteria for reclassification are identified and an implementation schedule is presented.

<u>Wildlife</u>
Aleutian Canada goose, federal 1997
Bald eagle, 1990, federal 1986
Band-tailed pigeon, 1997
Bighorn sheep, 1995
Black bear, 1997
Black right whale, federal
Blue whale, federal
California brown pelican, federal 1983
Columbian white-tailed deer, federal 1983
Cougar, 1997
Deer, 1997
Elk, 1997
Ferruginous hawk, 1996
Fin whale, federal
Fisher, 2006
Furbearers, 1987-93
Gray wolf, federal
Green sea turtle, federal
Grizzly bear, federal 1993
Humpbacked whale, federal
Leatherback sea turtle, federal
Loggerhead sea turtle, federal
Lynx, 1993; 2001
Marbled murrelet, 1997

Moose, 1997
Mountain caribou, federal 1993
Mountain goat, 1997
Mountain quail, 1993
Oregon silverspot, 1982
Oregon spotted frog, 1998
Pygmy rabbit, 1995; 2003
Sage grouse, 2004
Sandhill crane, 2000
Sea otter, 2004
Sei whale, federal
Sharp-tailed grouse, 1995
Snowy plover, 1995, federal 1998
Sperm whale, federal
Spotted owl, federal 1992
Steller sea lion, federal
Upland sandpiper, 1995
Upland birds, 1997
Western gray squirrel, 1993; draft 2004
Western pond turtle 1993; 1999
Waterfowl, 1997
Wild Turkey, 2005

Fish
Bull Trout/Dolly Varden Mgt, state 2000
Bull Trout Recovery, federal draft 2002
High Lakes Mgt Plan, 2005
Forage Fish, 1998
Puget Sound Groundfish Mgt, 1998
Salmon, recovery plans (see next page)
Steelhead, 2008

Management Recommendations (PHS): Each species account provides information on the species' geographic distribution and the rationale for its inclusion on the Priortiy Habitats and Species list. The habitat requirements and limiting factors for each species are discussed, and management recommendations addressing the issues in these sections are based on the best available science. Each species document includes a bibliography of the literature used for its development, and each has a key points section that summarizes the habitat requirements and management recommendations for the species.

Volume I – Invertebrates, 1995
Basin hairstreak
Beller's ground beetle
California floater
Golden hairstreak
Hatch's click beetle
Johnson's (mistletoe) hairstreak
Juniper hairstreak
Long-horned leaf beetle
Makah (Queen Charlotte) copper
Mardon skipper
Newcomb's littorine snail
Oregon silverspot
Puget blue
Shepard's Parnassian
Silver-bordered bog fritillary
Valley silverspot
Whulge checkerspot
Yuma skipper

Volume II – Fish and Marine Invertebrates
(currently in development)

Volume III – Amphibians and Reptiles, 1997
California mountain kingsnake
Cascade torrent salamander
Columbia spotted frog
Columbia torrent salamander
Dunn's salamander
Larch Mountain salamander
Northern leopard frog
Oregon spotted frog
Striped whipsnake
Van Dyke's salamander
Western pond turtle

Volume IV – Birds, 2003

American white pelican
Bald eagle
Band-tailed pigeon
Black-backed woodpecker
Blue grouse
Burrowing owl
Cavity-nesting ducks
Chukar
Common loon
Common murre
Ferruginous hawk
Flammulated owl
Golden eagle
Great blue heron
Harlequin duck
Lewis' woodpecker
Loggerhead shrike
Mountain quail
Northern goshawk
Peregrine falcon
Pileated woodpecker
Prairie falcon
Purple martin
Ring-necked pheasant
Sage grouse
Sage sparrow
Sage thrasher
Sandhill crane
Sharp-tailed grouse
Shorebirds
Vaux's swift
Wild turkey
White-headed woodpecker

Volume V – Mammals (in progress)

Columbian white-tailed deer
Merriam's shrew
Pallid bat
Townsend's big-eared bat

Management Recommendations for Washington's Priority Habitats and Species, May 1991

Bighorn sheep
Columbian black-tailed deer
Columbian white-tailed deer
Elk
Fisher
Gray wolf
Grizzly bear
Lynx
Marbled murrelet
Marten
Merriam's turkey
Moose
Mountain caribou
Mountain goat
Osprey
Pocket gopher
Pygmy shrew
Rocky Mountain mule deer
Spotted owl
Townsend's big-eared bat
Western bluebird
Western gray squirrel
White-tailed deer
Yellow-billed cuckoo

Salmon ESA Recovery Planning in Washington

(Source: Governor's Salmon Recovery Office, 2009)

Hood Canal Salmon Recovery Region

Species Listed

Species	Listed As	Date Listed
Puget Sound Chinook	Threatened	March 24, 1999
Hood Canal summer chum	Threatened	March 25, 1999
Bull trout	Threatened	November 1, 1999

Area: The Hood Canal area is located within the Puget Sound Salmon Recovery Region, although it may become a separate salmon recovery region in the near future. It includes portions of Jefferson, Mason, Clallam, and Kitsap Counties.

Hood Canal Coordinating Council

Origins and organization: The Hood Canal Coordinating Council is a Watershed-Based Council of Governments. It was established in 1985 in response to community concerns about water quality problems and related natural resource issues in the watersheds. Members include a county commissioner from Kitsap, Jefferson, and Mason Counties; representatives of the Port Gamble S'Klallam and Skokomish Tribes; and ex-officio state and federal agency members. The Council currently operates under a variety of authorities in Hood Canal: it is a public benefit corporation, a non-profit corporation, the management board for aquatic rehabilitation, the lead entity and regional recovery organization for salmon recovery, and the inter-WRIA coordinator for watershed planning.

Recovery planning and relationship to other processes: The first draft of the summer chum recovery plan was completed in June 2005. After review and comments were completed, NMFS posted the draft in the federal register in August 2006. The plan builds on work done by the Council as lead entity and inter-WRIA coordinator for watershed planning. It also relies on the summer chum salmon conservation initiative, an on-going program of the Department of Fish and Wildlife and the Point-No-Point Treaty Tribes.

Hood Canal Salmon Recovery Plan

Regional organization: Hood Canal Coordinating Council

Plan timeframe: 10-30 years

Estimated cost: $95 million

Actions identified to implement plan: 296

Status: Final plan adopted by NMFS 5/07

Lower Columbia River Salmon Recovery Region

Species Listed

Species	Listed As	Date Listed
Steelhead	Threatened	March 19, 1998
Bull Trout	Threatened	June 10 , 1998
Chinook	Threatened	March 24, 1999
Chum	Threatened	March 25 , 1999
Coho	Threatened	June 28 , 2005

Area: The Lower Columbia River Salmon Recovery Region encompasses five counties in Southwest Washington. This Region includes:

Lower Columbia Fish Recovery Board

Origins and organization: The Lower Columbia Fish Recovery Board (LCFRB) originated through the request of local governments, primarily five counties (Clark, Cowlitz, Lewis, Skamania, Wahkiakum), that resulted in1998 legislation authorizing the Board. The LCFRB charter is contained in RCW 77.85 which officially recognizes the LCFRB as a regional organization, and authorizes it to prepare recovery plans and to implement the habitat portion of such plans for steelhead and other ESA listed species at an ESU scale. Board membership is also spelled out in statute and consists of five county commissioners, five citizens appointed by the commissioners (one from each county), one city representative, one state legislator, and one representative each from the Cowlitz tribe, hydropower utilities, and the environmental community. A Recovery Planning Steering Committee under the auspices of the Board consists of six representatives from the LCFRB, including two county commissioners, the Cowlitz tribal chairman, a mayor, and two citizen reps; staff representing the Cowlitz Tribe and Yakama Nation; representatives from hydropower and forestry; and representatives from the Governor's Salmon Recovery Office (GSRO), the Lower Columbia River Estuary Program, NOAA-F, NW Power and Conservation Council (NPCC), Corps of Engineers, US Fish and Wildlife Service, and WDFW.

Relationship to other efforts: The LCFRB serves as the NPCC sub-basin planning organization, Lead Entity for the state habitat protection and restoration program (2496), and lead agency for state watershed planning (2514) in two planning units WRIAs 25-26 and WRIA 27-28. The LCFRB has particular responsibility for habitat portions of a recovery plan related to local government responsibilities, but its recovery plan addresses all four H's (habitat, hatcheries, harvest, and hydropower). In February 2006, NMFS adopted the LCFRB's recovery plan as the Washington portion of the full ESU plan. The LCFRB is now coordinating with Oregon and NMFS in development of a full ESU-scale recovery plan (i.e. both WA and OR portions).

Lower Columbia River Recovery Plan

As of 1/07

Regional organization:	Lower Columbia Fish Recovery Board
Plan timeframe:	25 years
Estimated cost:	$127 million (next 6 years, Tier one reaches only)
Actions identified to implement plan:	More than 650
Status	Adopted as federal recovery plan by NMFS 2/06 for WA portion of ESUs/DPSs

Middle Columbia River Salmon Recovery Region

Species Listed

Species	Listed As	Date Listed
Steelhead	Threatened	March 25, 1999
Bull Trout	Threatened	June 10, 1998

Area: The Middle Columbia River Salmon Recovery Region is comprised of salmon bearing streams in Benton, Kittitas, Yakima, and parts of Chelan and Klickitat counties.

Yakima Basin Fish & Wildlife Planning Board

Origins and organization: The Yakima Basin Fish and Wildlife Recovery Board (YBFWRB) is composed of elected officials (or their designates) of the Yakama Nation, Kittitas, Yakima and Benton Counties, and cities in the Yakima Basin. Members of the Board are elected officials or appointed by elected officials. The Board originally formed to conduct sub-basin

planning under the Northwest Power and Conservation Council's (NPCC) Fish and Wildlife program. Its role now includes regional salmon recovery planning and implementation and it is the salmon recovery Lead Entity for the Yakima Basin. Klickitat County is not involved in recovery planning, but is engaged in watershed planning and as a salmon recovery Lead Entity.

Recovery planning and implementation: The draft recovery plan for the Yakima Basin portion of listed Mid-Columbia steelhead and for bull trout was completed in June 2005 and was posted in the Federal Register in May 2006. The YBFWRB is now working on a final recovery plan in the context of the completion of a recovery plan for the entire Mid-Columbia steelhead ESA-listed area by the National Marine Fisheries Service. The YBFWRB is also working toward implementation of the steelhead recovery plan and the fish and wildlife sub-basin plan within the Yakima Basin.

Yakima Basin Salmon Recovery Plan

As of 1/07

Regional organization:	Yakima Sub-basin Fish and Wildlife Planning Board
Plan timeframe:	10-30 years
Estimated cost:	$160 million
Actions identified to implement plan:	153
Status	Regional plan for WA habitat portion of ESUs/DPSs published in federal register by NMFS 03/06

Northeast Washington Salmon Recovery Region

Species Listed

Species	Listed As	Date Listed
Bull Trout	Threatened	June 10, 1998

Area: The Northeast Washington Region is comprised of salmon bearing streams in Ferry, Lincoln, Pend Oreille, Spokane, and Stevens counties.

Salmon Recovery Efforts Underway in the Northeast Washington Salmon Recovery Region: Six WRIAs have been involved in 2514 watershed planning, and the lead entity for Pend

Oreille County has developed a habitat strategy that is used for directing salmon recovery projects.

Puget Sound Salmon Recovery Region

Species Listed

Species	Listed As	Date Listed
Puget Sound Chinook	Threatened	March 24, 1999
Bull Trout	Threatened	November 1, 1999
Puget Sound Steelhead	Threatened	May 11, 2007

Area: The Puget Sound Salmon Recovery Region is the largest in the state and comprises all or part of 12 counties and all or parts of 19 Water Resource Inventory Areas (WRIAs). The size of the Puget Sound Salmon Recovery Region is dictated by the Puget Sound Chinook Evolutionarily Significant Unit (ESU), identified by the National Marine Fisheries Service.

Puget Sound Partnership

Salmon Recovery Efforts in the Puget Sound Salmon Recovery Region: Watershed groups across the Sound drafted recovery plans for their areas. NOAA Fisheries Service worked with participants in the Shared Strategy for Puget Sound and the Puget Sound Technical Recovery Team to combine those plans into a single plan for the region. In June 2005, the Shared Strategy presented its regional plan for ESA-listed Puget Sound Chinook to NOAA. NOAA then prepared a supplement that clarified and expanded on ESA recovery requirements. Following public comment on the proposed plan, NOAA finalized these two documents on January 19, 2007. Regional efforts are now concentrated on developing financing plans and monitoring and adaptive management components for implementation. On January 1, 2008 the Puget Sound Partnership became the regional salmon recovery organization.

Puget Sound Chinook Recovery Plan
As of 1/07

Regional organization:	Puget Sound Partnership
Plan timeframe:	50 years
Estimated cost:	$1.42 billion for first 10 years

Actions identified to implement plan:	More than 1000
Status	Adopted as federal recovery plan by NMFS 1/07

Snake River Salmon Recovery Region

Species Listed

Species	Listed As	Date Listed
Sockeye	Endangered	November 20, 1991
Spring/Summer-run Chinook	Threatened	April 22 , 1992
Fall-run Chinook	Threatened	April 22 , 1992
Steelhead	Threatened	August 18, 1997
Bull Trout	Threatened	June 10, 1998

Area: Snake River Salmon Recovery Region is comprised of salmon-bearing streams in Walla Walla, Columbia, Garfield, Asotin, and parts of Franklin and Whitman counties. Their "Lead Entity," Asotin County Conservation District, has established a framework for tribes, landowners, and agencies to collaborate on salmon recovery projects in that region. Many projects are to encourage alternative farm practices, thereby reducing sediment loads to streams and protecting riparian habitat. This Region includes:

Snake River Salmon Recovery Board

Origins and organization: The Snake River Salmon Recovery Board (SRSRB) is an outgrowth of the original lead entity. The Board expanded its original scope to incorporate sub-basin and watershed planning into one comprehensive recovery plan. The Board has 21 members. Representatives from Asotin, Columbia, Garfield, Walla Walla and Whitman counties, and the Confederated Tribes of the Umatilla Indian Reservation are on the Lower Snake River Salmon Recovery Board. The Board is supported by a small staff and receives technical support from federal and state agencies, as well as the Nez Perce Tribe and Confederated Tribes of the Umatilla Indian Reservation. The Board provides a single, locally-represented authority that can focus actions at the watershed level and roll those actions up at the ESU scale in a coordinated fashion.

Recovery planning and relationship to other efforts: The Snake River Region has three 2514 watershed planning efforts. Four sub-basin plans are being developed within the region and work under the auspices of the Board. The regional board is the lead entity. Salmon recovery planning is coordinated through multiple approaches, including using the same assessment information, reviewing

the lead entity project list, ensuring coordination of implementation efforts, and monitoring. The lead entity habitat protection and restoration strategy is an integral piece of the regional salmon recovery plan, as it identifies prioritized non-regulatory habitat actions across the region.

Snake River Salmon Recovery Plan

As of 1/07

Regional organization:	Snake River Salmon Recovery Board
Plan timeframe:	15 years
Estimated cost:	$115 million
Actions identified to implement plan:	264
Status	Regional plan for WA habitat portion of ESUs/DPSs published in federal register by NMFS 03/06

Upper Columbia River Salmon Recovery Region

Species Listed

Species	Listed As	Date Listed
Bull Trout	Threatened	June 10, 1998
Spring Chinook	Endangered	March 24, 1999
Steelhead	Endangered	August 18, 1997

Area: The Upper Columbia River Salmon Recovery Region is comprised of salmon-bearing streams in Chelan, Douglas, and Okanogan counties.

Upper Columbia Salmon Recovery Board

Origins and organization: When their draft recovery plan was completed in December 2005, the Upper Columbia Salmon Recovery Board (UCSRB) formed as a private non-profit entity to serve as a focal point for implementing the plan. Similar to its organizational structure during planning, the UCSRB Board of Directors consists of elected officials or designates from Chelan, Douglas, and Okanogan Counties, the Colville Tribe and the Yakama Nation. This Board has staff to assist them in product development and deliberations.

Recovery planning and relationship to other efforts: The Wenatchee, Entiat, Foster Creek, Moses Coulee, and Methow watershed plans are completed, and provide the foundation for local-based implementation of salmon recovery efforts in the Upper Columbia Region (the Okanogan Watershed Plan is underway). Lead Entities within the region are directly tied to the UCSRB, and submit their project lists to SRFB through this regional body. The UCSRB incorporated many elements from both watershed and sub-basin plans into the regional salmon recovery plan, and the harvest, hydropower, and hatchery components derived through Chelan and Douglas PUD Habitat Conservation Plans and out-of-basin processes (such as the Biological Opinions on both the Priest Rapids Hydroelectric Project and the Federal Columbia River Power System, the Hatchery and Genetics Management Plans, the U.S. Forest Service Northwest Forest Plan), and several other federal, state, tribal, and local efforts. The goal of the UCSRB is to ensure that the plan is implemented in a voluntary manner. The UCSRB is the coordinating body for the recovery plan. Additionally, the UCSRB will facilitate improvements in resources and authorities for the region to assist in plan implementation, such as technical assistance, funding mechanisms, permitting, monitoring, and outreach.

The Upper Columbia Regional Technical Team provides recommendations, when requested by the UCSRB, on technical issues related to monitoring, project development, and selected components of plans or processes. The RTT consists of persons with appropriate technical skills, who are appointed by the RTT chairperson, in consultation with the UCSRB chairperson.

Upper Columbia Salmon Recovery Plan

As of 1/07

Regional organization:	Upper Columbia Salmon Recovery Board
Plan timeframe:	10-30 years
Estimated cost:	$95 million
Actions identified to implement plan:	296 (of which 146 are habitat actions)
Status	Final plan adopted by NMFS 10/07

Washington Coastal Salmon Recovery Region

Species Listed

Species	Listed As	Date Listed
Lake Ozette Sockeye	Threatened	March 25, 1999
Bull trout	Threatened	November 1, 1999

Area: The Washington Coastal Salmon Recovery Region includes all Washington river basins flowing directly into the Pacific Ocean. This region includes:

Washington Coast Sustainable Salmon Partnership

Salmon Recovery Efforts Underway in the Washington Coastal Salmon Recovery Region

Salmon partners have agreed to form the Washington Coast Sustainable Salmon Partnership, a regional recovery organization. Lead entities have completed habitat strategies that guide protection and restoration projects. NMFS is leading development of a draft Lake Ozette Sockeye recovery plan, expected in early 2007. The draft bull trout recovery plan is pending until completion of the 5 year status review by USFWS.

U.S. Fish & Wildlife Service

2006 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation

Washington

FHW/06-WA
Issued May 2008

2006 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation

Washington

U.S. Department of the Interior
Dirk Kempthorne,
Secretary

U.S. Fish and Wildlife Service
H. Dale Hall,
Director

U.S. Department of Commerce
Carlos M. Gutierrez,
Secretary

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Economics and Statistics Administration
Cynthia A. Glassman,
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U.S. CENSUS BUREAU
Steve H. Murdock,
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U.S. CENSUS BUREAU
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U.S. Department of the Interior
Dirk Kempthorne,
Secretary

U.S. Fish and Wildlife Service
H. Dale Hall,
Director

Wildlife and Sport Fish Restoration
Rowan Gould,
Assistant Director

The U.S. Department of the Interior protects and manages the Nation's natural resources and cultural heritage; provides scientific and other information about those resources; and honors its trust responsibilities or special commitments to American Indians, Alaska Natives, and affiliated Island Communities.

The mission of the Department's U.S. Fish and Wildlife Service is working with others to conserve, protect, and enhance fish, wildlife, and their habitats for the continuing benefit of the American people. The Service is responsible for national programs of vital importance to our natural resources, including administration of the Wildlife and Sport Fish Restoration Programs. These two programs provide financial assistance to the States for projects to enhance and protect fish and wildlife resources and to assure their availability to the public for recreational purposes. Multistate grants from these programs fund the National Survey of Fishing, Hunting, and Wildlife-Associated Recreation.

Suggested Citation

U.S. Department of the Interior, Fish and Wildlife Service, and U.S. Department of Commerce, U.S. Census Bureau. 2006 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation.

Contents

List of Tables

Fishing and Hunting

Wildlife Watching

National Tables

Foreword

I find duck hunting with friends in a bottomland hardwood swamp or fishing with my kids on an Oregon river bolsters my spirit and reminds me why I care about conservation and our wildlife heritage.

But wildlife-associated and vital recreation—activities such as hunting, fishing, and birding—also provide significant financial support for wildlife conservation in our Nation's economy. According to information from the newest National Survey of Fishing, Hunting, and Wildlife-Associated Recreation, 87.5 million Americans spent more than $122 billion in 2006 on wildlife-related recreation. And this spending supports hundreds of thousands of jobs in industries and businesses.

The Survey is conducted every five years at the request of State fish and wildlife agencies to measure the importance of wildlife-based recreation to the American people. The 2006 Survey represents the 11th in a series that began in 1955. Developed in collaboration with the States, the Association of Fish and Wildlife Agencies, and national conservation organizations, the Survey has become one of the most important sources of information on fish and wildlife-related recreation in the United States.

In the 75-year history of the Sport Fish and Wildlife Restoration Programs, excise taxes on firearms, ammunition, archery, and angling equipment have generated a cumulative total of more than $10 billion for wildlife conservation efforts by State and Territorial wildlife agencies for fish and wildlife management.

My thanks go to the men and women who took time to participate in the survey, as well as to the State fish and wildlife agencies for their financial support through the Multistate Conservation Grant Programs. Without that support, the 2006 Survey would never have been possible.

I am comforted to know that my children and all Americans will have the opportunity to appreciate our Nation's rich wildlife tradition. Along with a record number of Americans, we continue to enjoy wildlife. We are laying the foundation for conservation's future.

H. Dale Hall
Director, U.S. Fish and Wildlife Service

Survey Background and Method

The National Survey of Fishing, Hunting, and Wildlife-Associated Recreation (Survey) has been conducted since 1955 and is one of the oldest and most comprehensive continuing recreation surveys. The Survey collects information on the number of anglers, hunters, and wildlife watchers; how often they participate; and how much they spend on their activities in the United States.

Preparations for the 2006 Survey began in 2004 when the Association of Fish and Wildlife Agencies (AFWA) recommended that the Fish and Wildlife Service conduct the 11th Survey of wildlife-related recreation. Funding came from the Multistate Conservation Grant Programs, authorized by Sport Fish and Wildlife Restoration Acts, as amended.

We consulted with State and Federal agencies and nongovernmental organizations such as the Wildlife Management Institute and American Sportfishing Association to determine survey content. Other sportspersons' organizations and conservation groups, industry representatives, and researchers also provided valuable advice.

Four regional technical committees were set up under the auspices of the AFWA to ensure that State fish and wildlife agencies had an opportunity to participate in all phases of survey planning and design. The committees were made up of agency representatives.

Data collection for the Survey was carried out by the U.S. Census Bureau in two phases. The first phase was the screen which began in April 2006. During this phase, the Census Bureau interviewed a sample of 85,000 households nationwide to determine who in the household had fished, hunted, or wildlife watched in 2005, and who had engaged or planned to engage in those activities in 2006. In most cases, one adult household member provided information for all members. The screen primarily covered 2005 activities while the next, more in-depth phase covered 2006 activities. For more information on 2005 data, refer to Appendix B.

The second phase of data collection consisted of three detailed interview waves. The first began in April 2006 concurrent with the screen, the second in September 2006, and the last in January 2007. Interviews were conducted with samples of likely anglers, hunters, and wildlife watchers who were identified in the initial screening phase. Interviews were conducted primarily by phone, with in-person interviews for respondents who could not be reached by phone. Respondents in the second survey phase were limited to those who were at least 16 years old. Each respondent provided information pertaining only to his or her activities and expenditures. Sample sizes were designed to provide statistically reliable results at the state level. Information on sampling procedures, sample sizes, and response rates is found in Appendix D.

Comparability With Previous Surveys

The 2006 Survey questions and methodology were similar to those used in the 2001, 1996, and 1991 Surveys. Therefore, the estimates are comparable.

The methodology of these Surveys did differ importantly from the 1985 and 1980 Surveys, so these estimates are not directly comparable to those of earlier surveys. Changes in methodology included reducing the recall period over which respondents had to report their activities and expenditures. Previous Surveys used a 12-month recall period, which resulted in greater reporting bias. Research found that the amount of activity and expenditures reported in 12-month recall surveys was overestimated in comparison with that reported using shorter recall periods.

Highlights

Introduction

The National Survey of Fishing, Hunting, and Wildlife-Associated Recreation reports results from interviews with U.S. residents about their fishing, hunting, and wildlife watching. This report focuses on 2006 participation and expenditures of persons 16 years of age and older.

The Survey is a snapshot of one year. The information it collected tells us how many people participated and how much they spent on their activities in the State in 2006. It does not tell us how many anglers, hunters, and wildlife watchers there were because many do not participate every year. For example, based on information collected by the Survey's household screen and detailed phase, we can estimate that about 33 percent more anglers and hunters participated nationally in at least 1 of the 4 years prior to the survey year 2006.

In addition to 2006 estimates, we also provide trend information in the Highlights section and Appendix C of the report. The 2006 numbers reported can be compared with those in the 1991, 1996, and 2001 Survey reports because they used similar methodologies. The 2006 estimates should not be directly compared with results from Surveys conducted earlier than 1991 because of changes in methodology to improve accuracy.

The report also provides information on participation in wildlife recreation in 2005, particularly of persons 6 to 15 years of age. The 2005 information is provided in Appendix B. Information about the Survey's scope and coverage is in Appendix D. The remainder of this section defines important terms used in the Survey.

This report does not provide information about the State's wildlife resources. That, and additional information on wildlife-related recreation, may be obtained from State fish and wildlife agencies. The Association of Fish and Wildlife Agencies can provide the addresses and telephone numbers of those agencies. The Association's Web site is <www.fishwildlife.org>.

Wildlife-Associated Recreation

Wildlife-associated recreation is fishing, hunting, and wildlife-watching activities. These categories are not mutually exclusive because many individuals participated in more than one activity. Wildlife-associated recreation is reported in two major categories: (1) fishing and hunting and (2) wildlife watching, which includes observing, photographing, and feeding fish or wildlife.

Fishing and Hunting

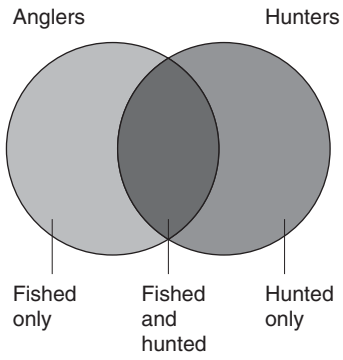
This Survey reports information about residents of the United States who fished or hunted in 2006, regardless of whether they were licensed. The fishing and hunting sections report information for three groups: (1) sportspersons, (2) anglers, and (3) hunters.

Sportspersons

Sportspersons are those who fished or hunted. Individuals who fished or hunted commercially in 2006 are reported as sportspersons only if they also fished or hunted for recreation. The sportspersons group is composed of three subgroups, as shown in the diagram on this page: (1) those that fished and hunted, (2) those that only fished, and (3) those that only hunted.

The total number of sportspersons is equal to the sum of people who only fished, only hunted, and both hunted and fished. It is not the sum of all anglers and all hunters because those people who both fished and hunted are included in both the angler and hunter population and would be incorrectly counted twice.

Sportspersons



Anglers

Anglers are sportspersons who only fished plus those who fished and hunted. Anglers include not only licensed hook and line anglers, but also those who have no license and those who use special methods such as fishing with spears.

Three types of fishing are reported: (1) freshwater, excluding the Great Lakes, (2) Great Lakes, and (3) saltwater. Since many anglers participated in more than one type of fishing, the total number of anglers is less than the sum of the three types of fishing.

Hunters

Hunters are sportspersons who only hunted plus those who hunted and fished. Hunters include not only licensed hunters using rifles and shotguns but also those who had no license and those who hunted with a bow and arrow, primitive firearm, or pistol or handgun.

Four types of hunting are reported: (1) big game, (2) small game, (3) migratory bird, and (4) other animals. Since many hunters participated in more than one type of hunting, the sum of hunters for big game, small game, migratory bird, and other animals exceeds the total number of hunters.

Wildlife Watchers

Since 1980, the National Survey has included information on wildlife-watching activities in addition to fishing and hunting. The 1991, 1996, 2001, and 2006 Surveys, unlike the 1980 and 1985 Surveys, collected data only for activities where the *primary* purpose was wildlife watching. The 1980 and 1985 Surveys included estimates of unplanned wildlife watching around the home and while on trips taken for another purpose.

The 2006 Survey uses a strict definition of wildlife watching. Participants must either take a "special interest" in wildlife around their homes or take a trip for the "primary purpose" of wildlife watching. Secondary wildlife watching, such as incidentally observing wildlife while pleasure driving, is not included.

Two types of wildlife watching are reported: (1) away-from-home (formerly nonresidential) activities and (2) around-the-home (formerly residential) activities. Because some people participated in more than one type of wildlife watching, the sum of participants in each type will be greater than the total number of wildlife watchers. The two types of wildlife-watching activity are explained next.

Away-From-Home Wildlife Watching

This group includes persons who took trips or outings of at least 1 mile from home for the primary purpose of observing, feeding, or photographing fish and wildlife. Trips to fish, hunt, or scout and trips to zoos, circuses, aquariums, and museums are not considered wildlife-watching activities.

Around-the-Home Wildlife Watching

This group includes those who participated within 1 mile of home and involves one or more of the following: (1) closely observing or trying to identify birds or other wildlife; (2) photographing wildlife; (3) feeding birds or other wildlife; (4) maintaining natural areas of at least 1/4 acre where benefit to wildlife is the primary concern; (5) maintaining plantings (shrubs, agricultural crops, etc.) where benefit to wildlife is the primary concern; or (6) visiting public parks within 1 mile of home for the primary purpose of observing, feeding, or photographing wildlife.

2006 Washington Summary

Activities in Washington by Residents and Nonresidents

Fishing

Anglers	**736,000**
Days of fishing	8,882,000
Average days per angler	12
Total expenditures	$904,796,000
Trip-related	$354,880,000
Equipment and other	$549,916,000
Average per angler	$1,210
Average trip expenditure per day	$40

Hunting

Hunters	**182,000**
Days of hunting	2,126,000
Average days per hunter	12
Total expenditures	$313,134,000
Trip-related	$74,233,000
Equipment and other	$238,901,000
Average per hunter	$1,688
Average trip expenditure per day	$35

Wildlife Watching

Total wildlife-watching participants	**2,331,000**
Away-from-home participants	959,000
Around-the-home participants	1,927,000
Days of participation away from home	9,104,000
Average days of participation away from home	9
Total expenditures	$1,502,311,000
Trip-related	$441,652,000
Equipment and other	$1,060,659,000
Average per participant	$563
Average trip expenditure per day	$49

Activities in Washington by Nonresidents

Fishing

Anglers	**95,000**
Days of fishing	633,000
Average days per angler	7
Total expenditures	$65,418,000
Trip-related	$44,604,000
Equipment and other	$20,814,000
Average per angler	$691
Average trip expenditure per day	$70

Hunting

Hunters	**...**
Days of hunting	...
Average days per hunter	...
Total expenditures	[1]$6,181,000
Trip-related	...
Equipment and other	...
Average per hunter	...
Average trip expenditure per day	...

Wildlife Watching

Total wildlife-watching participants	**331,000**
Away-from-home participants	331,000
Around-the-home participants	(X)
Days of participation away from home	1,109,000
Average days of participation away from home	3
Total expenditures	$278,025,000
Trip-related	$257,464,000
Equipment and other	$20,561,000
Average per participant	$779
Average trip expenditure per day	$232

… Sample size too small to report data reliably.

(X) Not applicable.

[1] Expenditures are reportable because nonresident anglers bought hunting-related items in Washington but did not hunt there.

Activities in Washington by Residents

Fishing

Anglers	**641,000**
Days of fishing	8,249,000
Average days per angler	13
Total expenditures	$839,378,000
Trip-related	$310,276,000
Equipment and other	$529,102,000
Average per angler	$1,309
Average trip expenditure per day	$38

Hunting

Hunters	**179,000**
Days of hunting	2,124,000
Average days per hunter	12
Total expenditures	$306,953,000
Trip-related	$71,196,000
Equipment and other	$235,757,000
Average per hunter	$1,712
Average trip expenditure per day	$34

Wildlife Watching

Total wildlife-watching participants	**2,000,000**
Away-from-home participants	628,000
Around-the-home participants	1,927,000
Days of participation away from home	7,995,000
Average days of participation away from home	13
Total expenditures	$1,224,286,000
Trip-related	$184,188,000
Equipment and other	$1,040,098,000
Average per participant	$612
Average trip expenditure per day	$23

Activities by Washington Residents Both Inside and Outside Washington

Fishing

Anglers	**690,000**
Days of fishing	9,111,000
Average days per angler	13
Total expenditures	$967,520,000
Trip-related	$385,570,000
Equipment and other	$581,950,000
Average per angler	$1,403
Average trip expenditure per day	$42

Hunting

Hunters	**187,000**
Days of hunting	2,385,000
Average days per hunter	13
Total expenditures	$389,792,000
Trip-related	$92,328,000
Equipment and other	$297,464,000
Average per hunter	$2,080
Average trip expenditure per day	$39

Wildlife Watching

Total wildlife-watching participants	**2,007,000**
Away-from-home participants	686,000
Around-the-home participants	1,927,000
Days of participation away from home	9,475,000
Average days of participation away from home	14
Total expenditures	$1,434,839,000
Trip-related	$314,680,000
Equipment and other	$1,120,159,000
Average per participant	$715
Average trip expenditure per day	$33

Wildlife-Associated Recreation

Participation in Washington

The 2006 Survey found that 2.7 million Washington residents and nonresidents 16 years old and older fished, hunted, or wildlife watched in Washington. Of the total number of participants, 736 thousand fished, 182 thousand hunted, and 2.3 million participated in wildlife-watching activities, which include observing, feeding, and photographing wildlife. The sum of anglers, hunters, and wildlife watchers exceeds the total number of participants in wildlife-related recreation because many individuals engaged in more than one wildlife-related activity.

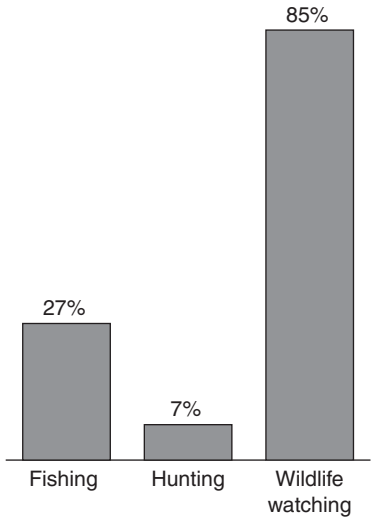
Participation by 6-to-15-Year-Old Washington Residents

The focus of the National Survey is on the activity of participants 16 years old and older. However, the activity of 6- to 15-year-olds can be calculated using the screening data covering the year 2005. It is assumed for estimation purposes that the relative activity levels of 6-to-15-year-old participants and participants 16 years old and older remained the same in 2005 and 2006. Based on this assumption, in addition to the 690 thousand resident anglers 16 years old and older, there were 172 thousand resident anglers 6 to 15 years old. Also, in addition to the 187 thousand residents 16 years old and older who hunted, there were 25 thousand 6-to-15-year-old residents who hunted. Finally, there were 2 million Washington residents 16 years old and older and 303 thousand 6- to 15-year-olds who wildlife watched. Further information on 6- to 15-year-olds is provided in Appendix B.

Expenditures in Washington

In 2006, state residents and nonresidents spent $3.1 billion on wildlife recreation in Washington. Of that total, trip-related expenditures were $871 million and equipment purchases totaled $1.6 billion. The remaining $585 million was spent on licenses, contributions, land ownership and leasing, and other items.

Percent of Total Participants by Activity
(Total: 2.7 million participants)



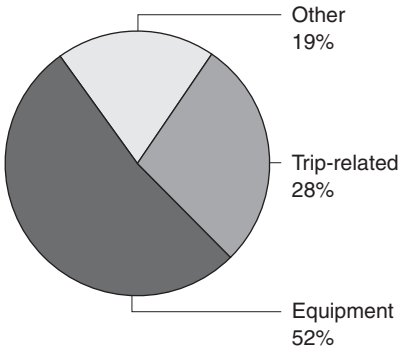
Participants in Wildlife-Associated Recreation in Washington: 2006
(U.S. residents 16 years old and older)

Total	**2.7 million**
Sportspersons	
Total	**818 thousand**
Anglers	736 thousand
Hunters	182 thousand
Wildlife Watchers	
Total	**2.3 million**
Away from home	959 thousand
Around the home	1.9 million

Note: Detail does not add to total because of multiple responses.

Source: Tables 3, 24, and 39.

Wildlife-Associated Recreation Expenditures in Washington
(Total: $3.1 billion)



Sportspersons

In 2006, 818 thousand state resident and nonresident sportspersons 16 years old and older fished or hunted in Washington. This group comprised 736 thousand anglers (90 percent of all sportspersons) and 182 thousand hunters (22 percent of all sportspersons). Among the 818 thousand sportspersons who fished or hunted in the state, 636 thousand (78 percent) fished but did not hunt in Washington. Another 82 thousand (10 percent) hunted but did not fish there. The remaining 100 thousand (12 percent) fished and hunted in Washington in 2006.

Sportspersons' Participation in Washington
(State residents and nonresidents 16 years old and older)

Sportspersons (fished or hunted)	**818 thousand**
Anglers	**736 thousand**
Fished only	636 thousand
Fished and hunted	100 thousand
Hunters	**182 thousand**
Hunted only	82 thousand
Hunted and fished	100 thousand

Note: Detail does not add to total because of multiple responses.

Source: Table 1.

Anglers

Participants and Days of Fishing

In 2006, 736 thousand state residents and nonresidents 16 years old and older fished in Washington. Of this total, 641 thousand anglers (87 percent) were state residents and 95 thousand anglers (13 percent) were nonresidents. Anglers fished a total of 8.9 million days in Washington—an average of 12 days per angler. State residents fished 8.2 million days—93 percent of all fishing days in Washington. Nonresidents fished 633 thousand days in Washington—7 percent of all fishing days in the state.

A large majority of Washington residents who fished anywhere in the United States did so in their resident state. There were 690 thousand Washington residents 16 years old and older who fished in the United States in 2006 for a total of 9.1 million days. An estimated 93 percent of all Washington residents who fished did so in their home state. Of all fishing days by Washington residents, 91 percent or 8.2 million were in their home state.

Some state residents fished in states other than Washington. In 2006, 140 thousand Washington residents fished in other states—20 percent of all residents fishing in any state. They fished 917 thousand days as nonresidents, representing 10 percent of all days fished by Washington residents. For further details about fishing in Washington, see Table 3.

Anglers in Washington

(State residents and nonresidents 16 years old and older)

Anglers	**736 thousand**
Resident	641 thousand
Nonresident	95 thousand
Days of fishing	**8.9 million**
Resident	8.2 million
Nonresident	633 thousand

Source: Table 3.

In State/Out of State

(State residents 16 years old and older)

Washington anglers	**690 thousand**
In Washington	641 thousand
In other states	140 thousand
Days of fishing	**9.1 million**
In Washington	8.2 million
In other states	917 thousand

Note: Detail does not add to total because of multiple responses.

Source: Table 3.

Fishing Expenditures in Washington

All fishing-related expenditures in Washington totaled $905 million in 2006. Trip-related expenditures, which include food and lodging, transportation, and other trip expenses, totaled $355 million—39 percent of all fishing expenditures. Expenditures for food and lodging were $118 million and transportation expenditures were $120 million. Other trip expenses, such as equipment rental, bait, and cooking fuel, totaled $117 million. Each angler spent an average of $482 on trip-related costs during 2006.

Anglers spent $486 million on equipment in Washington in 2006, 54 percent of all fishing expenditures. Fishing equipment (rods, reels, line, etc.) spending totaled $139 million—29 percent of the equipment total. Auxiliary equipment expenditures (tents, special fishing clothes, etc.) and special equipment expenditures (boats, vans, etc.) amounted to $347 million—71 percent of the equipment total. Special and auxiliary equipment are items that were purchased for fishing but could be used in activities other than fishing.

The purchase of other items, such as magazines, membership dues, licenses, permits, stamps, and land leasing and ownership, amounted to $64 million—7 percent of all fishing expenditures. For more details about fishing expenditures in Washington, see Tables 19 and 21 through 23.

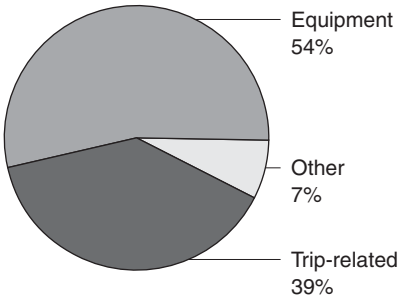
Fishing Expenditures in Washington

(State residents and nonresidents 16 years old and older)

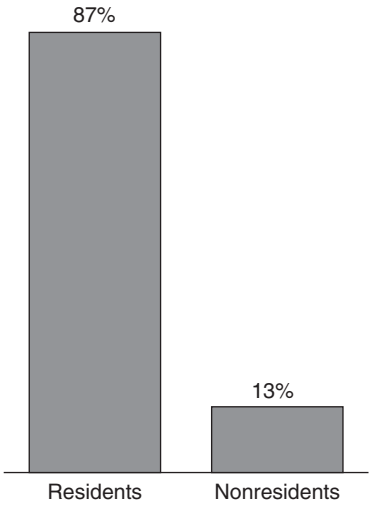
Total	**$905 million**
Trip-related	$355 million
Equipment	$486 million
Fishing	$139 million
Auxiliary and special	$347 million
Other	$64 million

Source: Table 19.

Fishing Expenditures in Washington
(Total: $905 million)



Percent of Anglers by Residence
(Total: 736 thousand participants)



Hunters

Participants and Days of Hunting

In 2006, there were 182 thousand residents and nonresidents 16 years old and older who hunted in Washington. Resident hunters numbered 179 thousand, accounting for 98 percent of the hunters in Washington. Residents and nonresidents hunted 2.1 million days in 2006, an average of 12 days per hunter.

There were 187 thousand Washington residents 16 years old and older who hunted in the United States in 2006 for a total of 2.4 million days. An estimated 96 percent of all Washington residents who hunted did so in their home state. Of all hunting days by Washington residents, 89 percent or 2.1 million were spent pursuing game in their home state.

Some state residents hunted in states other than Washington. Altogether, 38 thousand or 20 percent of all Washington hunters hunted in other states. Their 285 thousand days of hunting in other states represented 12 percent of all days Washington residents spent hunting in 2006. For more information on hunting activities by Washington residents, see Table 3.

Hunters in Washington

(State residents and nonresidents 16 years old and older)

Hunters	**182 thousand**
Resident	179 thousand
Nonresident	...
Days of hunting	**2.1 million**
Resident	2.1 million
Nonresident	...

… Sample size too small to report data reliably.

Source: Table 3.

In State/Out of State

(State residents 16 years old and older)

Washington hunters	**187 thousand**
In Washington	179 thousand
In other states	38 thousand
Days of hunting	**2.4 million**
In Washington	2.1 million
In other states	285 thousand

Note: Detail does not add to total because of multiple responses.

Source: Table 3.

Hunting Expenditures in Washington

All hunting-related expenditures in Washington totaled $313 million in 2006. Trip-related expenses, such as food and lodging, transportation, and other trip expenses, totaled $74 million—24 percent of total expenditures. Expenditures for food and lodging were $33 million and transportation expenditures were $37 million. The average trip-related expenditure per hunter was $407.

Hunters spent $189 million on equipment—60 percent of all hunting expenditures. Hunting equipment (guns, ammunition, etc.) totaled $67 million and made up 35 percent of all equipment costs. Hunters spent $122 million on auxiliary equipment (tents, special hunting clothes, etc.) and special equipment (boats, vans, etc.), accounting for 65 percent of total equipment expenditures for hunting. Special and auxiliary equipment are items that were purchased for hunting but could be used in activities other than hunting.

The purchase of other items, such as magazines, membership dues, licenses, permits, and land leasing and ownership, cost hunters $50 million—16 percent of all hunting expenditures. For more details on hunting expenditures in Washington, see Tables 20 through 23.

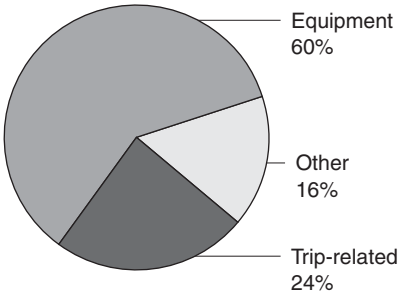
Hunting Expenditures in Washington

(State residents and nonresidents 16 years old and older)

Total	**$313 million**
Trip-related	$74 million
Equipment	$189 million
Hunting	$67 million
Auxiliary and special	$122 million
Other	$50 million

Source: Table 20.

Hunting Expenditures in Washington
(Total: $313 million)



Wildlife Watchers

Participants and Days of Activity

In 2006, 2.3 million U.S. residents 16 years old and older fed, observed, or photographed wildlife in Washington. Most of them, 83 percent (1.9 million), enjoyed their activities close to home and are called "around-the-home" participants. Those persons who enjoyed wildlife at least 1 mile from home are called "away-from-home" participants. People participating in away-from-home activities in Washington in 2006 numbered 959 thousand—41 percent of all wildlife watchers in Washington. Of the 959 thousand, 628 thousand were state residents and 331 thousand were nonresidents.

Wildlife-Watching Participants in Washington

(State residents and nonresidents 16 years old and older)

Total	**2.3 million**
Around the home	1.9 million
Away from home	959 thousand

Note: Detail does not add to total because of multiple responses.

Source: Table 24.

Away-From-Home Wildlife-Watching Participation in Washington

(State residents and nonresidents 16 years old and older)

Participants, total	**959 thousand**
Observe wildlife	937 thousand
Feed wildlife	143 thousand
Photograph wildlife	485 thousand
Days, total	**9.1 million**
Observe wildlife	7.5 million
Feed wildlife	1.4 million
Photograph wildlife	2.4 million

Note: Detail does not add to total because of multiple responses.

Source: Table 25.

Around-the-Home Wildlife-Watching Participation in Washington

(State residents 16 years old and older)

Total	**1.9 million**
Feed wildlife	1.5 million
Observe wildlife	1.4 million
Photograph wildlife	588 thousand
Maintain natural areas	352 thousand
Maintain plantings	360 thousand
Visit public areas	380 thousand

Note: Detail does not add to total because of multiple responses.

Source: Table 27.

Washington residents 16 years old and older who enjoyed away-from-home wildlife watching within their state totaled 628 thousand. Of this group, 616 thousand participants observed wildlife, 104 thousand fed wildlife, and 247 thousand photographed wildlife. Since some individuals engaged in more than 1 of the 3 away-from-home activities during the year, the sum of wildlife observers, feeders, and photographers exceeds the total number of away-from-home participants.

Washington residents spent 8.0 million days engaged in away-from-home wildlife-watching activities in their state. They spent 6.5 million days observing wildlife, 1.3 million days feeding wildlife, and 1.7 million days photographing wildlife. The sum of days observing, feeding, and photographing wildlife exceeds the total days of wildlife-watching activity because individuals engaged in more than one activity on some days. For further details about away-from-home activities, see Table 25.

Washington residents also took an active interest in wildlife around their homes. In 2006, 1.9 million state residents enjoyed observing, feeding, and photographing wildlife within 1 mile of their homes. Among this around-the-home group, 1.5 million fed, 1.4 million observed, and 588 thousand photographed wildlife around their homes. Another 352 thousand participants maintained natural areas

of 1/4 acre or more for wildlife; 360 thousand participants maintained plantings for the benefit of wildlife; and 380 thousand participants visited public parks within a mile of home because of the wildlife. Summing the number of participants in these six activities results in an estimate that exceeds the total number of around-the-home participants because many people participated in more than one type of around-the-home activity. In addition, 31 percent of resident around-the-home wildlife watchers also enjoyed wildlife away from home. For further details about Washington residents participating in around-the-home wildlife-watching activities, see Table 27.

Wild Bird Observers

Bird watching attracted many wildlife enthusiasts in Washington. In 2006, 1.9 million people observed birds around the home and on trips in the state. Seventy-six percent (1.4 million) observed wild birds around the home while 47 percent (875 thousand) took trips away from home to watch birds.

Wildlife-Watching Expenditures in Washington

Wildlife watchers spent $1.5 billion on wildlife-watching activities in Washington in 2006. Trip-related expenditures, including food and lodging ($228 million), transportation ($157 million), and other trip expenses ($57 million), such as equipment rental, amounted to $442 million. This summation comprised 29 percent of all wildlife-watching expenditures by participants. The average of the trip-related expenditures for away-from-home participants was $452 per person in 2006.

Wildlife-watching participants spent $595 million on equipment—40 percent of all their expenditures. Specifically, wildlife-watching equipment (binoculars, special clothing, etc.) expenditures totaled $262 million, 44 percent of the equipment total. Auxiliary equipment expenditures (tents, backpacking equipment, etc.) and special equipment expenditures (campers, trucks, etc.) amounted to $332 million—56 percent of all equipment costs. Special and auxiliary equipment are items that were purchased for wildlife-watching recreation but can be used in activities other than wildlife-watching activities.

Other items purchased by wildlife-watching participants, such as magazines, membership dues and contributions, land leasing and ownership, and plantings, totaled $466 million—31 percent of all wildlife-watching expenditures. For more details about wildlife-watching expenditures in Washington, see Table 31.

Wild Bird Observers in Washington

(State residents and nonresidents 16 years old and older)

Participants, total	**1.9 million**
Around the home	1.4 million
Away from home	875 thousand
Days, total	**177.7 million**
Around the home	169.9 million
Away from home	7.8 million

Note: Detail does not add to total because of multiple responses.

Source: Table 29.

Wildlife-Watching Expenditures in Washington

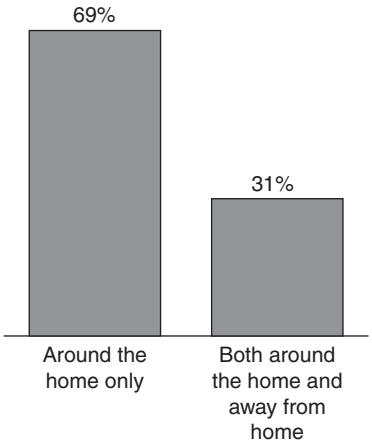
(State residents and nonresidents 16 years old and older)

Total	**$1.5 billion**
Trip-related	$442 million
Equipment	$595 million
Wildlife watching	$262 million
Auxiliary and special	$332 million
Other	$466 million

Source: Table 31.

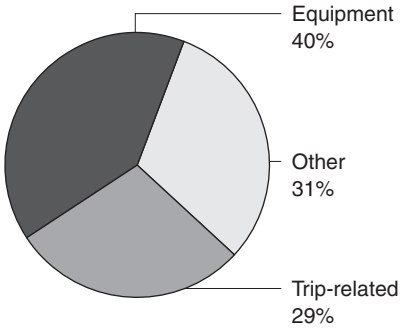
Around-the-Home and Away-From-Home Participation by Washington Residents

(Total: 1.9 million participants)



Wildlife-Watching Expenditures in Washington

(Total: $1.5 billion)



1996–2006 Comparisons

Comparing the estimates from the 1996, 2001, and 2006 Surveys gives a perspective on the state of wildlife-related recreation in the late 1990s and early-to-mid 2000s in Washington. Only the most general recreation comparisons are presented here.

The best way to compare estimates from surveys is not to compare the estimates themselves but to compare the confidence intervals around the estimates. A 90-percent confidence interval around an estimate gives the range of estimates that 90 percent of all possible representative samples would supply. If the 90-percent confidence intervals of two surveys' estimates overlap, it is not possible to say the two estimates are statistically different.

The state resident estimates cover the participation and expenditure activity of Washington residents anywhere in the United States. The in-state estimates cover the participation, day, and expenditure activity of U.S. residents in Washington.

The expenditure estimates were made comparable by adjusting the estimates for inflation—all estimates are in 2006 dollars.

Washington 1996 and 2006 Comparison
(Numbers in thousands)

	1996	2006	Percent change
Fishing			
Anglers in state	1,005	736	–27
Days in state	12,860	8,882	*
In-state expenditures by U.S. anglers	$907,403	$904,796	*
State resident anglers	944	690	–27
Total expenditures by state residents	$873,326	$967,520	*
Hunting			
Hunters in state	271	182	–33
Days in state	4,732	2,126	–55
In-state expenditures by U.S. hunters	$421,723	$313,134	*
State resident hunters	259	187	*
Total expenditures by state residents	$440,202	$389,792	*
Away-From-Home Wildlife Watching			
Participants in state	850	959	*
Days in state	12,418	9,104	*
State resident participants	664	686	*
Around-the-Home Wildlife Watching			
Total participants	1,564	1,927	23
Observers	1,187	1,432	21
Feeders	1,351	1,513	*
Wildlife-Watching Expenditures			
In-state expenditures by U.S. wildlife watchers	$1,236,421	$1,502,311	*
Total expenditures by state residents	$916,557	$1,434,839	*

* Not different from zero at the 10 percent level of significance.

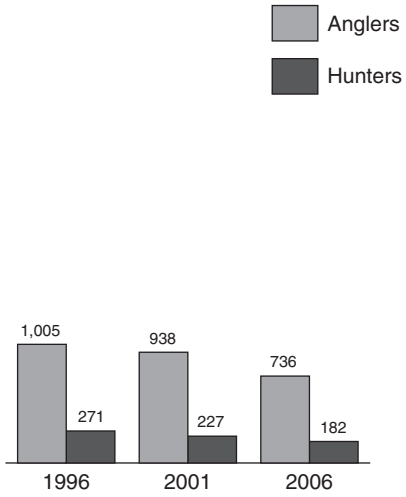
Washington 2001 and 2006 Comparison

(Numbers in thousands)

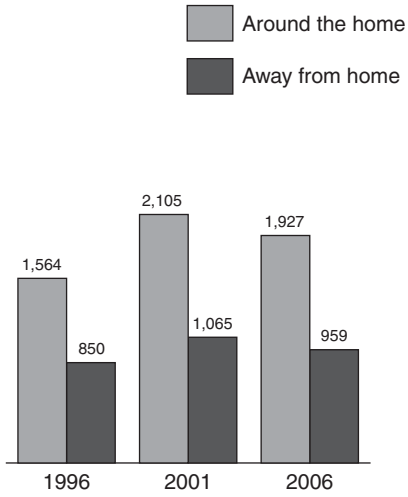
	2001	2006	Percent change
Fishing			
Anglers in state	938	736	–22
Days in state	12,841	8,882	*
In-state expenditures by U.S. anglers	$973,288	$904,796	*
State resident anglers	873	690	–21
Total expenditures by state residents	$1,102,236	$967,520	*
Hunting			
Hunters in state	227	182	*
Days in state	2,951	2,126	*
In-state expenditures by U.S. hunters	$398,739	$313,134	*
State resident hunters	231	187	*
Total expenditures by state residents	$386,996	$389,792	*
Away-From-Home Wildlife Watching			
Participants in state	1,065	959	*
Days in state	11,256	9,104	*
State resident participants	874	686	–22
Around-the-Home Wildlife Watching			
Total participants	2,105	1,927	–8
Observers	1,476	1,432	*
Feeders	1,583	1,513	*
Wildlife-Watching Expenditures			
In-state expenditures by U.S. wildlife watchers	$1,116,892	$1,502,311	*
Total expenditures by state residents	$1,415,305	$1,434,839	*

* Not different from zero at the 10 percent level of significance.

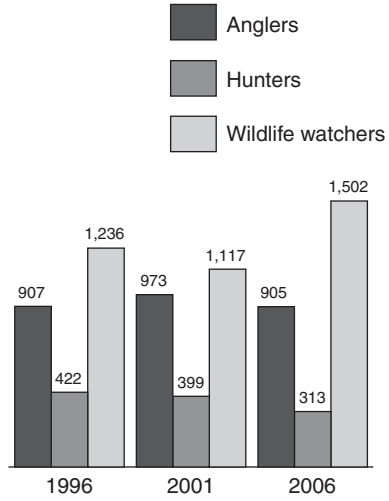
Number of People Who Hunted and Fished in Washington: 1996–2006
(In thousands)



Number of People Who Wildlife Watched in Washington: 1996–2006
(In thousands)



Total Expenditures by Participants in Washington: 1996–2006
(In millions of 2006 dollars)



Wildlife Viewing Activities in Washington

A Strategic Plan

Report to the Washington State Legislature

March 2004

Washington Department of FISH and WILDLIFE

STATE OF WASHINGTON
DEPARTMENT OF COMMUNITY, TRADE AND ECONOMIC DEVELOPMENT

Contents

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Executive Summary

In 2003, the Washington State Legislature passed SB 5011 requesting that the departments of Fish and Wildlife (WDFW) and Community, Trade and Economic Development (CTED) host a working conference to adopt a strategic plan to promote wildlife-viewing tourism in Washington.

This conference created the backbone of a plan that would promote wildlife viewing as a means to provide sustainable economic development in the state's rural areas while maintaining the state's wildlife diversity. The Legislature also requested that steps to implement the plan be developed.

From the input of the conference attendees, the following guiding principles and activities have been developed to meet this request:

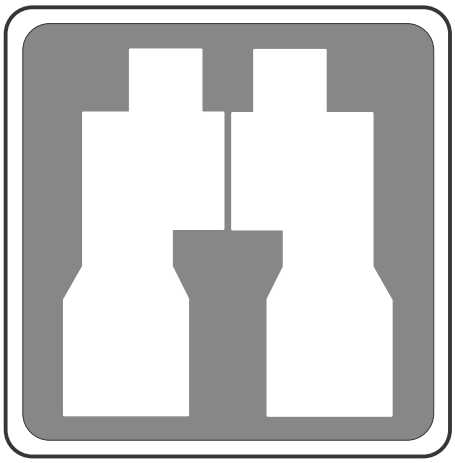
- Identify needs and opportunities to provide premium wildlife viewing recreational opportunities, ensuring participant safety, conservation and protection of the wildlife being viewed; while not diminishing existing hunting and fishing opportunity.
  - o Develop a watchable wildlife site database
  - o Develop an interactive Web map

- Market the state as a premium national and international wildlife-viewing destination, to increase travel to wildlife viewing locations throughout the state.
  - o Expand advertising exposure in key metro markets
  - o Conduct a media blitz involving community wildlife viewing representatives

- Develop sites to safely accommodate viewers and wildlife, with appropriate amenities such as viewing blinds, restrooms, parking, fencing and habitat improvements that attract wildlife.
  - o Develop viewing sites at premier WDFW access points
  - o Provide matching grants for local capital projects
  - o Increase operation and maintenance for viewing activities on WDFW land

- Utilize interpretation and development activities for wildlife sites to inform and educate visitors, communities and vendors on ethical viewing activities, viewing practices that ensure sustainability of the wildlife on which the species depend.
  - o Watchable Wildlife biologist

- Collect valid, reliable and credible measurements of the economic impact of wildlife viewing activities in Washington along with continued monitoring of the impacts of viewing activities on the wildlife being viewed.
  - o Conduct economic impact research
  - o Conduct consumer research
  - o Conduct advertising return on investment (ROI) research



- Maximize limited budgets by creating strong, sustainable partnerships with all appropriate public and private agencies in order to leverage public funds and to create involvement and multi-ownership in wildlife projects by all potential partners.
  - o Provide matching grants for small projects
  - o Provide professional and financial assistance for vendors and communities
  - o Conduct wildlife viewing conference
  - o Develop Washington State Watchable Wildlife Coalition
  - o Support Great Washington State Birding Trail development

Overview

Washington State's varied geography, climates, and ecosystems have created one of the richest and most diverse habitats in the nation, giving rise to over 640 vertebrate species, including 365 bird species; and thousands of invertebrates.

Past conservation efforts of hunters and anglers and other conservationists have enabled some species to thrive despite habitat encroachment by expanding communities. While support for traditional recreational hunting and fishing activities remains steadfast, another wildlife activity has become increasingly popular and important: *wildlife viewing* as an outdoor recreational pastime. Economic contributions to the state's economy are $1billion per year! (U.S. Department of the Interior, Fish and Wildlife Service and U.S. Department of Commerce, U.S. Census Bureau. 2001 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation – Washington.)

In recognizing the importance of this growing interest in promoting wildlife viewing opportunities, in 2003 the Washington State Legislature passed SB 5011, requesting that the departments of Fish and Wildlife (WDFW) and Community, Trade and Economic Development (CTED) host a working conference to draft a strategic plan to promote wildlife-viewing tourism in Washington. The Legislature specified that WDFW and CTED should create a plan that would promote wildlife viewing as a means to provide sustainable economic development in the state's rural areas while maintaining the state's wildlife diversity. The Legislature also requested that steps to implement the plan be developed. In addition to SB 5011, the Legislature also passed Second Substitute House Bill 1973 stating the legislature finds that tourism is a growing sector of the Washington economy. (See Appendix A for both bills.)

Washington has a diverse geography, geology, climate, and natural resources, and offers abundant opportunities for wildlife viewing. Nature-based tourism is the fastest growing outdoor activity and segment of the travel industry and the state can take advantage of this by marketing Washington's natural assets to international as well as national tourist markets. (See Appendix B for a full discussion of wildlife viewing economics and the demographics of wildlife viewers.)

Expanding tourism efforts can provide Washington residents with jobs and local communities with needed revenues. Current efforts to promote Washington's natural resources and nature-based tourism to national and international markets are diffuse and limited by funding. A collaborative effort among state and local governments, tribes, and private enterprises can serve to leverage the investments in nature-based tourism made by each.

> "This report is not the end product - instead it is a beginning."

The conference requested by SB 5011 was held in Olympia on September 3, 2003. It was attended by 150 people, representing a broad spectrum of agencies, individuals and businesses involved in wildlife tourism–private business, counties, cities, state and local government and tribes, and the input from the attendees forms the core of this plan (Appendix C). A survey of other watchable wildlife activities in the state was also gathered for presentation at the time of the conference (Appendix D), and a detailed listing of partners providing widlife viewing opportunities is included (Appendix E). Further input was gathered from participants at a Washington State Tourism Forum on November 19, 2003, and through a general public review conducted in December 2003 through January 2004 (Appendix F).

This report is a summary of the major findings of the conference, the survey, the forum and the general public review. It contains WDFW 's and CTED's combined vision of the future of wildlife viewing as an economic stimulator, along with recommended strategies and tasks to implement the plan. This report is not the end – instead it is a beginning!

Wildlife viewing is an annual billion-dollar industry in Washington. With the proper care and nurturing, this economic boost to the state's rural economies can be increased. This plan for wildlife viewing in Washington is a start in that direction.

What Is "Watchable Wildlife"?

Watchable Wildlife is all wildlife that people might see, enjoy and learn about. Although birds and the charismatic megafauna (large, showy wildlife) are the more popular species, what people enjoy viewing is as diverse as the viewers themselves. Watchable Wildlife also consists of recreational activities of responsible viewing, photographing, feeding and learning about wildlife and wild places.

In 1990, recognizing the growing national consumer interest in non-consumptive wildlife experiences, wildlife agencies created a new national organization designated "Watchable Wildlife". This program has been embraced by the Washington Department of Fish and Wildlife along with other state and federal wildlife management agencies in Washington. Watchable wildlife in our state provides both resident and non-resident visitors with access to a range of biodiversity almost unequalled in any other state in the U.S. It offers us the opportunity to extend an out-of-state visit beyond the metro centers of the state to include rural communities. Perhaps equally important, wildlife viewing can increase human exposure to and interaction with other species in order to learn about and value both the economic and ecological attributes of these natural assets.

The current impact of Washington State's watchable wildlife program is well documented. In 2001, over 47% of Washington's residents participated in wildlife watching. In doing so, Washington residents spent $979 million resulting in a total economic output of $1.78 billion, generating and or maintaining 22,000 jobs (Appendix B).

However, Washington State's travel industry is an even more significant part of our overall economy. Travel spending in Washington State generates an estimated $11 billion, $3.2 billion in earnings and 152,500 jobs. In 2002 alone, travel spending generated an estimated $569 million in state tax revenues and an estimated $191 million in local tax revenues. (Data from 1991-2002 Travel Impacts and Visitor Volume available on www.experiencewashington.com/industry). An advantage for Washington State is the fact that wildlife-viewing sites are primarily located in more rural counties of the state. The annual County Travel Impact Report, prepared for CTED by Dean Runyan Associates, has always shown travel spending and travel generated employment to be a more significant percentage of total revenue and employment in rural counties than in urban counties of the state (available at www.experiencewashington.com/industry).

In addition, the target audience for the state's visitor industry is the "urban naturalist," defined as the consumer lifestyle that seeks cultural, historic, and urban travel experiences along with authentic nature-based outdoor experiences. Wildlife viewing appeals strongly to this audience. In addition, the "urban naturalist" is more likely to participate in other historic or cultural activities or attractions located in rural communities, that will further increase the economic impact in those communities.

Watchable Wildlife promotion is a strategy that enhances people's opportunities for sustainable, low impact recreation. Watchable Wildlife programs develop facilities and activities to increase the chances of successful viewing experiences. They can teach viewing skills and responsible behavior and give people the opportunity to learn about wildlife, which leads to increased public support for wildlife conservation.

Watchable Wildlife strategies can range from very passive to more active. **Passive** wildlife viewing opportunities are a result of information or directions given about where people might see wildlife. Examples are publications, brochures, newspaper articles and web site information. **Active** wildlife viewing activities occur in areas **developed** to ensure that people would likely see wildlife at a given location and/or season and have a safe and satisfying experience. Developed viewing areas, and structures to see wintering big game, waterfowl, urban or wetland species are examples of active viewing.

What is the Vision?

Vision: "To aid the long-term community and economic stability achieved by nationally and internationally marketing Washington State as a world-class wildlife viewing destination, while simultaneously protecting and enhancing our state's biodiversity and natural assets of wildlife and their habitat."

Currently, wildlife viewing programs are small and poorly funded. Yet the opportunity to significantly increase wildlife tourism in Washington is great. Participants at the Watchable Wildlife Conference held in September 2003 spent considerable time and energy detailing the opportunities and impediments to achieving this vision of wildlife viewing as an economic stimulant for rural communities in Washington. Appendix C details their suggestions and their concerns. The participants then identified the following strategies necessary to achieve the vision.

What are the Primary Strategies?

1) Identify needs and opportunities to provide premium wildlife viewing recreational opportunities, ensuring participant safety, conservation and protection of the wildlife being viewed; while not diminishing existing hunting and fishing opportunity.

2) Market the state as a premium national and international wildlife-viewing destination to increase travel to wildlife viewing locations throughout the state.

3) Develop sites to safely accommodate viewers and wildlife, with appropriate amenities such as viewing blinds, restrooms, parking, fencing and habitat improvements that attract wildlife.

4) Use interpretation and development activities for wildlife sites to inform and educate visitors, communities and vendors on ethical viewing activities and practices that ensure sustainability of the wildlife sought by viewers.

5) Collect valid, reliable and credible measurements of the economic impact of wildlife viewing activities in Washington along with continued monitoring of the impacts of viewing activities on the wildlife being viewed.

6) Maximize limited budgets by creating strong, sustainable partnerships with all appropriate public and private agencies in order to leverage public funds and to create involvement and multi-ownership in wildlife projects by all potential partners. (See Appendix C for potential partners.)



What are the Current Activities?

Both CTED and WDFW have ongoing programs that include wildlife viewing as major components. These are detailed below and both agencies plan to continue these activities under current budget levels. Additional activities and tasks have been identified as new initiatives necessary to take wildlife viewing to further enhance the economic impact of wildlife viewing for rural communities and are detailed as "Strategic Recommendations."

WDFW Current Activities and Tasks

Wildlife viewing recreation and education was recognized as a need in the department's 1980 Nongame (now Diversity) Plan. In 1993, the department began its formal wildlife viewing in two ways. First, the department joined with Defenders of Wildlife, other state and federal agencies, and a number of private foundations and companies to co-sponsor publication of the Washington Wildlife Viewing Guide, a 96-page book published by Falcon Press, identifiying 90 of the best places in Washington to observe wildlife. Viewing guides have also been published for 21 other states. Secondly, the department joined with the Olympic and Mount Baker-Snoqualmie national forests in sponsoring the Puget Sound Eyes on Wildlife program. Early projects were targeted toward viewing activities on these forests, with partnerships with Trout Unlimited and others.

In 1997, funding was secured for a full-time Watchable Wildlife Coordinator position within the Diversity Section. The vision is to connect citizens with year-round wildlife viewing opportunities, particularly in rural communities, and to encourage the public to engage in habitat stewardship and wildlife conservation. Components of the program include: WildWatchCams, Watchable Wildlife on Wildlife Areas, wildlife festivals, and partnerships with other local, state and federal agencies, and nonprofit organizations. Also, part of the program is a campaign to raise awareness about Personalized Motor Vehicle License Plates, fees for which help fund the program.

Beginning in 1998, a major project was conducted in eastern Washington, funded by the Washington State Department of Transportation, that promotes fish and wildlife recreation as well as other cultural resources—the Scenic and Recreation Byway along SR 17 and SR 155, from Othello to Coulee City. Staffed in part by WDFW, this partnership with WSDOT, local leaders and Central Basin Audubon Society led to the establishment of an active citizens' group. Members of the group became involved in the resource assessment and planning of projects in and near communities bordering portions of the byway. Among the successes of this project are the active Coulee Corridor Committee which created the Balde Eagle Festival; a heightened awareness throughout the corridor about wildlife viewing potential; the creation of the Coulee Corridor Scenic Byway Birding Map in cooperation with WSDOT and Audubon Washington (completed in 2003); and the successful pursuit of grant dollars and partnerships to make on-the-ground improvements. This brought the department's staff working on wildlife viewing to two and highlighted the need for an eastern Washington presence.

In 1999, the Department received a one-time appropriation of $100,000 in Capital funds for wildlife viewing construction activities. Completed projects include an improved parking area and fence on the Fir Island Farm section of the Skagit Wildlife Area; a joint project with State Parks to re-develop a bald eagle viewing trail and parking area at Northrup Canyon (Steamboat Rock State Park) near Electric City in Grant county; and an ADA-accessible vault toilet on the North Potholes Wildlife Area near Moses Lake.

In 2001, the Department received a

US Fish and Wildlife Service matching grant for the development of the Great Washington State Birding Trail pilot project; the Cascade Loop. Primary partners were Audubon Washington and CTED Department of Tourism. Additional funding came from the Icicle Foundation, Puget Sound Energy and individual Audubon donors. The Cascade Loop was launched in October 2002.

Congressional budgets in 2002 provided the department with the first federal funding to conduct wildlife-related recreation and educational programs. One product from that funding is "A Community Guide to Nature Tourism," a web-resource and how-to manual on nature tourism assessment and development. Created by the WDFW, the website was specifically created to assist community leaders, natural resource managers and others to use a five-step process for creating a community nature tourism site or event, including assessing community features, planning, implementation and evaluating success.

The colorful website provides guidelines and best management practices for protection of natural resources in the rapidly growing area of nature tourism development. The site is heavily linked to outside resources that allow a user to find useful information on guidelines and technical assistance throughout all project phases in planning a wildlife viewing trip to Washington or developing a nature tourism business. The Community Guide to Nature Tourism can be viewed at www.experiencewashington.com/industry.

The 2003 Washington Legislature also passed SB 5204, authorizing the department to sell Watchable Wildlife Decals. Sale of these decals, set by the Fish and Wildlife Commission at $30, creates a revenue source for the Department of Fish and Wildlife to develop watchable wildlife opportunities in cooperation with local, state, and federal agencies and NGOs. The proceeds must be used to support the Department's watchable wildlife activities. The Fish and Wildlife Commission sets the fee for the decal. Purchasers of the decal receive the annual Access Permit for using WDFW lands and access areas.

Funding for wildlife viewing recreational development is in its infancy in Washington. WDFW has minimal resources available to pursue and promote present opportunities. Pursuing grants is one of the few options available for expansion.

Other activities that can be accomplished at current funding levels are:

- Enhanced website information and cross-agency coordination (WDFW/CTED) of Web information.
- Continued development of public information on seasonal wildlife viewing through WDFW's monthly cable TV show "Wild About Washington" and WDFW's twice-monthly on-line "Weekender Report."
- Grant writing to fund projects on department lands, through Interagency Committee for Outdoor Recreation.
- Minimal support of existing and to-be-developed wildlife festivals.
- Development of interpretive signs for use on WDFW lands and with partners.
- Continued coordination with partners.
- Continued development of WildWatchCams.
- Continue working with Audubon Washington to develop the Great Washington State Birding Trail maps – two finished and five remaining to be developed.

"Birding Trails" is a national program with Audubon WA as the lead in this state in partnership with WDFW, CTED and WSDOT. Audubon WA plans a 3,000-mile trail (driving tour) that covers all of the state. The Trail will incorporate seven driving loops with maps, signs, traveler ammenities and site enhancements to draw tens of thousands of nature tourists from around the state, country and the world. Audubon WA has completed two loops, the Cascade Loop and the Coulee Corridor Scenic Byway, and is starting the third loop on the Washington coast.

WDFW's Oak Creek Wildlife Area near Naches draws thousands of wildlife viewers every year to see elk.

The Business and Tourism Development Office of CTED is responsible for a variety of economic development activities that primarily benefit business constituents. Partners include industry associations, and state, regional and local economic development organizations.

The primary role of the tourism unit is as a marketer to increase awareness of, and visits to, the state. Marketing target audiences include consumers, travel publications, and travel trade representatives nationally and internationally.

The Tourism advertising effort is focused primarily out-of-state and given budget constraints, targets neighboring states, provinces and California. Described are current marketing activities for wildlife viewing in Washington State.

CTED Current Activities and Tasks

Research

CTED conducts a major Visitor Profile and consumer attitude analysis every three to four years to determine market share, visitor spending levels, and attitudes of visitors and non-visitors to key travel attributes for the state. The 2003/04 statewide Visitor Analysis study is underway and will include questions to determine consumer perception of Washington as a wildlife viewing destination, along with spending information for wildlife viewing visitors. This study will provide us with baseline data against which all future marketing activities can be measured for effectiveness.

In addition the CTED has been annually partnering with Destination Marketing Organizations (Convention and Visitor Bureaus, Chambers of Commerce, etc.) to conduct regional, multi-county visitor profile studies. Most recently these studies have included questions about wildlife viewing attractions for certain counties. This type of information will be collected in all future regional profile studies. All tourism research is available on the CTED website at www.experiencewashington.com/industry.

Marketing

The primary consumer travel website for the state,www.experiencewashington.com features a "watchable wildlife" section. Communities provide the information using an online content form available from the tourism industry website. Beginning in spring 2004, the site will add an interactive "clickable" GIS mapping component to allow consumers to search for specific activities and attractions that will be added annually as funding permits. In 2004 the state's Scenic Byways will be featured and wildlife viewing sites along each By-Way will be mapped. This site currently receives well over a million visits annually and is currently 45% above the previous year in consumer visits.

The *Northwest Backroads* weekly TV series that airs on NBC stations in Seattle, Spokane, Portland and Boise features story ideas provided by community representatives in a partnership effort with the Business and Tourism Office. Several stories have focused on a watchable wildlife event or attraction. In 2004, the Tourism office will utilize existing feature stories to create a half-hour television special program focused on Scenic By-Ways and wildlife viewing opportunities that will be aired in Texas, and if partnership funds permit, Arizona.

One of CTED's six new full-page, four-color ads has a wildlife focus. The ad has been placed in publications that have a strong wildlife editorial content. For Spring 2004, a new four-color, two-page spread ad will be produced to focus on wildlife viewing and position Washington State as a premium and unique wildlife viewing destination. This ad will be placed in consumer magazines targeting Oregon and California. Press releases, "Storylines" and tour operator materials for the domestic and international markets all feature a variety of watchable wildlife press information, story ideas and tours that include a wildlife-viewing opportunity.

The Business and Tourism Photo Libraries contain a searchable database and are available from the Tourism Industry site (www.experiencewashington.com/industry). CTED has continued to add new wildlife images from excellent photographers (as budget permits) and these are made available to press and tour operators. There is also a non-restricted photo library available to community organizations or anyone wanting Washington images at no cost.

Tourism Development

On a time-available-basis, tourism development staff provides technical assistance to communities and businesses interested in tourism development projects. CTED staff provides assistance with the strategic planning process and identifies potential funding.

Great egrets at North Potholes Wildlife Area. Courtesy CTED Photo Library

Strategic Recommendations - WDFW

Given the overwhelming support expressed by participants at the September 2003 watchable wildlife conference, the following tasks have been identified as new initiatives necessary to enhance wildlife viewing to further aid local economic impact for rural communities. These activities will require additional funding; and estimated range of costs are included on page 14, as well as amount of time to implement the activity or task.

Watchable Wildlife Site Database

Develop and maintain a detailed database inventory of all existing wildlife viewing sites, including details on site ownership, positive attributes and any potential or existing problems. Provide this information to CTED to be included in the www.experiencewashington.com interactive map.
Lead Agency-WFDW Estimated amount of time needed to implement activity or task: 4 months

Matching Grants

Develop a matching grant program. Good ideas and energetic volunteers/ community leaders are only two legs of the stool to get a worthy project implemented. The third is money. Often, $10,000 to as little as $1,000 can make the difference between a great idea and success. A grant program patterned after Seattle's Neighborhood Matching Fund ($1:$1 in four different categories) would provide the incentive for locals to commit their own resources for specific needs. The Community Financial Grant program would provide local communities and nonprofit organizations with funds to develop low-impact watchable wildlife sites and/ or pool funds with other communities to increase visibility of their wildlife destinations or events to targeted audiences.
Lead Agency- WDFW; Estimated amount of time needed to implement activity or task: 1 month

Site Development

A key to quality wildlife attractions is the amenities at the site. WDFW manages 800,000 acres of quality wildlife habitat throughout the state, offering an incredible array of viewing opportunities. However, there are very few developments—such as parking areas, viewing blinds, American with Disabilities Act (ADA) accessible trails—to encourage viewing use. In addition, existing maintenance money is inadequate. New developments require increased operation and maintenance funding. Local communities and groups will be important in assisting with activities such as protecting, utilizing and promoting the site in ways that tie back to their local communities. WDFW capital plan funds are anticipated as a major portion of the Washington State match for federal funds to develop the Great Washington State Birding Trail.
Lead Agency- WDFW; Estimated amount of time needed to implement activity or task: 4 years

A. Implement first three sites on WDFW 10-year Capital Plan

Sharp-tailed grouse viewing site, Swanson Lakes Wildlife Area, Lincoln County. Estimated amount of time needed to implement activity or task: 3 months

Wings Over the Skagit, Skagit Wildlife Area, Skagit and Snohomish Counties. Estimated amount of time needed to implement activity or task: 3 months

North Potholes Reserve, Potholes Wildlife Area, Grant County.

Estimated amount of time needed to implement activity or task: 3 months

B. Operation and maintenance increase for WDFW Lands for Wildlife Viewing Activities.

Estimated amount of time needed to implement activity or task: annual

C. Implement next three sites on on WDFW 10-year Capital Plan

Lower Crab Creek Alkaline Wetlands, Crab Creek Wildlife Area, Grant County.
Estimated amount of time needed to implement activity or task: 3 months

Bird Watchers Corner, Dodson Road, Potholes Wildlife Area, Grant County.
Estimated amount of time needed to implement activity or task: 3 months

Corfu Road ADA Nature Trail, Seep Lakes Wildlife Area, Adams County.
Estimated amount of time needed to implement activity or task: 3 months

D. Matching Grants - Capital

Feedback from the participants in the November 19, 2003 Washington State Tourism Forum, as part of the first review of this plan, indicated a strong need for local communities and nonprofit organizations to have an opportunity to apply for funding for capital projects that are not on WDFW land. Local needs include parking, interpretation, restrooms, fencing, trail development and other similar activities. Currently, the Interagency Committee for Outdoor Recreation (IAC) administers various funds that could be used for these activities, but the specifics of the grants may preclude many projects. Additional Capital funds could be made available for a broader range of proposals.
Lead Agency -IAC; Estimated amount of time needed to implement activity or task: Annual

Watchable Wildlife Biologist

Eastern Washington

Retain a watchable wildlife biologist stationed in eastern Washington to insure that wildlife populations are not being adversely impacted by viewers and viewing activity, and provide regular research and monitoring of local wildlife populations. Currently such a position exists in western Washington, but it is difficult, if not impossible, to provide such services statewide. A dedicated biologist to review the wildlife viewing activities and wildlife populations for the entire east side of the state will insure that healthy wildlife populations will remain. This person will coordinate the viewing site plans of local communities to insure that species are not severely impacted, which could include threatened, endangered or sensitive species. The current wildlife viewing biologist stationed in Olympia cannot adequately cover the vast opportunities in eastern Washington.
Lead Agency - WDFW; Estimated amount of time needed to implement activity or task: Annual

Endangered American white pelicans rest and feed at Sprague Lake Watchable Wildlife Area.

Strategic Recommendations- CTED

Given the overwhelming support expressed by participants at the September 2003 watchable wildlife conference, the following tasks have been identified as new initiatives necessary to take wildlife viewing to further enhance the economic impact of wildlife viewing for rural communities. These activities will require additional funding and estimated range of costs are included as well as the amount of time to implement the activity or task. These activities would not take place all at the same time and some of them are timed with specific industry trends and coincide with current work CTED conducts.

Research and Marketing

Interactive Web Map

Develop a watchable wildlife interactive map component on the www.experiencewashington.com website similar to that being developed this fiscal year for scenic byways. Map features will let consumers search for wildlife sites, by species, on a "clickable" map that also shows nearby communities, and other related activities and businesses. In addition, link to other websites with good images of the wildlife viewing sites or obtain images of these sites showing wildlife that can be viewed, including the Great Washington State Birding Trail.
Lead Agency- CTED; Estimated amount of time needed to implement activity or task: 3 months

Economic Impact Research

Utilize existing economic impact research data to develop a methodology for measuring wildlife viewing impact on communities and provide a bi-annual economic impact report as part of annual county travel impact reports. Use this methodology to determine most productive locations for wildlife viewing sites to maximize return on investment.
Lead Agency– CTED; Estimated amount of time needed to implement activity or task: 2 months

Consumer Research

Conduct qualitative research in Seattle, Portland and one California metro market to gain insights into: 1) the type of wildlife viewing sites most attractive to the key audience; 2) other activities in rural communities that wildlife viewers seek; 3) key messages that influence travel behaviors of wildlife viewers; and 4) key media that are used most by wildlife viewers. This research can also be helpful in testing existing watchable wildlife ads, to determine audience reaction, so that ads can be modified to be more effective. Results based on consumer preferences will be shared with communities and with WDFW to provide guidance in wildlife site development.
Lead Agency- CTED; Estimated amount of time needed to implement activity or task: 2 months

Expand Advertising Exposure in Key Metro Markets

Expand wildlife print ad placement into additional niche publications targeting wildlife viewers as identified in Task #3 above. In addition, find new partners to share in the cost to air the ½ hour television program featuring scenic byways and wildlife produced by Belo Marketing Solutions in selected metro markets in key western states. Develop a receptive and international tour operator cooperative advertising campaign to increase watchable wildlife tour packages.
Lead Agency – CTED; Estimated amount of time needed to implement activity or task: 7 months

Advertising ROI (Return on Investment)

Develop return-advertising investment research to determine the cost-effectiveness of an enhanced wildlife viewing advertising campaign.
Lead Agency- CTED; Estimated amount of time needed to implement activity or task: 1 month

Media Blitz Involving Community Wildlife Viewing Representatives

Biennially conduct media blitz programs to be held in media centers of the U.S. (New York and California) targeting niche wildlife media, including representatives of communities with

wildlife viewing attractions. Arrange for media appointments among community representatives and key wildlife publication editors and writers to provide the community organizations an opportunity for one-on-one discussions to encourage media feature stories. In addition, during each blitz, CTED will hold a media marketplace providing communities an opportunity to meet with press and tour operators that are not available to meet during the one-on-one appointments.
Lead Agency- CTED; Estimated amount of time needed to implement activity or task: 1 month

Technical and Financial Assistance Programs

Professional and Financial Assistance for Vendors and Communities

Create an "ombudsman" position for locals to help guide them through the various stages of community building, from "How do we get started?" to "Where can we find money?" to "Help, our volunteers are at burn out!"

Small communities seldom have the knowledge, skills, and staff to conduct community needs' assessments of available resources, build local teams to tackle planning and implementation activities, conduct wildlife festivals, develop targeted publicity, develop sites and sustain partnerships. This was one of the strongest, most consistent items of feedback generated at the viewing conference. Universally, local officials and nonprofit organizations want "one person to call" to help them through difficult times.

Assist start-up businesses with technical assistance and training to identify sources for financing, business plan development, licensing requirements, and other business assistance. Community assistance would include technical assistance with preliminary organization and funding identification, wildlife festival development and publicity and other start-up assistance to help communities learn how to create their own wildlife viewing opportunities.
Lead Agency – CTED; Estimated amount of time needed to implement activity or task: Annual

Future Partnership Activities

Conduct Statewide Wildlife Viewing Conference

Every two years beginning in 2005, conduct a conference on development of wildlife viewing opportunities and promotion, based on participant needs.
Lead agency- Joint WDFW/CTED; Estimated amount of time needed to implement activity or task: 9 months (and ongoing)

Partnership Development

Create a Washington State Watchable Wildlife Coalition to continue providing direction and feedback to CTED and WDFW on the wildlife viewing industry.
Lead Agency- Joint WDFW/CTED.; Estimated amount of time needed to implement activity or task: 3 months

Continue to Develop and Market the Great Washington State Birding Trail

Obtain federal highway grant to complete birding trail including addtional loops, signs and site enhancements. It is anticipated that federal funds will pay a substantial percentage of the trail. In addition, advertisements in bird watching magazines are targeted opportunities to immediately and directly draw in out-of-state visitors.
Lead Agency – Audubon Washington; Estimated amount of time needed to implement activity or task: 60 months

Ospreys on nest on Pend Oreille River near Usk. Courtesy CTED Photo Library.

Summary: What will it Cost?

Activity	Task	Estimated Cost	Lead	Time Frame	*If begin FY 04
Research and Marketing					
	Wildlife site database	$30,000-$50,000	WDFW		July - Oct 04
	Interactive Web wildlife map	$30,000-$60,000	CTED	3 months	Nov 04 - Jan 05
	Economic impact research	$35,000- $40,000 first year; $18,000-$22,000 biannually	CTED	2 month	Oct 04-Dec 05
	Consumer research	$36,000-$50,000	CTED	2 months	July-Sept 04
	Expand ad exposure in key metro markets	$150,000-$500,000	CTED	7 months	April 05-Oct 05
	Media blitz	$10,000-$15,000	CTED	1 month	Sept 05`
Technical and Financial Assistance					
	Professional/financial assistance specialist	$100,000-$125,000 annually	CTED	3-6 months	July 04
	Matching grants	$100,000-$500,000	WDFW		July 04
Site Development					
	Three WDFW sites	$774,000	WDFW	3 months	July 04
	Three WDFW sites	$540,000	WDFW	2 months	July 05
	O&M increase for WDFW Wildlife Viewing sites	$150,000-$500,000	WDFW	Annual	July 04
	Watchable Wildlife biologist	$100,000-$125,000 annually	WDFW	Annual	July 04
	Non-WDFW Capital matching grants	$500,000+ annually	WDFW	Annual	July 04
Partnerships					
	Wildlife Viewing Conference	$50,000-$75,000 bi-annually	CTED/ WDFW	9 months	July 04
	Watchable Widlife Coalition	$10,000-$15,000 annually	CTED/ WDFW	3 months	July 04
	Birding Trail matching funds	$400,000-$600,000	AW/ WDFW	60 months	Supt 05
Total		$3,015,000-$4,491,000			

Case Study

The Developing Coulee Corridor Nature Tourism Story

Coulee Country in Central Washington is one area where a few communities have pursued an expanded vision of a new mix of nature and cultural tourism. All of the ingredients for success exist in these communities, and on the adjacent public lands, to attract this new kind of visitor – one who is interested in real places with stories linking the past and present, blending the history and cultures of an area that has a backdrop of abundant natural scenery and wildlife diversity. Interwoven in this "quilted" landscape are thousands of acres of ponds and marshes, vast stretches of agricultural lands and smaller patches of native grasslands and shrubs that serve as a magnet for a wide diversity of birds, wildlife and human settlements.

The coulees and canyons of central Washington along the SR17/155 scenic byway provide remarkable opportunities to capitalize upon existing and potential sites to experience and enjoy birds and wildlife against the backdrop of rosy colored rocky cliffs and coulees that help tie together the area's stories and experiences of "the power of water."

Initially, the communities seemed to lack a cohesive, comprehensive method to develop a well thought-out, large-scale tourism plan for the entire area. That is until a Scenic Byway grant and planning process came along to serve as the catalyst to bring representatives of ten towns, two counties, multiple state, federal, tribal agencies and conservation nongovernmental organizations (NGOs) to the planning table.

This project area, roughly stretching from Othello to Grand Coulee, is blessed with an abundance of ecologically and culturally significant resources as well as a substantial amount of tourist support infrastructure, like parking lots, public lands and access to recreation and trails.

A second successful National Scenic Byway (NSB) Grant for the Coulee Corridor was written by Audubon Washington to create a Birding Map for the area. Audubon Washington staff worked with the Central Basin Audubon Chapter and the Coulee Corridor Consortium to create this second leg of the Great Washington State Birding Trail patterned after successful ventures in Texas and Florida. The map was finished and unveiled in the Fall of 2003 and expands the "shoulder season" to year-round.

A third NSB grant was awarded to the Coulee Corridor in 2003 for specific projects related to watchable wildlife in the Lake Lenore area, continued planning for future projects and also for general marketing and training for the entire Scenic Byway and its supporters.

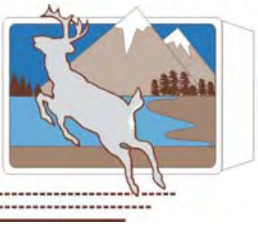
Following are some of the major steps and actions taken by a citizen's steering committee as they worked to pursue a community planning effort that is leading to the development of a Scenic Byway Management Plan. It is also serving as the core of a sustainable, long-term nature tourism plan:

- Conduct dozens of public meetings starting in 1999
- Organize a steering committee early in 2000
- Inventory community resources & attractions 2000-2001
- Promote existing events and festivals like the Othello Sandhill Crane Festival
- Map the community resources and sacred sites 2000-2001
- Establish a formal Coulee Corridor Planning Committee 2002
- Draft a work/project plan with prioritized projects
- Obtain necessary training and leadership skills 2002
- Develop a "community vision/future condition" 2002
- Obtain funding for priority projects
- Conduct "familiarization" tours for key constituents 2001 and 2002
- Publicize the region's natural and human assets through numerous media articles and TV specials
- Develop three community awareness and pride meetings called "Big Events"
- Create a second Washington eagle festival, the Grand Coulee "Balde Eagle Festival

For more information on this community effort check out the following:

www.couleecorridor.org
www.cbas.org/bw_areas/biarding_trail.htm
www.wsdot.wa.gov/biz/csd/BPBC_Final/
www.grandcouleedam.org/balde/index.htm

Responsive Management



WASHINGTON BOATER NEEDS ASSESSMENT

EXECUTIVE SUMMARY

An independent assessment of Washington State boaters' needs submitted to the Washington State Recreation and Conservation Office

by Responsive Management

2007

WASHINGTON BOATER NEEDS ASSESSMENT

EXECUTIVE SUMMARY

2007

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INTRODUCTION

This study was conducted for the Washington State Recreation and Conservation Office (RCO) to determine the needs of Washington boaters and to help determine priorities for allocating resources. The Washington State Legislature authorized the needs assessment in Substitute House Bill 1651. The study entailed focus groups of boating services providers, a telephone survey of boating services providers, a telephone survey of the general public in Washington, and a telephone survey of registered boaters in Washington.

The survey data on boaters was scientifically weighted to reflect actual proportions of boaters according to region of the state in which the boater most often boats and ownership status of the boat most often used. There are three types of ownership: owners of registered boats—which make up 44% of Washington boaters, owners of non-registered boats—14% of Washington boaters, and non-owners (those who charter, rent, or go boating on a friend's boat)—42% of Washington boaters. The analyses included crosstabulation of the data by various respondent characteristics, including type of ownership, region in which respondent boats, and type of boats most often used. The rest of the study methodology is discussed in the full report titled, *Washington Boater Needs Assessment: Data Compendium* (500 pages).

The regions are as follows:

- Peninsula and Coast Region (Clallam, Grays Harbor, Jefferson, Kitsap, Mason, Pacific, and Wahkiakum Counties)
- Islands, Seattle/King, and West Northern Cascades Region (Island, King, San Juan, Skagit, Snohomish, and Whatcom Counties)
- East Northern Cascades and Northeast Region (Chelan, Ferry, Kittitas, Okanogan, Pend Oreille, Spokane, and Stevens Counties)
- Southwest Region (Clark, Cowlitz, Klickitat, Lewis, Pierce, Skamania, and Thurston Counties)
- South Central, Columbia Plateau, and Palouse Region (Adams, Asotin, Benton, Columbia, Douglas, Franklin, Garfield, Grant, Lincoln, Walla Walla, Whitman, and Yakima Counties)

The data suggest that the following recommendations should be considered, categorized into 10 topic areas.

1. FUNDING

There is a clear, immediate need for additional funding for boating programs and services in Washington. In the survey of boaters, large majorities of boaters indicated needs for increased law enforcement and education, as well as for additions and improvements to boating facilities. These included access, launch ramps, parking at launch ramps, and improved docks, restrooms, fish cleaning stations, and other features currently in disrepair. Boating services providers expressed concern about a lack of resources for boater safety, access, launch ramps and facilities, law enforcement, and education.

2. BOATING SAFETY

Among providers, boater safety was the top rated program or service, as well as being the top area in which providers would like to direct more time and money. Boaters also expressed safety concerns, particularly some types of boaters, such as paddlers, those using sailboats, and those using hand-powered craft other than canoes and kayaks. Some of boaters' concerns about safety manifested themselves as concerns about crowding at launch sites (an issue exacerbated by unsafe boaters) and particularly concerns about uneducated boaters. Note that boating safety is high on the list of information that boaters are interested.

3. ACCESS

Providers and boaters alike consider access to be one of the central needs affecting recreational boating in Washington. Access was commonly mentioned by boaters as a constraint to their participation or as something that took away from their boating satisfaction, and it was the top item towards which they want more time and money directed. The most important issue related to access is the need for additional or improved boat launches: about three-quarters of boaters who indicated that access issues had taken away from their boating satisfaction cited boat launch ramps as the specific reason. Similarly, majorities of boating providers indicated that more time and money should be directed toward public access, including the development of new boat launch ramps and the management of existing boat launch ramps. Over two-thirds of providers said they would like to see more boat launch ramps in their areas in Washington.

The data suggest that boaters are generally satisfied with the *location* of existing boat launches, with three-quarters indicating being satisfied with the location of launch ramps in the counties in which they boat most often. Similarly, boater frustration with crowding on the water is not nearly as pervasive an issue as frustration with crowding at boat launch ramps: about 1 in 4 boaters consider crowding *at boat launch ramps* to be a major problem, compared with just 1 in 10 boaters who consider crowding *on the water* to be a major problem. At the same time, boaters gave relatively low mean ratings to Washington's management of existing boat launch ramps and the development of new boat launch ramps, suggesting that efforts to improve access at launches have not been wholly adequate.

Exacerbating the issue of overcrowding at launch ramps is a growing need for improvements to parking at launch ramps and access sites (essentially a second aspect of overcrowding). The survey results indicate that inadequate parking is recognized by both providers and boaters as being a major deterrent to boating in Washington: almost three-quarters of providers and about half of boaters would like to see more parking at boat launch ramps.

4. LAUNCHES AND FACILITIES UPKEEP

The improvement of access is by far the most pressing need for Washington boaters. Overall, boaters named access as the most important program or service that the state provides, although not necessarily new access. The data reflect that both providers and boaters feel strongly that the maintenance of *existing* access sites and launch ramps is as important a concern as the development of *new* sites and launch ramps; indeed, management of existing ramps ranked ahead of the development of new launch ramps in the importance ratings in the surveys of both providers as well as boaters.

Upkeep and maintenance extend beyond improvements to the launch ramps themselves. In the survey, many boaters indicated that restrooms at boat launch ramps and parking at launch ramps are in poor condition, while the top facilities and services cited by providers as being in poor condition in their areas were parking at launch ramps, fishing cleaning stations, restrooms at launch ramps, mooring buoys, pumpout stations, and dump stations. Among the facilities and services boaters would like to see improved in the areas in which they most often boat, launch ramps top the list, followed by restrooms at launch ramps, mooring buoys or docks, and daytime parking areas.

5. LAUNCHES AND FACILITIES DEVELOPMENT

Whether the needs are satisfied by adding to existing access sites or developing new ones, there are numerous facilities and services that both boaters and providers would like to see more of in their respective areas. Parking at launch ramps and launch ramps themselves were the top items providers would like to see more of, followed by docks, pumpout stations, restrooms at launch ramps, courtesy tie-ups, dump stations, mooring buoys, and campsites—each item with a majority of providers saying that more are needed.

Among boaters, their top perceived needs are boat launch ramps (nearly half said this answer, by far the top need), mooring and docks, and restrooms at launch ramps. Furthermore, parking at launch ramps and launch ramps themselves are the top facilities and services boaters would like to see more of in the counties in which they most often boat; following these, boaters would like to see more courtesy tie-ups, restrooms at boat launch ramps, docks, and campsites—each item with at least half of boaters saying more are needed.

6. AGENCY ADMINISTRATION AND COORDINATION OF BOATING IN WASHINGTON

In Washington, there are multiple entities administering various aspects of boating programs and services, and there is a *perception* of some fragmentation of services. Certainly, the study found that the coordination among the agencies involved was seen as a problem among many boating stakeholders—both agency personnel and boating service providers. The assessment results suggest that greater levels of coordination and communication are necessary among the entities providing boating services and programs in Washington—perhaps a multi-agency administrative body. For instance, there was discussion in the provider focus groups about the need to consolidate boating programs and to establish consistency in the delegation of responsibilities. It was also acknowledged that the administration of boater safety in the field (patrols, safety and PFD checks, the enforcement of laws and regulations, etc.) was frequently spread over a number of entities that are not always in adequate communication with one another.

It may be that this requires changes to the actual way that some boating services are provided, or it may be that better communication among agency personnel and better communication to providers and boaters would adequately address the problem. Nonetheless, because there was feelings among some boaters and many boating services providers that a single agency is needed, it may be that Washington's boating programs could be better served if a multi-agency coordinating body were established consisting of all agencies involved in administering and providing boating services. A coordinating body, if it helps improve the delivery of services, could become a permanent part of the structure of the administration of boating services in

Washington. If, however, coordination problems persist, the suggestion of many boating stakeholders that a "State of Washington Department of Boating" be created could be explored.

7. INCREASE LAW ENFORCEMENT PRESENCE AND ENSURE THAT ALL LAW ENFORCEMENT OFFICERS RECEIVE STANDARDIZED TRAINING

While boater safety and law enforcement had high ratings of importance among providers (with safety being ranked consistently as the top area for importance), majorities of boating providers indicated that more time and money should be directed to boater safety and law enforcement. Further, the majority of all providers would like to see an increase in the law enforcement presence on Washington's waters. Also, among boaters who consider boating programs and services in Washington to be ineffective, the top reason cited was insufficient law enforcement presence on the water.

Many providers expressed the need for coordinated and consistent training programs in order to maintain a knowledgeable staff equipped to respond to an array of enforcement issues. Invasive species education was cited as an example of specialized training that all enforcement personnel ought to receive, reinforcing many providers' feelings that there should be basic and consistent standardized training for enforcement officers throughout Washington.

8. INFORMATION AND EDUCATION PROGRAMS

In general, the development of boating information and education programs should be treated as an ongoing process of providing boaters beneficial information, with mandatory boater safety education serving as the beginning. More than half of providers indicated that more time and money should be spent on the provision of information and publications.

By all accounts, the State Parks and Recreation Commission effectively manages the production of informational materials related to boating. However, multiple agencies are involved in the actual dissemination of boating information. For this reason, it is recommended that boating information be made available at various points in the field, including through contact with enforcement personnel. There were two recurring suggestions in the focus groups for a more efficient delivery of boating information: a centralized website, coordinated by State Parks and/or the Washington Department of Fish and Wildlife, with frequent updates and the ability for agencies to add or edit information as necessary; and a greater amount of boating information and publications made available at the sites of recreation, such as at boat ramps and marinas on the water.

Safety information, in particular, should be made available in a variety of formats, including pamphlets and handouts (kiosks were cited as a potentially effective method of providing boaters with information—many providers noted that the need for information among boaters is greatest in the field, and not in a classroom). Agency-sponsored campaigns may target the most important issues in terms of boater needs; the assessment indicated that boaters are most interested in receiving information on ramps and marinas, maps and charts, general safety, boating rules and regulations, fishing, wildlife, and boating programs in Washington—each item with at least a quarter of boaters saying they are interested in such information.

9. RCO GRANT PROCESS

It is recommended that the RCO use the results of the full study to set priorities for the Boating Facilities Program and Boating Activities Program. The information in the full report of this study—particularly the data on improvement priorities and the preferred locations for service additions—is available to assist the RCO in its decision-making and its review of proposals.

There is a problem in that boating services providers do not always understand that the RCO is constrained by state law from using capital funds for maintenance. This results in the oversimplified belief among providers that the RCO will not fund a grant project designed to perform maintenance, upkeep, or other improvements to *existing* access sites and launch ramps, only for *new* facilities.

Additionally, many boating providers indicated being uncertain about the RCO's proposal requirements, with some remarking on the complexity of the grant application process. The larger issue may be that these perceptions represent fundamental gaps in sufficient knowledge of the RCO's grant program. To address some of these concerns, the RCO may wish to consider issuing Requests for Proposals for grant projects in order to better outline the Office's objectives and to more efficiently publicize project needs identified in this assessment.

10. ENVIRONMENTAL ISSUES

In general, boating providers show a greater concern for environmental issues in Washington than do the boaters themselves. This, however, should not detract from the importance of educating both enforcement personnel and boaters on environmental issues before the onset of a crisis. As previously mentioned, agency responsibilities regarding issues such as invasive species are sometimes vague, often because multiple steps are required to sufficiently address the issue: the prevention of invasive species depends on both an enforcement and an educational component. Water quality, technically listed as a responsibility of the Department of Ecology, was a major concern among all providers. In particular, providers voiced concern about the potential for boaters to be sources of pollution, such as through fuel spillage, the use of copper bottom painted boats, or by spreading contamination from pumpout and dump stations.

The data suggest that agencies directly involved in environmental education and information dissemination may wish to increase information and education efforts focusing on the environmental impacts of boating, including ways for boaters to mitigate their environmental impacts—including invasive species. Issues of particular importance may be evaluated through a communications plan that could also address methods for informing boaters on the issues. If possible, a component for enforcement personnel and marina operators could be included.

WDFW Final Wildlife Area Management Plans

Blue Mountain
Updates: 2009 | 2007
Includes: Asotin, Chief Joseph & Wooten Wildlife Areas

Chelan
Updates: 2009 | 2008 | 2007

Chiliwist
Updates: 2009 | 2008 | 2007

Colockum
Updates: 2009 | 2008 | 2007

Columbia Basin
Updates: 2009 | 2007

Cowlitz
Updates: 2009 | 2008 | 2007

Driscoll Island
Updates: 2009 | 2008 | 2007

Klickitat
Updates: 2009 | 2007

Leclerc Creek
Updates: 2009 | 2008 | 2007

Methow
Updates: 2009 | 2008 | 2007

Mt. St. Helens
Updates: 2009 | 2008 | 2007

Oak Creek
Updates: 2007

Olympic|Willapa Hills
Updates: 2009 | 2008 | 2007
Includes: Chehalis, Johns River & Olympic Wildlife Areas

Sagebrush Flat
Updates: 2009 | 2008 | 2007

Scotch Creek
Updates: 2009 | 2008 | 2007

Sherman Creek
Updates: 2009 | 2008 | 2007

Shillapoo
Updates: 2009 | 2008 | 2007

Sinlahekin
Updates: 2009 | 2008 | 2007

Skagit
Updates: 2009 | 2008 | 2007

Snoqualmie
Updates: 2009 | 2008 | 2007

South Puget Sound
Updates: 2009 | 2008 | 2007
Includes: Scatter Creek Wildlife Area

Sunnyside/Snake River
Updates: 2009 | 2007

Swanson Lakes
Updates: 2009 | 2008 | 2007

Wells
Updates: 2009 | 2008 | 2007

Whatcom
Updates: 2009 | 2008

Draft Management Plans

- **L.T. Murray**
- **Wenas**
- **North Olympic**

Wildlife Program 2010 Capital Projects

Major Project Title	CPAS #	Project Title	Region	Division	Author	Proposal Submitted	Wildlife Note book	11-13	13-15	15-17	17-19	HQ Priority	WDFW Strategic Plan	Wildlife Area Plan	Species Recovery Plan	Other Plan i.e., Boating Plan, etc.	Recreation	Comments
Major Works	09-241	Mitigation and Dedicated Funds (Blanket Request) (Authority)	Statewide	Lands	Dan Budd	Yes	Yes	x	x	x	x							
Major Works	09-010	Migratory Waterfowl Habitat Enhancement and Acquisition (Authority)	0	Game	Don Kraege	Yes	Yes	x	x	x	x		Goal 1, Objective B	Columbia Basin, Shillapoo, Skagit, Sunnyside, Whatcom		Duck Stamp and Artwork Program Expenditure Plan; Pacific Flyway Council Management Plans		Haven't solicited for them until the end of the year. Scoring completed May 2011.
	08-714	Mesa Lake Acquisition – Duck Stamp (Authority)	3	Lands	Dan Budd	Yes	Yes	x										
Major Works	09-225	Wildlife Area In-holdings 09-225 (Sinlahekin WA) Reg 2 10-053 (Mt. Saint Helens) Reg 5	Statewide	Lands	Dale Swedberg	Yes	Yes	x	x	x	x	1	Goal 1, Obj B; Goal 2, Obj A,					
Major Works	10-035	Mt. Saint Helens WA DOT Site Restoration (10-024)	5	Lands	Sandra Jonker	Yes	Yes	x	x			2						
Major Works	10-037	Leque Island Restoration	4	Lands	John Garrett	Yes	Yes	x				3	Goal #1 - Strategy 8, Goal #4 - Strategy 2b					
Major Works	10-116	Trust Land Transfer DNR Leased Fee Acquisition	Statewide	Lands	Dan Budd	Yes	Yes	x				4						
Major Works	09-285	Olson Saltwater Access Acquisition & Design (09-524)	6	Lands	Penny Warren	Yes	Yes	x				5	Goal 2, Obj A, Strategy 1a					
Major Works	09-285	Olson Saltwater Access Development	6	Lands	Penny Warren	Yes	Yes	x				5	Goal 2, Obj A, Strategy 1a					
Major Works	08-591	Stemilt Basin Acquisition	3	Lands	Dan Budd	Yes	Yes	x				6						
Major Works	09-007	Edmonds Public Fishing Pier Design	4	Lands	Kye Iris	Yes	Yes	x				7	Goal 2, Obj A, Strategy 1a			Habitat Conservation and Recreation Plan		
Major Works	09-007	Edmonds Public Fishing Pier Improvements	4	Lands	Kye Iris	Yes	Yes	x	x			7	Goal 2, Obj A, Strategy 1a			Habitat Conservation and Recreation Plan		
Major Works	09-525	Cascades Ecosystem Landscape Acquisition "Care of Washington's Wildlife Lands Working Forests Lands Initiative"	3	Lands	Jennifer Quan Dan Budd	Yes	Yes	x	x	x	x	8						
Major Works	07-127	Spring Lake Dam Renovation Design	1	Lands	Jon Lovrak Kevin Robinette	Yes	Yes	x	x			9	Goal 1, Obj A, Strategy 8	Blue Mountains WLA Complex Plan				
Major Works	07-128	Rainbow Lake Dam Renovation Design	1	Lands	Jon Lovrak Kevin Robinette	Yes	Yes	x				10	Goal 1, Obj A, Strategy 8	Blue Mountains WLA Complex Plan				
Major Works	07-133	Tucannon Powerline Safety Upgrade Partnership	1	Lands	Kevin Robinette	Yes	Yes	x				11	Goal 1, Obj A, Strategy 8	Blue Mountains WLA Complex Plan				Bond Money
Major Works	07-127	Spring Lake Dam Renovation Development	1	Lands	Jon Lovrak Kevin Robinette	Yes	Yes	x				12	Goal 1, Obj A, Strategy 8	Blue Mountains WLA Complex Plan				
Major Works	07-128	Rainbow Lake Dam Renovation Development	1	Lands	Jon Lovrak Kevin Robinette	Yes	Yes	x				13	Goal 1, Obj A, Strategy 8	Blue Mountains WLA Complex Plan				
Major Works	09-261	McDonald Road Access Dike Setback and Riparian Restoration	1	Lands	Kevin Robinette	Yes	Yes	x				14						
Major Works	09-334	Deep River Design & Development	5	Lands	Chuck Leidy	Yes	Yes	x	x			15						
MW Access Area Preservation	09-005	Access Toilet Replacements (Blanket Request)	Statewide	Lands	Penny Warren Brian Trickel	Yes	Yes	x	x	x	x	1						
MW Access Area Preservation	09-006	Access Boat Ramps & Piers (Blanket Request)	Statewide	Lands	Penny Warren Brian Trickel	Yes	Yes	x	x	x	x	2						
MW Access Area Preservation	10-045	Access Parking & Gates	Statewide	Lands	Penny Warren Brian Trickel	Yes	Yes	x	x	x	x	3						
MW Access Area Preservation	09-367	Cooperative Road Management Projects - Public Access	Statewide	Game	Dave Ware	Yes	Yes	x	x	x	x	4						

MW Access Area Preservation	09-183	Koopmans Parking Access Development	6	Lands	Jim Gerchak	Yes	Yes	x	x			5		Olympic-Willapa Hills Wildlife Area Plan - Chapter 3/Update Strategy			
MW Access Area Preservation	10-013	Sinlahekin WA Forde Lake Access Road Repair Flood Damage	2	Lands	Dale Swedberg	Yes	Yes	x				6	Goal 2, Obj A,				
MW Access Area Preservation	09-071	Snoqualmie WA Ebey Island Parking Access Development	4	Lands	Russ Link	Yes	Yes	x				7		Recreation goal pg 56 Strategy 3			
MW Access Area Preservation	10-014	Sinlahekin WA Conners Lake Access Road-Spillway Repair Flood Damage	2	Lands	Dale Swedberg	Yes	Yes	x				8	Goal 2, Obj A,				
MW Access Area Preservation	10-010	Sinlahekin WA - Sinlahekin Creek Campground Access Road Repair Flood Damage	2	Lands	Dale Swedberg	Yes	Yes	x				9	Goal 1, Obj B; Goal 2, Obj A,				
MW Access Area Preservation	09-234	Driscoll - Eyhott Island Access	2	Lands	Dale Swedberg	Yes	Yes	x				10	Goal 1, Obj B; Goal 2, Obj A,				
	09-065	**Mt. St. Helens Erosion Control**	**5**	**Lands**	**Brian Calkins**	**Yes**	**Yes**										**Funded for 2010**
MW Access Area Preservation	09-233	Sinlahekin Trails Renovation	2	Lands	Dale Swedberg	Yes	Yes	x				11	Goal 2, Obj A, Strategy 1a,b				
MW Access Area Preservation	09-073	Willie O'Neil Spencer Island Dike Trails	4	Lands	Russ Link	Yes	Yes	x				12					
MW Access Programmatic	09-047	Methow WA - Renovate Boulder Creek and Chewuch River Campgrounds	2	Lands	Tom McCoy	Yes	Yes	x				1	Goal 2, Obj A, Strategy 1a,b				
MW Access Programmatic	09-072	Tennant Lake WA Restore Nooksack Lagoon Blind ADA Hunting Site	4	Lands	Richard Kessler	Yes	Yes	x				2					
MW Access Programmatic	09-228	Sinlahekin Recreational Access	2	Lands	Dale Swedberg	?	No	x				3	Goal 2, Obj A, Strategy 1a,b				
MW Dam and Dike	09-076	Skagit/Snohomish Dike Maintenance	4	Lands	Russ Link	Yes	Yes	x	x	x	x	1					
MW Dam and Dike	09-190	Chiliwist Irrigation Structures Renovation - Dam Removal	2	Lands	Dale Swedberg	Yes	Yes	x				2	Goal 1, Obj B; Goal 2, Obj A,				
MW Dam and Dike	10-040	Lake Terrell WA Dam Replacement	4	Lands	Richard Kessler	Yes	Yes	x				3					
MW Facility Preservation	09-470	Bob Oke Game Farm Brood Barn	5	Game	Mick Cope	Yes	Yes	x				1	Goal 2, Objective A			Bob Oke Game Farm Facility Plan	
MW Facility Preservation	08-032	WA Historical Structures Preservation and Relocation	Statewide	Lands	Laurie Vigue	Yes	Yes	x	x	x	x	2					
MW Facility Preservation	09-055	Heating/Cooling system at Methow WLA Headquarters, Winthrop	2	Lands	Tom McCoy	Yes	Yes	x				3	Goal 1, Obj B; Goal 2, Obj A,				
MW Facility Preservation	10-004	Sinlahekin WA Secure Fire Proof Chemical Storage Facility	2	Lands	Dale Swedberg	Yes	Yes	x				4	Goal 1, Obj B; Goal 2, Obj A,				
MW Facility Preservation	09-046	Methow HQ Electrical	2	Lands	Tom McCoy	Yes	Yes	x				5	Goal 1, Obj B; Goal 2, Obj A,				
MW Facility Preservation	09-180	Johns River WA - Rewire Shop/Replace Panel/Replace Garage Doors	6	Lands	Jim Gerchak	Yes	Yes	x				6					
MW Facility Preservation	10-038	Lake Terrell WA HQ Painting	4	Lands	Richard Kessler	Yes	Yes	x				7					
MW Facility Preservation	10-012	Sinlahekin WA HQ Heating/Cooling System	2	Lands	Dale Swedberg	Yes	Yes	x				8	Goal 1, Obj B; Goal 2, Obj A,				
MW Facility Preservation	09-181	Upgrade Heating Unit in the Residential Facility at Olympic - Willapa Hills WA - Wishkah	6	Lands	Jim Gerchak	Yes	Yes	x				9					
MW Facility Preservation	09-175	Replace Lights, Garage Doors, and Windows at the Olympic/Willapa WA Shop HQ	6	Lands	Jim Gerchak	Yes	Yes	x	x			10					
MW Facility Preservation	09-176	Sinlahekin Machine Shop Renovation	2	Lands	Dale Swedberg	Yes	Yes	x				11	Goal 1, Obj B; Goal 2, Obj A,				

MW Facility Preservation	10-011	Sinlahekin WA - Bunkhouse Renovation	2	Lands	Dale Swedberg	Yes	Yes	x				12	Goal 1, Obj B; Goal 2, Obj A,				
MW Facility Preservation	10-009	Sinlahekin WA HQ Basement & Office Renovation	2	Lands	Dale Swedberg	Yes	Yes	x				13	Goal 1, Obj B; Goal 2, Obj A,				
MW Facility Preservation	10-003	Sinlahekin WA Renovate Wildlife Viewing Blinds	2	Lands	Dale Swedberg	Yes	Yes	x				14	Goal 2, Obj A, Strategy 1a,b				
MW Facility Preservation	10-039	Tennant Lake WA Interpretive Center Improvements	4	Lands	Richard Kessler	Yes	Yes	x				15					
MW Fish Passage Barrier Corrections	09-526	Fish Passage & Screening (Blanket Request)	Statewide	Lands	Paul Dahmer & Habitat	Yes	Yes	x	x	x	x	1					
MW Health, Safety, and Code	10-050	Removal/Demolition of Hazerdous Structures	Statewide	Lands	Paul Dahmer	Yes	No	x	x	x	x	1					
MW Health, Safety, and Code	09-182	District 11 Office South Puget Sound WA ADA Access	6	Lands	Greg Schirato Michelle Tirhi	Yes	Yes	x				2					
MW Infrastructure Preservation	09-520	Road Renovation	State-wide	Lands	Steve Sherlock Paul Dahmer	Yes	Yes	x	x	x	x	1	G2, Obj A	Chapter 3 action strategies			Category Deleted
MW Infrastructure Preservation	09-064	Shillapoo North Unit Parking	5	Lands	Brian Calkins	Yes	Yes	x				2		Goal 1, Strategy A, Task 1 of the Shillapoo WA Management Plan (page 15)			
MW Infrastructure Preservation	09-471	Bob Oke Game Farm Net Pens	5	Game	Mick Cope	Yes	Yes	x	x	x	x	3	Goal 2, Objective A			Bob Oke Game Farm Facility Plan	
	10-529	Chiliwist WA Road Renovation	2	Lands	Dale Swedberg	Yes	Yes	x				4	G2, Obj A	Chapter 3 action strategies			
	10-530	Sinlahekin WA Road Renovation	2	Lands	Dale Swedberg	Yes	Yes	x				4	G2, Obj A	Chapter 3 action strategies			
	10-031	Colockum WA Road Renovation	3	Lands	Pete Lopushinsky	Yes	Yes	x				4	G2, Obj A	Chapter 3 action strategies			
MW Infrastructure Preservation	09-230	WA Irrigation Improvements 09-230 - Sinahekin WA Pump Sys. 10-008 - Sinlahekin WA HQ 09-054 - Methow WA HQ	Statewide	Lands	Dale Swedberg Tom McCoy	Yes	Yes	x				5	Goal 1, Obj B; Goal 2, Obj A,				
MW Infrastructure Preservation	09-069	Island Unit Tidegate & Water Control Replacement - Skagit WA	4	Lands	Russ Link	Yes	Yes	x				6		Enhance Habitat Goal pg 50 Strategy 3F			
MW Infrastructure Preservation	10-017	Scotch Creek WA Wetland Control Structure	2	Lands	Jim Olson	Yes	Yes	x				7	Goal 1, Obj B; Goal 2, Obj A,				
MW Infrastructure Preservation	09-002	Langsdorf Landing Re-development	5	Lands	Penny Warren	Yes	Yes	x	x			8	Goal 2, Objective A				
MW Infrastructure Preservation	09-059	Mt. St. Helens Wildlife Road Improvement	5	Lands	Brian Calkins	Yes	Yes	x				9	Related to Goal 1, Obj. A, Strategy 7c	Goal 4 of St. Helens WA Management Plan (page 18)			
MW Infrastructure Preservation	09-368	Equipment Parking Lake Terrell HQ	4	Lands	Richard Kessler	Yes	Yes	x	x			10					Partially completed -Enforcement installed security parking
MW Infrastructure Preservation	10-036	Skagit WA Headquarters Wiley Slough Boat Launch Rebuild	4	Lands	John Garrett	Yes	Yes	x				11		Recreation goal pg 56 Strategy 3C			
MW Infrastructure Preservation	10-054	Sinlahekin WA Machine Shop Bird Netting	2	Lands	Dale Swedberg	Yes	Yes	x				12					
MW Infrastructure Preservation	08-277	Driscoll Island Bridge - Permit only	2	Lands	Dale Swedberg	Yes	Yes	x				13	Goal 1, Obj B; Goal 2, Obj A,				
MW Infrastructure Preservation	10-521	Wild Horse Spring Redevelopment	3	Lands	Shana Winegeart	Coming		x	x								
MW Programmatic	10-029	Water Rights Asset Inventory and Pre-Design	Statewide	Lands	Terra Hegy	Yes	Yes	x	x	x	x	1					
MW Programmatic	10-513	Wenas Shooting Range	3	Lands	Ted Clausing	Yes	Yes	x	x			2					
MW Programmatic	09-167	Sign Replacement and Kiosks	Statewide	Lands	Brian Trickel Paul Dahmer	Yes	Yes	x	x	x	x	3	G2, Obj A, St1	Chapter 3 action strategies			

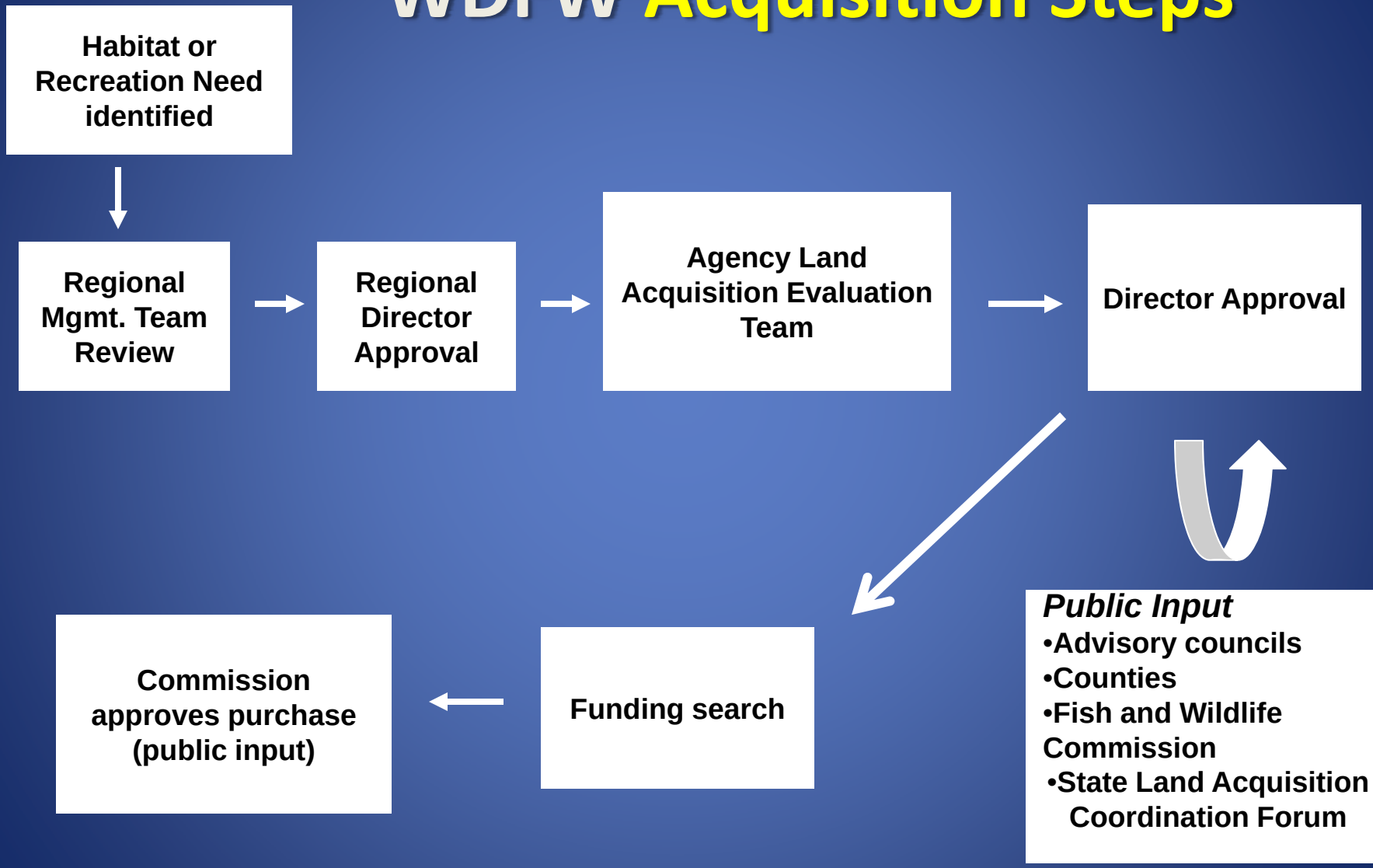
Wildlife Program 2010 Capital Projects

MW Programmatic	09-346	Ellensburg District Office Assessment & Design	3	Lands	Ted Clausing	Yes	Yes	x	x	x		4					
MW Programmatic	10-048	Necropsy Laboratory	6	Science	Steve Jeffries	Yes	Yes	x				5					
MW Programmatic	10-XXX	Watchable Wildlife Site Development 09-077 - Wiley Slough 09-062 - Shillapoo WA 09-232 - Sinlahekin WA	Statewide	Lands	Russ Link Brian Calkins Dale Swedberg	Yes	Yes	x	x			6	Goal 2, Obj A, Strategy 1a,b	Goal 1, Strategy A, Task 3 of the Shillapoo WA Manageement Plan (page 15)		Wiley Slough Collaborative Report	
MW Programmatic	10-021	Wells-Sagebrush Flat-Chelan WA Storage Building	2	Lands	Marc Hallet	Yes	Yes	x				7	Goal 1, Obj B; Goal 2, Obj A,				
MW Programmatic	09-070	Skagit Island Unit - Wetland Enhancements	4	Lands	Russ Link	Yes	Yes	x				8		Enhance Habitat Goal pg 50 Strategy 3F			
MW Programmatic	09-219	Skagit County Farmland and Recreation Partnership Program	4	Lands	Russ Link	Yes	Yes	x				9					
MW Programmatic	09-188	Morgan's Marsh Parking Area Development	6	Lands	Jim Gerchak	Yes	Yes	x	x			10					
MW Programmatic	10-007	Sinlahekin-Chiliwist-Driscoll Island WA Irrigation Pump House Construction (3)	2	Lands	Dale Swedberg	Yes	Yes	x				11	Goal 1, Obj B; Goal 2, Obj A,				
MW Programmatic	10-020	Chesaw WA Equipment & HazMat Storage	2	Lands	Jim Olson	Yes	Yes	x				12	Goal 1, Obj B; Goal 2, Obj A,				
MW Programmatic	10-043	Wooten Agricultural Storage Building	1	Lands	Kevin Robinette	Yes	Yes	x				13					
MW Programmatic	09-170	Colockum WA Headquarters	3	Lands	Pete Lopushinsky	Yes	Yes	x				14					
MW Programmatic	09-063	Shillapoo Storage Building	5	Lands	Brian Calkins	Yes	Yes	x	x			15		Goal 2, Strategy A of the Shillapoo WA Management Plan (page 17)			
MW Programmatic	10-016	Sinlahekin WA Double-wall Fuel Tanks for Diesel & Unleaded Gas	2	Lands	Dale Swedberg	Yes	Yes	x				16	Goal 1, Obj B; Goal 2, Obj A,				
MW Programmatic	09-056	Methow WA - Balky Hill Parking Area and Primitive Road Development	2	Lands	Tom McCoy	Yes	Yes	x					Goal 1, Obj B; Goal 2, Obj A,				
MW Programmatic	09-171	Wenas WLA Office BPA - 75% State - 25%	3	Lands	Cindi Confer/ Ted Clausing	Yes	Yes	x									
MW Programmatic	10-005	Sinlahekin WA Native Seed Storage Temp. Controlled	2	Lands	Dale Swedberg	Yes	Yes	x					Goal 1, Obj A, Strategy 8				
MW Programmatic	09-178	Willapa Hills WA Complex - Pole Building	6	Lands	Jim Gerchak	Yes	Yes	x									
MW Programmatic	10-027	Sunnyside/Snake River WA Windmill Ranch Unit New Shop Construction	3	Lands	Mike Keller	Yes	Yes	x									
MW Programmatic	10-034	Oak Creek WA Shop Construction	3	Lands	Ross Huffman	Yes	Yes	x									
MW Programmatic	10-032	Wenas WA Shop Construction	3	Lands	Cindi Confer	Yes	Yes	x									
MW Programmatic	09-074	Skagit-Snoqualmie Wildlife Area - Storage & Office Building	4	Lands	Russ Link	Yes	Yes	x						Sound Operation goal pg 61 Strategy 1F			
MW Programmatic	09-158	Ebey Island Wetland Restoration & Enhancement Feasibility	4	Lands	Russ Link	Yes	Yes	x									
MW Programmatic	10-049	South Puget Sound WA Boat Storage	6	Science	Steve Jeffries	Yes	Yes	x									
MW Programmatic	10-026	Beebe Springs Natural Interpretive Area - Phase IV	2	Lands	Ron Fox/ Dennis Beich	Yes	Yes	x					Goal 2, Obj A, Strategy 1a,b				Changed from Major Works, should be a $50,000 project per Dave B. (Low Priority)
MW Road Maintenance and Abandonment Plan	09-354	Forest and Fish Road Upgrades - Technical Support/Design	Statewide	Lands	Paul Dahmer	Yes	Yes	x	x	x	x	1	G1, Obj A, St1,3a,8	Chapter 3 action strategies		Several RMAP, Table A	
MW Road Maintenance and Abandonment Plan	09-514	RMAP (Blanket Request)	Statewide	Lands	Paul Dahmer	Yes	Yes	x	x	x	x	2					

Wildlife Program 2010 Capital Projects

MW Statewide Fencing	10-515	Boundary Fence (08-075; 07-177; 09-189) (Blanket Request)	2	Lands	Paul Dahmer	Yes	Yes	x				1		Chapter 3 action strategies			
MW Statewide Fencing	10-516	Deer & Elk Fencing (Blanket Request)	1	Game	Dave Ware	Yes	Yes	x				2					
MW Statewide Fencing	10-517	Elk Damage Resolution (09-349) (Blanket Request)	2	Game	Dave Ware	Yes	Yes	x				3					

WDFW Acquisition Steps



WDFW PROCEDURE: HABITAT ACQUISITION, RESTORATION AND RECREATION PROJECT DEVELOPMENT

RESPONSIBILITY	TIME	ACTION
ALL PROGRAMS coordinated by Wildlife Program-Lands Division	Ongoing	**1. ASSESS HABITAT ACQUISITION, RESTORATION AND RECREATION NEEDS** This should be an ongoing process for all agency programs. a. Compile information from existing species and habitat plans and recreation surveys and summarize needs for: 1) Fish and wildlife habitat acquisition, restoration, and enhancement. 2) Recreational Access - hunting, fishing, and viewing/education. b. Review Biodiversity Conservation Opportunity Framework and select priority conservation areas that need further survey to identify potential acquisition and restoration projects. c. Periodically conduct a fish & wildlife recreation survey to see how current recreational opportunities are distributed & where gaps or needs appear.
Lands & Diversity Division	Produce document & update every 6 years.	**2. DEVELOP OR UPDATE RCO GRANT ELIGIBILITY PLAN** See Recreation and Conservation Office requirement in Planning Policies Manual #2.
Lands Division	Biennial	**3. DEVELOP OR REVISE PROJECT RATING CRITERIA – This includes Lands 20/20 Matrix for habitat projects and Capitol Budget Criteria for development projects.** Get Executive Management Team approval.
Director & Lands Division	October odd years	**4. SOLICIT PROJECTS** Provide notice to all employees about project nomination process. Conduct training workshops at HQ & Regions as needed. Workshops will provide information on all acquisition grants and funding cycles. Present procedures, forms, application schedules, etc.

RESPONSIBILITY	TIME	ACTION
Any Employee	Ongoing	**5. NOMINATE ACQUISITION, RESTORATION AND DEVELOPMENT PROJECTS** This step can occur anywhere in process. Projects may be submitted by any employee through the Regional Director. Use the 20/20 Project Evaluation form for gathering site information.
Any Employee	November Odd years	**6. REGIONS REVIEW PROJECTS** Project nominations may be made anytime prior to the Jan. 1 deadline. All nominations including those that originate in Olympia should be coordinated with Regions. Land evaluation forms should be sent to Regional Program Managers to evaluate.
Regional Director	December Odd years	**7. REGIONS FORWARD PROJECTS TO LANDS DIVISION IN OLYMPIA** Regions should identify the top projects based on evaluation criteria. Also send the complete project list and forms (including rejects) to Olympia for tracking ongoing needs.
Project Sponsor	December Odd years	**8. CROSS-PROGRAM PROJECT EVALUATION** Present projects to the cross-program evaluation team. The team uses criteria, scores projects, & provides written critique to presenter. The result is a ranked statewide project list by grant category. Engineering Division also evaluates development projects.
GIS Staff	January Even years	**9. GIS BEGINS DEVELOPING PROJECT MAPS**
Executive Management Team	January Even years	**10. ADMINISTRATION APPROVES PROJECTS** Present ranked list to EMT with recommendation for approval.
Regional Director	January Even years	**11. REGIONS CONTACT LOCAL GOVERNMENTS**
RCO	February Even years	**12. STATE LANDS COORDINATION FORUM** Public review of all state agencies proposed land acquisition projects for upcoming biennium.

RESPONSIBILITY	TIME	ACTION
Commission	Early March Even years	**13. COMMISSION REVIEWS HABITAT ACQUISITION PROJECT LIST & ACCEPTS PUBLIC COMMENT** Present acquisition project list to Commission for review.
Lands Division	March 10 Even years	**14. SUBMIT LETTER OF INTENT TO RCO WITH PROJECTS LIST**
Regional Lands Agent (RLA)	March-June Even years	**15. CONTACT LANDOWNER TO OBTAIN WILLING SELLER LETTER IF POSSIBLE**
Project Sponsor	By April 15 Even years	**16. SUBMIT INFORMATION FOR RCO PROJECT APPLICATION TO LANDS DIVISION** Land & resource programs cooperate on applications and/or presentations to funding sources. Develop full responses to RCO grant questionnaire.
Lands Division	May 1- WWRP Even years	**17. SUBMIT PRISM APPLICATION TO RCO** Check RCO grant applications for completeness. Other grant applications deadlines are dependent on funding source, e.g. CESCF Section 6, NAWCA, etc.
Project Sponsor	May Even Years	**18. PREPARE ANSWERS TO RCO EVALUATION QUESTIONS AND/OR EXPANDED PROJECT DESCRIPTION**
Project Sponsor	May-June Even years	**19. PREPARE PRESENTATION** Obtain maps, photographs and support letters.
Lands & Diversity Division	June 1 Even years	**20. RCO GRANT ELIGIBILITY PLAN DUE** Plan is good for 6 years but should be updated biennially.
Project Sponsor	Mid-June Even years	**21. ATTEND RCO TECHNICAL REVIEW** Optional presentation to receive constructive critique from RCO staff.

RESPONSIBILITY	TIME	ACTION
Project Sponsor	Mid-July Even years	**22. TECHNICAL COMPLETION DEADLINE** Final revisions to applications.
Project Sponsor	End July - August Even years	**23. RCO EVALUATION MEETINGS** Present projects to RCO panels for ranking.
RCO	Sept. - Oct. Even years	**24. RCO BOARD APPROVES PROJECT LIST AND FORWARDS TO OFM & GOVERNOR**
RCO	June Odd years	**25. LEGISLATURE APPROVES PROJECT LIST AND FUNDING**
RCO	Sept. Odd years	**26. RCO AWARDS PROJECT CONTRACTS**

WDFW LAND TRANSACTION APPLICATION AND EVALUATION MATRIX
LANDS 20/20: A CLEAR VISION FOR THE FUTURE

OVERVIEW: It is time for the semi-annual Lands 20/20 project review. **Prior to applying for land acquisition grants, project proposals must first go through our Lands 20/20 evaluation process.** This process is designed to identify agency specific information needed to ensure Department acquisition projects are consistent with statewide acquisition policies, The Department's strategic plan and the Department's ability to manage new lands. Project types requiring Lands 20/20 review include fee title acquisitions, conservation easements and pass-through grants where we are working with partners who will receive funding through WDFW in 2010.

The Lands 20/20 review panel will meet in December to evaluate acquisition proposals for grants due in the spring of 2010. This includes (but is not limited to): *WWRP, Land & Water Conservation Fund, NAWCA, Duck Stamp/Artwork, DU Marsh Program, DU Donor Program, Rocky Mountain Elk Foundation,, ALEA, RCO Boating, Coastal & Estuarine Land Conservation*. The panel will determine which properties WDFW is interested in acquiring. This year, a WWRP focus group will further evaluate WWRP proposals for likelihood of successful funding.

Proposals must be submitted on or prior to November 20, 2009. Once you have all your information gathered, you can begin entering data onto the web-based form. You must complete the application in one sitting as there is not an option to save and return later to finish. When you complete the form, an automatic notice will inform your regional director that your proposal is ready for review. This new system will efficiently organize information in a spreadsheet format, reduce work loads and decrease paper use.

In addition, the project request form for certain RCO grants (State Lands Development, State Lands Restoration, and Boating Facilities) is also attached. Please submit State Lands Restoration grants to Paul Dahmer at paul.dahmer@dfw.wa.gov and State Lands Development grants to Stephen Sherlock at stephen.sherlock@dfw.wa.gov.

If you have questions, please contact Jennifer Quan by email at Jennifer.Quan@dfw.wa.gov or by phone at 360.902.2508.

WDFW LAND TRANSACTION EVALUATION MATRIX
LANDS 20/20: A CLEAR VISION FOR THE FUTURE
PROJECT APPLICATION

1. Project Identification and Location:

Project Title: _____

Original Date: _____ Update Date: _____

County: _____ Region: _____

Project Sponsor: (individual contact): _____

Department Program Sponsor: _____

Who will manage the property: _____

Wildlife area and unit name where the property will be assigned: _____

External Partners: _____

_____

Acquisition Location: Township: _____ Range: _____ Section: _____

Nearest Town: _____ Miles: _____ Direction from town to site: _____

Total Project Acres: _____

Estimated Cost and Source of Funds for Acquisition (include date when application due if outside grant funds) _____

_____

Include 1:24,000 scale map of proposal showing location of targeted property as well as location of nearest WDFW lands or other protected lands. If the project is phased, identify newly targeted parcels as well as recent acquisitions within original project boundaries.

Project Summary: Briefly (one paragraph) describe your project. Include overall landscape description, unique features, species benefits, acreage and costs.

2. Benefits to Fish and Wildlife: Fill in the following table for targeted species. Also provide a narrative describing taxonomic distinctness, local significance and/or importance as game species, habitat requirements of these species and quality of habitat at the site that satisfies those needs. Describe importance of this site in providing critical habitat or biological function for targeted species. Which species have the potential and likelihood to use the site in the future? Will reintroduction occur naturally or otherwise?

Common Name	**Scientific Name**	**Federal and/or State Status**	**Project Benefits; Life Stage Addressed**

3. Habitat Benefits: Describe the current land use and habitat characteristics of the land that would be targeted for acquisition. If multiple parcels, describe in general what the project target is. Include immediacy and type of threat to the site. Describe any unique or significant features. Indicate importance at landscape level (ie connectivity, migratory corridor, habitat function). Is more than 60% of the project site intact habitat? Indicate if and what extent of restoration will be necessary.

4. Biodiversity: Discuss species richness and complexity of habitats. Is the site a conservation priority in an ecoregional assessment?

5. Planning Integration: Describe in a paragraph how this acquisition is consistent with WDFW Strategic Plan, Lands 20/20, and any specific local, regional, statewide, national, or international wildlife plan.

6. Availability/Accessibility: Please describe the recreational opportunities, including hunting and/or fishing opportunity as well as wildlife viewing and/or other recreational opportunity.

7. Research and Education: Describe research and monitoring opportunities afforded by this site. Indicate environmental educational prospects.

8. Economics: Discuss the effect of this potential transaction on tribal and local government economics. Discuss how this transaction will contribute to local business.

9. Fiscal Accountability: Describe any potential for this acquisition project to generate revenue to defer the operations and maintenance costs associated with this property. Identify any liabilities.

10. Stewardship: Will the site require short-term and/or long-term maintenance? Include a monitoring plan. Explain the annual costs (including fixed costs, PILT, Assessments, etc) associated with managing this property and why they outweigh the alternatives to WDFW fee simple ownership. Clearly explain any costs that are not basic operations and maintenance. For example, explain if excessive weed issues exist, fences or roads need significant work, fish passage issues exist, hazardous waste cleanup etc. Indicate proximity to existing wildlife area or wildlife area unit, which would oversee maintenance and operations.

11. Partnership: Describe community and regional support or opposition for this project, including local legislative authority (county) with jurisdiction over the project area. Discuss support or opposition from immediate neighbors. Discuss collaboration with other entities.

12. Identify the most likely fund source(s) that can be used to purchase lands in this acquisition project and when (date of application if outside grant fund) and how the funds can be secured.

13. If this is not an RCO grant proposal, please indicate if additional Agency spending authority will be required.

_____	_____	_____	_____
Regional Director	Date	Assistant Director	Date

LANDS 20/20 Evaluation Criteria Score Sheet

DEPT.GOALS	DEPT.NEEDS	CRITERIA	SCORE
Benefits To Fish & Wildlife			**40 Points Possible**
	Species		/ 20
		Locally important/ecoregional assessment target species	
		Necessary for species persistence (irreplaceable?)	
		State or federal candidate, state sensitive, or federal species of concern:	
		State or federal threatened species targeted	
		State or federal endangered species targetted	
	Habitat	(Ecosystem Context)	/ 10
		Protects ecosystem processes and functions	
		Contributes to L\landscape integrity	
		Contributes to a migratory or connectivity corridor	
		Contributes to harvestable fish and wildlife populations	
		Risk to fish and wildlife value of property	2
	Biodiversity		/ 10
		Species richness	
		Complexity of habitats	
		Conservation priority in an ecoregional assessment	
		Benefits to Fish and Wildlife Subtotal	**/ 40**
Benefits To The Public			**40 Points Possible**
	Availability/ Accessibility		/ 25
		Hunting opportunity – unrestricted access	
		Hunting opportunity – restricted access	
		Fishing opportunity – unrestricted access	
		Fishing opportunity – restricted access	
		Wildlife viewing opportunity – unrestricted access	
		Wildlife viewing opportunity – restricted access	
		Other recreation opportunity – unrestricted access	
		Other recreation opportunity – restricted access	
		Risk to recreational value of property	
	Knowledge		/ 5
		Research and monitoring	
		Monitoring only	
		Environmental education - classroom	
		Environmental education - kiosk	
	Economics		/ 10
		Effect on tribes and local governments	
		Effect on local enterprise	
		Benefits to the Public Subtotal	**/ 40**
Operational Excellence			**20 Points Possible**
	Fiscal Accountability		/ 5
		Revenue generation – annual payments	
		Revenue generation – one-time payment	

DEPT.GOALS	DEPT.NEEDS	CRITERIA	SCORE
	Stewardship		/ 5
		Liabilities identified	
		Feasibility analysis (Cost & feasibility of necessary restoration, facility construction, etc.)	
		Management efficiency	
	Partnership		/ 10
		Outreach to community	
		Support from immediate neighbors	
		Collaboration with 2 or >2other entities	
		Collaboration with <2 other entities	
		Operational Excellence Subtotal	**/ 20**
		TOTAL SCORE	**/ 100**

Washington Department of FISH and WILDLIFE

CAPITAL PROJECT REQUEST FORM

Project Information

Project Title (including WA):			
Program: Wildlife Program	**Contact Name:**	**Contact Phone:**	
Region:	**Division:**		
Project Phase:	**Starting Fiscal Year:**		
Project Class:	**Programmatic ☐**	**Preservation ☐**	**Grant – Federal ☐** **Local ☐** **Pass Through ☐**
Historical Significance: Yes☐ Unknown ☐		**Growth Management Impact: Yes ☐ Unknown ☐**	
Regional Program Priority:		**Statewide Program Priority:**	

Agency Summary:

Project Scope:

What is the project?

Why is the project necessary? What problem will it solve? What are the anticipated results from the project?

What has been accomplished prior to this request (studies, right of ways, stakeholder buy in)?

What is the project timeline?

Are there any significant environmental permit requirements?

Is there special construction challenges?

Are there any special utility requirements?

Is this project linked to other Operating, Capital or Grant Projects?

How does this project support the Department's strategic plan?

Are there any impacts to other programs?

What other alternatives were considered before the preferred alternative was selected?

Please describe any growth management impacts?

If this is a federal or local grant, please list the grantor, expected begin and end date and the grant amount *(Please note the grant amount needs to include agency indirect, project management fee and contingency if applicable.)*

Project Justification:

Impact if not done?

What are the specific benefits of this project?

How will clients be affected and services change if this project is funded?

How will other state programs or units of government be affected if this project is funded?

Why is this the best option or alternative?

What is the agency's proposed funding strategy for the project?

Are there any operating budget impacts? Yes ☐, please explain; No ☐, please explain

Project Location

Address 1					
Address 2					
City		**County**		**Zip**	
Latitude		**Longitude**		**Leg District**	

Need Latitude/Longitude info: http://stevemorse.org/jcal/latlon.php **Leg District Info:** http://apps.leg.wa.gov/districtfinder

Washington Department of FISH and WILDLIFE

CAPITAL PROJECT REQUEST FORM INSTRUCTIONS

Project Information

Project Title: Name the project as follows: Location, Facility/Building, System, and Project Phase
e.g., Skookumchuck Hatchery Rearing Pond Drain System Construction
Asotin WA Hay Barn Construction

Project Phase: If the project is a multi-phase project input phase.

Starting Fiscal Year: The desired project starting date

Program: The program responsible for maintaining the facility

Project Class: Check the appropriate box

Historical Significance: Check yes if you know of any historical or cultural significance.

Growth Management Impact: Check as appropriate (for information regarding growth management act see http://www.gmhb.wa.gov/gma/)

Regional Program Priority and Statewide Program Priority: Enter number with the lowest number as the highest priority.

Agency Summary

Provide a brief description (25 words or less) of your project.

Project Scope

Please answer the questions with a lot of details, and include additional documentation (pictures, studies, or sketches) that helps tell the story.

Project Justification

Please answer all the questions completely. These questions are required to be answered by the Office Financial Management so please answer with as much detail as possible. Note: for the operating impact please describe the impact even if the answer is no.

Project Location

If the site does not have a documented address please fill out the latitude and longitude for the project. If the project is not owned by the agency, please enter the name of the owner and our relationship to the owner.

Questions

If you have questions, please contact:
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WASHINGTON STATE
Recreation and
Conservation Office

Project Funding By Program

Project #		Primary Sponsor	Project Name	Status	Mgr	This Program Amt	Other Program Amt	Sponsor Amt	Total Amt
Program:		***ALEA***							
10-1626	D	Fish & Wildlife Dept of	Beebe Springs Restoration/Access Ph 4	App Submit	Elizabeth	200,000		200,000	400,000
		ALEA Total:		**1**	**Projects**	200,000		200,000	400,000
Program:		***SALMON ST PROJ***							
10-1740	A	Fish & Wildlife Dept of	Grays Bay Saltmarsh Acquisition	App Submit		255,000		85,000	340,000
		SALMON ST PROJ Total:		**1**	**Projects**	255,000		85,000	340,000
Program:		***WWRP - CH***							
10-1134	A	Fish & Wildlife Dept of	Asotin Creek/Charley Fork Upland	App Submit	Elizabeth	1,800,000			1,800,000
10-1140	A	Fish & Wildlife Dept of	Big Bend Sharp-tailed Grouse	App Submit	Elizabeth	1,000,000			1,000,000
10-1142	A	Fish & Wildlife Dept of	Methow Watershed Phase 7	App Submit	Elizabeth	2,500,000			2,500,000
10-1145	A	Fish & Wildlife Dept of	Okanogan - Similkameen Phase 3	App Submit	Elizabeth	3,300,000			3,300,000
10-1150	A	Fish & Wildlife Dept of	Rattlesnake Mountain Phase 1	App Submit	Elizabeth	3,500,000			3,500,000
10-1272	A	Fish & Wildlife Dept of	Heart of Cascades Ph 2 - Bald Mtn/Rock Creek	App Submit	Elizabeth	2,510,000			2,510,000
10-1273	A	Fish & Wildlife Dept of	Cowiche Phase 5	App Submit	Elizabeth	500,000			500,000
10-1613	A	Fish & Wildlife Dept of	Mountain View Property Phase 1	App Submit	Elizabeth	3,000,000			3,000,000
		WWRP - CH Total:		**8**	**Projects**	18,110,000			18,110,000
Program:		***WWRP - RP***							
10-1136	A	Fish & Wildlife Dept of	Asotin Creek / Charley Fork Riparian	App Submit	Elizabeth	1,300,000			1,300,000
10-1141	A	Fish & Wildlife Dept of	Ephrata Lake	App Submit	Elizabeth	160,634			160,634
10-1149	A	Fish & Wildlife Dept of	Big Horn - Yakima River Canyon	App Submit	Elizabeth	3,000,000			3,000,000
10-1152	A	Fish & Wildlife Dept of	Grays Bay Estuary	App Submit	Elizabeth	450,000			450,000
10-1651	A	Fish & Wildlife Dept of	McLoughlin Falls 1	App Submit	Elizabeth	1,500,000			1,500,000
		WWRP - RP Total:		**5**	**Projects**	6,410,634			6,410,634
Program:		***WWRP - SLD***							
10-1190	D	Fish & Wildlife Dept of	Whatcom ADA Dock Replacement Phase 2	App Submit	Sarah	325,000			325,000
10-1363	D	Fish & Wildlife Dept of	Black Lake Fishing Dock	App Submit	Sarah	325,000			325,000
10-1406	D	Fish & Wildlife Dept of	Sprague Lake Fishing Platforms	App Submit	Sarah	325,000			325,000
10-1408	D	Fish & Wildlife Dept of	Oneida Boat Launch	App Submit	Sarah	325,000			325,000
10-1535	D	Fish & Wildlife Dept of	Tim's Pond ADA Fishing Access 2010	App Submit	Sarah	325,000			325,000
10-1536	D	Fish & Wildlife Dept of	Teanaway Junction River Access Improvements	App Submit	Sarah	322,000			322,000
10-1607	D	Fish & Wildlife Dept of	Koopmans Parking Facility and Access Improve	App Submit	Sarah	198,370			198,370

CRITERIA: Managing Agency - All; Board - Section - All; Fiscal Year - All; Fed Fiscal Year - All; Programs - All; Sponsor - Department of Fish and Wildlife (WDFW); Child org projects? Yes; Project Name - All; Project Type - All; Project Manager - All; Project Status - Application Submitted;

WASHINGTON STATE Recreation and Conservation Office

Project Funding By Program

Project #		Primary Sponsor	Project Name	Status	Mgr	This Program Amt	Other Program Amt	Sponsor Amt	Total Amt
Program:		***WWRP - SLD***							
10-1642	D	Fish & Wildlife Dept of	Beebe Springs Trail Phase 4	App Submit	Elizabeth	200,000			200,000
		WWRP - SLD Total:		**8**	**Projects**	2,345,370			2,345,370
Program:		***WWRP - SLR***							
10-1170	R	Fish & Wildlife Dept of	West Foster Creek Meadow Restoration	App Submit	Elizabeth	102,656			102,656
10-1352	R	Fish & Wildlife Dept of	Whiskey Dick Creek Restoration	App Submit	Elizabeth	150,000			150,000
10-1429	R	Fish & Wildlife Dept of	Cleman Mountain Understory Thinning	App Submit	Elizabeth	198,775			198,775
10-1440	R	Fish & Wildlife Dept of	S. Sound Prairie and Bald Restoration 2	App Submit	Elizabeth	360,950		20,000	380,950
10-1482	R	Fish & Wildlife Dept of	Oxbow Spoil Site Restoration	App Submit	Elizabeth	51,300		16,200	67,500
10-1573	R	Fish & Wildlife Dept of	Chesaw Timber Stand Improvement	App Submit	Elizabeth	170,000			170,000
10-1629	R	Fish & Wildlife Dept of	Sinlahekin Ecosystem Restoration - Ph II	App Submit	Elizabeth	175,000			175,000
10-1631	R	Fish & Wildlife Dept of	Methow Forest Rehab Project	App Submit	Elizabeth	539,960			539,960
10-1661	R	Fish & Wildlife Dept of	Lower Dungeness Restoration and Enhancemer	App Submit	Elizabeth	152,000			152,000
10-1679	R	Fish & Wildlife Dept of	Telford Road Shrub Steppe Grassland Restorati	App Submit	Elizabeth	98,000		27,000	125,000
10-1687	R	Fish & Wildlife Dept of	Willapa Bay Restoration Ph 2	App Submit	Elizabeth	124,000		20,000	144,000
		WWRP - SLR Total:		**11**	**Projects**	2,122,641		83,200	2,205,841
Program:		***WWRP - UW***							
10-1137	A	Fish & Wildlife Dept of	Mica Peak	App Submit	Elizabeth	2,300,000			2,300,000
10-1147	A	Fish & Wildlife Dept of	Amon Basin	App Submit	Elizabeth	2,000,000			2,000,000
10-1151	A	Fish & Wildlife Dept of	Ebey Island Acquisitions 2010	App Submit	Elizabeth	1,500,000			1,500,000
		WWRP - UW Total:		**3**	**Projects**	5,800,000			5,800,000
Program:		***WWRP - WA***							
10-1148	A	Fish & Wildlife Dept of	Badlands and Badland Lakes	App Submit	Sarah	1,000,000			1,000,000
		WWRP - WA Total:		**1**	**Projects**	1,000,000			1,000,000
		Grand Total:		**38**	**Projects**	36,243,645		368,200	36,611,845

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