DRAFT

Policy of Washington Department of Fish and Wildlife Concerning Wild Salmonids

Fish and Wildlife Commission meetings for public input:

1. The Mountaineers Building, Tahoma Room, 300 Third Avenue West, Seattle, 7:00 p.m., September 25, 1997.

2. Cavanaugh's at Yakima Center, Ballroom, 607 E. Yakima Avenue, Yakima, 10:00 a.m., September 27, 1997.

Note: Actual Commission consideration of adoption of the final Wild Salmonid Policy will occur later this year.

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Executive Summary - Policy Statements

1. Spawner Escapement Policy: Spawner abundance goals will be established for individual, separate breeding populations (stocks) in all areas that have existing or restorable habitat capacity to support naturally reproducing, self-sustaining stocks, with the intent to encourage local adaptation (high productivity) and maximize long-term surplus production that sustains harvest, recreational opportunities and other ecological benefits.

   Future fishery management, albeit complex and difficult, must be based on the needs of stocks. These are the basic building blocks that, in aggregate, constitute the state's salmonid resource. To do otherwise would perpetuate the opportunity for planned, deliberate overfishing.

2. Conserving Genetic Diversity Policy: Genetic diversity within and among stocks will be maintained or increased to encourage local adaptation and sustain long-term productivity. Conditions will be created that allow natural patterns of genetic diversity and local adaptation to occur and evolve.

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   Healthy populations of other indigenous species will be maintained within levels that sustain or promote abundant wild salmonid populations and their habitats.

4. Harvest Management Policy: The fisheries will be managed to meet the spawning escapement policy as well as genetic conservation and ecological interaction criteria.

5. Cultured Production/Hatcheries Policy: Use programs of stable, cost-effective artificial production to provide significant fishery benefits while maintaining the long-term productivity of naturally spawning salmon and their ecosystems.

   Protect, rehabilitate, and re-establish naturally spawning populations using integrated principles of genetic conservation, ecology, hatchery production, and fish management.

6. Habitat Protection and Management Policy: Maintain or increase the quality and quantity of habitat necessary to sustain and restore salmonid populations.

7. Basin Hydrology and In-stream Flow Policy: Maintain or restore the physical processes affecting natural basin hydrology. In addition, manage water use and allocation in a manner that would optimize in-stream flows for salmonid spawning, incubation, rearing, adult residency, and migration, that would address the need for channel-forming and maintenance flows, and that would address the impacts of water withdrawals on estuarine and marine habitats.

8. Water Quality and Sediment Quality, Delivery and Transport Policy: Provide for water and sediments of a quality that will support productive, harvestable, wild salmonid populations, unimpaired by toxic or deleterious effects of environmental pollutants.

Manage watersheds, stream channels, wetlands, and marine areas for natural rates of sediment erosion, deposition, and routing, to within the limits of salmonid life requirements.

9. Stream Channel Complexity Policy: Maintain or restore natural stream channel characteristics for channel sinuosity, gravel quality and quantity, in-stream cover, large woody debris (LWD), pool depth and frequency, bank stability, and side-channel, off-channel, and flood plain connectivity, and function.

10. Riparian Areas and Wetlands Policy: Functional riparian habitat and associated wetlands are protected and restored on all water bodies that support, or directly or indirectly impact, salmonids and their habitat.

11. Lakes and Reservoirs Policy: Maintain or restore lake and reservoir habitats that are conducive to wild salmonid passage, rearing, adult residency and spawning.

12. Marine Areas Policy: Provide nearshore marine, estuarine, and tidally influenced marine ecosystems that contain productive, balanced, integrated communities of organisms having species composition, abundance, diversity, structure, and organization comparable to that of natural ecosystems of the region.

    Ensure that functions and values of the following habitat types are maintained or increased: eelgrass habitats, herring spawning habitats, intertidal forage fish spawning habitats, intertidal wetlands, and safe and timely migratory pathways for salmonids in marine waters.

    Allow natural rates of erosion and transport of sediments, nutrients, and large woody debris that affect habitat quality in tidally influenced estuarine and marine shorelines.

13. Fish Access and Passage Policy: Provide and maintain safe and timely pathways to all useable wild salmonid habitat in fresh and marine waters, for salmonids at all life stages.

    Ensure salmonids are protected from injury or mortality from diversion into artificial channels or conduits (irrigation ditches, turbines, etc.).

    Ensure natural, partial or complete fish passage barriers are maintained where necessary, to maintain biodiversity among and within salmonid populations and other fish and wildlife.

14. Habitat Restoration Policy: Restore usable wild salmonid habitat to levels of natural variability for watershed processes and habitats.

Policy of Washington Department of Fish and Wildlife Concerning Wild Salmonids

Scope of Policy and Legal Authority

This Policy shall guide and direct Washington Department of Fish and Wildlife (the Department) on matters of salmonid population, including harvest management and hatchery operation, and matters affecting salmonid habitat. .It is issued by the Commission pursuant to authority under Titles 75 and 77 RCW, chapter 43.300 RCW, the State Environmental Policy Act (SEPA), and the Administrative Procedures Act (APA). It will be used to guide implementation of the above authorities and compliance with other existing law including federal law.

This Policy is adopted pursuant to, and is intended to be used consistent with existing law. This Policy shall guide the Department's implementation of existing statutes, regulations, and other legal responsibilities. If amendment of statute, regulation, court order, or applicable law is needed to implement this Policy, then this Policy is intended to guide the development of appropriate programs, projects, or rule changes that will achieve the goals and objectives of this Policy.

This Policy does not direct the actions of other state agencies, federal, tribal, or local governments, or any private parties. However, it is the goal of this Policy that it be considered and used by other public and private entities where appropriate. Furthermore, where WDFW or another agency adopts regulations that are in accordance with this policy, such regulations shall have the normal effect of law.

This Policy shall not be construed to grant, expand, create, or diminish any legally enforceable rights, substantive or procedural, not otherwise granted, created, or affected under existing law. Nothing in this Policy is intended to preempt or avoid SEPA, or the State Regulatory Fairness Act, or laws that would apply to the development of future projects, programs, or rules implementing this Policy. The Commission intends that this Policy use these processes whenever they are applicable to Department actions or rulemaking.

This Policy is not intended to alter, amend, or modify any Indian treaty rights created by federal authority or any court order that implements treaty rights to take fish. When this policy guides Department activities that affect (or may affect) treaty fishing rights, then the Department shall comply with all applicable court orders and processes, including but not limited to the 1989 Centennial Accord with Washington Indian Tribes, so that management decisions are made in cooperative manners with fair attempts to resolve or identify disputes over such management. Within this context, the Department shall use its authority to pursue the Policy stated herein and shall pursue cooperative management decisions with the tribal governments that are consistent with the spirit and purpose of this Policy. It is the intention of the Commission that its Policy guidance to the Department remain subject to further government to government negotiation with the Tribes so that the Tribes and the Department may, within their respective interests and powers, seek joint policies and coordinated actions that protect wild salmonids.

Implementation of this Policy is subject to the availability of resources and appropriations. Where resources and funding affects implementation of this Policy, the Commission may provide additional direction or policy to prioritize use of limited resources.

This Policy shall not be construed to supersede, amend, or otherwise modify or affect the implementation of existing agreements, contracts, or consent decrees. However, the Department may be guided by this plan and seek modification of agreements, contracts, or decrees by negotiation, agreement, or other appropriate means so that the Department brings its future actions into the spirit and guidance of this Policy.

Goal of the Wild Salmonid Policy

The goal of this Wild Salmonid Policy is to protect, restore, and enhance the productivity, production, and diversity of wild salmonids and their ecosystems to sustain ceremonial, subsistence, commercial, and recreational fisheries, non-consumptive fish benefits, and other related cultural and ecological values.

Fish Population Management

Spawning Escapement Policy

1. Policy Statement

Spawner abundance goals will be established for individual, separate breeding populations (stocks) in all areas that have existing or restorable habitat capacity to support naturally reproducing, self-sustaining stocks, with the intent to encourage local adaptation (high productivity) and maximize long-term surplus production that sustains harvest, recreational opportunities and other ecological benefits.

Future fishery management, albeit complex and difficult, must be based on the needs of stocks. These are the basic building blocks that, in aggregate, constitute the state's salmonid resource. To do otherwise would perpetuate the opportunity for planned, deliberate overfishing.

Performance Standards

All salmonid populations will be managed to consistently achieve MSY escapements (or greater), thus the most critical element becomes the future spawning escapement policy. It is derived from actual approaches used in the past by managers that have consistently put adequate numbers of viable wild fish on the spawning grounds. The spawning escapement policy described is based upon the successful case histories where managers have fully accounted for uncertainties by being conservative in both the spawning escapement goal itself and in subsequent fishery management planning.

1. The actual work for salmon and steelhead will be anchored in the scientific concept of MSY. The best possible data come from long time series of accurate spawner and recruit statistics for each population. In other words, the ideal situation is where the fish themselves tell you their precise relationship with no requirement for assumptions. In reality, two adjustments are essential for correct application. There will be varying degrees of uncertainty associated with each spawner-recruit relationship. This level of risk to the resource must be quantified and added to the point estimate of MSY. Alternatively, the managers can change to a different, more conservative fishing strategy. This could be a different methodology for establishing a basic escapement requirement (e.g., historical production or habitat availability) or an accommodation for emerging scientific evidence of broader ecosystem benefits. In addition, a second risk adjustment must be made for expected level of harvest management precision. The desired end result for each population is fully adequate (or greater) numbers of viable wild fish actually being delivered to the spawning grounds on a consistent basis.

15. For other resident and anadromous trout and char, managers will employ wild fish release and other approaches that can maintain high abundance. In general, the escapement approach for wild managed populations is contained in *A Basic Fishery Management Strategy for Resident and Anadromous Trout in the Stream Habitats of the State of Washington* adopted in 1986.

16. Only fish whose parents spawned in the wild will be counted towards meeting the spawner abundance goals, except in cases where a formal supplementation program has been established under the guidelines outlined in the Cultured Production/Hatcheries element.

    Exceptions to the policy can be considered with respect to counting locally-adapted hatchery-origin fish toward meeting natural spawning escapement objectives. These can be considered based on empirical demonstrations that hatchery fish spawning in the wild had the same short- and long-term reproductive performance as wild fish as measured by:
    a. distribution throughout the watershed area normally used by the wild population;
    b. matching the genetic profile, size, age and run timing characteristics developed by the wild population in its evolutionary history; and
    c. yielding progeny with survival rates and population dynamics comparable to the wild population.

    Note: These characteristics are critical for populations limited primarily by spawning habitat as well as for populations with extended juvenile freshwater rearing that depend upon downstream dispersal of fry to seed available habitats. Very little evidence currently exists that the above criteria can be routinely met and form the basis for a broad production and management strategy.

17. Under this standard it will not be necessary to physically measure spawner abundance for each and every stock, though every stock will need to be covered by the inventory process. Index stocks that are typical of stocks within an area may be used to estimate abundance for the entire area. Surrogate measures such as standing stocks, random samples, stock composition or other measures may be substituted for actual measures of spawners. Evidence of the utility of such surrogates will need to be established for their use.

18. If spawner abundance goals are not achieved for three consecutive years, or if the five-year moving average of spawner abundance falls below 80% of the goal, a management assessment will be completed within six months to determine the cause(s). Appropriate actions will be designed and implemented to return spawning levels to at or above the goal. Actions will include any necessary measures to ensure compliance.

Conserving Genetic Diversity

2. Policy Statement

Genetic diversity within and among stocks will be maintained or increased to encourage local adaptation and sustain long-term productivity. Conditions will be created that allow natural patterns of genetic diversity and local adaptation to occur and evolve.

Performance Standards

General requirements for genetic conservation in this element call for:

1. No stocks will go extinct as a result of human impacts, except in the unique circumstance where exotic species or stocks may be removed as part of a specific genetic or ecological conservation plan.

2. The biological characteristics and structure within and among populations, as monitored by such things as spawning and rearing distribution, life history traits, habitat associations and genetic traits and differences, will not change as a result of human influences.

3. The number and distribution of locally adapted populations will expand as a result of such management actions taken to: increase spawner abundance from previous wild generations, reduce numbers of hatchery strays, reduce genetic selection from fishing, and recoup access to lost spawning and rearing areas.

   In some areas, the number and distinction of separate locally adapted populations will decrease as a result of successful habitat rehabilitation efforts to restore and connect damaged habitat; in such cases the total abundance of the "new" spawning population in its habitat will increase.

4. Fishery selection for salmon will be avoided to insure that population characteristics such as adult size, timing and distribution of population migration and spawning, and age at maturity are the same between the fished and unfished portions of the population. This means that the population will not be changing over time as the result of harvest influences, and where changes have occurred in the past due to fishing pressure, the population should be changing back to a more natural pattern. For the remaining salmonids which have multiple spawning capabilities, the primary goal will be to prevent any significant shift to sexual maturity at a smaller size and/or age.

5. Habitat will be protected so that both the distribution and amount of habitat is sufficient to maintain local adaptation and genetic diversity. Genetic diversity will be measured both in terms of diversity at the level of gene composition and the maintenance of key life history characteristics. Key life history characteristics include such things as timing, age at maturity, upriver versus lower river distributions, how long an anadromous fish remains in freshwater, stream, river, and lake rearing characteristics of freshwater populations and other such characteristics that provide for local adaptations and diversity.

6. Sanctuaries, or refuges, will be established where populations can be protected from most of the effects of habitat, harvest and hatchery influences. It will not be possible to protect populations from all of these influences all the time, but it will be possible for some populations to be largely protected from many of these influences. These protected populations serve two important functions: (1) they provide a comparison for measuring the changes in unprotected populations so that we can see the impacts of our actions, and (2) are a source of fish if a neighboring population is changed too much to recover naturally.

Ecological Interactions

3. Policy Statement

Wild salmonid stocks will be maintained at levels that naturally sustain ecosystem processes and diverse indigenous species and their habitats.

Healthy populations of other indigenous species will be maintained within levels that sustain or promote abundant wild salmonid populations and their habitats.

Performance Standards

The standard for ecological interactions is "no significant negative impact." It is expected to be a risk adverse requirement. There will be flexibility in using hatchery program; these programs will be used where they have no significant negative impact on wild populations. There are four key parts to this:

1. Maintain diverse, abundant wild salmonid stocks at levels that naturally sustain ecosystem processes and diverse indigenous species and their habitats. This will primarily be done by meeting the spawning abundance goal.

2. Maintain healthy populations of indigenous species within levels that sustain or promote abundant wild salmonid populations and their habitats. A healthy, balanced ecosystem requires that all the parts be available in the right amounts. Where there is a lack of species it may be necessary to increase populations by providing the proper habitat characteristics.

   Alternatively, human caused changes to many ecosystems have created situations where there is an excess of predators. Healthy predator populations (e.g., marine mammals, birds, squawfish) may be controlled as necessary when they are an important factor in not achieving spawner abundance goals. This can only occur (1) as part of a comprehensive recovery plan addressing all aspects of salmonid survival; and (2) as long as the predator population remains abundant.

3. Hatchery or other enhancement programs shall avoid negative impacts due to predation or competition on the health and abundance of wild salmonid or other indigenous non-salmonid populations. All hatchery and other fish culture programs will follow specific ecological risk assessments and management plans to avoid adverse impacts on wild populations.

   Salmonids will not be introduced into areas where they did not historically exist, except where an ecological risk assessment determines there will be no negative impacts from the introductions.

   Salmonid populations that currently exist outside their historical range will be reviewed and evaluated to determine if they pose an unacceptable risk to indigenous species and ecosystems. If they do, then steps will be taken to remove the risk.

4. Control the numbers, varieties, and distribution of non-indigenous species or stocks that compete with, prey on, or parasitize salmonids and other indigenous species. Introductions of fish populations will be managed to avoid significant negative effects on diversity and productivity of native fish and wildlife populations, and in a way compatible with meeting other priority stewardship objectives for locally adapted populations. This policy requires an ecological risk assessment of the current distribution.

Harvest Management

4. Policy Statement

The fisheries will be managed to meet the spawning escapement policy as well as genetic conservation and ecological interaction criteria.

Performance Standards

1. Harvest management will be responsive to annual fluctuations in abundance of salmonids, and will be designed to meet any requirements for sharing of harvest opportunity.

2. The allowable incidental harvest impact will be 10% of the Washington stock abundance. This will allow opportunity to structure fishing opportunities on more abundant and productive stocks. This 10% allowance is a maximum and will be adjusted downward to zero depending on how far a stock is below its spawner abundance goal.

   This 10% limitation shall be computed in terms of adult equivalents and shall include all known sources of fishery-induced mortality. Precocious males, commonly called "jacks," shall be excluded from the calculation.

   Note: This standard only applies when a population is projected to return below the desired spawner abundance level.

3. Where a population is not meeting its desired spawner abundance level, a priority will be given to those fisheries that can minimize their impacts on weak stocks and increase their harvest on healthy stocks by: (1) using gears that can selectively capture and release stocks with minimal mortality, or (2) avoid impacts by eliminating encounters with weak populations (proven time/area closures, gear types). This must be done consistent with meeting treaty harvest opportunity needs.

Cultured Production/Hatcheries

5. Policy Statement

Use programs of stable, cost-effective artificial production to provide significant fishery benefits while maintaining the long-term productivity of naturally spawning salmon and their ecosystems.

Protect, rehabilitate, and re-establish naturally spawning populations using integrated principles of genetic conservation, ecology, hatchery production, and fish management.

Performance Standards

1. Meet criteria under genetic conservation and ecological interactions.

2. Meet criteria in *Salmonid Disease Control Policy of the Fisheries Co-Managers of Washington State.*

3. Each hatchery program will be based on a complete operational plan that describes the specific operational components, measures to control risk, monitoring and evaluation, and performance audits.

4. All hatchery-origin juvenile anadromous fish will be marked by removal of their adipose fins prior to release in state waters. Specific exemptions may be granted on a case-by-case basis for (1) broodstock development or maintenance, (2) difficult treaty Indian allocation problems that cannot be resolved by other methods, or (3) valid wild stock supplementation programs.

   Resident hatchery salmonids will be adipose marked (1) anytime they are planted in fluvial habitats; or (2) where there are significant wild populations in lakes and reservoirs.

5. Supplementation will be strictly limited to only where: (1) a stock is well below desired levels, (2) it cannot rebuild itself due to some cause other than overfishing, (3) it is being reintroduced to an area it formerly occupied, and (4) the risks of potential stock loss through extinction are greater than the genetic risks due to gene flow or the extinction risks due to the supplementation process itself. Supplementation will be primarily directed at efforts where the conditions causing the problem are being corrected so that the population will eventually become self-sustaining.

6. Gene banking will only be allowed where the natural environment cannot sustain a population, and until these factors can be corrected.

Habitat Protection and Restoration

The Wild Salmonid Policy addresses habitat protection and restoration because habitat is essential to wild salmonid protection. Habitat protection and restoration crosses agency and governmental lines and requires coordination at the fundamental level of determining habitat needs for salmonids. However, WDFW use of the Wild Salmonid Policy as it applies to habiat would be limited by WDFW's statutory authority. The measures and implementation strategies for habitat will be supported or encouraged by WDFW under the Wild Salmonid Policy, but implementation will require programs and projects by other governmental and private entities.

Habitat protection and restoration will occur primarily through locally-based watershed planning that will have the flexibility to adapt performance measures and action strategies to local conditions. State and local or federal regulatory authorities will not be relinquished during locally-based watershed planning, but these authorities shall be used in a manner that supports locally-based planning. Regulatory action can be taken wherever standards and requirements are not being met, and voluntary actions are either not being taken or are insufficient to achieve compliance. Statewide planning or rule-making will occur on a collaborative basis. For example, WDFW will participate in the Timber, Fish, and Wildlife process to develop a Forestry Module intended to address Endangered Species Act and Clean Water Act standards on state and private forest lands. A similar forum intended to address agriculture, fish, and wildlife issues could be established as well. WDFW would participate in this process.

Current Status

There are a myriad of laws and actions that affect habitat protection and restoration. Indeed, habitat protection and restoration has improved significantly over the last 20 years. Forest practices, for example, now employ "watershed analysis." This tool assesses salmonid habitat condition on state and private forest lands, determines the likely impact of proposed forest practices, and develops prescriptions designed to protect instream resources while allowing certain levels of forest practice activities. The Growth Management Act (GMA) couples land use and zoning with protection of critical areas including salmonid habitat. The GMA has brought some improvement in habitat protection. These are important steps and should continue. However, without continued modification and significant improvement of the state's habitat management programs, salmonid habitat will continue to decline in productive capacity, causing the loss of more wild salmonid populations.

Many government programs, regulations, and plans affect land use. These directly or indirectly protect salmonid habitat. There are also non-regulatory programs that provide technical assistance or financial assistance for stewardship practices. There is also a growing number of volunteer efforts to restore salmonid habitat.

These regulatory programs limit one or more aspect of the use of land or water. Any one project may be subject to a multitude of requirements from the listed programs. Some of the programs prescribe specific processes (e.g., SEPA, NEPA, GMA), others require specific permits, and some both (e.g., Shoreline Management Act). The permits frequently have different time requirements, sometimes even

contradictions, and getting required permits can last several years for major projects. There are no consistent, coordinated, statewide goals, performance measures, or action strategies.

Policy Intent

For habitat, the policy will provide a high degree of specificity and guidance about "what fish need". It includes performance measures that should be met in order to be successful. The action strategies in the Habitat Annex will be strongly encouraged. The policy will rely principally on locally-based planning efforts for specific implementation plans.

It will be the policy of the Fish and Wildlife Commission that:

1. Protection and restoration of wild salmonid habitat is the fundamental prerequisite to meeting the overall Wild Salmonid Policy goal. This will require identification and provision for the habitat needs of wild salmonids, identification of natural and human effects on habitat, and implementation of actions that will maintain or increase the quality and quantity of habitat necessary to sustain and restore salmonid populations.

2. Habitat protection and restoration will require a comprehensive watershed-based approach that will stress the continuum that extends throughout the watershed, its estuary, and near shore marine waters.

3. A balance of local implementation processes and state level regulation is essential to habitat protection and restoration. A state and local government regulatory framework shall remain in place. New, or revised, statutory or rule-making authority recommendations, if needed, should result from collaborative discussion by all interested parties and should include additional SEPA review. Local implementation processes for habitat protection and restoration must recognize tribal sovereignty in government-to-government interactions, be sensitive to the rights of citizens, and be accountable for protecting habitat.

4. Habitat goals, performance measures, and action strategies will apply to all salmonid habitat, regardless of land use and regardless of ownership.

5. Protection and restoration of salmonid habitat will also: (1) benefit other fish and wildlife resources, (2) protect valuable ecosystem features, such as flood plains and wetlands, (3) reduce flood damages and other community infrastructure costs, (4) facilitate groundwater recharge and help to prevent ground and surface water contamination, and (5) contribute to maintenance of a healthy economic climate across the state.

6. Once watershed assessments have been completed and limiting factors identified, agencies should encourage the development of local proposals for habitat preservation, protection and restoration. Upon receipt of such a proposal, the appropriate agency is encouraged to provide technical support, incentives or funding to remedy habitat problems identified in the assessments.

The policy strongly encourages local problem solving with state, local, and federal agencies, and tribes at the table. State agencies will provide technical support and will represent state's interests, but they will

also be at the table as partners, working collaboratively with local citizens to achieve Wild Salmonid Policy goals consistent with local needs and conditions. The habitat goals will be fairly rigid, but individual performance measures and action strategies within the habitat components can be revised or amended (or new ones can be added), again, consistent with local conditions.

Identification of the actual makeup and operating principles for watershed groups is beyond the scope of this policy. However, watershed groups should be diverse and be representative of all interests within the community. To the extent possible, existing watershed groups should be considered and included in any planning and implementation scenario.

The policy encourages, and builds on, numerous existing regulatory, proprietary, voluntary, and incentive or grant-based efforts such as the Growth Management Act, the WDFW Hydraulic Code, the Department of Natural Resources Habitat Conservation Plan, the Puget Sound Action Plan, Ecosystem Standards for State-owned Agricultural Lands, the Timber, Fish, and Wildlife Agreement (TFW), and recent improvements to the Forest Practices Act Rules and Regulations, individual landowner farm and forest plans, habitat restoration efforts, and water conservation measures, many developed through the State Conservation Commission. Further, programs such as Jobs for the Environment, and Regional Fisheries Enhancement Groups, have made significant contributions to fish habitat improvement and protection.

This brief list clearly does not provide credit for all the positive efforts we have collectively taken, but serves to acknowledge the intent of our citizens to support salmonid habitat protection and restoration. For example, the TFW "Forestry Module" is a cooperative effort by agencies, tribes, and citizens to develop an ESA and Clean Water Act strategy that includes all the habitat components in this policy as they relate to forest practices on state and private forest lands. WDFW is party to the TFW agreement and will defer to this process with the expectation that biological objectives for wild salmonids will be met.

It is important to note that maintenance of agricultural and forest lands is a key component of protection and restoration of wild salmonids. Implementation of the action strategies necessary to meet the following performance measures will require recognition and consideration of the need to maintain strong and vibrant economic conditions for forestry and agriculture over the long term. Providing technical assistance and other incentives to encourage landowners to continue in forestry and agriculture, should be an integral part of watershed plans and/or collaborative rule-making processes.

The exact methods and products that will be developed to implement the habitat components of the policy are beyond the scope of this programmatic FEIS document. It is anticipated that additional plans, actions, agreements, and/or regulations will be developed, in most cases in arenas outside the WDFW rule-making process. It is also expected that additional SEPA review will be done to address the specific environmental impacts of those implementation actions subject to SEPA. In any event, successful implementation of the policy will require close coordination and cooperation of agencies, tribes, and individual landowners.

It is important to recognize that habitat protection and restoration are critical to the survival, production, and utilization of both wild and hatchery salmonids. This is because hatchery fish require high quality water in sufficient supply for efficient on-station incubation and rearing, and because they rely on the same habitat conditions as wild fish once they are released to the wild. If we allow habitat quality to decline, most hatcheries and other fish rearing facilities will eventually fail. Therefore, we cannot rely on increases in hatchery fish production to maintain harvest levels.

Reductions in harvest levels alone cannot maintain wild salmonid populations. Merely reducing harvest does nothing to improve habitat conditions. Sound and sustainable salmonid management requires long-term habitat protection and restoration, from the spawning gravel, through the full range of rearing and adult residency habitats.

Habitat Policy Framework

The habitat policy is arranged along salmonid life history needs, and the physical processes and habitat types affecting them. It consists of nine components.

The Habitat Policy components are:

1. Habitat Protection and Management
2. Basin Hydrology and Instream Flow
3. Water and Sediment Quality and Sediment Transport
4. Stream Channel Complexity
5. Riparian Areas and Wetlands
6. Lakes
7. Marine Areas
8. Fish Passage and Access
9. Habitat Restoration

It is important to recognize the inter-relationships between these components. Inadequate attention to one or more habitat components can reduce, or eliminate, the benefit of achieving the performance measures of another. For example, riparian buffers and stream channel complexity will be of reduced value to wild salmonids if flows are inadequate, or fish access is denied. For anadromous salmonids, production gained from fresh water may be lost if nearshore marine conditions for feeding and migration are inadequate. Habitat quality is also related to spawner abundance. Freshwater productivity can be heavily influenced by returning adult salmon whose carcasses provide a source of marine-derived nutrients (nitrogen, phosphorus, and carbon) to the aquatic and riparian zone.

Habitat Protection and Management

Protection and restoration of wild salmonid habitat is the fundamental prerequisite to meeting the overall Wild Salmonid Policy goal. Failure to protect and restore habitat will severely constrain, or eliminate, our harvest management, hatchery, and genetic conservation options to utilize and protect wild salmonids. Fundamentally, protection of wild salmonid habitat is the most effective way to ensure preservation of the salmonid resource. However, given the current degraded state of much of our habitat base, restoration of that habitat is also integral to recovery of wild salmonid populations.

The WSP recognizes that society and individual landowners can manage their activities to avoid impacts on wild salmonid habitat (e.g., managing basin hydrology and instream flows to influence water quantity; protecting or restoring floodplains and wetlands to influence water quantity, water quality, and fish use). This section emphasizes the importance of partnerships, since no single organization or group has complete authority to protect and manage fish habitat - management responsibility is held by multiple agencies and

local governments (towns, cities, counties). Furthermore, most regulations are minimum standards and the overall level of protection afforded wild salmonids varies widely, from comprehensive, rigorous protection, to virtually none at all.

WDFW has limited regulatory authority to protect salmonid habitat. The State Hydraulic Code states that activities that use, divert, obstruct, or change the natural flow or bed of waters of the state must obtain approval from WDFW. WDFW also has authority over fish passage at in-stream structures and can require screening of water diversion intakes. However, these WDFW actions are usually reactive to land use patterns and/or do not fully address the cumulative effects of watershed activities that affect in-stream and marine habitat.

Protecting and restoring salmonid habitat requires recognition of the dynamic nature of the physical processes that influence habitat, and requires better-coordinated planning and regulatory efforts. It also requires complete and accurate inventory and assessment of existing, or potential, salmonid habitat, and land uses affecting that habitat.

Successful protection and restoration of wild salmonids and salmonid fisheries will require the participation of all levels of government and the Tribes. Under co-management, the State shares responsibility with the Tribes for managing fishery resources, usually through one or more of its agencies. Local governments and private interest groups have unique authorities and responsibilities that can affect salmonid habitat. All these groups should be brought into watershed planning processes. Further, the Governor has established a Natural Resources Cabinet that will help guide interactions with the Tribes at both the state and local levels. WDFW will be an active participant in the Natural Resources Cabinet as a vehicle to achieve wild salmonid protection.

6. Policy Statement

Maintain or increase the quality and quantity of habitat necessary to sustain and restore salmonid populations.

Performance Standards

The ultimate performance measure for habitat is a level of productivity and production that will sustain robust fisheries, while maintaining healthy adult spawning populations. However, relationships between habitat conditions and salmonid productivity have not been well defined (although efforts are currently under way to define them). Therefore, the approach used will be to define performance measures based on the physical conditions within salmonid habitats that are expected to create good productivity. This is an indirect approach, that must periodically be evaluated to ensure its applicability. The physical performance measures are described in the habitat components that follow. They are based on our current understanding of what is expected to provide good salmonid habitat and productivity, and will be periodically updated as new or additional information becomes available.

Basin Hydrology and In-stream Flow

This component addresses stream flow from two dimensions: (1), maintenance or restoration of natural physical processes affecting hydrologic regimes (flow timing, volume, and duration); and, (2) maintenance or restoration of flows through administration of water rights, instream resources programs, water conservation strategies, etc.

Floods and droughts are natural events, and anadromous and resident salmonids evolved in basins subject to variable, but generally predictable, flow regimes. Salmonid evolutionary responses for survival and reproduction - where and when they rear, migrate, and spawn - are reflected in those flow regimes (the basin hydrology). The adaptive responses for salmonid species are complex, involving several kinds of habitats, in various parts of a river basin, over a relatively short time period. Many of the responses and habitat requirements are not well understood. Therefore, salmonid habitat requirements for basin hydrology should consist of flow patterns that reflect the natural hydrologic regime under unmanaged conditions.

Land use can have a significant affect on basin hydrology. For example, in urbanizing basins, increases in the amount of impervious surface within basins will increase peak run-off and stream flows, restrict groundwater recharge, and restrict summer flows. Certain forest practices can alter peak run-off, especially where timber harvest occurs in transient rain-on-snow zones, and certain agricultural practices can alter basin hydrology through changes in vegetation and surface compaction. In addition, surface water flows are influenced by sediment transport rates, groundwater recharge, floodplain connectivity, riparian area condition, and the size, condition, location and extent of wetlands.

Stream flows are affected as well by water withdrawals for off-stream use, by certain groundwater withdrawals, and by in-stream impoundment and release operations to achieve flood control, hydropower, and other societal objectives. But water quantity requirements for wild salmonids can be met in part through management of activities that affect basin hydrology and in-stream flow (e.g., land use planning and land use regulation, timber harvest planning, etc.), and through efficient management of water allocation and use including maintenance and restoration of in-stream flows.

Attainment of natural stream (basin) hydrology will be difficult in many cases, in fact, probably near impossible in some urban areas. However, there are numerous opportunities where, either though land use allocation, land treatments, water conservation, or stored water releases, etc., we can prevent the situation from deteriorating, or actually improve stream flows. The implementation strategy encourages locally-based watershed planning. This is where all activities affecting, or likely to affect, hydrology can be assessed and where specific actions can be developed and implemented.

7. Policy Statement

Maintain or restore the physical processes affecting natural basin hydrology. In addition, manage water use and allocation in a manner that would optimize in-stream flows for salmonid spawning, incubation, rearing, adult residency, and migration, that would address the need for channel-forming and maintenance flows, and that would address the impacts of water withdrawals on estuarine and marine habitats.

Performance Standards

In streams or basins that provide useable wild salmonid habitat, and where in-stream flows have not been established by rule, the stream's flow trends, normalized to account for variations in precipitation, to hold steady, or increase (low flows) over time.

1. In streams or basins that provide useable wild salmonid habitat, and where stream flows have been adopted or are being revised, the performance measure will be the in-stream flow as adopted by rule.

2. Physical indicators within a watershed should also be used, where applicable, as performance measures to assess or achieve the goals for basin hydrology and in-stream flow. These performance measures are typically expressed as thresholds of change - if the thresholds are exceeded, habitat conditions including water quality and water quantity decline dramatically, and often irreversibly. Threshold management can help to maintain or restore natural basin hydrology and in-stream flow. Examples of thresholds include:

    a. Percent effective impervious surfaces - these include road surfaces, rooftops, and parking lots. As percent effective impervious area exceeds a threshold of 8-10% in a sub-basin watershed, in-stream conditions (including the frequency and intensity of high flows and water quality) begin to deteriorate. Groundwater recharge and summer low flows also usually decline, although the relationship is not always as predictable. The threshold could be applied to stream reaches or sub-basins. This threshold method could also be applicable to wetlands.
    b. Forest harvest and road density - the seasonal timing of forest harvests, and the density of roads in harvesting areas, can have significant effects on stream flows. The percent of upland forests at hydrologic maturity, and percent clearcut in rain-on-snow zones, have been used as thresholds beyond which significant adverse impacts on basin hydrology and in-stream flow will be expected. The thresholds are basin specific and may not be practical in many instances. However, some forest land managers feel, that for western Washington sub-basin watersheds, a threshold of approximately 60% of standing timber at age 25 or more will begin to reflect hydrologic maturity. Road densities are even more basin specific and will require some form of analysis and discussion to arrive at a threshold number, or other management prescription, to protect against unnaturally high stream flows.
    c. Threshold grazing standards could be set at the basin specific level. On state lands, guidance is available in the HB1309 Ecosystem Standards for State-Owned Agricultural and Grazing Lands. This guidance may also have application on other ownerships as a reference document.

Physical indicators should be applied in conjunction with other actual in-stream flow measures whenever possible. The value of threshold indicators is that they are strategic, predictive, and preventative. Restoration of natural hydrologic regimes may well be impossible or prohibitively expensive, especially after basins experience extensive development.

Water Quality and Sediment Quality, Delivery and Transport

Water and sediments within specific ranges of physical and chemical characteristics are essential to healthy and productive wild salmonid populations. Both water and sediment are excellent media for the uptake, storage, transportation, and concentration of dissolved and particulate materials. Natural rates of sediment delivery and routing within streams and marine areas, are essential to creating and maintaining salmonid habitat. But, accelerated rates of sediment erosion/deposition are usually detrimental to salmonid habitat.

Many natural processes and human activities can affect sediment delivery and routing, and can introduce potentially toxic substances to water and sediment that can have deleterious effects on salmonids and the food webs they rely upon.

Preventing and minimizing releases of oil and other toxic or deleterious substances to the aquatic environment has been demonstrated to be much more cost-effective than remediation and restoration. Persistent hazardous materials accumulate in sediment depositional areas, such as wetlands and estuaries, where remediation options are very expensive.

8. Policy Statement

Provide for water and sediments of a quality that will support productive, harvestable, wild salmonid populations, unimpaired by toxic or deleterious effects of environmental pollutants.

Manage watersheds, stream channels, wetlands, and marine areas for natural rates of sediment erosion, deposition, and routing, to within the limits of salmonid life requirements.

Performance Standards

1. Maintain productive aquatic habitats for salmonids and their prey bases that contain a balanced, integrated community of organisms, having species composition, abundance, diversity, structure, and organization comparable to that in unimpacted reference ecosystems of the region.

2. For factors such as temperature, dissolved oxygen, pH, turbidity, and suspended solids levels, meet state surface water quality standards as established for waters supporting salmonids and prey base species.

3. For all relevant freshwater and marine areas, meet water and sediment quality criteria, as established for toxic or deleterious pollutants that can affect the survival, growth, or reproductive success of salmonids or prey species.

4. Consider gravel impaired in spawning areas if fine sediments (<.85mm) exceed 11%. If fine sediment levels naturally exceed 11% in spawning or rearing habitat, then sediment concentrations will not exceed natural levels.

Stream Channel Complexity

Salmonids have evolved and adapted to streams that possess a variety of in-channel features important to spawning, rearing, and migration. These features include (1) frequency of pools and riffles, (2) substrate size and distribution, (3) sediment delivery and transport processes, (4) water depth and velocity, (5) undercut banks, (6) in-stream woody debris, and (7) a variety of side-channel and off-channel habitats. Stream channels exhibit various levels of complexity dependent upon their degree of confinement within their valley walls, their steepness, and their size, the geologic makeup of the basin, and the hydrologic regime. Stream complexity is subject to natural levels of disturbance, particularly as a result of catastrophic events, such as wildfire and disease affecting riparian areas, and by landslides and debris torrents.

However, in-stream complexity has been reduced or lost as well, due to human activities, such as removal of large woody debris, channel encroachments (including bank hardening), dredging, relocation and realignment, loss of side-channel, off-channel and floodway connectivity (diking, channel aggregation, tide gates), conversion of free-flowing reaches to impoundments, burial of streams in culverts to facilitate development, and installation of road crossing structures.

9. Policy Statement

Maintain or restore natural stream channel characteristics for channel sinuosity, gravel quality and quantity, in-stream cover, large woody debris (LWD), pool depth and frequency, bank stability, and side-channel, off-channel, and flood plain connectivity, and function.

Performance Standards

1. Spawning gravel will be relatively stable, with a low potential for scour, throughout the nest building and incubation period of the wild salmonid species in the basin.

2. Adult salmonid holding pools will contain sufficient depth (depending on species and stream, but generally greater than one meter) and associated cover.

3. More than 90% of channel banks on streams will be stable, relative to natural rates of erosion in the basin. Stability, if needed, can be provided in a number of ways. If bank protection is necessary, bioengineering methods are preferred.

4. At a minimum, the performance measures relative to pools and large woody debris in forested and previously forested areas, should conform to those in the *Washington State Watershed Analysis Manual* (listed below), unless locally defined.

    a. In streams of any gradient, but less than 15 meters wide, the frequency of pools should not occur at intervals less than one pool for every two channel widths in length.
    b. The percent pools in a stream will not be impaired by the presence of sediments, or the effects of human disturbances. For streams less than 15 meters wide, the percent pools should be greater than 55%, greater than 40%, and greater than 30% for streams with gradients of less than 2%, 2-5% and more than 5%, respectively.
    c. The quantity and quality of LWD in streams should not be impaired by human activities. For streams less than 20 meters wide, the number of pieces of LWD larger than 10 centimeters for every channel width, should exceed two. The number of key LWD pieces per "bank full width" (BFW) should be greater than 0.3 pieces for streams less than 10 meters BFW, and greater than 0.5 pieces for streams 10-20 meters BFW.

5. Side channels and other off-channel habitat, including wetlands, remain connected to the channel proper. Where feasible, dikes or levees, bridge approaches, and other structures that are constricting floodplains, should be removed or modified to allow flood flow, storage, recharge, and release.

Riparian Areas and Wetlands

Riparian areas are those areas immediately adjacent to streams, wetlands, and marine shorelines. The trees, shrubs, herbs and grasses comprising riparian vegetation influence aquatic areas, and in turn are influenced by them. Riparian areas are vitally important for maintaining, in varying levels of contribution, the water quantity, water quality, food supply, shelter, migration, and reproductive needs for wild salmonids. Fully functional, naturally vegetated riparian areas have the following attributes:

1. Contribute sizes and species of large woody debris to the aquatic zone that (1) dissipate energy, (2) trap and route sediments, (3) retain detritus and salmonid carcasses, and (4) maintain channel complexity.
2. Create and maintain spawning, rearing, and migratory habitat for salmonids and their prey.
3. Provide shade, and subsequently reduce summer stream temperature, and ameliorate winter low stream temperature.
4. Maintain vegetative community integrity and diversity that prevents debris flows, controls sediment delivery and transport, provides a source of nutrients to the channel, and stabilizes stream banks.
5. Provide and maintain areas of off-channel habitat.
6. Attenuate flows and moderate impacts from high flow events.
7. Facilitate groundwater recharge and maintain summer low flows.
8. Intercept and break down incoming pollutants.

Wetlands provide a variety of direct and indirect benefits to wild salmonids. Fully functional wetlands have the following characteristics:

1. Reduction of flood peak-flows (including stormwater runoff), and maintenance of low flows.
2. Shoreline stabilization (energy dissipation/velocity reduction).
3. Groundwater recharge.
4. Water quality improvement, including sediment accretion and nutrient/toxicant removal/retention.
5. Food chain support (structural and species diversity components of habitat for plants and animals).
6. Provide habitat for numerous fish and wildlife species, including wild salmon and trout.

Riparian areas and wetlands are sensitive to natural and human activities (vegetation removal, modification of basin hydrology, and sediment transport); wetland functions in particular are very difficult or impossible, to restore or replicate, after damages have occurred. Washington's riparian areas and wetlands have been reduced in both area and function, due to human impacts. Lack of a statewide program of riparian area and wetlands protection, with agreed upon numeric standards, contributes to loss of riparian and wetland area and function.

10. Policy Statement

Functional riparian habitat and associated wetlands are protected and restored on all water bodies that support, or directly or indirectly impact, salmonids and their habitat.

Performance Standards

1. There are no single, agreed-upon, statewide numeric standards for riparian areas or wetlands. Because the Department of Natural Resources maintains and updates a fairly extensive, and fairly accurate, water typing system (defined and mapped per WAC 222-16-030), and since many local governments use this system, we will use that system as a point of reference. It should be noted that the performance measures recommended below provide general guidance for riparian buffers that protect aquatic functions and salmonid habitat. These buffers should be applied regardless of land use (e.g., forest lands, agricultural, rural, or urban lands).

   Regional or watershed specific standards may need to be applied, based upon watershed analysis, the development of specific and detailed standards in individual watershed plans, or other assessments of site conditions and intensity of land use.

   It is anticipated that statewide standards for state and private forest lands will be developed through the TFW process, and provided to the Forest Practices Board for formal rule making. It is also anticipated that, in many instances, existing encroachments in riparian areas, or parcel size and configuration, may preclude attainment of adequate riparian buffers.

   Nonetheless, in the absence of any other quantified alternative that provides the riparian area functions described above, the performance measures below are recommended to maintain riparian functions and conditions which protect salmonid habitat:

a. Riparian Areas

- For Water Types 1-3, a buffer of 100 - 150 feet (measured horizontally), or the height of a site potential tree in a mature conifer stand (100 years), whichever is greater, on each side of the stream.
- For Type 4 streams, a buffer of at least 100 feet (each side)
- For Type 5 streams, a buffer of at least 50 feet (each side).
- For streams not administered directly or indirectly per WAC 222-26-030, apply a buffer of 100-150 feet each side on salmonid streams larger than 5 feet wide, a buffer of 100 feet (each side) on smaller perennial streams, and a buffer of 50 feet (each side) on all other streams.
- The buffers may need to be expanded to accommodate anticipated channel migration, as an additional buffer against windthrow, or to address upslope instability, or previous negative upslope impacts.
- Type 4 and 5 streams, with low stream gradient and relatively flat slope topography, may not need the full buffer width specified, and the buffer width may be reduced to that necessary to protect the stream from upslope sedimentation and significant changes in stream temperature. The actual buffer width and composition should be based on site-specific conditions.
- To the extent possible, buffers should be continuous along the stream channel. Selective tree removal may occur where site review and prescription clearly demonstrates removal can occur without significantly affecting the function of the riparian area, or that removal and/or removal and subsequent rehabilitation will improve the functional characteristics of the riparian area. Complete removal should be limited to road alignments, stream crossings, or other corridors where no feasible alternative exists.
- Riparian area restoration is strongly recommended. Plant community structural complexity (understory herbaceous and woody overstory canopy) and density should be similar to what will occur at the site under natural conditions (also known as site potential).
- Grazing, if allowed, should be managed to maintain or allow reestablishment of functional riparian vegetation. Other management activities may occur within the riparian area, provided the functional characteristics of the riparian area necessary to protect the stream are not significantly impaired.
- The performance measures for Basin Hydrology and In-stream Flow, and Water and Sediment Quality and Sediment Transport and Stream Channel Complexity, should also be met to ensure riparian functions will be meaningful and attainable.

b. Wetlands

- Buffers for wetlands should be applied in accordance with the Department of Ecology Model Wetlands Ordinance - September 1990, and the updated 4-tier rating system (Pub. #93-74 for western Washington, and Pub. #91-58 for eastern Washington). The ordinance should be applied as guidance. It is not a legally required state standard, and it is not solely designed to meet the specific needs of salmonid habitat protection and recovery. The Wild Salmonid Policy is intended to encourage habitat protection through all means, not only through regulation. Generic application of the Model Wetlands Ordinance buffer widths and rating system, for salmonid habitat protection in all cases, may result in too much, or too little, protection of salmonid habitat in different site conditions.

Use of the Model Wetlands Ordinance standards for the protection of salmonid habitat is intended as interim guidance. There is a need to develop improved wetlands protection guidance, that is specific to the salmonid habitat needs addressed in this policy and the role wetlands play in maintaining or restoring watershed functions essential to wild salmonids.

- Wetlands replacement is highly discouraged because of the difficulty of providing adequate replacement of functions and values. Where replacement is unavoidable, the replacement ratio will be applied as provided in the Model Wetlands Ordinance. Wetlands mitigation banking is also an option which will be considered where on-site, in-kind mitigation will not be feasible or practicable.
- Performance measures for Basin Hydrology and In-stream Flow, and Water and Sediment Quality and Sediment Transport should be met, where applicable, to ensure wetlands extent and functions are meaningful and attainable.

Please note that these buffers are not intended to fully protect, or consider, the needs of terrestrial or aquatic wildlife, or non-salmonid fishes.

Lakes and Reservoirs

Lakes and reservoirs provide rearing, adult residency, spawning habitat, and migratory pathways for many species of salmonids. Access between lakes, and inlet or outlet streams, is critical for reproduction of many lake dwelling species. Lakes accumulate contaminants derived from upland or upstream sources. Outlet stream water quantity and quality is affected by in-lake conditions. Lake and outlet stream habitat is affected by a variety of human activities - particularly in highly developed urban, suburban, and recreational developments - including lake level manipulations, water withdrawals, high or poorly timed flow releases, loss of nearshore shallow water habitat, installation of overwater and underwater structures (docks, floats, ramps), loss of riparian vegetation, sedimentation of spawning habitat, control of aquatic plants, reduced dissolved oxygen, elevated temperatures, increased levels of chemical contaminants, such as fertilizers and pesticides, and increased fecal coliform bacteria and nitrate levels due to septic tank effluents. This results in accelerated aging (eutrophication) and “lake restoration” efforts, which may exacerbate habitat impacts on wild salmonids.

11. Policy Statement

Maintain or restore lake and reservoir habitats that are conducive to wild salmonid passage, rearing, adult residency and spawning.

Performance Standards

1. There are no statewide, agreed-upon, standards, particular to all issues specific to lakes and reservoirs. However, performance measures for basin hydrology and in-stream flows, water and sediment quality, riparian areas and wetlands, and fish access and screening should include factors relevant to lake and reservoir protection.

Marine Areas

There are three key areas of marine habitat:

1. Tidally influenced lands and estuaries, that provide transition habitat for salmonid smolts as they leave fresh water to begin their ocean life phase.
2. Nearshore marine habitats that serve as the primary migratory corridor for juvenile salmonids on their seaward migration, providing a variety of prey organisms and refuge from predators.
3. Open water habitats that are important areas for migration and growth of larger salmonids.

Nearshore marine, estuarine and tidally influenced habitats are of vital importance to the survival of wild salmonids because:

1. Early marine rearing conditions are an important factor in overall survival rates of salmonids.
2. The productivity of these habitats influence the abundance of salmonid prey, including marine invertebrates and the forage fish populations, some salmonid species depend upon.
3. These areas also contain the critical intertidal and shallow subtidal forage fish spawning habitats that are the foundation of the coastal marine food web.

Beaches of Puget Sound are highly important areas for shorebirds, waterfowl, shellfish, finfish and other species of ecological significance to salmonids. Nearshore marine, estuarine, and tidally influenced habitats have been lost or modified to accommodate development along rivers and bays. These losses include diking and filling of intertidal wetlands, filling or dredging of shallow water habitat, loss or degradation of riparian vegetation, loss of channel system complexity near river mouths, alterations in freshwater inflows, alterations in flow interchange patterns, and a variety of water quality alterations. Marine habitats depend on continuation of watershed and coastal processes, such as basin hydrology, riverine sediment and nutrient transport, and coastal erosion and transport.

12. Policy Statement

Provide nearshore marine, estuarine, and tidally influenced marine ecosystems that contain productive, balanced, integrated communities of organisms having species composition, abundance, diversity, structure, and organization comparable to that of natural ecosystems of the region.

Ensure that functions and values of the following habitat types are maintained or increased: eelgrass habitats, herring spawning habitats, intertidal forage fish spawning habitats, intertidal wetlands, and safe and timely migratory pathways for salmonids in marine waters.

Allow natural rates of erosion and transport of sediments, nutrients, and large woody debris that affect habitat quality in tidally influenced estuarine and marine shorelines.

Performance Standards

1. Natural shoreline erosion, accretion to beaches, and transport processes should be maintained or, where feasible, restored.

2. Ensure no net loss of eelgrass habitat, herring spawning habitat area or function, intertidal forage fish spawning habitat area or function, and intertidal wetland area or function.

3. Successful establishment of functioning compensatory mitigation projects should be demonstrated prior to final authorization for projects that adversely affect marine, estuarine, and intertidal habitats.

4. Maintain or restore continuous shallow-water migration corridors along nearshore marine, estuarine, and tidally influenced areas.

Fish Access and Passage

Free and unobstructed passage among habitat types is essential for most wild salmonids at all life stages. Fish passage is affected by natural features and events. For example, high water temperature may cause thermal blocks to migration, drought or excessive sedimentation may result in stream flow too low for passage, and excessive turbidity may deter passage. High flows may cause velocity barriers, or salmonid stranding, as flows recede. Natural complete or partial barriers, such as waterfalls and cascades, are important features which contribute life history variation within species, and allow for species separation (i.e. anadromous/resident).

However, in-stream structures such as dams, culverts, screens, and tide-gates, and water quality and water quantity fluctuations because of human activity, also create significant fish passage and stranding problems, and loss of productivity and production. For example, the Columbia River basin system of dams has caused significant losses of salmonid production. These losses are attributable to direct loss of access to habitat, transformation of a free-flowing riverine system to a system of fluctuating reservoirs, near-complete alteration of flow regimes, inadequate upstream and downstream fish passage, and inadequate screening at water intakes.

13. Policy Statement

Provide and maintain safe and timely pathways to all useable wild salmonid habitat in fresh and marine waters, for salmonids at all life stages.

Ensure salmonids are protected from injury or mortality from diversion into artificial channels or conduits (irrigation ditches, turbines, etc.).

Ensure natural, partial or complete fish passage barriers are maintained where necessary, to maintain biodiversity among and within salmonid populations and other fish and wildlife.

Performance Standards

1. Provide and maintain free and unobstructed passage for all wild salmonids, according to state and federal screening and passage criteria, and guidelines at all human-built structures.

2. Meet or exceed a 95% survival standard for fish passage through hydroelectric projects, and fully mitigate for fish mortalities.

Habitat Restoration

The Wild Salmonid Policy goal will not be attained without active restoration of lost and damaged habitat. Continual restoration of unmitigated impacts to wild salmonid habitat is undesirable, ineffective, and the most costly means to achieving the Wild Salmonid Policy goal.

Voluntary, cooperative, approaches to restoration are preferred, but those who willfully, or through neglect, damage habitat should be held accountable for restoration. In-stream restoration will generally not be successful if upland processes and functions are not maintained, or restored to levels that support the restoration effort. Restoration activities are generally more successful when land use is stable over time. Projects initiated on lands with low-intensity, cyclical land uses/disturbances (forest, large lot rural residential, or agricultural lands) will usually be more successful than those initiated on high-intensity, high-density urban or suburban lands. Past degradation of salmonid habitat often occurred in response to societal values at the time. Therefore, restoration of salmonid habitat on privately owned lands is likely to be more readily accepted and implemented if the cost of restoration includes some level of public financing, if restoration provides flexibility to the landowner, and if restoration addresses, at least in part, relief from regulatory processes.

Successful restoration requires competent analysis of watershed processes and identification of limiting factors. Funding for restoration activities is limited; funding is enhanced where partnerships exist, where there is local support, where restoration is included in a larger project context (i.e., flood damage reduction plan, water storage, and release strategies), and where restoration is part of a completed overall land use and/or watershed plan. Restoration is more likely where dedicated fund sources are sufficient and stable.

Restoration of wild salmonid habitat usually contributes to improved wildlife habitat and other societal benefits, such as aquifer recharge for drinking water, flood damage reduction, improvement of soil fertility, and maintenance of rural economies. Restoration projects are facilitated by regulatory processes (permits) which are coordinated, timely, consistent and affordable. Active participation in, or support of, watershed restoration fosters an environmental ethic, improved land stewardship, and support for habitat protection. Restoration is most successful when contemporary technical information and guidance is available to the public.

14. Policy Statement

Restore usable wild salmonid habitat to levels of natural variability for watershed processes and habitats.

Performance Standards

Restoration of salmonid habitat will be long-term, costly, and contentious. It will involve a combination of active in-water work, extensive upslope work, and in large part, just providing the opportunity and time for watersheds and marine areas to mend themselves. Many of the performance measures and action strategies in the preceding components include reference to restoration of the physical processes and habitat types necessary for salmonids, and they will not be repeated here.

Full habitat restoration within watersheds and marine areas will be ultimately achieved when the performance measures for the preceding components (i.e., basin hydrology and in-stream flow, water and sediment quality, and sediment transport, etc.) are met.

Fish Population Management Appendices

Appendix A

Guidance for Implementing Spawning Escapement Policy

1. For salmon and steelhead, managers must recognize the practical realities of fishery management. In many cases, two or more co-mingled and closely-related wild stocks of the same species and run timing must be managed in the same terminal area fishery. The key expectation is that those co-mingled stocks can reasonably be anticipated to have similar freshwater and marine survival rates during each individual generation. Managers must set escapement objectives that are proportional to the existing productivities of similar stocks. The fish themselves can best provide the needed information in terms of quantitative abundance measures for each population. The human managers must be successful interpreters of these data. Failures will lead to the same practical problems that have occurred in the past; i.e., poorly-based escapement objectives that lead to impossible fishery management situations.

   Managers must also watch carefully for real declines or increases in habitat productivity as it effects individual populations. When necessary, escapement objectives must be adjusted accordingly to reflect these changes.

2. For other resident and anadromous trout and char, fishery management measures will require approaches ranging from wild fish release to slot limits to the following intent described by Wright (1992, p. 524): "The management approach that provides for some continued consumptive harvest is to set the minimum size limit at a level that will allow a full age-class of females to spawn at least once and thus ensure maintenance of a population's reproductive potential. For example, if only 20% of the females spawn at age 3 but a majority (over 50%) spawns by age 4 then the minimum size limit needs to be set at the upper end of the length-frequency distribution of age-4 females. Males typically mature when they are somewhat younger, thus any regulation geared to females will also produce adequate male spawners. This size distribution needs to be that which would be projected to occur at the end of the fishing season. Trout will be continually growing during a spring-to-fall fishing season and the effect of any minimum size limit will be continually shifting. In our planning, we elected to protect a full age-class of female spawners in order to reduce the potential for selective fishing pressure."

   Future uses of slot limits should heed the following guidelines provided by Wright (1992, p. 525):

   "The one inherent danger with a slot limit is the uncertainty about whether adequate recruitment can be consistently achieved and sustained whenever a block of immature trout is subjected to consumptive harvest. A good monitoring program would be essential with this type of fishery. It is better suited for more productive waters with those species that are harder to catch. Brown trout in Wyoming are a good example. A future expectation of only a moderate annual fishing mortality rate is also essential."

Appendix B

Genetic Criteria for Implementation

Note: The genetic criteria are one of two important policy elements that are essential to insuring perpetuation of individual, separate breeding populations (stocks). However, the greatest danger with a small stock size occurs when predation or disease leads to a situation where the highest percent mortality occurs at low abundances of juvenile or adult salmonids (see Appendix D of FEIS).

This genetic policy element requires that each individual stock maintain a minimum base level abundance of 3,000 fish. The 3,000 base level is for a population that spawns a single time and at a single age (e.g., pink salmon). Table II-2 of the FEIS describes how this base level would be adjusted for other species and spawning types. Where the population at abundant habitat utilization is less than 3,000, steps to improve the amount or quality of the habitat should be taken to bring the population up to the minimum level.

For other smaller populations (less than 3,000 actual or potential), the standard shall apply to the smallest localized aggregation of similar stocks that will meet this standard in terms of actual and/or potential production.

Under this policy element, human caused gene flow between species, major ancestral lineages, genetic diversity units, or stocks through direct transfer of fish across stock or other boundaries will not be allowed. This will require the development of local broodstocks for many hatchery and other enhancement programs. Where there is no supplementation program in place, the allowable percentage of the total wild spawning population that is made up of fish raised in a hatchery is given in Table II-3 of the FEIS. For supplementation programs of hatchery-origin fish, proportions of hatchery fish would be decided on a case-by-case basis. These percentages of hatchery fish in Table II-3 are surrogates for and are equal to allowable gene flow. Other measures of potential gene flow may be used (e.g., migrants per generation), if they result in similar levels of potential gene flow. This policy uses the stricter definition of similarity that compares the hatchery fish with an ideal locally adapted wild fish. This maintains a higher level of local adaptation in populations that are already locally adapted, and increases the rate at which a hatchery influenced wild population becomes locally adapted. Similarity is determined based on the geographical origin, hatchery history, and hatchery practices that have affected the hatchery fish. In a hatchery population with high similarity, the hatchery fish will be of local wild stock origin and have few generations in the hatchery. There will be regular introductions of new wild broodstock into the hatchery population and the hatchery rearing conditions will be similar to wild conditions. Time spent in the hatchery will be limited and strict spawning guidelines will be followed. A highly similar stock will need to pass all these tests. A low similarity hatchery population will have many generations in the hatchery. There may have been selection for timing or size and the population may have been at very low numbers at times. There are few introductions of wild fish or it may have been started with non-local fish. A low similarity stock will only have to meet one of these criteria. Intermediate stocks exceed all the low criteria, but fail to meet at least one of the high criteria. It is expected that most current hatchery populations will be either low or medium similarity.

Hatchery fish spawning in the wild will be controlled so that the majority of stocks in a major watershed, river basin, or GDU do not have any hatchery gene flow, and so that the higher maximum percentages of

hatchery fish on the wild spawning grounds noted are exceptions (i.e., occur infrequently and not in the most abundant or most unique components of the larger population groupings).

The use of broodstock in fish culture operations that are locally adapted and highly similar to the wild stocks in that area is emphasized. However, there are cases where broodstocks that have been selectively bred and/or area adapted to cultured conditions are preferable to the use of local wild stocks. Such existing programs are the rainbow trout strains used for the stocking of lakes and the use of early-time returning winter steelhead. Using hatchery adapted fish where gene flow and ecological interactions with wild stocks can be controlled (is essentially zero) is a recognized and valid management tool.

Appendix C

Guidance for Resolving Conflicts Between and Within Species and Stocks

To resolve species and stock conflicts, guiding principles will be based on stock origin, stock status, and the relative value of different stocks. Any management action directed at one stock that has the potential to affect other salmonids should be examined using the three stock priority criteria.

1. Stock Origin Guiding Principles:

   - ➤ The highest priority for management of wild fish is resource protection of native stocks.
   - ➤ Locally adapted stocks are of a higher priority than newly introduced stocks.
   - ➤ The priority for management of exotic species is primarily to provide fishery benefits, within the guidelines of sound management principles that also protect native species.

   These principles result in the following stock priorities:

   Highest Priority - Native stocks - populations that are relatively unchanged from before European settlement residing in their original habitat.

   Second Highest Priority - Mixed origin stocks - populations originating from native and non-native stocks; or a previously native stock that has undergone substantial genetic alteration.

   Third Highest Priority - Non-native stocks - populations from a native species that are outside their original habitat.

   Fourth Highest Priority - Exotic stocks - stocks originating from outside Washington of species native to Washington.

   Lowest Priority - Exotic species - species that are not native to Washington.

2. Stock Status Guiding Principles:

- ➤ Critical and Endangered status stocks or species have the highest priority in terms of stock protection actions, to remedy the risk of extinction. It is recognized that it is also very important (especially more cost effective) to protect existing healthy stocks. Prioritization will involve balancing these two important issues.

- ➤ Depressed and Threatened status stocks or species have a high priority in terms of stock protection actions, to restore them to Healthy status. Stocks rated Unknown will be managed conservatively until their status is determined.

Relative Value Guiding Principle:

- ➤ Higher priority will be given to those stocks that provide the greatest level of benefits or value. This includes the full range of economic, social, ecological, cultural, and other values provided that native stocks and established indigenous stocks are maintained at self-sustaining levels; and the recovery of Critical, Endangered, Depressed, and Threatened stocks or species is not impacted.

Appendix D

Strategies for Implementing Selective Salmon Fishing Opportunities

One of the most important missions of this policy is solution of a fishing rate problem for Pacific salmon. The basic dilemma confronting today's managers is a mixture of hatchery fish, which can typically support overall fishing rates of 90% or more, and wild fish, which must be limited to average fishing rates of 50-60%. The policy elements described are intended to continue and expand all status quo fisheries and techniques for targeting fishing effort on hatchery fish except for the common practice of deliberately overfishing wild salmon populations.

New strategy elements that will lead to the desired end-product of 90% harvest rates on hatchery salmon and 50-60% average harvest rates on wild salmon are as follows:

1. The selective fishery option will be provided by adipose marking most hatchery salmon. This will parallel the status quo practice with steelhead throughout the Pacific Northwest and British Columbia that was instrumental in preventing deliberate overfishing of wild fish from ever being adopted as a basic policy in steelhead management. Selective fishing on either salmon or steelhead is always an alternative to closures, not continued regular non-selective fisheries.

   Conceptually, the ideal situation for selective fishing is to have any relatively inefficient fisheries occur "first in line" in terms of fishing on the entire salmonid population. The existing sport and troll salmon fisheries in marine waters of Washington are relatively inefficient as compared to the commercial net fisheries that occur later in time on the same salmon populations. Thus, the make-up of existing fisheries is ideal for salmon since the sport and troll fisheries will be fishing on the entire population of salmon in Washington waters. The existing situation for steelhead is less ideal. The

less efficient selective recreational fishery commonly occurs after the more efficient regular treaty Indian net fishery. It has proven to be workable in actual practice.

2. While hook-and-line gear and existing commercial gear types such as purse seines, reef nets, and beach seines are adaptable to selective fishing (wild fish release), gill net gear is not. However, fish managers have flexibility to use a mixture of regular and selective fisheries to yield the desired overall end-result of 90% versus 50-60% average fishing rates. Gill net gear will likely remain a major component of the regular category in the future (both Treaty Indian and non-treaty commercial).

3. Additional fishing opportunities can be provided to today's gill net fishermen and other user groups by two basic management techniques. First, off-site, pen-reared releases of hatchery salmon allow selectively higher hatchery fish harvests. In mixed-stock harvest areas of Alaska, fishing rates are set for wild stocks; the hatchery surpluses are harvested in carefully controlled sport, troll and net terminal fisheries at the release sites. Program of this type have already been implemented in several Washington and Columbia River areas.

4. It is also important to develop new commercial gear capable of selectively harvesting hatchery fish while still safely releasing wild fish. Emphasis should be on types of nets that can be used by existing fishermen with existing small (gill net) boats. Fish traps and fish wheels have been proposed for decades as alternative gear types. However, these proposals have never received any serious consideration since they are correctly viewed as potentially threatening replacements for traditional fisheries. The key for future success is to target fishing gear development work toward experienced fishermen with substantial investments in their boats.

Appendix E

Wild Salmonid Recovery Implementation Framework

Four types of fish population management situations must be addressed.

1. A total of 89 Pacific salmon populations are currently being overfished, by design, in hatchery management zones. Most of these were established in the late 1970s by the Department of Fisheries. To eliminate the practice, adipose fin marking of most hatchery fish will be required.

2. Salmon and steelhead populations in the upper Columbia River cannot even replace themselves due mainly to the extensive series of dams and reservoirs. This problem can only be resolved by drastically reducing the mortalities caused by dams.

3. In the past, some wild runs have been overfished even when the supposed policy was to put adequate numbers of viable wild fish on the spawning grounds. These situations must be corrected.

4. There are many case histories of successful past management with the state's salmon, steelhead, sea-run cutthroat, resident trout and char resources. This part of the WDFW track record must be continued into the future.

To plan for wild stock recovery, each of these above situations will be addressed in turn by policy elements as follows:

1. Wild stock that has a past history of being deliberately overfished: Each requires an initial assessment.
   a. If stock is too small to recover naturally, then temporary artificial production intervention will be necessary. Control of harvest will be phased in as returning adults become available.
   b. If existing wild population is deemed capable of effectively rebuilding itself, then a planned rebuilding schedule will be developed and implemented.

   Note: both of the above should involve a meaningful public input process. The terms of these plans would supercede the 10% incidental harvest impact limitation.

2. Wild stock that is not capable of replacing itself: Artificial production intervention will be continued.

3. Former "Primary" wild stock that has been seriously overfished: Incidental catch levels in Washington fisheries will be held to a total of 10% until the stock is rebuilt.

4. Wild stock that has consistently had spawning escapements at or above the point estimate of MSY: No change.

Appendix F

Guidance for Implementation Processes - Fish Population Management

Successful implementation of the policy, to meet needed performance standards that will ensure stock and ecosystem health and while generating sustainable benefits, will require effective public outreach and collaboration. This requirement is a fixture across all areas of the state and applies to all species groups covered by the policy. Public understanding of the policy and cooperative efforts to chart and implement appropriate courses of action to meet policy objectives is essential.

In addition to this central public involvement need, the Department must ensure interjurisdictional cooperation and planning efforts with a number of other governments to institutionally incorporate policy intent and implement action strategies where the Department shares management authorities and responsibilities. Most notable, in this regard, are government-to-government relationships with individual Indian tribes. Other interjurisdictional relationships include: shared authorities with the State of Oregon on the Columbia River (e.g., Columbia River Compact); multi-state/tribal involvement with regard to salmon and steelhead resources originating in the Columbia River basin above Bonneville Dam; and state, tribal and federal interactions through PFMC and Pacific Salmon Treaty management.

Each of these venues presents a set of implementation needs and requirements which are highlighted below. These are organized with the understanding that effective public involvement is a prerequisite no matter

what management jurisdictions are involved, e.g., with either the Department's singular jurisdiction on numerous inland salmonid issues or it's shared jurisdiction for various salmon and steelhead resources and fisheries. The expectation for agency staff is that the policy intent and guidelines will be brought to these venues, shared and cooperatively incorporated, through appropriate planning processes, to meet the policy's goals and objectives. The following process guidance is provided to agency staff recognizing this expectation.

1. ***Implementation shall incorporate a high level of public involvement and collaboration with constituents that have a high interest or stake in the outcome of actions guided by the policy.***

   In many areas, implementation of the policy likely will instigate modifications both in management objectives and various production and fishery strategies. Changes could occur in the types and levels of benefits delivered to non-Indian fishers from management of the salmonid resource. Where this change could be significant, it is particularly important to establish or strengthen collaborative planning approaches in order to define new approaches that seek to maintain diverse and sustainable benefits while achieving improved resource health. The Department also will need substantial local citizen involvement to be successful at achieving the underlying resource protection and restoration intent of the policy, recognizing the importance of citizen volunteers and advocates. Policy implementation intent in the face of significant change will ***not*** be a light switch. Public involvement to collaboratively communicate, educate, analyze, plan, implement, and evaluate will be given a premium importance, as well as will the formal obligations of the Department to follow and use SEPA and the State Regulatory Fairness Act guidelines and processes whenever they are applicable to Department actions or rule making.

   As a practical measure, this approach requires developing and maintaining a hierarchy of effective relationships with various constituents and interested citizens, built on mutual respect and trust, to deal with statewide, regional and local watershed issues and opportunities. The following action strategies will be utilized by the Department:

   1.1. The Department will maintain and utilize citizen advisory groups to provide important feedback on fish management issues of statewide significance. In the context of issues related to the Wild Salmonid Policy, these currently include, but are not limited to, the Commercial Fishery Advisory Group, the Anadromous and Marine Recreational Fishery Advisory Group, the Inland Fish Policy Advisory Group, the Puget Sound Recreational Fishery Enhancement Oversight Committee, and the Steelhead and Sea-Run Cutthroat Citizens Advisory Group.

   1.2. The agency will develop annual management guidelines for Commission review and adoption, to guide annual salmon management planning through the so-called "North of Falcon" process and subsequent in-season implementation. These guidelines will be developed with discussion and input of the appropriate fishery advisory groups and be reviewed through the Commission's normal public meeting and comment process.

   1.3. Annual salmon management planning processes will be continually reviewed and improved to ensure effective public involvement:

- Annual North of Falcon discussions with non-Indian fishery constituents will begin earlier as appropriate to scope, discuss and plan new fishery approaches (e.g., selective fisheries for marked coho)
- Regional fishery planning meetings held during the pre-season window will be considered to be "formal adjuncts" of the North of Falcon process and will be publicly announced to ensure that both local and non-local constituents have an opportunity to meet and share their interests together and so that input from these meetings can directly advise agency staff.
- North of Falcon meetings will be planned and scheduled in such a way to enhance open and effective communication with tribal co-managers *and* to serve as the annual public hearing process for inside commercial fishery rule adoption for coastal and Puget Sound salmon fisheries.
- Documentation of annual planning outcomes will be strengthened to improve process accountability

1.4. Regional salmonid management planning forums/groups will be established between the Department and interested constituents to assist review and appropriate modification of management objectives and strategies to meet the Wild Salmonid Policy's intent. This intent applies to both anadromous and resident species planning.

- Regional staff will take the lead in organizing and facilitating these forums, while Fish Management Program policy staff will provide policy support as appropriate to provide guidance and encourage consistency across regions.
- Priority planning attention will be given to those areas where management intent is most likely to change and/or where resource needs are highest.
- A comparison of current objectives/approaches will be conducted with desired future outcomes to identify the "gap" between where we are now and what we want the future to look like.
- An options assessment will be collaboratively developed to explore different fishery and hatchery management strategies that could be utilized to meet desired conditions - and the strengths and weaknesses of each from a resource protection and sustainable fishery benefit perspective.
- Actions will be favored that can sustain benefits from the resource while meeting the resource protection guidelines in the policy - new approaches for generating benefits will be fully explored.
- With the advice of the regional group a draft plan will be developed that identifies objectives, management strategies, and timelines - as well as implementation steps, costs, and assistance needed.
- After review the agency will adopt and implement a final plan.
- If the area involves a tribal co-manager, this public participation approach will be integrated into the cooperative management steps identified above.

1.5. Planning approaches will be integrated to comprehensively consider all elements of the wild salmonid policy. This anticipates:

- planning approaches and strategies that systematically evaluate limiting resources factors, risk assessment/management, decision documentation, evaluation of outcomes, and appropriate revisions of plans and strategies based on new information.
- cross-discipline efforts within the Department, and with tribes, other governments and other interested parties.

1.6. Local planning efforts will take advantage of existing watershed groups and/or processes where appropriate - local partnerships efforts and support to implement and evaluate fishery and watershed management plans will be solicited, encouraged and supported by the Department.

2. ***Cooperative management approaches, that recognize a basic government-to-government relationship with individual Indian tribes, remain a central fixture in reviewing and revising, as appropriate, salmon and steelhead management objectives consistent with treaty rights to take fish as created by federal authority and/or relevant court order.***

The policy's scope and legal authority highlight this cooperative management intent to seek joint goals and objectives as well as develop coordinated actions that protect wild salmonids and generate sustainable benefits. This includes continuing fair and good faith attempts to resolve any disputes over such management.

As a practical measure, this approach requires developing and maintaining a hierarchy of effective management relationships with individual tribes, built on mutual respect and trust, to deal with statewide, regional and local watershed issues and opportunities. The following action strategies will be utilized by the Department:

2.1. The Fish and Wildlife Commission will intermittently meet with tribal policy leaders to broadly review the status of the state/tribal cooperative management relationship as well as develop shared strategic goals and discussing highest level policy issues and opportunities of mutual interest.

2.2. The Director's Office will maintain regular communication with individual tribal governments to ensure progress toward successful achievement of shared strategic goals and objectives of the parties. A Tribal Policy Coordinator will report to the Director's Office to assist and facilitate this mission. The Director's Office has the authority to negotiate agreements with tribal governments and resolve management disputes that may occur - this authority will routinely be delegated to the resource programs to ensure timely and responsive cooperative management with the tribes.

2.3. The Resource Programs, through their Assistant Directors and designees, will provide key policy guidance in management activities with the tribes. This includes:

- provision and interpretation of associated policies, developed in concert with the regions, and approved as appropriate by the Commission and Director's Office
- active policy leadership/participation in statewide and higher level regional management issues

- providing support and guidance for delegating development of within and across basin watershed plans to the Regions, under the direction of the Regional Fish Program Managers - and including appropriate communication and involvement of the Regional Directors.

2.4. The Regions have the responsibility, with any appropriate policy support noted above, to develop and implement watershed plans with the individual Indian tribes.

- appropriate planning priorities and joint work plans should be established in each region, cooperatively with the affected tribes, to develop a cooperative agenda consistent with available resources.
- policy, management and technical work teams may be used as appropriate to facilitate effective review, development and implementation of basin management plans.
- development of any state/tribal management plans shall accommodate and incorporate appropriate involvement and contribution from other managers and interested stakeholders (see below for additional guidance on public involvement). Department staff should work with the tribes to afford direct opportunities for potentially affected constituents to directly observe state/tribal management discussions to enhance credibility and acceptance of cooperative management planning.

2.5. Planning approaches will be integrated to comprehensively consider all elements of the wild salmonid policy. This anticipates:

- planning approaches and strategies that systematically evaluate limiting resources factors, risk assessment/management, decision documentation, evaluation of outcomes, and appropriate revisions of plans and strategies based on new information.
- cross-discipline efforts within the Department, and with tribes, other governments and other interested parties.

2.6. Department staff shall seek to cooperatively implement the intent of the policy with affected tribes by observing existing court mandated planning processes and seeking to jointly review and modify (or develop new) plans as appropriate. Where potential differences in state and tribal perspectives may occur, the Department will:

- seek to develop shared long-term management goals
- where significant change would occur from current objectives explore implementation timeframes and creative strategies that potentially could be meet long-term objectives while limiting the need for short-term disruptive impacts.
- where critical scientific uncertainties exist that limit the parties' ability to resolve differing perspectives, seek to resolve these uncertainties through specific evaluation and decision response frameworks.

3. ***Cooperative management approaches will be pursued with the Oregon Department of Fish and Wildlife in areas of shared authority to ensure joint adoption of management objectives and strategies consistent with Wild Salmonid Policy guidelines and performance standards. Where this shared jurisdiction also includes treaty Indian tribes and Idaho, the combined implementation intent expressed in sections 2 and 3 in this appendix will be followed.***

3.1. Department staff shall engage ODFW counterparts to review and modify, as appropriate, basic spawner escapement and management policy, including use of hatchery production strategies, to meet policy intent. Where potential differences in WDFW and ODFW perspectives may occur, the Department will:

- seek to develop shared long-term management goals
- where significant change would occur from current objectives explore implementation timeframes and creative strategies that potentially could be meet long-term objectives while limiting the need for short-term disruptive impacts.
- where critical scientific uncertainties exist that limit the agencies' ability to resolve differing perspectives, seek to resolve these uncertainties through specific evaluation and decision response frameworks.
- seek scientific peer review to assist resolution of potential differences where appropriate

3.2. This discussion and review needs to occur as an additional context to annual fishery and production planning.

- review and renewal of in-river management plans and agreements will provide essential opportunities that will be utilized to implement policy intent.
- coho and chinook harvest objectives and strategies that target hatchery fish will be a priority for review and change.
- develop joint work plans and management plans as appropriate
- collaborate on management innovations that will increase resource protection effectiveness while limiting short-term disruptions to fishery benefits
- work with ODFW to recognize and accommodate their internal planning requirements to ensure effectiveness of joint work

4. ***Provide leadership within PFMC and PSC management forums to ensure effective integration of the policy's management intent and guidelines into MFCMA and international management plans and actions.***

4.1. Department staff will actively participate in formal policy and technical roles in these forums to:

- share and incorporate desired management goals and objectives.
- effectively negotiate reductions in Canadian exploitation rates on Washington-origin salmon stocks, especially chinook and coho.
- develop joint management planning and approaches for new initiatives (e.g., mass marking and selective fisheries) to ensure domestic management success
- recognize process timelines to develop effective workplans to effect change

4.2. Department will develop cooperative efforts and strategies among domestic management entities to maximize success in these forums

4.3. Department will review and shape federally proposed management objectives and strategies to achieve consistency with policy intent.

Habitat Annex - Action Strategies

The Habitat element involves: (1) salmonid requirements for survival, growth and reproduction; (2) how these requirements are influenced by natural physical processes and habitat conditions throughout the various salmonid life stages; (3) how human activities have affected these natural processes and habitats; (4) representative performance measures we can use to ensure success; and (5) examples of actions we can take to maintain or restore the processes and habitats vital to salmonid production. This annex provides action strategies we recommend in order to be successful in meeting the habitat goals and ultimately the overall goal of the Wild Salmonid Policy.

Components of Habitat Protection and Restoration Action Strategies

The Action Strategies are organized into the following components:

- ➤ Habitat Protection and Management
- ➤ Basin Hydrology and Instream Flow
- ➤ Water and Sediment Quality and Sediment Transport
- ➤ Stream Channel Complexity
- ➤ Riparian Areas and Wetlands
- ➤ Lakes and Reservoirs
- ➤ Marine Areas
- ➤ Fish Passage and Access
- ➤ Habitat Restoration

Each component provides recommended action strategies that will address the issues specific to that component. Please note that many of the recommended action strategies are actions already being taken at federal, state and local government levels, or being taken voluntarily by individual land owners. Because this is a policy, except in a few cases, it will not specifically identify all of the wide variety of existing programs and activities in place for habitat protection. Rather, the policy provides principles and processes in a more general sense and specific programs will be identified during implementation.

Inadequate attention to one or more habitat components within the habitat element may reduce or eliminate the benefit of another. For example, riparian buffers and stream channel complexity will be of reduced value to wild salmonids if instream flows are inadequate or fish access is precluded. For anadromous salmonids, production gained from freshwater rearing habitat can be lost if nearshore marine conditions for feeding and migration are inadequate.

Habitat quality is also related to all the other elements in the policy, particularly to spawner abundance and ecological interactions. Freshwater productivity can be heavily influenced by returning adult salmon whose carcasses provide a source of marine-derived nutrients (nitrogen, phosphorus and carbon) to the streams and riparian zones and lakes. Spawning aggregations of some freshwater salmonids produce similar responses in streams isolated from the ocean.

Action Strategies for Habitat Protection and Management

Habitat protection and management first require an overarching goal and philosophy to guide the policy implementation. They also require a number of institutional, housekeeping details to ensure efficiency of staff and budget for those involved or affected by this effort. This includes coordination of regulatory and proprietary efforts, up-to-date comprehensive information to guide habitat decisions, and sharing, interpretation and application of that information to habitat issues. Acquisition of key parcels or easements adjacent to salmonid habitat will be an effective way of partially protecting and restoring salmonid populations as well and will be a part of the overall habitat approach.

With this approach and framework in place, a habitat policy will address the issues of maintaining and restoring the physical and chemical processes necessary to meet salmonid life requirements, protecting and restoring key habitats and providing adequate migratory pathways between habitat types.

The following are examples of actions that will help to achieve the performance measures for this component:

A. While it will be the intent of the policy to avoid all habitat impacts, the policy recognizes that at times the needs of society will degrade habitat. Therefore, the policy will indicate that all future human actions potentially affecting salmonid habitat should use the following hierarchy of approaches:

    1. Protect from human impacts all useable wild salmonid habitat in freshwater, estuarine, and marine environments that is important to migration, spawning, and rearing.
    2. Fully mitigate salmonid habitat impacts due to or anticipated from human activity.
    3. Seek full compensation for direct losses of salmonids and irreparable harm to salmonid habitat due to unauthorized activities.
    4. Restore the wild salmonid habitat from its present condition up to its full productive capacity.

    This hierarchy will be applied to all planning activities and permit reviews under WDFW authority and is recommended for other agencies and private citizens as an approach to protecting salmonid habitat. Avoidance will be the most preferred and most commonly used form of protection. Mitigation will be used only when no practicable or feasible alternative exists, and compensation will be infrequently considered - usually reserved for fish kills or habitat damage where restoration is impossible.

B. Conduct a coordinated, comprehensive inventory and assessment of freshwater/marine salmonid habitat, including aquatic biointegrity, with periodic updates:

1. Include all habitats necessary for maintaining life history stages of existing and historical salmonid populations, incorporating both physical habitat elements and biological monitoring parameters such as water chemistry and prey-base assemblages and densities.
2. Use the inventory to establish and evaluate watershed protection and restoration strategies.

C. Define and improve quantitative relationships between physical habitat conditions and salmonid productivity. Establish habitat performance measures based directly on salmonid production/productivity.

D. Routinely review and update physical habitat performance measures in the policy to reflect the best available science.

E. Develop a process to coordinate local, state, tribal, and federal regulatory and proprietary authority that ensures opportunities for public review and input and that ensures that all components of the habitat policy are adequately and efficiently implemented. This coordination process should include regularly reviewing and recommending revisions to regulations and/or reviewing and revising typical permit conditions as appropriate to protect salmonid habitat.

F. Develop a statewide, unified natural resource damage assessment and restoration strategy that will fully compensate the public for unauthorized activities that injure salmonids.

G. In collaboration with affected parties and in other forums addressing these issues, develop and propose rule changes or legislative changes to improve wild salmonid protection in four major areas: (1) forest practices (including WDFW representation on the Forest Practices Board); (2) growth management (addressing minimum standards for zoning, platting, and protection of critical areas, and more complete integration of watershed planning with GMA); (3) water allocation (addressing water rights and permitting, instream flows beneficial to wild salmonids, exemptions, water conservation), and (4); agriculture. New forums may need to be established to accomplish this objective.

H. Support a uniform state water-type classification system for use in protecting salmonid habitats.

I. Provide public access to the wild salmonid habitat information to maximize the effectiveness of habitat protection and restoration efforts.

J. Identify key parcels of wild salmonid habitat as a priority for state-funded land-acquisition programs.

1. Support a dedicated funding source for securing wild salmonid habitat.
2. Acquire key wild salmonid habitats using watershed inventories and analyses as a basis for identifying critical habitats. Acquisition priorities should be consistent with restoration priorities.
3. Increase efforts to seek opportunities for land trades that secure wild salmonid habitat.

Action Strategies for Basin Hydrology and In-stream Flows

The basic life need for all living organisms is water and, obviously, a fish out of water is in trouble. The amount and quality of the water, and its pattern of flow are among the key factors of critical importance to salmonids.

The following are recommended action strategies that will help to meet the performance measures for basin hydrology and instream flows:

A. Build consideration and development of water conservation guidelines and standards into regional and watershed-based water resources planning and implementation. Such guidelines can, as needed, be used to restore instream flows. Continue development and use of water rights as a means to achieve water conservation to benefit instream flows. If needed, request funding for development of statewide water conservation standards.

B. Ensure that maintenance or restoration of the hydrologic regimes necessary to protect or restore salmonid habitats and life history needs are an integral part of upland management plans and practices, growth management planning, and stored water management plans.

1. Develop strategies to maintain, restore or emulate natural processes and land features that allow river basins to intercept, store, transfer, and release water so that instream flows are maintained and natural hydrologic regimes are attained.
2. Develop means (including incentives, zoning, reaggregation of small parcels, clustering) to retain forest, agricultural, and rural lands in order to protect the extent and functions of aquifer recharge and discharge areas, wetlands, riparian zones, and frequently flooded areas.
3. Develop mechanisms that limit the total effective impervious surface in a watershed subbasin to, or below, a threshold that prevents loss of habitat quality, habitat quantity, and salmonid diversity. In watershed subbasins currently exceeding this threshold, employ best available technology to manage existing or anticipated stormwater runoff. These efforts can be coordinated with development and implementation of a statewide stormwater-management strategy.
4. Integrate water-resource planning for instream and potable uses with growth management planning. Determine adequate water supplies in a manner that accounts for the protection of instream flows.
   a. Identify and map known or potential aquifer recharge areas.
   b. Protect and restore groundwater recharge and discharge areas that are important for wild salmonids.

C. Protect (and restore where feasible) floodplain habitat of value for wild salmonids.

1. Employ low-density and low-intensity zoning and regulation.
2. Utilize floodplain management measures that provide retention or reclamation of flood plain function and extent.
3. Require that new roads constructed in floodplains avoid increasing water surface levels and minimize the channeling effects that convert sheet flow to directed flow points (bridges, culverts) during flood events. Correct, to the extent possible, existing roads that function as dikes to reduce or eliminate their adverse hydrologic impacts.
4. Forest harvest planning can include harvest scheduling - including rotation ages that will prevent damaging changes in stream hydrology from rain-on-snow events and other hydrologic effects. Forest-road densities can be limited to thresholds which avoid damaging changes in stream hydrology.

D. Establish and maintain instream flows (minimum low flows, channel-forming and maintenance flows) that optimize habitat conditions for migration, spawning, incubation, and rearing for wild salmonids and their prey base.

E. Maintain instream flows by modifying stored water release strategies and addressing interbasin transfers of water.

F. Protect instream flows from impairment by groundwater withdrawals where groundwater is in hydraulic continuity with surface water. This protection includes minimizing the effects of single family exempt wells on stream flows.

G. Promote the use of best available irrigation practices that emphasize water and wild salmonid habitat conservation. State funding for new installation and upgrades of water delivery systems will be provided only where best available technology is used.

H. Where voluntary compliance has not been successful, attain and maintain instream flows through (1) increased enforcement of existing instream-flow regulations, (2) active pursuit of relinquishments, (3) reduction of waste, (4) increased water-use efficiency, (5) dedication of water from federal projects, (6) pursuit of water rights, and (7) denial of new consumptive water rights.

I. Institute specific wild-salmonid habitat protection criteria as part of the analysis to determine which flood control projects will be funded. These criteria will include channel-forming functions and values, bed character and quality, and overwintering habitat areas.

Action Strategies for Water Quality and Sediment Quality, Delivery and Transport

Salmonids are dependent on abundant, clean, cool water for their survival. Several water quality components are important to, or regulate, salmonid habitat and resources: water temperature, dissolved oxygen, pH, total suspended solids (TSS), and specific toxic materials. The quality, delivery and transport of sediments throughout stream channels, lakes, and marine areas plays a significant role in salmonid survival and production.

The following action strategies are recommended in order to meet the performance measures for water quality and sediment quality, delivery and transport:

A. Ensure surface water runoff, water discharge, water conveyance systems and irrigation return flows meet quality standards for a receiving stream channel or surface water.

B. Establish spawning and rearing habitat criteria (e.g., percent fine sediment) through the state water quality standards triennial review process.

C. Develop a statewide stormwater management strategy that illustrates how land use patterns affect impervious surfaces and stormwater runoff and how to use hydrologic modeling to develop land use options to avoid significant changes in basin hydrology and non-point source point pollution.

D. Develop a statewide, unified aquatic-sediments strategy to prioritize clean up of contaminated-sediment sites associated with salmonid production.

E. Continue to support a statewide, unified natural resource damage incident response, clean-up and assessment and restoration strategy to fully compensate the public for damages incurred due to releases of toxic substances.

F. Organize a forum to promote understanding and communication between the fish and wildlife management community and the agricultural community on issues of salmonid production and the production of agricultural crops and products. This could be modeled on the Timber, Fish and Wildlife Agreement that was used to address the interactions of timber management activities and fish. Develop an improved regulatory framework including best management practices that assures agricultural activities will comply with federal and state water quality requirements.

G. Recommend "total maximum daily loading" (TMDL) for point and non-point pollution activities:
   1. Develop an improved version of watershed analysis or equivalent procedure to meet Clean Water Act requirements.
   2. Specify TMDLs that recognize the value of salmonid carcasses up to historical levels as a source of nutrients.

H. Develop interim approaches, including best management practices, for impaired water bodies or watersheds for which a TMDL has not been developed.

I. Seek to defer or condition activities or permits that will adversely affect state waters to ensure that no further degradation would occur.

J. Promote land-use practices that prevent significant changes in the delivery and transport of sediments. Priority consideration will be given to high-risk areas where potentials for impacts are greatest, such as highly erodible areas.

K. Promote sediment control measures for activities that can introduce unnaturally high levels of fine sediments into streams and estuaries such as gravel or rock crushing/washing, road use in wet weather, and land clearing on erodible soils.

L. Advocate sediment control measures which protect all waters, including Type 4 and 5 streams (WAC 222-16) especially in areas with steep headwall slopes, unstable slopes, and high mass-wasting potential from sedimentation and pool filling, and to protect the integrity of downstream salmonid-bearing waters.

M. Manage watersheds to ensure that gravel and sediment delivery to streams is at levels that will maintain favorable substrate conditions for spawning and rearing salmonids.

N. Review designs of dams and water diversion structures to facilitate the normal downstream transport of sediments. Require gravel supplementation to mitigate gravel supply depletion.

O. Ensure that gravel removal and dredging operations are evaluated and conducted in a manner that protects wild salmonid habitat, including instream, riparian, wetland, and marine resources.

Action Strategies for Stream Channel Complexity

Salmonids have evolved and adapted to streams which possess a variety of in-channel features important to their survival, growth, migration, and reproduction. These features include pools, riffles and intermediate areas such as glides, cascades and waterfalls. Other features include substrate size and distribution (silt, sand, gravel boulders, etc.), sediment delivery and transport processes, water depth and velocity, undercut banks, side channels and instream large woody debris. These features collectively define the complexity - or simplicity - of a stream channel. On balance, complex channels are more productive for salmonids than simple channels.

The following action strategies are recommended for maintaining or restoring stream channel complexity:

A. Allow river and stream channels to maintain or restore their natural meander patterns, channel complexity and flood plain connectivity. Where feasible, restore these features.

B. Maintain or provide functional riparian corridors. See also action strategies under riparian areas and wetlands (next component).

C. Avoid or minimize channel relocations or encroachments. Where channel relocations are absolutely necessary, ensure that new channel design and construction will not result in a net loss of function or value. Where altered channels are being rebuilt or restored, the reconstruction design should conform to the performance measures identified in this component.

D. Restrict large woody debris (LWD) removal from stream channels and floodways. Where LWD removal is warranted because of damage to property or capital improvements, relocate LWD to other areas within the channel. Discourage LWD removal for other purposes.

E. Develop performance measures, including channel complexity and sinuosity, for historically non-forested areas and intertidal lands of rivers and streams.

Action Strategies for Riparian Areas and Wetlands

Riparian areas and associated wetlands perform a variety of functions, all of which have a direct or indirect effect on salmonid production.

The following action strategies are recommended to protect and restore these areas:

A. Develop wetland protection standards specific to the needs of wild salmonids.

B. Support a mechanism of wetlands inventory, tracking and characterization.

C. Develop integrated strategies to include regulatory and non-regulatory approaches (e.g., incentives such as current-use taxation, conservation easements, awards/recognition, or land trusts or other forms of acquisition) to improve stewardship of riparian and wetland areas and buffers supporting wild salmonid habitat.

D. Ensure that land-use plans avoid the loss or degradation of riparian and wetland areas, fundamentally through land use allocation, and secondarily through application of mitigation techniques.

E. Where wetlands alterations are unavoidable, support wetlands permitting programs to achieve no net loss of wetland acreage and function.

    1. Provide for a mechanism to assess the effectiveness of wetlands mitigation to replicate wetlands functions and extent.
    2. While avoidance of wetland impacts is preferable, there may be times when off-site mitigation is more practical, affordable and effective. A state mitigation banking protocol should be followed when site specific wetland impacts are unavoidable and mitigation should occur within the same watershed. The protocol should ensure the needs of wild salmonids are met, including criteria for success and monitoring strategies.

F. Over the long term, seek to gain an increase in wetland base and functional characteristics.

G. Oppose new road construction or other encroachments in riparian areas and wetlands. Where construction, reconstruction, or upgrades are unavoidable, minimize encroachments in riparian areas and wetlands and mitigate for adverse impacts.

Action Strategies for Lakes and Reservoirs

Lakes and reservoirs are significant and ever-changing features of the landscape of Washington. The over 8,000 lakes identified in the state vary widely in age and successional stage, origin, elevation, productivity, shape, hydrology and water quality, and in shoreline configuration and level of human development. Some are nearly pristine and virtually unchanged physically. Others, typically low-elevation lakes such the Lake Washington/Sammamish system, have been extensively altered and developed with wholesale changes in inlet and outlet drainage systems. Many lakes have been manipulated in some fashion; usually for lake-level maintenance, flood control or hydroelectric power generation, and they are often equipped with control structures at their outlets.

The state also abounds with human-built reservoirs. Most have been converted from previously free-flowing stream reaches. They range from small impoundments to single large dam/reservoir structures up to entire river system impoundments such as the Columbia River system of hydroelectric dams. Some are designed to allow fish passage, while others completely obstruct passage or the passage facilities are inefficient or ineffective.

Recommended Action Strategies for Lakes and Reservoirs include:

A. Ensure that land-use plans and regulations take into account the particular sensitivity of lake habitats as identified in the lakes introduction.

B. Develop lake level manipulation operations plans that protect salmonid habitat.

C. In areas of significant nearshore use by wild salmonids, minimize the size and numbers of docks, floats and ramps. Use community or shared/common structures where possible. Avoid the use of treated wood in these structures.

D. Develop strategies to address aquatic plant introduction and control issues.

E. Ensure that lake outlets afford free and unobstructed passage as necessary for anadromous and resident fish species.

Action Strategies for Marine Areas

Washington State has approximately 100 diverse estuaries within 14 regions, exhibiting structural, hydrological and biological diversity. As with freshwater habitat, salmonids have evolved their respective life histories around these patterns of estuarine development. Estuaries are critical transition areas where seaward-migrating smolts adapt to seawater and returning adults prepare to enter spawning streams.

Recommended action strategies for marine areas include:

A. Standards for basin hydrology and instream flows, water quality, stream channel complexity, and riparian areas and wetlands should be reviewed and modified to recognize and manage for functions necessary to maintain productive estuarine and nearshore marine habitats.

B. Ensure that maintenance or restoration of the natural marine shoreline processes necessary to sustain productive nearshore salmonid habitat are an integral part of upland and aquatic land-use planning.

C. Promote land-use planning that allows natural marine bluff and riverine erosion, sediment, nutrient, and large woody debris transport processes to create and maintain the productive marine habitats that salmonids depend upon.

D. Support mitigation sequencing (similar to habitat protection hierarchy) to fully mitigate for the potential impacts of proposed in-water or overwater structures on salmonid migratory pathways.

E. Include in watershed plans a program to restore diked, filled, and covered estuarine and tidally influenced habitats. Develop, promote, and seek funding for estuarine and tidally influenced habitat restoration.

F. Develop standards for aquatic lands to facilitate local planning to ensure salmonid productivity will be maintained or increased.

G. Develop a marine protected-areas strategy to include reserves for herring spawning habitat.

H. Develop integrated strategies to use regulatory and non-regulatory approaches to improve stewardship of estuarine wetlands through protection and restoration efforts.

I. Recognize the value of sediment transport to deltas and marine areas, and evaluate dredging and filling operations in a manner that protects nearshore marine, estuarine, and intertidal habitats and functions that wild salmonids depend upon.

J. Promote oil and hazardous substance spill prevention, contingency, and response planning to reduce risk, minimize exposures, remediate contaminated areas, and restore lost resource functions and services.

Action Strategies for Fish Access and Passage

Physical barriers interrupt adult and juvenile salmonid migrations in many parts of the state. Persistent blockages deny access to critical spawning and rearing habitat. Loss of access to habitat will reduce overall salmonid productivity and may result in loss of salmonid populations. Fish passage is affected by and related to all the previous habitat components. Basin hydrology and instream flow are obvious fish passage parameters. Less obvious are the attributes of water quality and sediment delivery and transport, riparian areas, and lakes and marine shorelines. Fish passage, in the sense of the presence of adult salmonids, especially spawners, also affects water quality, aquatic productivity, riparian vegetation, and spawning gravel quality.

Recommended action strategies to meet the performance measures for fish access and passage include:

A. Within three years, develop criteria, implementation processes, and compliance processes to identify, correct or remove existing human-caused fish passage problems in freshwater, floodplain and estuarine habitats.

B. Develop recommendations and coordinate with the U.S. Army Corps of Engineers (Corps) and federally licensed dam operators to implement, monitor, and evaluate controlled spill programs at dams, including dissolved gas abatement and other fish passage options, to maximize effectiveness for juvenile and adult salmonid passage.

C. Establish procedures for evaluating, adopting and implementing new fish passage technologies, including:

1. Automation of spillway operational facilities.
2. Development, testing and construction of surface attraction flow collectors.
3. Minimization of juvenile migrant transportation as the primary means of dam passage.
4. Construction of gas abatement structures and operation strategies to control gas supersaturation.

D. Promote land-use plans that prevent the impacts of road construction on fish passage. Associated components include:

1. Reducing needs for new highways and streets via land use planning and transportation planning including such things as light rail, ride-sharing, etc.
2. Reducing number of individual private roads for individual residences.
3. Limiting most new growth to urban areas while retaining large blocks of habitat in rural areas.

E. Incorporate consistent state-wide criteria and guidelines for fish passage and screening into future design, construction, or alteration of instream structures, roads, and facilities.

F. Develop and expand programs to educate people regarding fish passage issues, and when stream crossings are unavoidable, assist them in the designing and constructing of instream structures which facilitate free passage.

G. Develop an equitable long-term funding mechanism and other incentives to share costs of passage restoration.

H. Develop and implement effective monitoring and maintenance programs, and compliance processes that assure fish passage and screening structures are safe and efficient.

Action Strategies for Habitat Restoration

Any strategy designed to maintain or recover salmonid populations should have as a basic underpinning meaningful protection of existing habitat. Continual restoration of unmitigated impacts to wild salmonid habitat is undesirable, often ineffective and the most costly means to achieving salmonid population recovery; in the long run salmonid populations are best protected by ensuring habitat protection.

The following action strategies are recommended in order to meet the performance measures for habitat restoration:

A. It is the legislature's intent to minimize expense and delay due to obtaining required permits for projects that preserve or restore native fish habitat (Chapter 378, Washington Laws). The law defines watershed restoration projects and provides that projects that have been reviewed under the State Environmental Policy Act shall be processed without charge and permit decisions shall be issued within 45 days of filing a completed application. The state agencies with permitting responsibilities relevant to watershed restoration should fully implement Chapter 378. They should continue to examine opportunities to increase their efficiency in processing project permits and to enhance the design and effectiveness of restoration projects.

B. Apply best available science and adaptive management to restoration strategies and activities:

   1. Where possible use some form of watershed analysis that identifies the physical, chemical and biological processes that may affect the success of the restoration strategy.
   2. Employ watershed restoration mechanisms and technology to restore and maintain habitats to optimum conditions for salmonid spawning, rearing, and migration.
   3. Use qualified experts to analyze, design, and construct specific projects and to evaluate the success of the strategy.
   4. Ensure that monitoring and contingency planning is included in project design.

C. Prioritize restoration activities. Considerations for priority would include:

   1. Salmonid stock status, if available
   2. Harvest management plan

3. Population vulnerability
4. Possible positive or negative risks or consequences to wildlife or capital improvements
5. Community/landowner acceptance and/or support
6. Feasibility and probability of long-term success
7. Compliments existing completed restoration projects
8. Level of funding, opportunity for partnerships
9. Ability to obtain permits in a timely, affordable basis

D. Plan habitat restoration at multiple scales (subbasin, basin, watershed, state, region) to ensure efforts are consistent, coordinated, and effective.

E. Coordinate salmonid habitat recovery plans with other planning processes such as GMA, watershed planning, flood control planning, etc.

F. Support stable funding source(s) for salmonid habitat restoration in capitol budgets in order to provide time and predictability for planning, development, implementation and monitoring.

G. Establish criteria for salmonid habitat restoration to be incorporated into appropriate state grant funding program selection processes.

H. Where recovery of habitat is possible, pursue restoration measures to allow wild salmonids to recolonize areas they historically occupied.

I. Develop an education outreach program to local communities to foster environmental stewardship.

J. Work with local governments to assure the availability to landowners of incentive programs, such as current-use taxation, and to advocate land stewardship and recognition programs.

K. Develop a coordinated, statewide geographic information system - including mapped and tabular data - among federal, state and local governments for cataloging habitat extent, condition, and restoration needs. Data should be organized and accessed according to watershed and made available to all entities who are conducting watershed protection and restoration projects.

L. Use water conservation and water purchases to restore instream flows. This should include budget authorization to purchase water, water rights, or relinquished water rights and transfer them to the trust water rights program.

M. Pursue federal and state flood-control funds for restoration of wild salmonid habitat that has been damaged by flooding or flood-control activities. This could include non-structural solutions to flood damage reduction such as relocation of structures; removal of dikes and levees; and reconnection of sloughs, former side channels, oxbows and wetlands.

N. Provide technical support (engineering, biological assessments) to watershed groups.