

STEELHEAD:
HISTORIC ABUNDANCE
PUGET SOUND
NORTHWEST COAST

SOURCES/METHODS

- REPORTS TO US COMMISSION OF FISH & FISHERIES (1892, 1898, 1900, 1904, 1923)
- WDFG FISHERIES DIVISION 1890-1923
- WDFG CATCH DATA 1948-PRESENT
- WDFG TRIBAL CATCH DATA 1934-1978
- L.A. ROYAL REPORT 1972

NOTES ON EARLY DATA

- EARLY DATA BASED UPON TERMINAL FISHERIES CATCHES (I.E. PUGET SOUND DATA NOT LIKELY TO HAVE INCLUDED FRASER RIVER SH
- CONVERTING POUNDAGE TO #'S OF FISH
- QUEETS:
 - December (35%): 9.1 pounds
 - January (37.5%): 10.1pounds
 - February (18%): 10.4 pounds
 - March (9%): 10.1 pounds
 - April (<1%): 9.2 pounds

HISTORIC ABUNDANCE OVERVIEW

RIVER	DRAINAGE	HISTORIC	CURRENT	%
HOH w/r	299	35,000-60,000	4,500	7%-12%
HOH s/r		1000-2000	<100	~5%
PUGET SOUND		600,000-820,000	~13,000	1.5%-2%
STILLY	684	80,000-95,000	<600	<1%
QUEETS w/r	450	49,000-81,633 (1923)	6,188	7.6%-12.6%
QUEETS s/r		1,200-2000 (1952)	<100	extinct?
QUINAULT w/r	434	19,000 (1952)	4,892	26%
QUINAULT s/r		1,200-2,100	<50	extinct?

STEELHEAD COMMERCIALY VALUABLE & TARGETED SPECIES

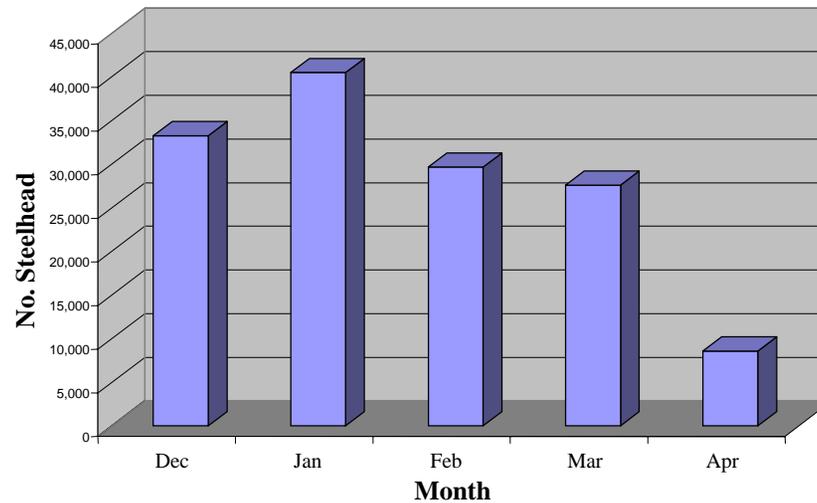
- *Steelheads are the most plentiful and also the most valuable as market fish on account of their standing long transportation better than other species ... prices received by the fishermen were (1895), for steelhead, 3 cents a pound; chinook, 2 cents a pound; silver, ... average of 1 cent a pound; humpback, ... average 1/2 cent a pound."*

- *"The fresh-fish trade has within the few years of its existence seen many changes, many firms having started ... their efforts, grow in size and importance, as shown by the shipments of fresh fish, in carload lots, to points east of the Rocky Mountains, as follows: 195,250 pounds in 1890; 690,210 pounds in 1891; 2,131,130 pounds in 1895. In addition... the carload shipments by express in 1895 were 2,120,874 pounds, distributed in small lots through the interior of Washington, Idaho, Montana, and Colorado, making the total shipments of fresh fish by rail from Seattle, in 1895, 4,252,004 pounds."*

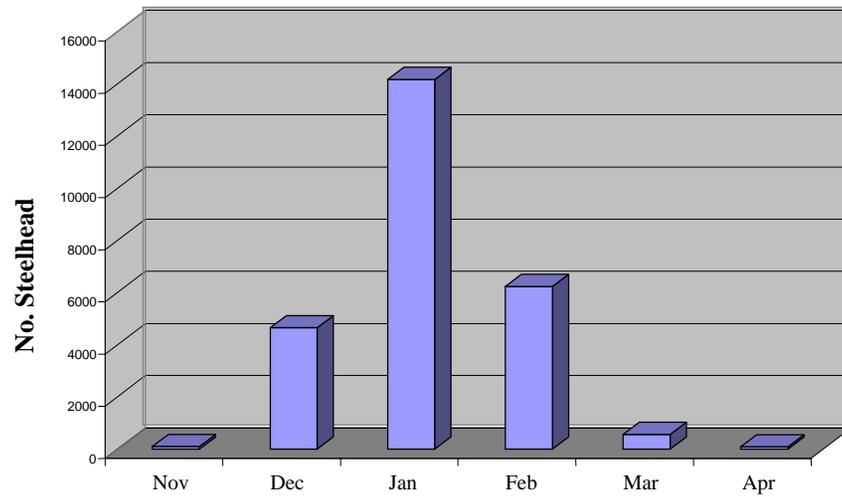
HISTORIC RUN TIMING

WINTER STEELHEAD CATCH DISTRIBUTION

**Sport Catch of Winter Steelhead in Washington State by Month:
1954-61 When Steelhead Returns Were Primarily Wild.
From L.A. Royal 1972.**

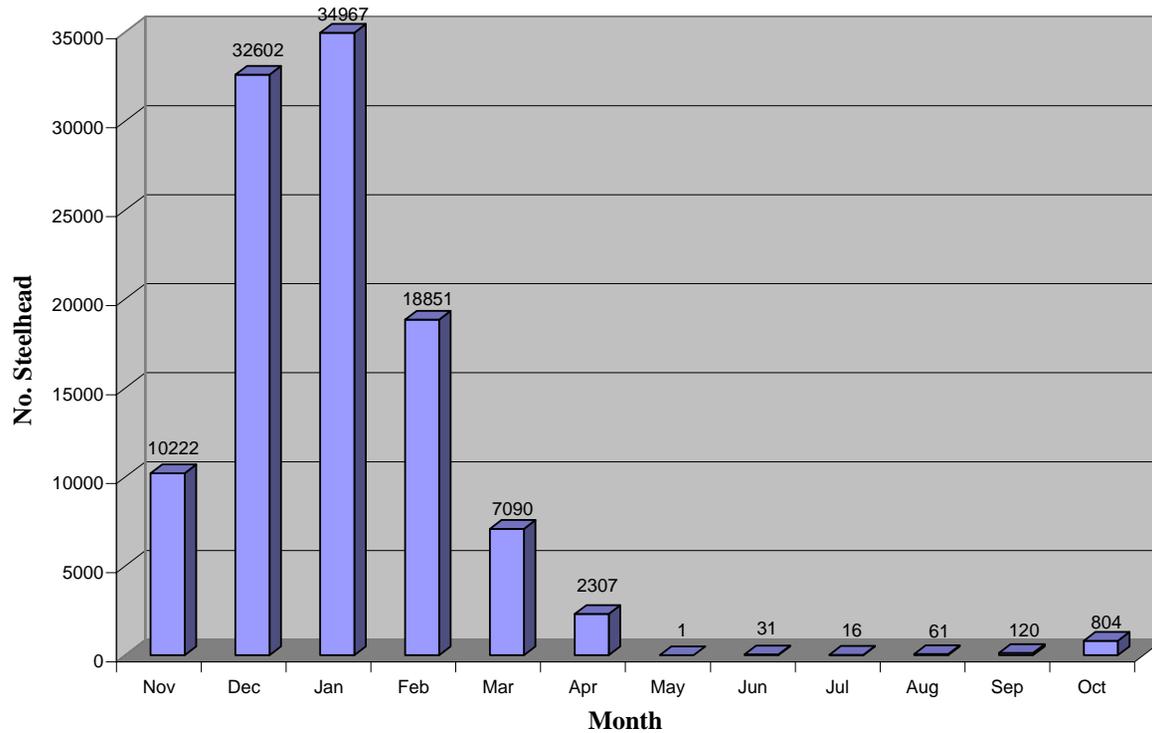


NISQUALLY



QUEETS HARVEST DISTRIBUTION

Queets River Wild Winter Steelhead Tribal Harvest by Month 1934-1979



CONSEQUENCES: HATCHERY/HARVEST PRACTICES

- SHIFT TO WIDESPREAD HATCHERY INTRODUCTIONS COMMENCING 1962
- HARVEST TARGET FOCUSED ON EARLY COMPONENT OF STEELHEAD RUNS (85%-90% HARVEST RATES)

COMBINATION

- most wild winter steelhead historically returned early (December-February);
- most wild steelhead historically spawned in tributaries;
- early wild steelhead spawning was once of greater importance than presently considered or managed for;
- conditions now favor early steelhead spawning even more than was historically the case;
- early entry wild winter steelhead have been nearly eliminated.

PRESENT

- SIMPLIFIED LIFE HISTORY STRUCTURE
- ELIMINATION OF EARLY WINTER RUNS
- EXTIRPATION OF SUMMER RUNS
- REDUCED FREQUENCY OF REPEAT SPAWNING
- INCOMPLETE UTILIZATION OF EXISTING HABITAT

STEELHEAD/SALMON

- CURRENT STEELHEAD ABUNDANCE CONSISTENT WITH DRASTICALLY REDUCED SALMON POPULATIONS – TYPICALLY 1%-5% OF HISTORIC ABUNDANCE
- QUINAULT/QUEETS SOCKEYE
- COASTAL CHUM

QUEETS

Species	Year	Total Lbs.	Avg. Wt.	Harvest	Run Size
Chinook	1925	167,520	20 lbs	8,376	16,752-27,920
Sockeye	1915	241,920	7 lbs	34,560	69,120-115,200
Coho	1912	400,000	8 lbs	50,000	100,000-166,667
Chum	1914	163,200	9.5 lbs	17,158	34,316-57,193
Pink		no record of a catch			

CURRENT	Est. Run Size	% of Historic
Chinook	~5,500-6,000	20%-30%
Sockeye	<100	<1%
Coho	2,500-9,000	1.5%-9%
Chum	<200	<1%
Pink	<100	?

CURRENT MANAGEMENT GOALS

- NOT SUFFICIENT TO RESTORE STOCK RESILIENCY/ABUNDANCE
- DO NOT PERMIT STOCKS TO MAKE FULL USE OF EXISTING HABITAT
- RESIDENT CONTRIBUTIONS

COASTAL HABITAT

- VIRTUALLY ALL OP RIVERS CONTAIN SIGNIFICANT PERCENTAGE IN PRISTINE CONDITION
- HOH – 70% INSIDE ONP
- QUEETS – 60%
- QUINAULT – 55%
- QUILEUTE – 45%

IS RECOVERY POSSIBLE?

- ACCEPTANCE OF CRISIS AND RECOGNITION THAT DRAMATIC CHANGE IS REQUIRED

EXAMPLES

- PUGET SOUND
- SITUK
- FRASER
- KAMCHATKA

REQUIREMENTS

- FULL EXPRESSION OF LIFE HISTORY COMPONENT
- FULL UTILIZATION OF HABITAT

PUGET SOUND

- COMMERCIAL ELIMINATED
- SPORTS CATCH LIMITED BY ACCESS, DEPRESSION, WW II
- RECOVERY BY LATE 1940'S TO LEVELS THAT SUPPORTED VERY ROBUST HARVEST FISHERIES – SKAGIT, STILLY, SNOHOMISH, PUYALLUP, NISQUALLY

CONTINUED

- HABITAT MAY HAVE ACTUALLY BEEN WORSE – SPLASH DAMS, SAWMILL EFFLUENTS, MASSIVE CLEARCUTS OF OLD GROWTH STANDS, LACK OF CULVERT STANDARDS AND SO ON
- NONETHELESS, POPULATIONS STAGED DRAMATIC RECOVERY
- THESE RECOVERED POPULATIONSCOLLAPSED WITH INTRODUCTION OF HATCHERY FISH
- CURRENT MANAGEMENT GOALS GENERALLY LESS THE 30% OF 1940'S *DOCUMENTED HARVESTS*

SITUK RIVER

- STEELHEAD DESTROYED AT WEIR
- 1953 POPULATION VIRTUALLY ELIMINATED
- ELIMINATION OF TARGETTED DESTRUCTION
- IMPLEMENTATION OF VERY LIMITED HARVEST
- PRISTINE HABITAT (BUT SMALL)
- POPULATION HAS APPROXIMATELY DOUBLE EACH DECADE SINCE 1955
- CURRENT POPULATION ~12,000-15,000

FRASER RIVER

- L.A. ROYAL LEADERSHIP
- COMPARE TO COLUMBIA:
HATCHERY/WILD
- HABITAT/PASSAGE
- PROTECTION OF EACH POPULATION
COMPONENT

FRASER CONTINUED

SPECIES	1917-49	1949-82	1983-1990
SOCKEYE	3.3M	5.6M	10.8 M

NOTE: 22.0 M RETURNED 1990

1937-1985 EXPENDITURES = \$21.3 M

1937-PRESENT COLUMBIA EXPENDITURES =
~\$2.5 BILLION

KAMCHATKA

- 1972-1994 INDUSTRIAL GRADE POACHING
DRAMATICALLY SIMPLIFIED LIFE HISTORY
DIVERSITY AND OVERALL ABUNDANCE
- 1994-PRESENT: WILD SALMON CENTER/MOSCOW
STATE UNIVERISTY KAMCHATKA STEELHEAD
PROJECT
- ELIMINATION OF POACHING
- RAPID RECOVERY OF STEELHEAD POPULATIONS

KAMCHATKA CONTINUED

- REAPPEARANCE OF ALL PREVIOUSLY RECORDED LIFE HISTORIES
- DRAMATIC INCREASE IN OVERALL ABUNDANCE WITH CURRENT POPULATIONS IN THE RANGE OF 5,000-10,000

RECOVERY: COMMON ELEMENTS

- NO HATCHERY FISH
- LOW/NO HARVEST
- FACILITATE EXPRESSION OF ALL LIFE HISTORY SEGMENTS

- SET MUCH HIGHER ESCAPEMENT GOALS
- PROTECT RESIDENT *O. mykiss*
- ELIMINATE HATCHERY PLANTS
- FOSTER SALMON RECOVERY
- IMPLEMENT RIGOROUS MONITORING/EVALUATION PROGRAM