

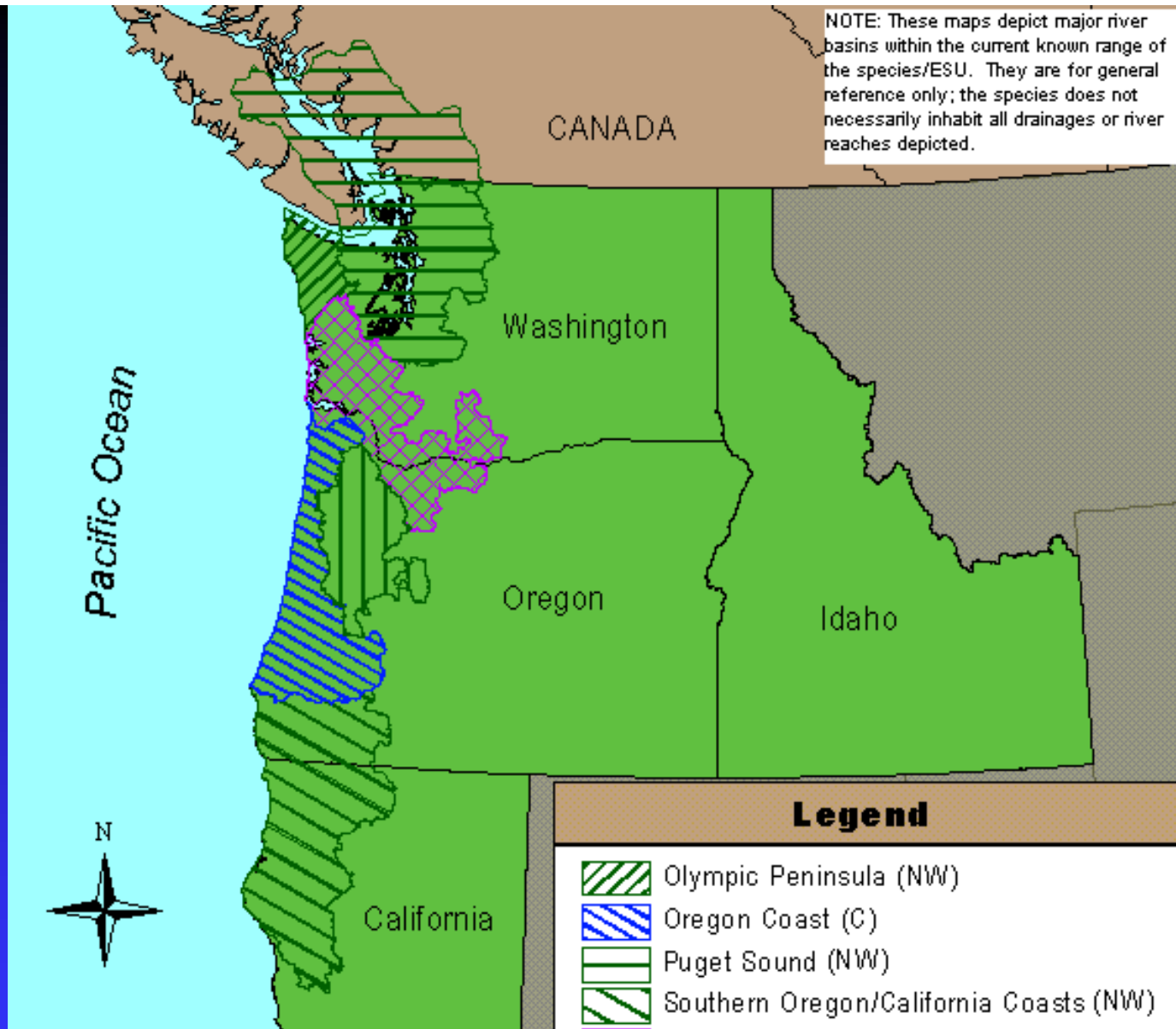
Coastal Cutthroat Trout In the Columbia River

Tidewater, Estuary, and Ocean
Plume



SEI Panel March 2001

NOTE: These maps depict major river basins within the current known range of the species/ESU. They are for general reference only; the species does not necessarily inhabit all drainages or river reaches depicted.



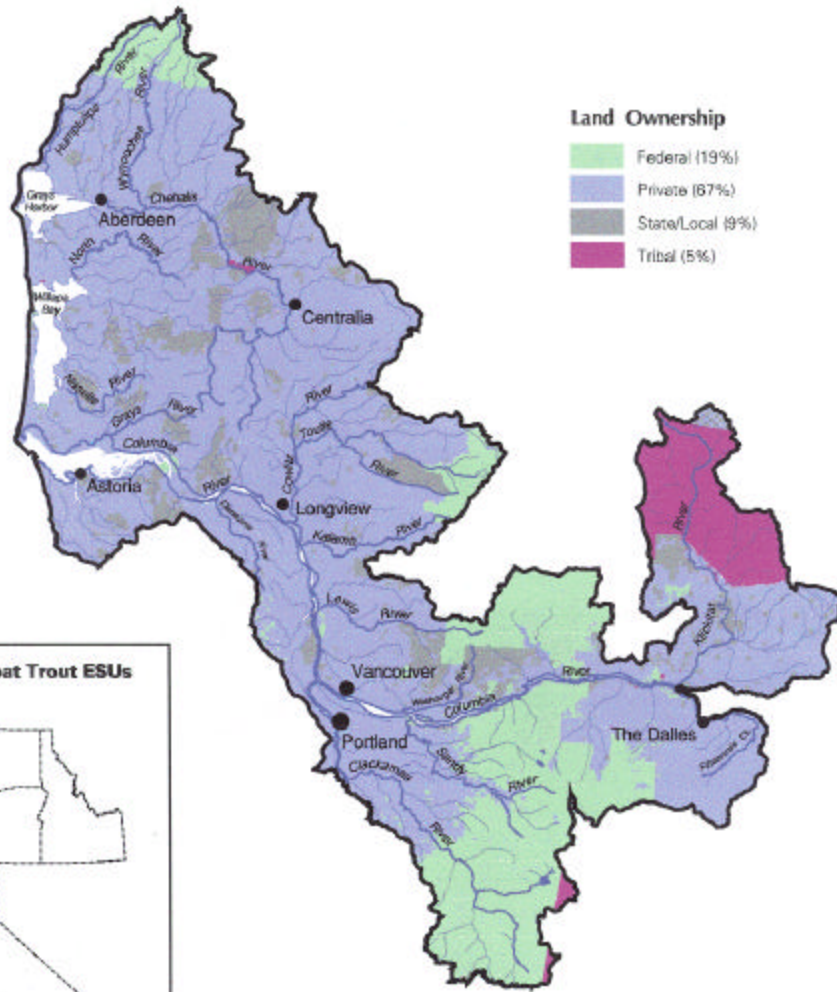
Status

PT - Proposed Threatened
C - Candidate
NW - Not Warranted

Legend

-  Olympic Peninsula (NW)
-  Oregon Coast (C)
-  Puget Sound (NW)
-  Southern Oregon/California Coasts (NW)
-  SW Washington/Columbia River (PT)
-  Upper Willamette River (NW)

SOUTHWESTERN WASHINGTON/COLUMBIA RIVER CUTTHROAT TROUT ESU



United States Department of Commerce
 National Oceanic & Atmospheric Administration
 NATIONAL MARINE FISHERIES SERVICE
 HABITAT CONSERVATION DIVISION
 525 N.E. Oregon St., Suite 419
 Portland, OR 97232
 Tel (503) 251-2223

Scale:
 0 10 20 40 Miles
 0 10 20 30 40 Kilometers

MAP DATE: 2/24/99
 PROJECT: 214
 HCON/HRM/WS/ST/DC/TT/7



Water Map is for general reference only.

Coastal Cutthroat Trout: Life History

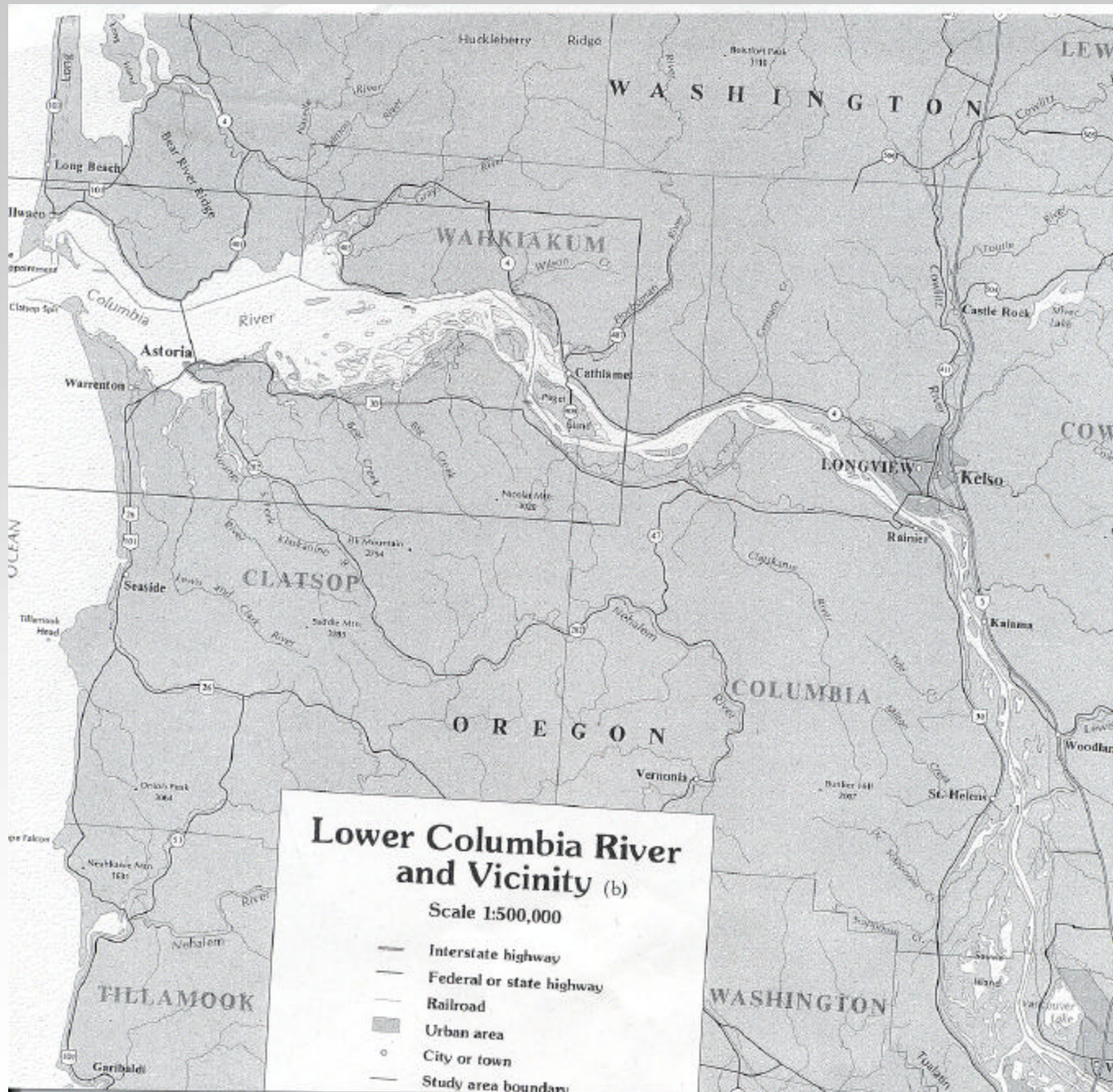
- Most Complex Life History Strategies of the Pacific Salmonids
- Four Life History Forms
- May be Multiple Forms in Single Watershed
- May Annually Switch Migratory Strategies
- Resident Forms may Produce Migratory Forms
- Great Behavioral Flexibility/Life History Diversity, but... Declining Throughout Range

Reasons For Listing Proposal- SW Washington/Columbia River

- Widespread Declines in Abundance
- Small Population Size – Anadromous
- Degradation of Habitat Quality/Quantity:
 - ◆ Riverine
 - ◆ Estuarine

Potential Causative Factors – Anadromous Life Form

- Reduction of stream and estuary habitat complexity
- Significant decline of near-ocean productivity since mid-1970's
- Increased mortality due to predators
- Genetic and fishery consequences of widespread use of hatchery trout
- Angler Harvest



Columbia River Coastal Cutthroat Trout Spawning

- Spawn in December-May, Peak in February
- Small tributary streams
- Iteroparous
- First Spawning at 4-5 Years

Columbia River Coastal Cutthroat Trout Upstream Migration

- River Migration may Begin in July
- River Migration Peaks in August/September, Declining in October
- Approx. 50% First Return/Non-Spawn
- Feeding Occurs During Migration

Columbia River Coastal Cutthroat Trout Juvenile

- Most Wild - Two or Three Years in Freshwater
- Hatchery – One Year in Freshwater

Columbia River Coastal Cutthroat Trout Estuary/Saltwater Migration

- Emigration from March to July
- Peak in May: Kelts and Smolts
- Movement to Estuary and/or Ocean
- Feeding May Occur During River Migration
- Most Return to Freshwater Same Year

Columbia River Coastal Cutthroat Trout River Occupation

- Little Literature Found for Upper River
- Lower River from March to November, with peaks April to June, and August to September
- Unknown if River Provides Year-round Habitat

Columbia River Coastal Cutthroat Trout Estuary Occupation

- Older Juvenile/Adults may Overwinter in Estuary
- Minimal Sampling Effort, No Validation
- Appears to be a General Belief that Most Move into Ocean
- NMFS “Mined” Data Set: Estuary Collections Scattered from Jan-Dec
- NMFS Data: Estuarine Occupancy: March - September

Columbia River Coastal Cutthroat Trout Ocean Occupation

- Present May to August
- Minimal Winter Data for Ocean Occupancy
- Generally in Ocean Plume
- Depth Distribution not Known
- Non-Schooling
- Not Collected in Minimal Shoreline Efforts

Columbia River Coastal Cutthroat Trout Feeding

- Tributary Rivers: Terrestrial/Aquatic Invertebrates
- Mainstem: No Information
- Estuary: Smolts: Schooling Observed; Food included Fish, Insects, Amphipods
- Estuary: Adults: Primarily Fish
- Ocean Plume: Primarily Fish, Including Salmonids

Columbia River Coastal Cutthroat Trout Habitat Use

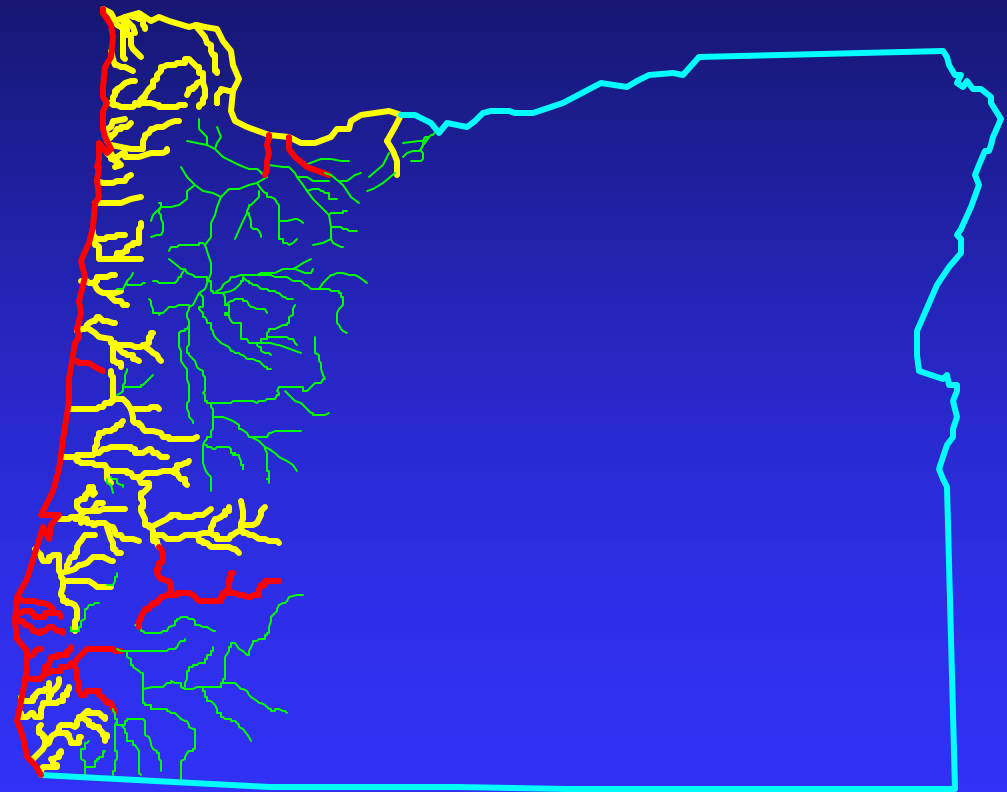
- Sampling Does Not Define Habitat Use or Preferences
- Sampling Not Designed for Side Channels
- Sampling Not Designed for Other Complex Habitat
- Cutthroat Anglers Traditionally Focus on Shoreline Areas

Columbia River Coastal Cutthroat Trout Hatchery v. Wild

- Estuary: In 1980, 84% Hatchery
- Ocean: In 1980, 50% Hatchery

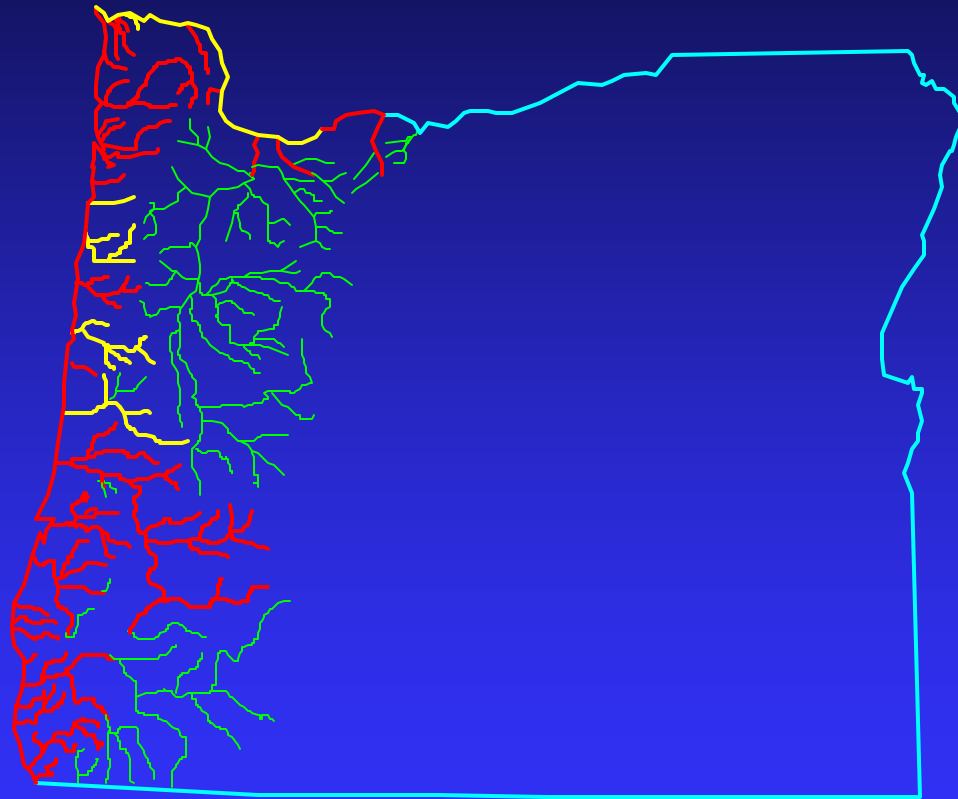
Historical Sea-Run Cutthroat Trout Hatchery Programs in Oregon

-  Hatchery
-  Wild Only
-  (Resident)



Current Sea-Run Cutthroat Trout Hatchery Programs in Oregon (1995)

-  Hatchery
-  Wild Only
-  (Resident)



Columbia River Coastal Cutthroat Trout Data Needs

- Minimal Effort to Study Cutthroat
- No Long Term Studies to Measure Abundance and Stock Characteristics
- Migration Data is Weak
- Old Data
- Winter Data for Ocean and Estuary
- Habitat Data Missing

Columbia River Coastal Cutthroat Trout Data Needs - Recommendations

- Basic Biology/Ecology: Population, age, size, survival, etc.
- Migration Studies in River, Estuary, Plume: Telemetry, Sonic, Strontium
- Microhabitat Evaluation

Columbia River Coastal Cutthroat Trout River, Estuary, Ocean - Conclusions

- Not Spawning or Age-0 Rearing Habitat
- Provide Rearing, Foraging, and Migratory Pathway for Older Life Stages
- Lots of Data Gaps: October through April, Upper River, Estuary, and Plume