

# **Coded Wire Tag Recovery Program - Columbia River**



**Oregon Department of Fish and Wildlife  
Pacific States Marine Fisheries Commission  
Washington Department of Fish and Wildlife**

# Columbia River CWT Recovery – What We Do

Recover CWTs from:

- Recreational fisheries
- Commercial fisheries
- Hatcheries
- Spawning grounds



In-season fishery catch and run size updates

Data analysis and summaries including:

- Run reconstruction
- Forecasts



# Columbia River Mainstem and Tributary Recreational Sampling

- Mainstem Columbia from the mouth (Buoy 10) upstream to Priest Rapids Dam (397 miles)
- 15 Washington tributaries
- Minimum sampling goals: 20% from the mainstem; 5% in the tributaries

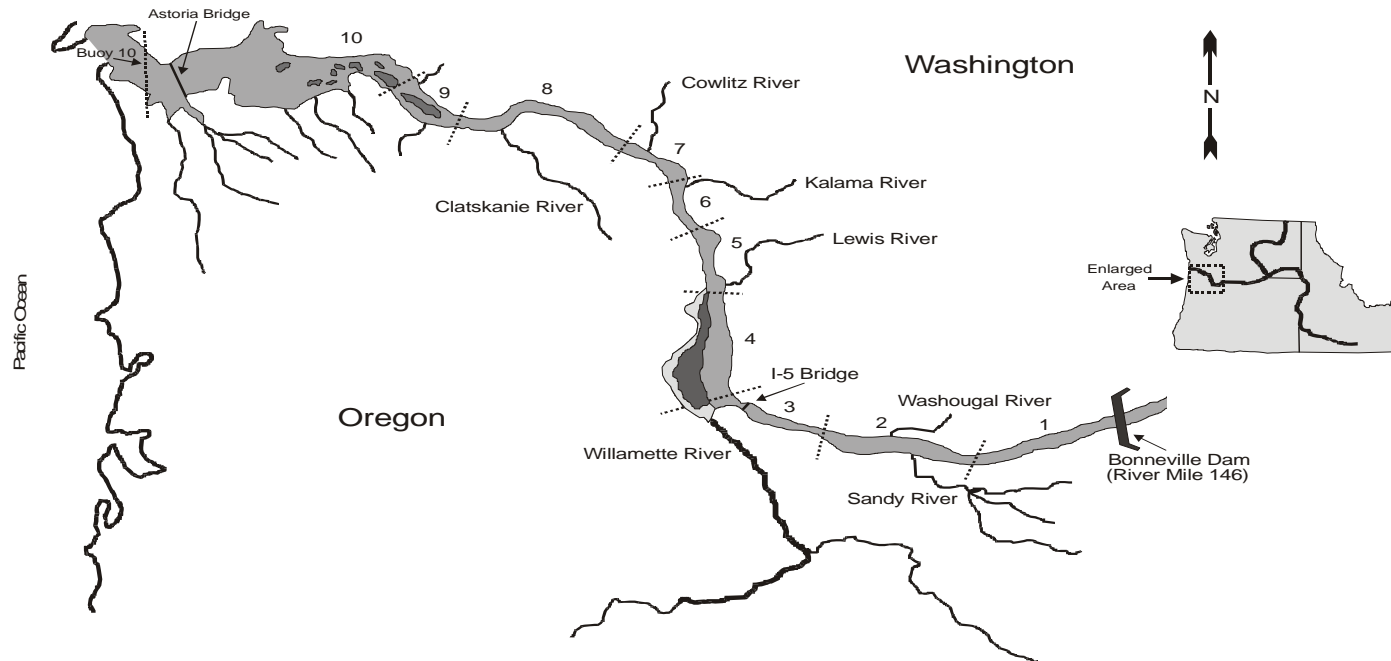


Figure 1. Recreational Sampling Sections on the Columbia River Below Bonneville Dam

# Some products from recreational sampling

- Monthly and total effort and catch estimates stratified by:
  - river section or tributary
  - State
  - angler type  
(salmonid, sturgeon, shad, or walleye)
  - angling method (bank or boat)
  - catch by species  
(kept and released)
- Scale readings to determine age structure in each fishery
- Skin color calls and CWT readings to determine stock composition of individual fisheries



# Columbia River Commercial Fishery Sampling

- Non-Indian (including Oregon Select Areas) and Treaty Indian Fisheries from the mouth to McNary Dam (280 miles)
- Minimum sampling goal: 20% from each fishery

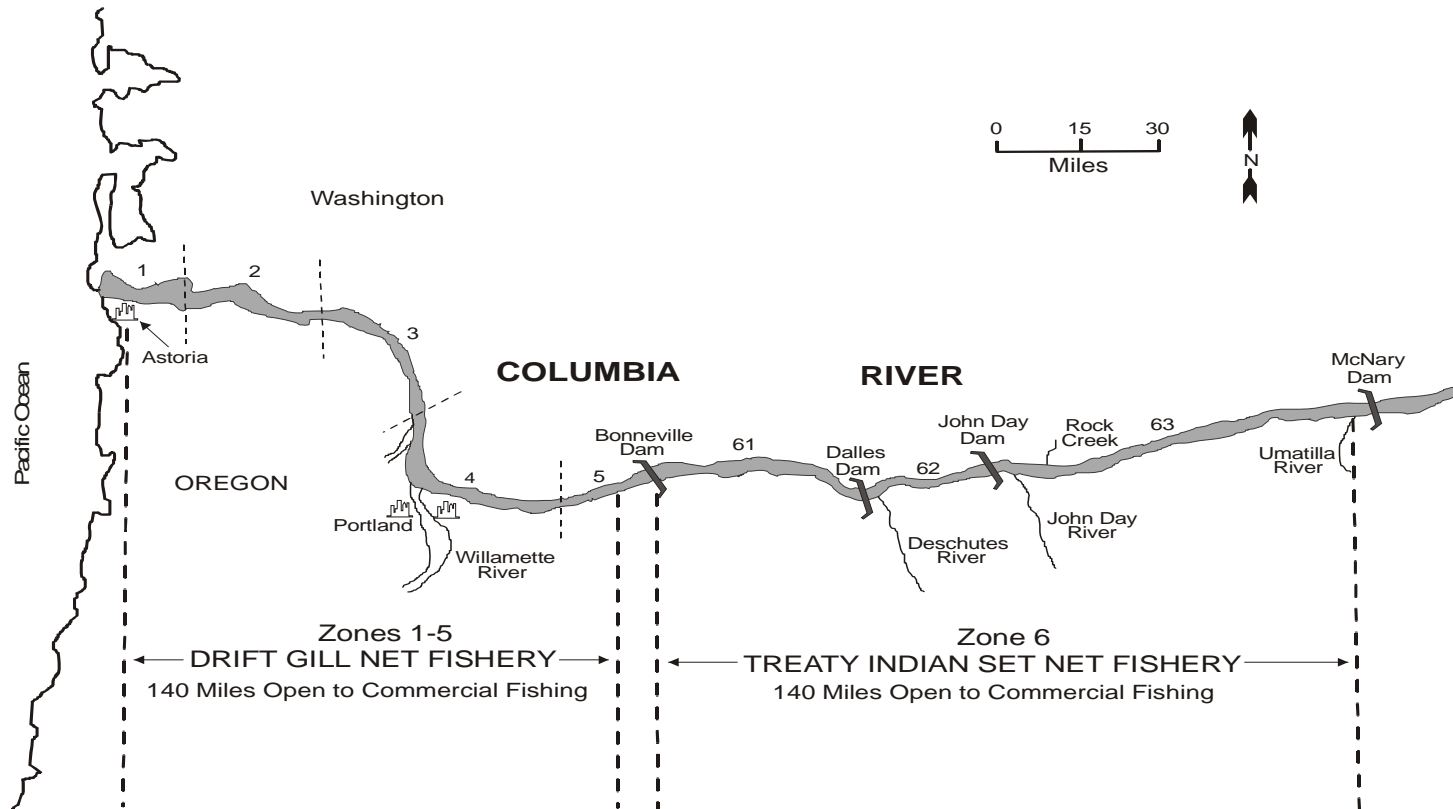


Figure 8. Commercial Fishing Zones on the Columbia River Below McNary Dam.

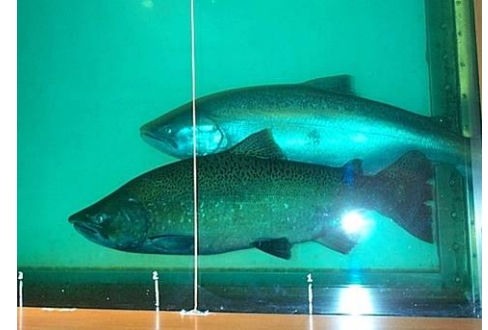
# Some products from commercial sampling

- Total landings by day, species, and zone for each fishery
- Scale readings to determine age structure and hatchery/wild composition of the catch
- Skin color calls and CWT readings to determine stock composition of individual fisheries
- Fork length data used to determine summer steelhead catch by stock from the treaty Indian fishery



# Columbia River Escapement Sampling

- 26 Washington (including Hanford Reach) and 12 Oregon naturally spawning chinook populations
- 9 Washington and 1 Oregon state hatcheries
- Bonneville Dam
- Minimum sampling goals:
  - 5% from each hatchery/spawning ground
  - 1% of the summer steelhead and fall chinook at Bonneville Dam



## **Some products from escapement sampling**

- Total annual natural spawning population estimates, by specie, for each stream
- Daily stock composition of fall chinook passing Bonneville Dam for in-season tule/bright stock updates
- Fork length data collected from summer steelhead sampled at Bonneville Dam used for in-season stock updates
- Scales readings used to determine hatchery/wild origins and age structures
- CWT readings used to determine strays and stock composition at each hatchery and spawning ground location



# Columbia River Run Reconstruction and Forecasts

- Using the spring and fall chinook age and stock composition from the recreational and commercial fisheries plus escapement, the total number fish in each stock is determined for a given year
- Using the historic run reconstruction database, cohort relationships are developed to predict returns by species, stock, and age for the upcoming year



# Some products from run reconstruction and forecasts

- Reconstruction databases which summarize the number of salmonids returning to the Columbia River by species, stock, and age, are maintained and updated
- Total accountability of spring and fall chinook returns to the Columbia River Basin are determined
- Preseason forecasts are accomplished for all major salmonid stocks and ESA-listed populations
- Survival and harvest rates for specific stocks

# Recent Accomplishments

## 2004 Oregon and Washington Columbia River Salmonid Mark Sampling Summaries and CWTs Observed

Recreational: 24,620 sampled; 1,544 CWTs

Commercial: 116,602 sampled; 7,710 CWTs

Escapement: 113,699 sampled; 3,908 CWTs

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GRAND TOTAL: 254,921 sampled; 13,162 CWTs

## **Additional Accomplishments**

- Daily in-season recreational and commercial catch updates, as needed, to meet salmon managers checkpoints to determine impacts to listed stocks
- Provide runsize information used to monitor recovery of ESA listed stocks in the Columbia River basin
- Washington undertook a major restructuring of its CWT Recovery Program in FY2004 to reduce management level costs and transfer those savings to hire more field samplers

# Regional Importance of the CWT Recovery Program

- Provide pre-season and in-season run size updates to the Columbia River Compact (U.S. v Oregon)
- Provide the Pacific Fishery Management Council run size forecasts for ocean and in-river salmon fisheries management
- Provide information for tracking recovery of ESA listed stocks listed in the BPA funded Sub-basin Plans, Lower Columbia Fish Recovery Board Salmon Recovery Plan, and National Marine Fisheries Service sub-basin and recovery plans.
- Major data contributor to StreamNet that provides information to state, federal, and tribal agencies, consultants, and the general public.

# Specific Examples of How CWT Recovery Data Has Been Used in the Columbia Basin

- The release location of Select Area Rogue River Bright fall chinook was changed from Big Creek Hatchery to Youngs Bay primarily as a result of stray CWT recoveries being found in S.W. Washington streams
- Umatilla and Klickitat fall chinook releases were modified as the result of those basins CWTs being recovered in the Snake River

# Challenges in the Future

- The major expansion of Oregon and Washington Columbia River fishing seasons as a result of mass marking and associated selective fisheries (*mass marking has been expanded to fall chinook*)
- Compressed time frames and more frequent requests for data analysis and run reconstruction/forecasts in combination with increased complexity in stock assessments
- Achieving the minimum sampling goal on the lower Columbia recreational fishery is already a difficult task because the fishery extends over 146 miles and fish are landed throughout the day
- More fish from the treaty Indian commercial fisheries are being sold directly to the general public
- Finding additional funding sources. Several unsuccessful attempts have been made in recent years

