Cooperative Management of Columbia River Fisheries

A presentation for

RCMT Meeting

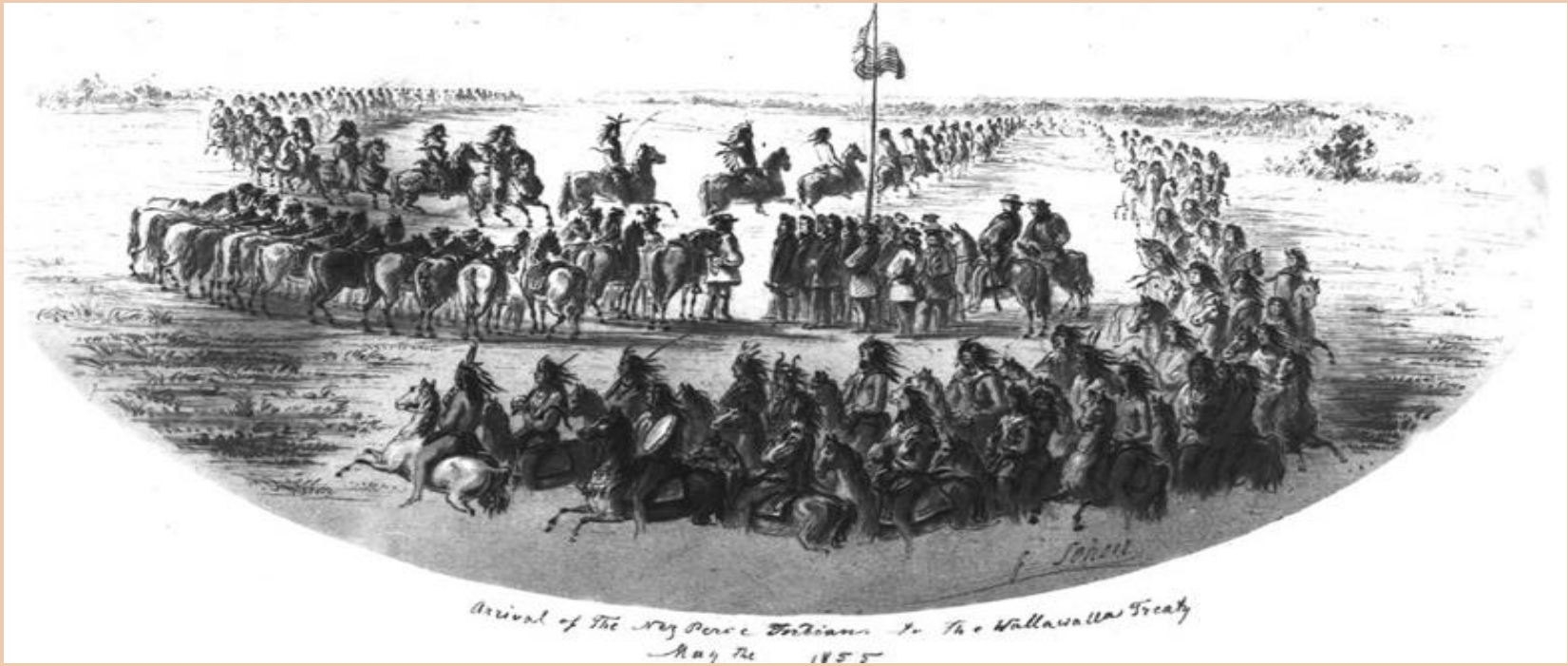
April 24, 2019

Columbia River Inter-Tribal Fish Commission

Topics

- Co-management of Fisheries
  - Background/History
  - Harvest Management Processes
  - Technical Aspects of Management

Pacific Northwest Has Unique Treaty Protected Fisheries



"…the right of taking fish at all usual and accustomed places, in common with the citizens of the Territory, and of erecting temporary buildings for curing them: together with the privilege of hunting, gathering roots and berries...."

—1855 Treaty with the Yakima

Four Tribes' Ceded Lands

Combined ceded area:

- 66,591 square miles
- More than 25% of the entire Columbia Basin
- 55% of the rivers and streams that are still accessible to salmon
- Includes almost all of the salmon habitat above Bonneville Dam

Confederated Tribes of the Warm Springs Indian Reservation of Oregon

Columbia River Inter-Tribal Fish Commission

Treaty Rights and Fishing

- The tribes signed treaties with the U.S. Government
- Key provision was that the tribes reserved the right to hunt and fish in their usual and accustomed areas “in common with the citizens of the United States.”
- Usual and Accustomed areas are wider than ceded lands.
- Tribes have always managed fisheries and controlled access to fishing locations, effort, and timing of fisheries.

Treaty Rights and Fishing (Continued)

- Tribal fishing is a critical component of the Indian peoples' spiritual, social, and economic lives.
- The tribes believe that it is fully appropriate to continue fishing at biologically sound levels while we as a society take actions to increase salmon productivity through addressing habitat and passage problems.

How Harvest Management Processes Work

U.S. v. OREGON

U.S. v. Oregon

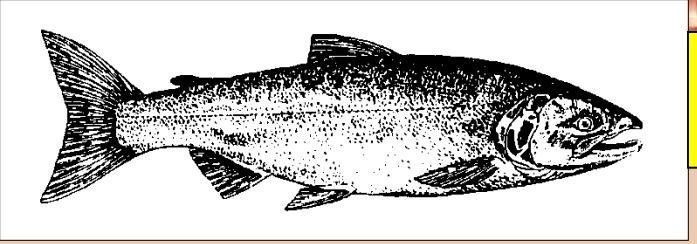
- 1968 Federal court ruled equitable harvest for Columbia River treaty tribes
  - Defined by courts as the right to 50% of the harvestable number of fish
- Several management plans and agreements have been adopted as court orders since 1977
- Current plan is 2018-2027 Management Agreement
- Plan aimed at aiding the rebuilding of weak salmon and steelhead runs and guiding both hatchery production and harvest

U.S. v. Oregon Parties Include:

- **WDFW**
- **ODFW**
- **IDFG**
- **NMFS**
- **USFWS**
- **BIA**
- **Yakama Tribe**
- **Warm Springs Tribe**
- **Nez Perce Tribe**
- **Umatilla Tribes**
- **Shoshone-Bannock Tribes**

U.S. v Oregon Technical Advisory Committee (TAC)

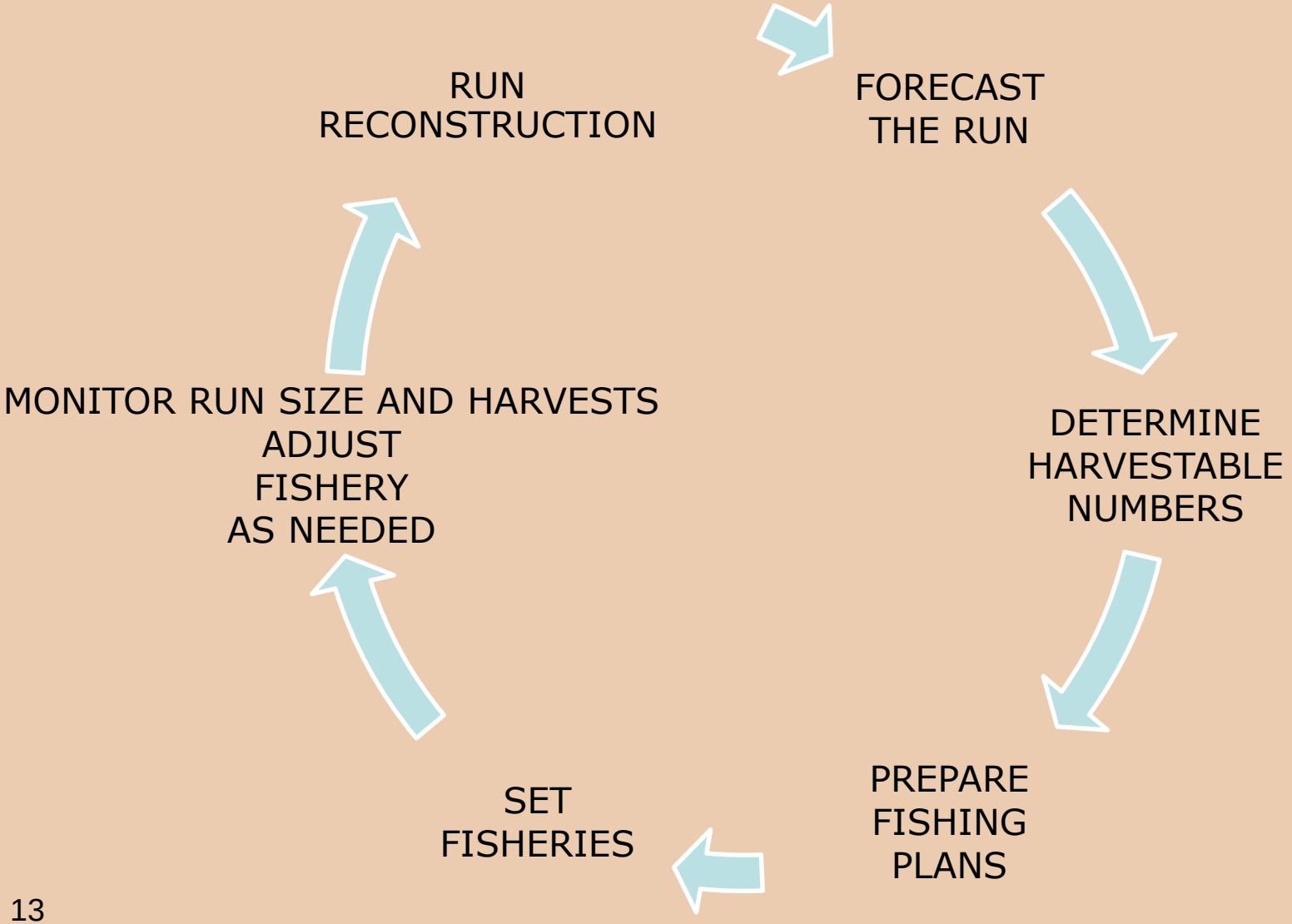
- All *U.S. v Oregon* Parties have membership
- Technical review of all data pertinent to management of fisheries
  - Run forecasts and reconstruction, fishery review and analysis, assignments from policy committee
  - Prepares Biological Assessments to NMFS
  - Detailed Joint Staff Reports 2-3 times per year
  - Fact sheets for each Compact/Joint State hearing
    - Includes real-time data
    - http://wdfw.wa.gov/fish/crc/crcindex.htm



Harvest Plan Objectives

- **Conservation:**
  - **Population productivity, abundance & diversity**
  - **Account for all fishery-related mortality**
- **Legal & Policy Obligations:**
  - **Indian Treaty Rights**
  - **Columbia River (U.S. v. Oregon) Management Plan**
  - **Meet ESA Jeopardy Standards**
- **Provide Fishing Opportunities:**
  - **Directed at Healthy Species & Stocks**

THE HARVEST MANAGEMENT CYCLE



Management Periods

- Management Periods focus on chinook
- Winter Spring – Jan 1 through June 15
- Summer – June 16 through July 31
- Fall – August 1 through Dec 31
- Sockeye and sturgeon use annual limits
- Steelhead use complex size based system

Incidental Impacts on ESA listed Fish

- Defined as mortality to non-target stocks that occurs during harvest of target fish
- Incidental impacts are no different in principle from impacts to fish that occur from any other appropriate and legal activity such as agriculture or hydropower.
- Issue at hand is to control sources of incidental mortality to appropriate levels so fish populations can recover.

Abundance Based Harvest Rate

- Harvest Rates are defined in the U.S. v. Oregon Management Agreement for mainstem fisheries
- Harvest rates decrease when runs are low and increase when runs are high
- Harvest Rates for chinook are based on river mouth run sizes
- Harvest rates for steelhead are based on Bonneville Dam run sizes

COLUMBIA RIVER COMPACT

- Ratified by Congress in 1918
- Interstate agreement between Washington and Oregon
- Laws adopted by mutual consent
- Fishery decision-making authority
  - Provides concurrent jurisdiction of Columbia fisheries
  - Compact comprised of Directors or designees of WDFW and ODFW
  - Public hearings held to adopt or modify seasons and regulations
- Tribes bring commercial fishing plans to Compact so regulations can be coordinated

Balance

- Balance fishery objectives with escapement needs
- Balance mainstem fishing with tributary fishing
- Meet social allocation issues
- Meet escapement objectives

Allocation vs. Conservation

- Allocation is not equal to Conservation
- Conservation is the process of ensuring that harvest mortality is held to sustainable levels (biological concerns)
- Allocation is simply the process of providing certain groups certain proportions of the allowed harvest impacts and has nothing to do with the total number of fish killed (social concerns)

In-river Fisheries Linked to Ocean Fisheries

- Some stocks especially fall chinook and coho are harvested in both ocean and in-river fisheries.
- In-river management is coordinated with the Pacific Salmon Commission process and the Pacific Fishery Management Council process to ensure overall fishery impacts are within agreed to limits.

The Technical Stuff

Fishing Gear And Purpose of fisheries

- As long as mortality is measured correctly:
  - The type of fishing gear used or the purpose for which the fishery is carried out – makes no biological difference to the fish population.
  - The location that the fishery occurs makes no biological difference to the fish
  - Gear, timing, and location of fisheries is only important to achieve social objectives of fisheries.

Harvest Monitoring and Catch Estimation

- All Salmon Catch is "Estimated"
  - We do not have the ability to "Count" every fish caught in any fishery anywhere
- States and Tribes use similar harvest monitoring systems to ensure harvest remains within allowed limits
- Commercial fish tickets are used as comparisons to make sure creel based estimates are reasonable
- Catches are generally reported by week

Fishery Sampling

- Number of fish caught per fisher or net per day
- Multiplied by the number of fishers or nets
- Multiplied by the number of days of the fishery
- Equals the number of fish caught in the fishery

Catch Estimation Methods

- Statistically valid
- Required sample rates of about 20% of the catch to make reliable estimates
- Random Sampling is required
- Want to sample fishers that catch a lot and fishers that catch few fish
- Standard methods include ways to incorporate random design such as only sampling every third boat or fisher

Tribal Creel

- Platform fisheries estimated separately from gillnet fisheries
- 3 index platform h&l areas are assumed to account for 90% of the catch. Catch is expanded by 10% to account for platforms outside the index areas.
- Effort for commercial gillnet fisheries is done through weekly net counts by air.

Catch Record Cards

- Some upstream mainstem sport fisheries and many tributary fisheries have limited or no creel surveys
- Angler reports of catch on catch record cards used to estimate catch
- Little information on released fish
- Higher levels of uncertainty
- Delay in getting catch data

Commercial Fish Tickets

- Used for non-treaty commercial catch
- Supplemental data source for tribal commercial fisheries* - only as an additional source of information
- Fish tickets can show either number of fish or just pounds of fish
  - If they just show pounds then average weights are used to estimate the number of fish
- Bio-sampling

* Historic sturgeon fisheries just used fish tickets to estimate catch

Mark Selective Fisheries

- Allow retention of only adipose fin clipped fish
- Many mainstem sport and tributary fisheries
- Some Commercial fisheries in river
- Some ocean sport and commercial fisheries
- Increases uncertainty in catch estimates
- Increases wild harvest rate in upstream fisheries
- Generally implemented to maximize harvest of hatchery stocks while maintaining wild impacts within existing limits

Mark Selective Fisheries (cont.)

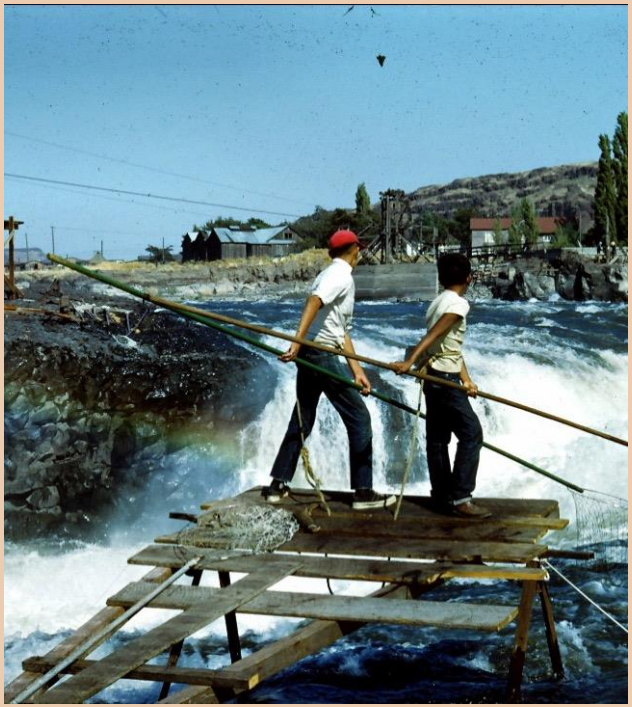
- Some but not all fish die as a result of capture and release
- Proportion of fish that die after release is "release mortality rate"
- Impact (number of dead fish) in MSF is a result of two functions
  - 1. the number of fish handled (caught – then let go
  - 2. the release mortality rate

Mark Selective Fisheries (cont.)

- Need to know both the “handle” and the “release mortality rate”
- Handle comes from the creel data
- Release mortality rate is a management choice – hopefully based on scientific research
- Different levels of certainty about these two functions

Why is it hard to know what the release mortality rate is?

- Several factors affect release mortality – temperature, gear, degree of injury, hook location, or mesh size. Rates may vary.
- Difficulty in determining release mortality rates because it is very hard to develop a reliable control group in a study
  - Control group needed to separate out natural mortality from release mortality



Questions?