

Colville Tribes ITEP Climate Change



AGENDA

- Colville Tribes History
- Fish and Wildlife Department
- Anadromous Division
- Chief Joseph Hatchery
- Questions





Confederated Tribes of the Colville Reservation

- Established by President Grant's Executive Order in 1872
- Tribal enrollment @ ~9,900 with approximately 50% reside on or near the 1.4 m acres of Reservation
- Tribes follow the seasons of nature of this region
- Membership relies on harvest of first foods of roots, berries, game and fish



12 Tribes located on reservation are the Colville, Nespelem, San Poil, Sinixt (Lakes), Palus, Wenatchi, Chelan, Entiat, Methow, Okanogan, Moses Columbia and Nez Perce

Historical Salmon Harvest

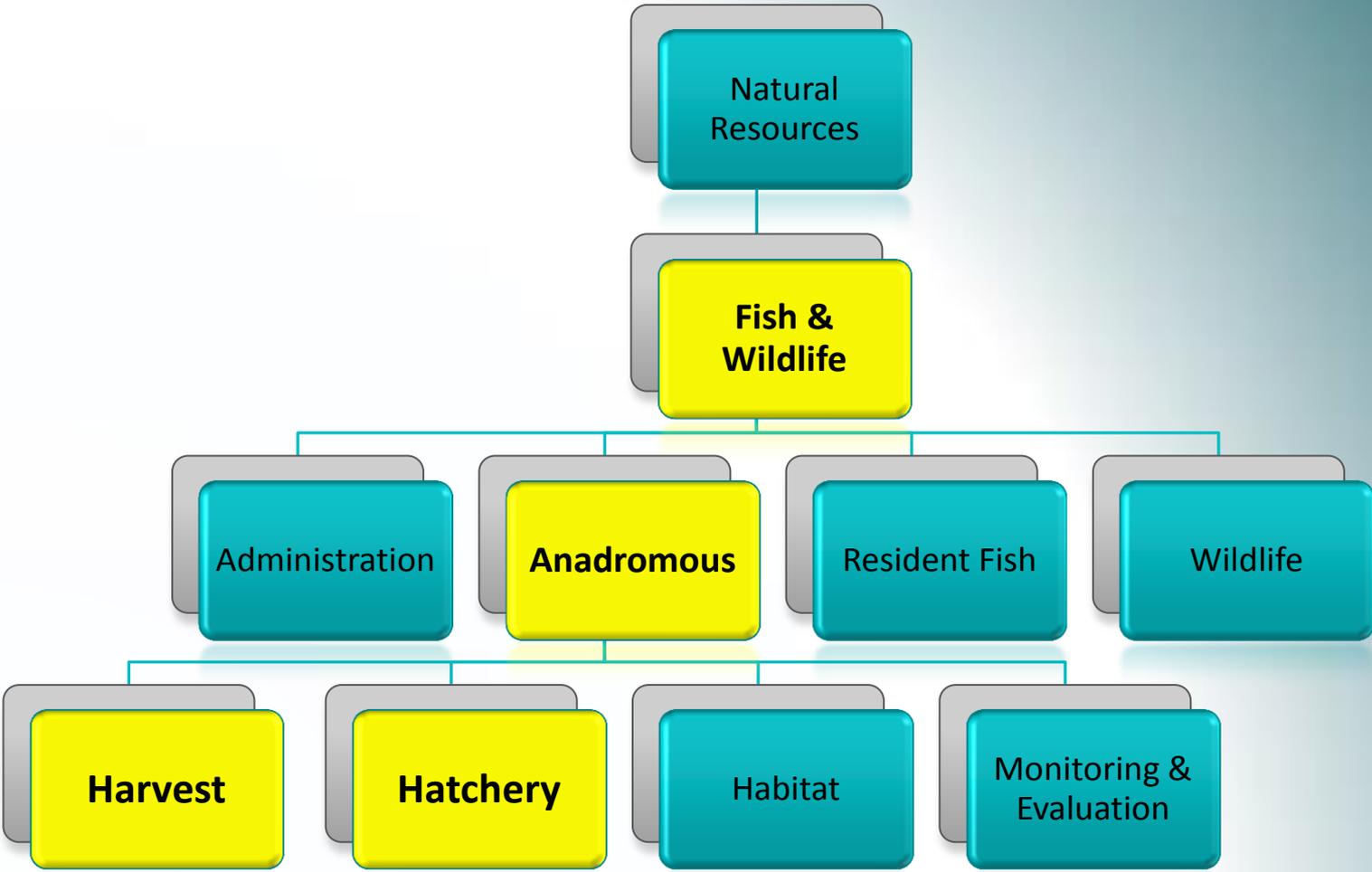


Historical Salmon Runs

- * 1800s An estimated 16m salmon and steelhead returned each year to the Columbia and Snake Rivers (NWPPC)
- * Mid 1800s increase of fishing, canneries, agriculture, mining and logging
- * The building of the Grand Coulee Dam flooded the Kettle Falls in the 1930's, severely impacting Colville culture
- * By 1968, 11 hydropower dams were constructed on the main stem Columbia River
- * Chief Joseph Dam and Grand Coulee Dam are blocked areas for fish passage



Colville Tribes - Organization



Colville Tribes – Fish & Wildlife

- *The department was established in ~1976 to restore, preserve, protect and perpetuate fish and wildlife resources under the jurisdiction of the Colville Tribes
- *F&W is responsible for managing fish and wildlife populations and habitats to meet the cultural and subsistence needs of the Colville membership
- *F&W participates in regional policy discussions to ensure that the Tribe's position on resource issues is presented and understood by all tribal, state, federal and local entities



Anadromous Division

Historically, anadromous fish (salmon and steelhead) were the principal subsistence fishery and are still revered within the Tribes' cultural and traditional beliefs. The goal of the Tribes' program is to restore natural spawning populations of salmon and steelhead in historic habitats and to mitigate lost runs.



Chief Joseph Hatchery - Goals

- * Acquire spring, summer/fall Chinook for broodstock to support 2.9 million smolt release targets
- * Marking and PIT tagging for monitoring
- * In-hatchery survival monitoring
- * Remove surplus hatchery fish at the ladder
- * General maintenance of facilities, equipment, water supplies, etc.



Hatchery Production Goals

Integrated Summer Chinook

- * Yearling Production – 800,000
- * Sub-Yearling Production – 300,000

Segregated Summer Chinook

- * Yearling Production – 500,000
- * Sub-yearling Production – 400,000

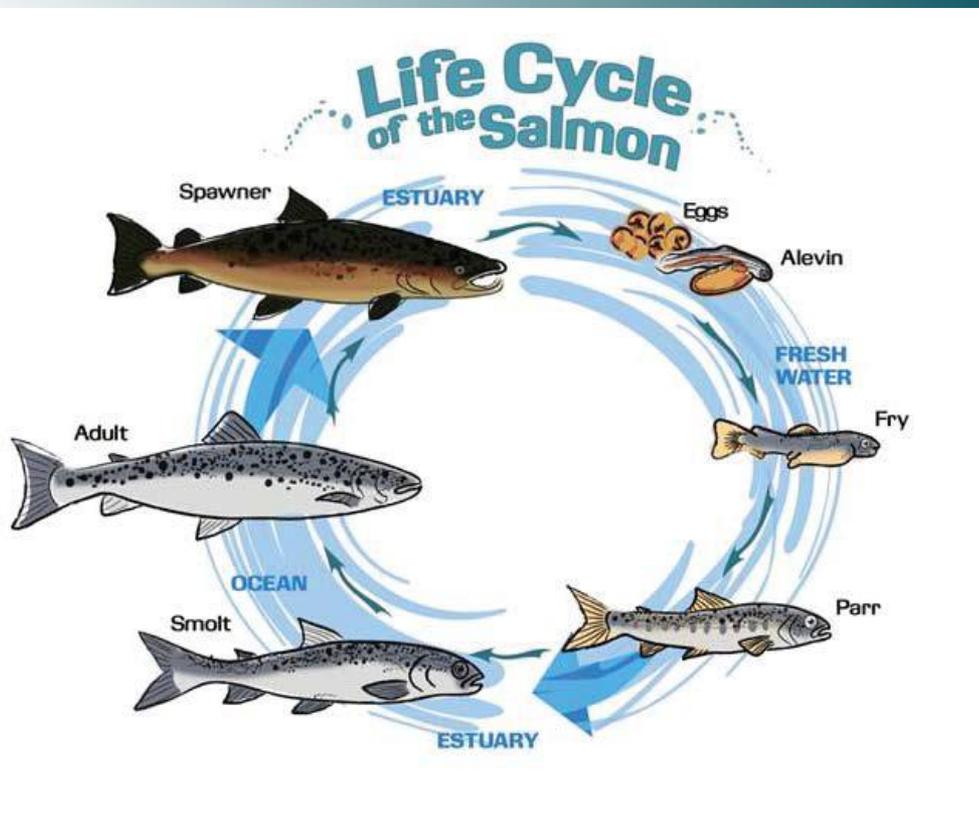
Segregated Spring Chinook

- * Yearling Production – 700,000

10j (MetComp) Spring Chinook

- * Yearling Production – 200,000

**Total 2.9 million Spring and Sum
Chinook**





Select Harvest - Goals

- * Secure our harvest allocation and protect our fishery resources
- * Release natural-origin fish unharmed to create healthier salmon runs
- * Recover listed species (Spring Chinook and Summer Steelhead)
- * Prevent future endangered species listings
- * Interrogate fish for tags





60861

COLVILLE CONFEDERATED TRIBES
RESEARCH

Why Select Harvest

- * Optimizes the harvest of hatchery-origin Chinook
- * Minimizes mortality
- * Achieves Scientific Review Group objectives
- * Collect local natural origin and hatchery origin broodstock for hatchery
- * Methods include Purse Seine, Beach Seine, Tangle Net and Weir













Reif Manufacturing
1000 S. 1000 E. Suite 100
Provo, UT 84601

CONV. 12
CCT 5395
TRIPLE E





2014 First Release / 2015 Yearling Release



Climate Impacts

- * Colville's share vital links to the ecosystem that conserve our culture and first foods
- * These strong links make us susceptible to challenges such as climate change, forest fires and pollution that affect our fishing practices



Climate Impacts

- * Climate change dynamics include air and water temperatures, precipitation and natural climate variability
- * Fish migration patterns could alter depending on the timing of snow melt and runoffs
- * Higher water temperatures increase the risk that certain fish may become susceptible to pathogens or diseases
- * Higher water temperatures can cause fish kills; lack of cold water refugia caused significant loss of sockeye in 2015



Climate Impacts

- * Low stream flows could cause loss of habitat and connectivity that are critical to spawning and rearing habitats
- * Hotter, drier weather creates an earlier and stronger thermal barrier, that decreases adult survival by delaying migration upstream to spawning grounds
- * Lower water levels could cause increased competition and predation as well as decrease egg to fry survival



Climate Impacts - Hatchery

- * Water temperatures and availability are critical for hatcheries
- * Increased temperatures will result in altered fish growth rates for all species by increasing ground water temperatures
- * One adaptation method CJH implemented included the installation of a chiller system to reduce water temperatures
- * Other adaptation strategies can be employed to mitigate for many of the impacts to salmon rearing program once we understand all the vulnerabilities



Thank You

