



# Chief Joseph Hatchery 2017 Annual Program Review

## Monitoring and Adaptive Management Plan for the Experimental Population of Spring Chinook Salmon in the Okanogan river basin.

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## Non-essential Experimental Population (NEP) under section 10(j) of the ESA

- Brood collected at Methow and/or WNFH, 200k eggs transferred to CJH
- Overwinter acclimation at Riverside Pond (or Tonasket)
- Re-colonization phase (hands off, let them find spawning habitat and reproduce)
  - We don't manage them upon return for harvest or brood
- The planning documents and approvals did not define success or failure of the experiment.
- 2021 is the first year of adult natural origin returns (4 yr olds)
  
- What M&E needs to occur to determine success or if the program needs to be modified?
- What are the biological targets (status) that would prompt phase 2, presumably, brood collection and pHOS management?

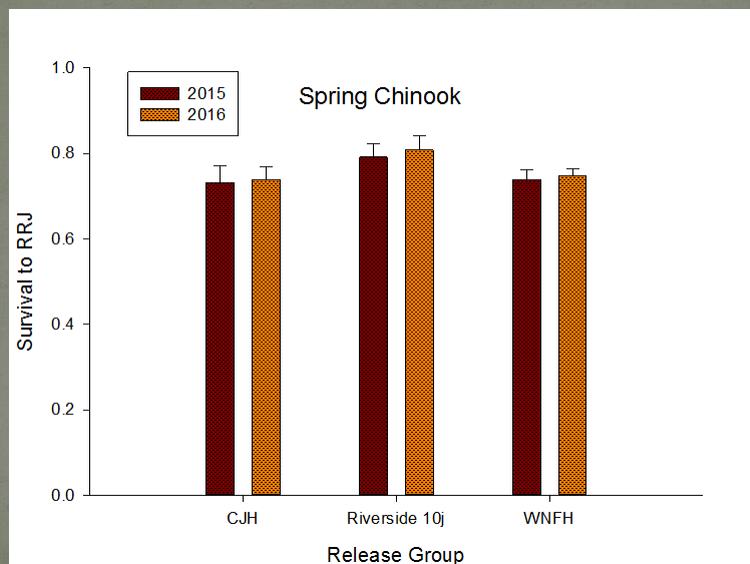
# Okanogon Spring Chinook M&E and AM Plan

1. In-Hatchery Survival
2. Smolt to Smolt Survival
3. Smolt to Adult Return Survival (SAR)
4. Age Structure and Sex Ratio
5. Run timing
6. Stray Rate

Hatchery fish M&E, comparisons with:

- similar programs with slight adjustments for CJH and Okanogon specifics
- previous years within the program

## Smolt to smolt survival comparisons



# Okanogon Spring Chinook M&E and AM Plan

## 7. Spatial Structure (within Okanogon/Okanagan)

## 8. Abundance

- 2017-2020 -Document what the hatchery returns are doing in the Okanogon (PIT tags and eDNA)

## 9. Productivity

- 2017+ Use OBMEP steelhead electrofishing to document production of juveniles
- 2021+ Start to look at returns/spawner for productivity

## 10. Genetic Diversity

- 2021+ Phenotypic traits (run timing, age structure, juvenile life history)
- 2028 Included in PUD genetics monitoring

# Okanogon Spring Chinook M&E and AM Plan

## 7. Spatial Structure (within Okanogon/Okanagan)

## 8. Abundance

- 2017-2020 -Document what the hatchery returns are doing in the Okanogon (PIT tags and eDNA)

- 1) Identify spawning tributaries
- 2) Expand to total abundance

-use results to set up traditional spawning ground surveys in key tributaries (2021?)  
-we will need to know what is happening in Canada

-will not work for Similkameen  
-what if fish are homing to and expiring in the vicinity of the release site?  
-need boots on the ground in these areas

-what # or % returning to and expiring in the vicinity of the release site would prompt adaptive management?

## Non-essential Experimental Population (NEP) under section 10(j) of the ESA

- The planning documents and approvals did not define success or failure of the experiment.
- What are the biological targets (status) that would prompt Phase 2, presumably, brood collection and pHOS management?
- NOAA approval of current program lasts 10 yrs (2014-2024)
- We need Decision Rules for the Biological Targets.
  - If the M&E metrics look bad, do we extend the existing program, modify it, or terminate.
    - Could shift to tributary releases (steelhead impacts)
    - Canadian production (fewer regulatory hurdles)
  - If the M&E metrics look good, and x# NORs are returning in 2022-2024, when and how do we shift to adult-based supplementation?
    - Do we need tributary specific spawn escapement objectives? (EDT&IP)
    - Other information needed to develop this transition?

## Non-essential Experimental Population (NEP) under section 10(j) of the ESA

- Discussion and feedback