



Chief Joseph Hatchery 2014 Annual Program Review

Habitat Status and Trend



OBMEP Summary

As it relates to the CJHP

- *The Okanogan Basin Monitoring and Evaluation Program (OBMEP) was designed to monitor the status and trends of salmonid habitat within the Okanogan River basin.*
- *The OBMEP study design is focused on summer steelhead and there habitat. An efficiency of this approach is that Summer Chinook habitat is nested within the steelhead design.*

Summary of Progress on EDT

As it relates to the CJHP

- In 2012, OBMEP developed the BIOP Expert Panel and Upper Columbia endorsed spatial framework for the Okanogan River Basin.
 - Provides the spatial framework for EDT
 - The Okanogan River basin is split into 2 subpopulation contains 64 diagnostic units and 435 reaches.
- In 2013, OBMEP convened a life history trajectory workshop to model summer Chinook specifically for the Okanogan River basin.
- In 2013, OBMEP populated this spatial framework with level 2 attribute data collected through 2009 under OBMEP habitat, Rapid Assessments and from other data.

- *OBMEP's Okanogan River Habitat Status and Trend Reporting Tool contains capacity and productivity estimates of the habitats ability to support wild summer/fall Chinook in the Okanogan River Basin.*
 - *Presented as the average productivity of all possible life history trajectories.*
 - *The habitat in the Okanogan River supported a sustainable population of wild Chinook with a productive of 2.4 and capacity of 7,421 in 2009.*
- *However these values are not directly consumable by AHA or the ISIT model used by the Chief Joseph Hatchery Program.*
 - *Calculations of productivity for AHA only uses the average of life histories with a productivity in excess of 1.0. Thus inflating the productivity values of the population through hatchery support.*
 - *Habitat restoration will likely result in this value going down as life histories only slightly below 1.0 currently begin to be expressed while increases in hatchery production will likely increase these values by pushing productivities below 1.0 for those life histories just above 1.0.*
- *In the long term a more sustainable summer Chinook population would be expressed as these values converge.*

EDT/AHA Chinook Parameters

2009 HSRG Review (AHA)

- HSRG analysis parameters
 - Productivity: 6.0 (adjusted)
 - Capacity: 10,000 (adjusted)
 - Neq: 8,330
 - Observed 2004-09 geomean = 7,018
- Out-of-basin survival
 - SAR: 0.4% (baseline)
 - Mainstem (adult/juvenile): 100%
 - Ocean: 4.6%



EDT 2009 Habitat Scenario (U.S. Subpopulation)

- OBMEP/EDT results (2009 scenario)
 - Productivity: 9.4 (diversity 15%)
 - Capacity: 6,840
 - Neq: 5,960
 - Observed 2004-09 geomean = 7,018
- Out-of-basin survival
 - SAR: 1.79% (0.89% to spawning grounds), capacity-weighted average
 - Based on observed SARs for 2008-10 from Tuomikoski et al. 2012
 - MCN→BON: 1.35%
 - RoR →BON: 1.23%

Out-of-basin Survival	Avg. (non-weighted)	Median	Min	Max
Juv. Mainstem	30.44%	31.62%	16.87%	41.17%
Estuary/ocean	8.25%	9.25%	2.32%	46.31%
Adult mainstem	57.08%	56.20%	54.62%	62.12%
Total	1.43%	1.63%	0.32%	6.27%

Chief Joe Hatchery Modeling Efforts

- Current modeling is based upon the 2009 HSRG AHA modeling effort.
- HSRG results relied on expert opinion modified, EDT₂ and 2004 SBP habitat data plus a baseline Chinook life history model.
- Over 67% improvement in data quality occurred between the SBP and 2009 OBMEP/EDT modeling effort.
- OBMEP/EDT results used new EDT₃ technology. EDT₃ trajectories are much better at representing observed behavior (specifically adult holding in the Similkameen and in the Wells Pool in mid-summer).
- OBMEP/EDT uses new basin specific life history model.

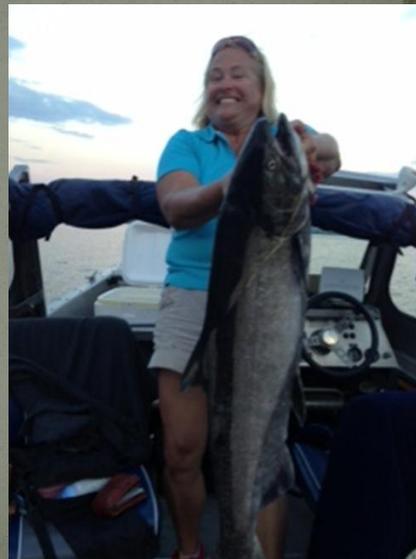
Until now only U.S. Chinook considered

- The 2009 OBMEP/EDT model run is the first to include Canada
- Modified 2009 OBMEP/EDT results for AHA applications.
 - Combined productivity: 8.9 (capacity weighted)
 - Capacity: 7,422
 - Neq: 6,376
- SAR to Canada
 - 2.2%
 - (0.92% to spawning grounds)



What would you like to know more about?????????

1. Do you want to know more about EDT and the status and trend reporting tool?
2. Do you want to know more about the history and quality of OBMEP habitat data collection, reach structure, and life history's?
3. Do you want to see an example of how Chinook management can be improved through the use of the status and trend reporting tool?



*Or would you just like to
ask questions?*

