
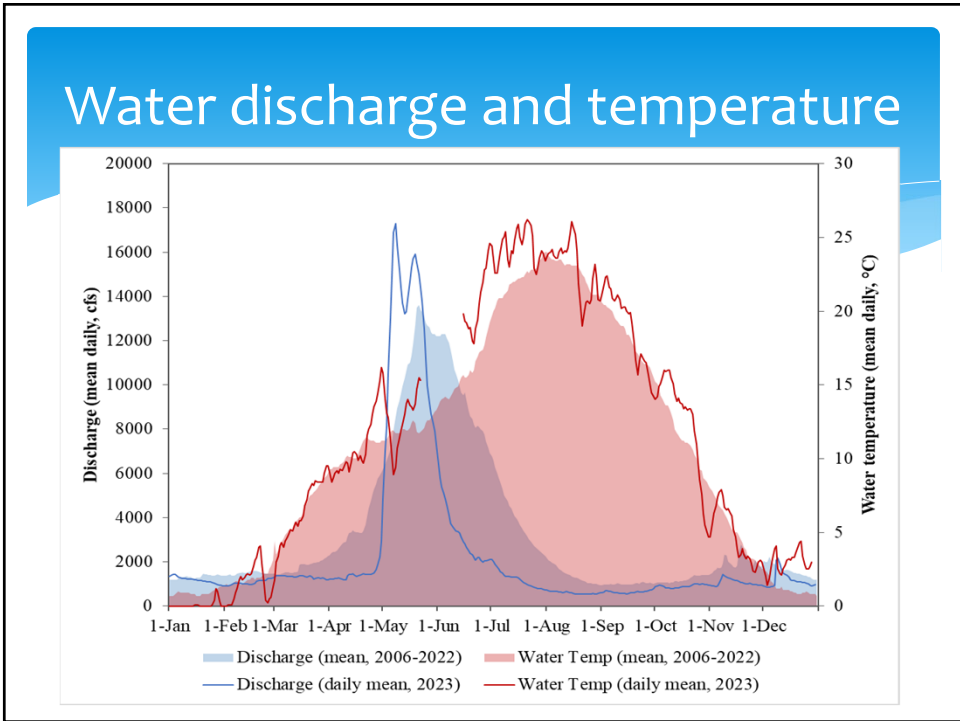


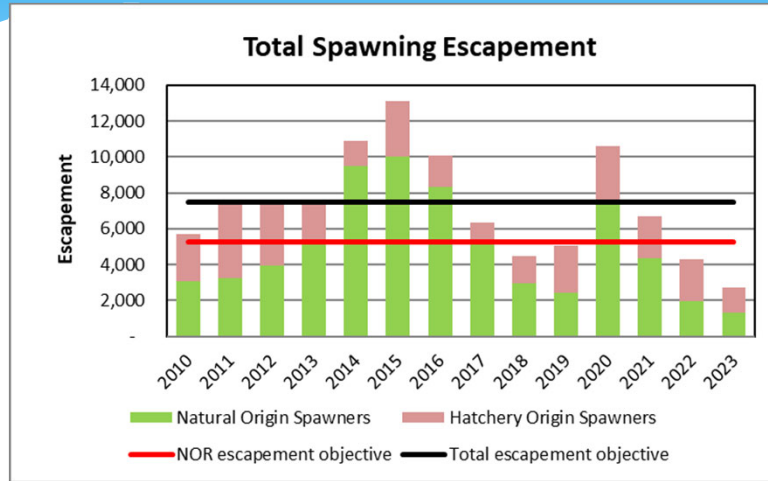
Status and Trend of Okanogan summer/fall Chinook

Chief Joseph Hatchery 2024 Annual Program Review

Andrea Pearl
Colville Confederated Tribes
Sr. Fisheries Biologist

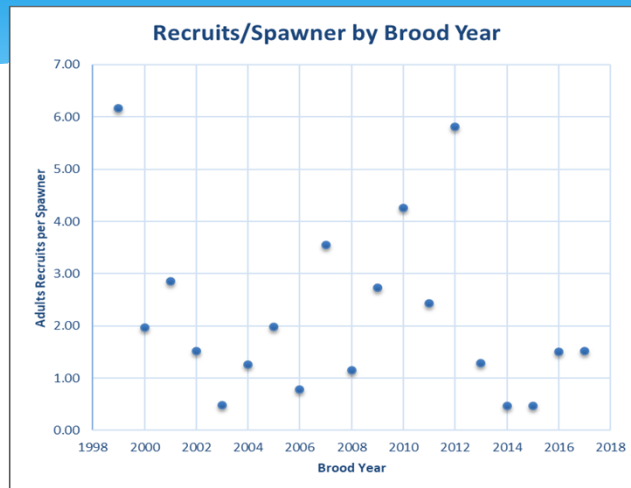
Abundance



5 yr mean
5,867

3,532

Productivity

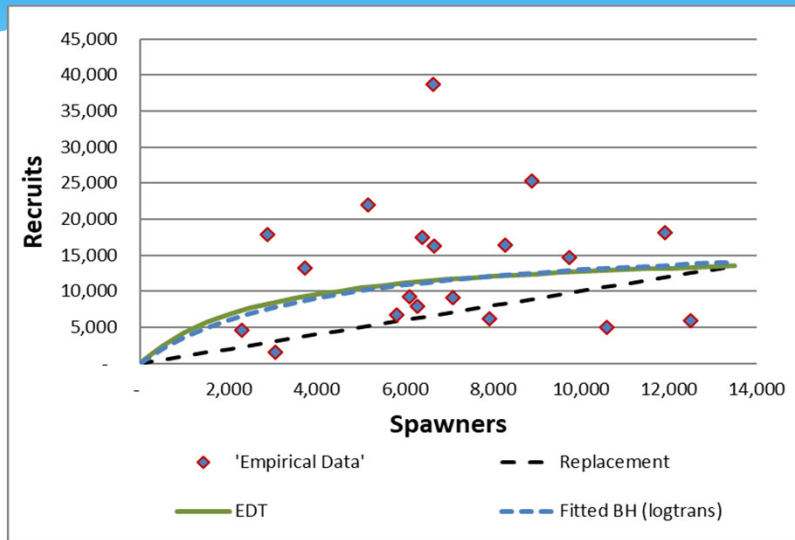


Overall Mean (1999-2017) = 2.3 R/S
 10 Yr Mean (2008-2017) = 2.2 R/S
 4 of 18 years < 1 R/S

Intrinsic Productivity

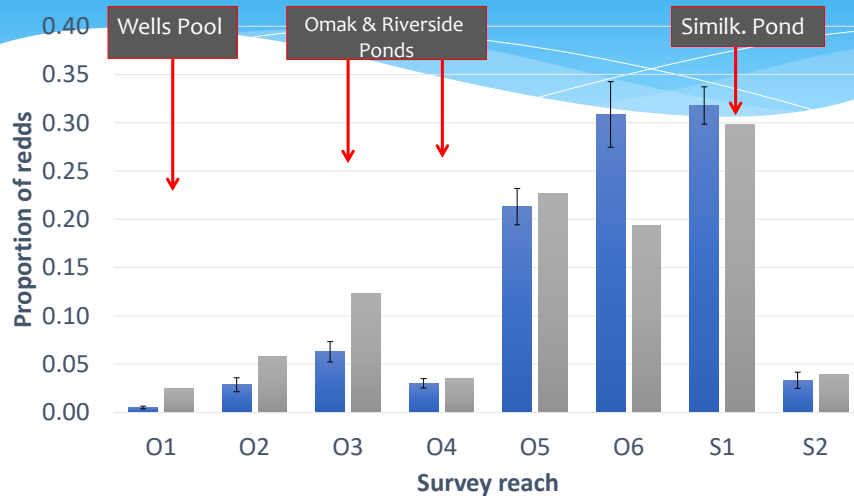
(Beverton-Holt modeled = 4.4)

BY1999-2017

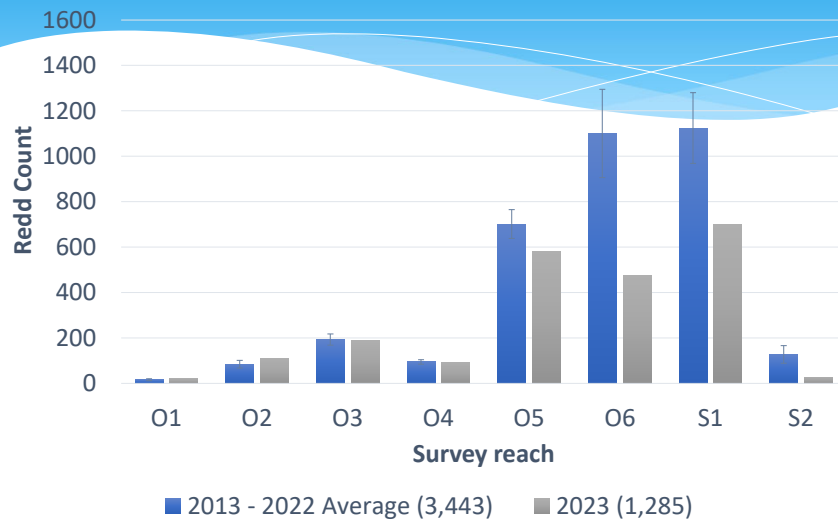


Spatial Structure

■ 2013-2022 Average ■ 2023



Spatial Structure



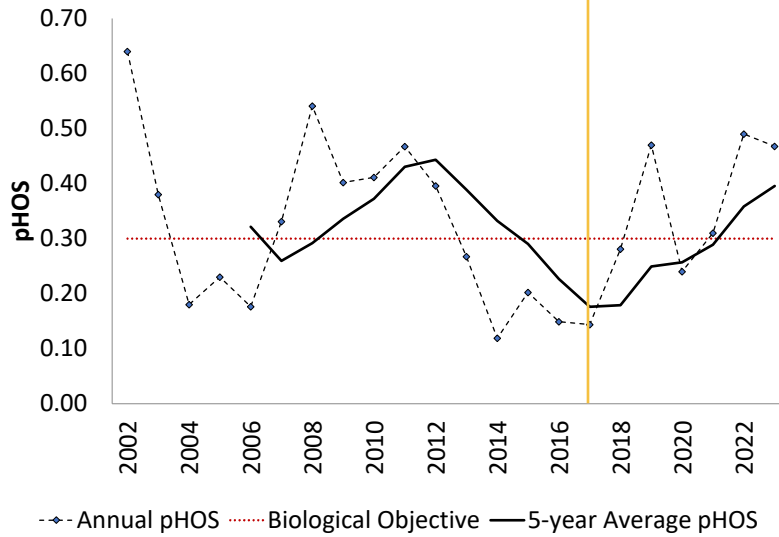
Diversity

Phenotypic (morphology and life history traits)

- * Adult run timing
- * Spawn timing
- * Age structure
- * Morphometrics (length, fecundity, others)
- * Juvenile rearing strategies
 - * Natural yearlings?
 - * Transient rearing
 - * True subyearling migrants

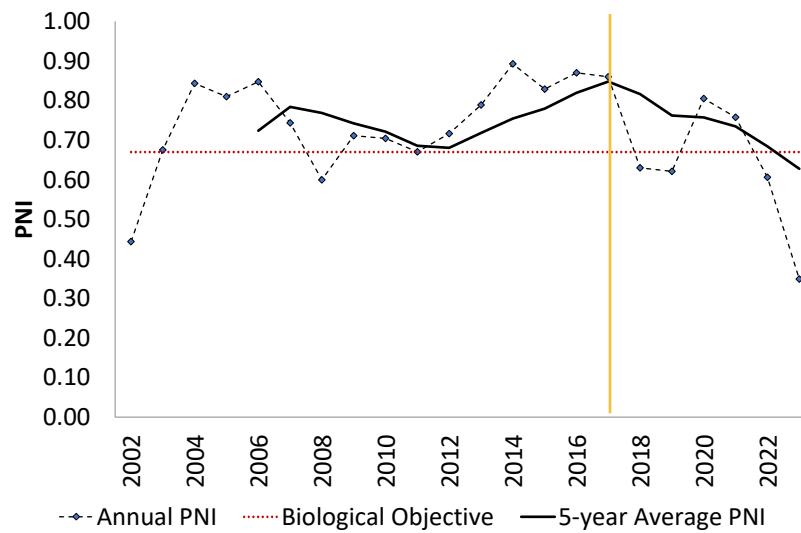
Diversity

Risk factors (spawner composition; pHOS)



Diversity

Risk factors (spawner composition; PNI)



Conclusions

- Abundance: below the objective for total escapement and natural origin spawners and trending down
- Productivity: a bit lower than our EDT assumptions
- Spatial Structure: see a redistribution of upper basin between S1 and O6 but not unusual, increase in the lower reaches (O2 and especially O3)
- Diversity: Last year we saw the pHOS just above the objective and this year we saw it well above the objective. PNI is still trending down and now way below the objective (5-year avg. trending down)