

Introduction:

Inter-Tribal Workshop on Coho Reintroduction and Production Programs



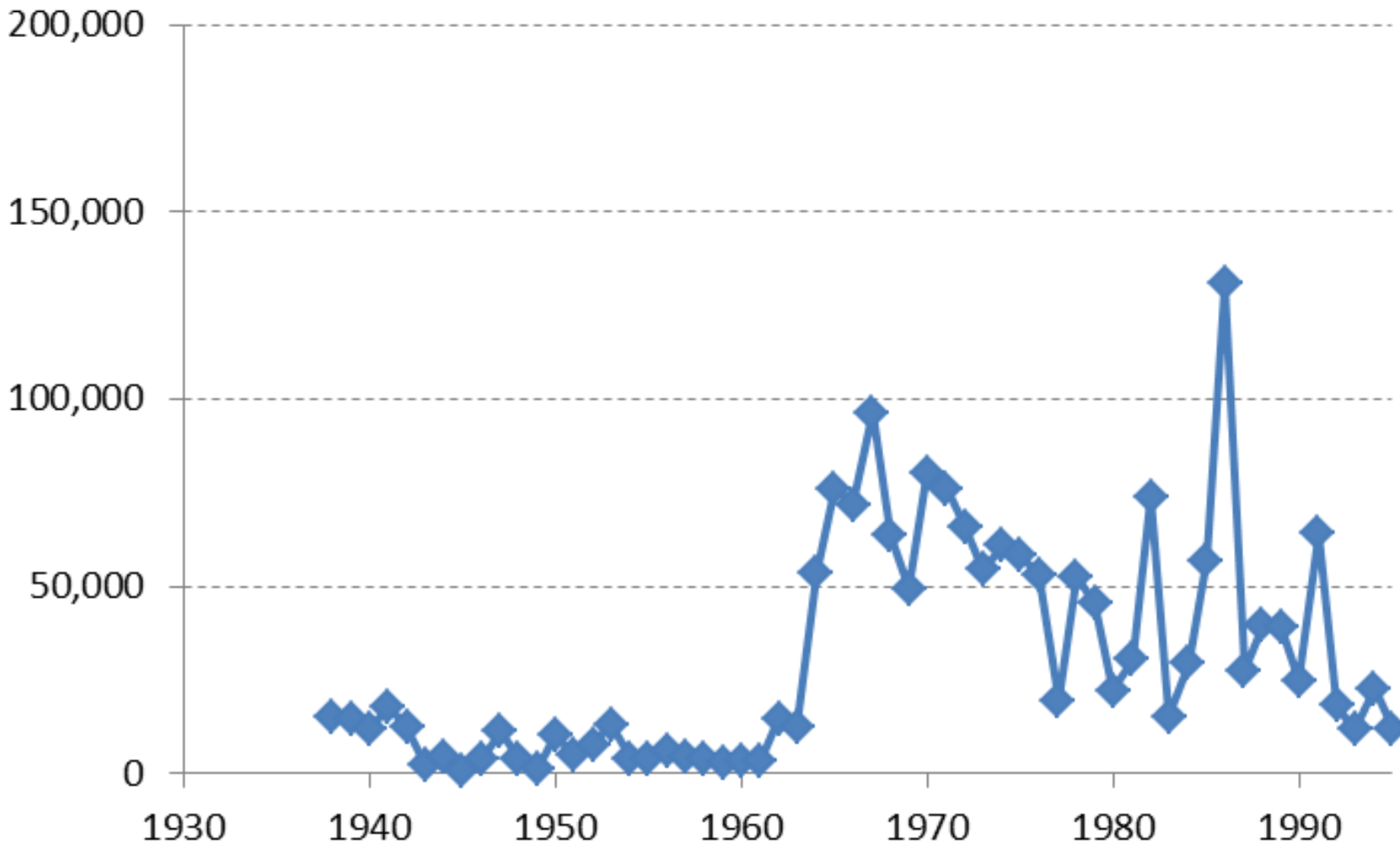
Peter F. Galbreath
CRITFC



History

- Pre-colonial salmon/steelhead returns to the Columbia - 7 to 16 million
 - Chinook Salmon (*Oncorhynchus tshawytscha*; spring, summer & fall; 50%)
 - Sockeye Salmon (*O. nerka*; 30%)
 - Coho Salmon (*O. kisutch*; 8%)
 - Steelhead (*O. mykiss*; 6%)
 - Chum Salmon (*O. keta*; 6%)
- interior Coho = hundreds of thousands
- However, 1938 = 15,000 , and declining

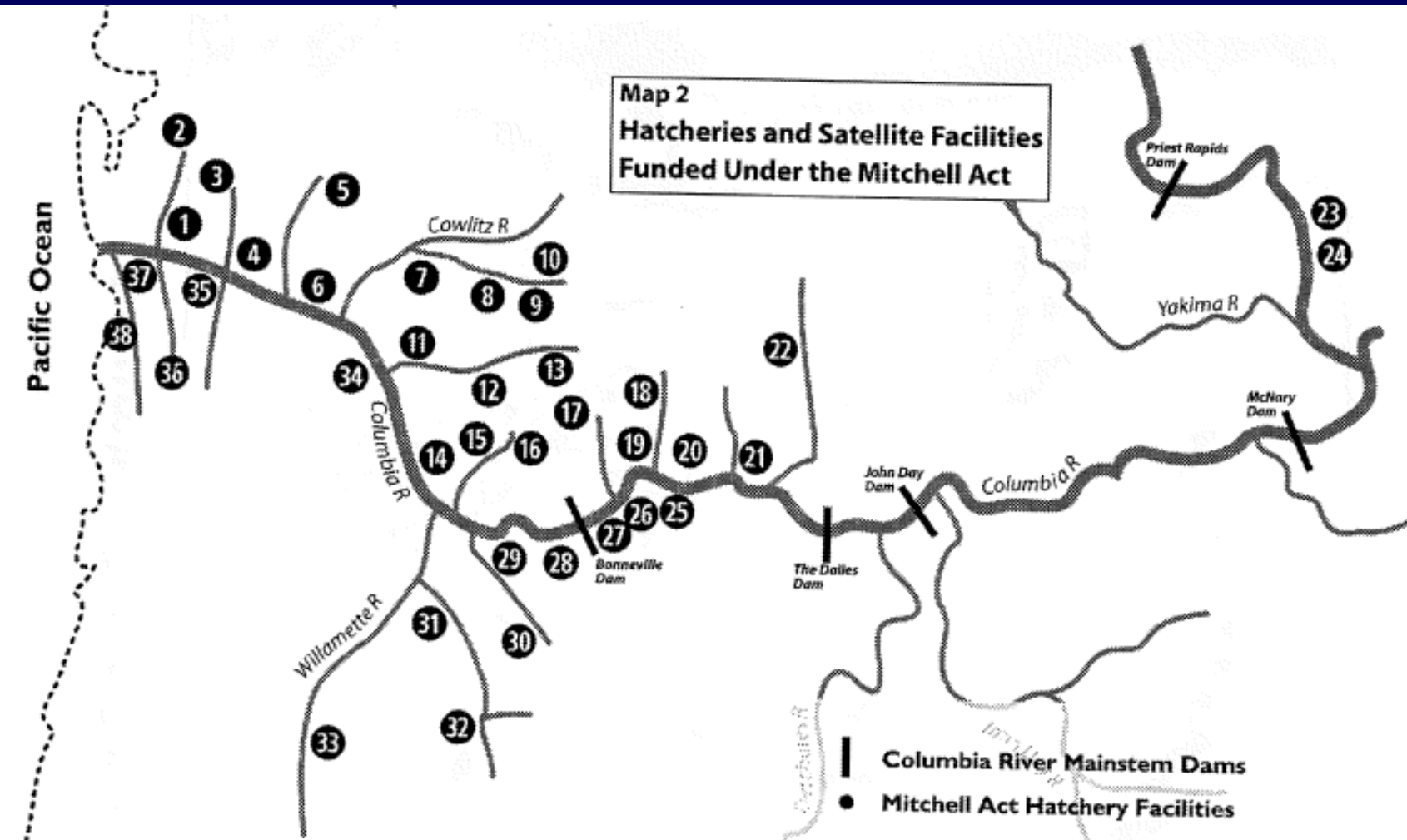
Coho Counts – Bonneville Dam (1938-1995)



History

- **1938 Mitchell Act – to mitigate for effects of hydrosystem dam development**
 - irrigation canal screens
 - habitat restoration
 - * hatchery production
- **However, all hatcheries near, or below Bonneville Dam**
- **Coho - Bonneville/Cascade/Oxbow, Washougal, Klickitat (Eagle Creek)**
- **no help to interior populations**

**Map 2
Hatcheries and Satellite Facilities
Funded Under the Mitchell Act**



- 1. Grays River
- 2. Weyco Pond
- 3. Elcockomin
- 4. Beaver Creek
- 5. Abernathy NFH
- 6. Coal Creek Cooperative
- 7. Coweeman Net Pen
- 8. Toutle
- 9. Alder Pond
- 10. Toutle River Trap

- 11. Lower Kalama
- 12. Kalama
- 13. Gobar Pond
- 14. Vancouver
- 15. Skamania
- 16. Washougal
- 17. Carson NFH
- 18. Willard NFH
- 19. Little White Salmon NFH
- 20. Spring Creek NFH

- 21. Big White Salmon Pond
- 22. Klickitat
- 23. Ringold Salmon Pond
- 24. Ringold Trout Pond
- 25. Herman Creek Pond
- 26. Oxbow
- 27. Cascade
- 28. Bonneville
- 29. Wahkeena Pond
- 30. Sandy

- 31. Eagle Creek NFH
- 32. Clackamas
- 33. Aumsville-Stayton Pond
- 34. Trojan
- 35. Gnat Creek
- 36. Big Creek
- 37. Youngs Bay Net Pens
- 38. Klaskanine

History

- by mid-1900s, interior Coho nearly extinct
- Mid-Columbia hatchery program initiated
- intensive stocking in mid-1960s
- fertilized eggs of lower Columbia River (LCR) stock from Mitchell Act hatcheries
- incubation , rearing & release from:
 - Leavenworth, Entiat & Winthrop NFHs, and Wells and Rocky Reach (Turtle Rock) state hatcheries

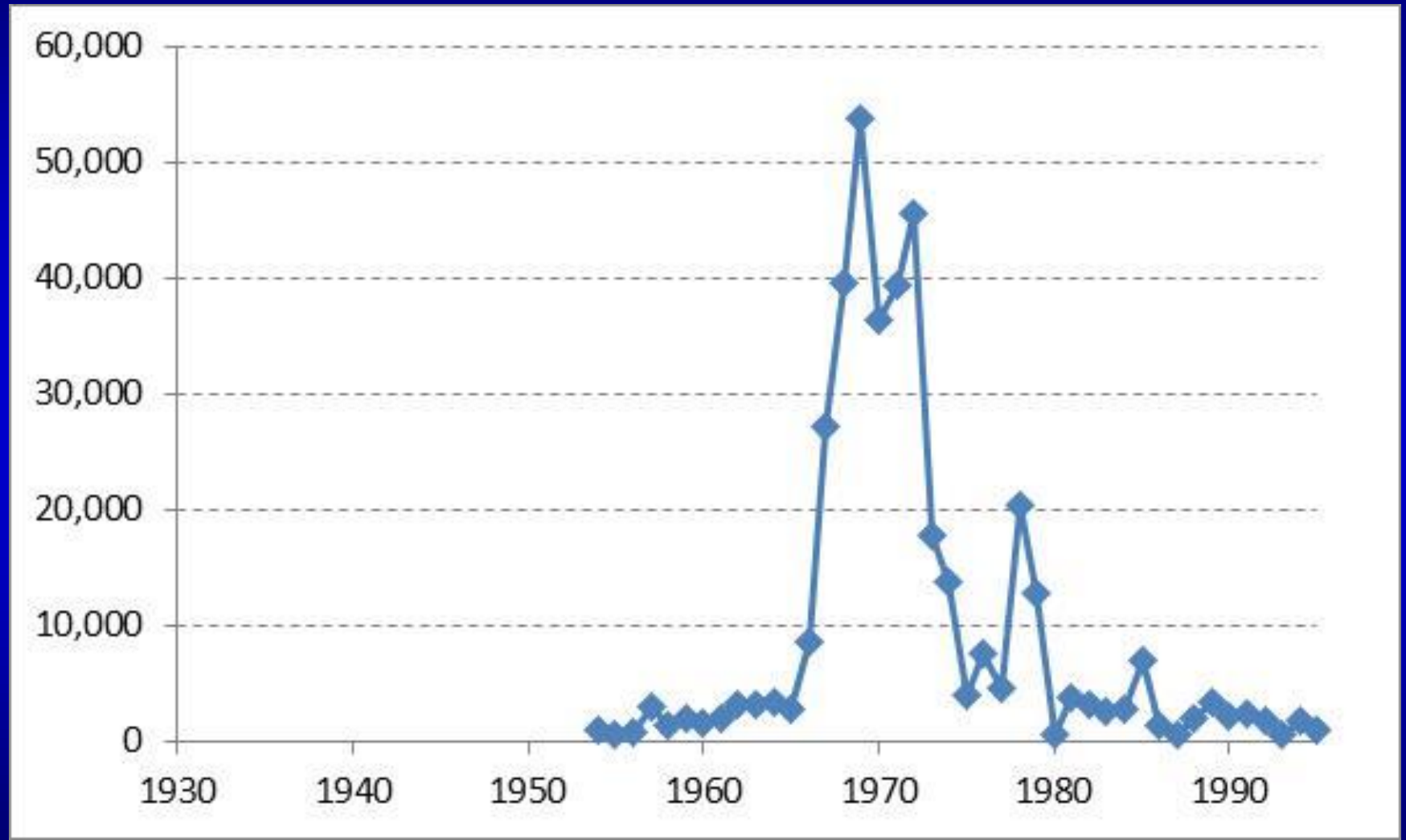
History

- Substantial increase in annual counts
- But, juveniles released directly from hatcheries or mainstem locations
- No rebuilding of naturally spawning Coho
- Also, sport fishing for Steelhead and Spring Chinook Salmon becoming increasingly popular

History

- To provide resources for Chinook and steelhead programs, and to discourage tribal coho fishery (and incidental take of steelhead)
- Coho program terminated - 1969 at Entiat and Winthrop NFHs, 1975 at Leavenworth NFH, by 1981 at state hatcheries
- Dam counts diminished rapidly
- Mid-C Coho deemed functionally extinct

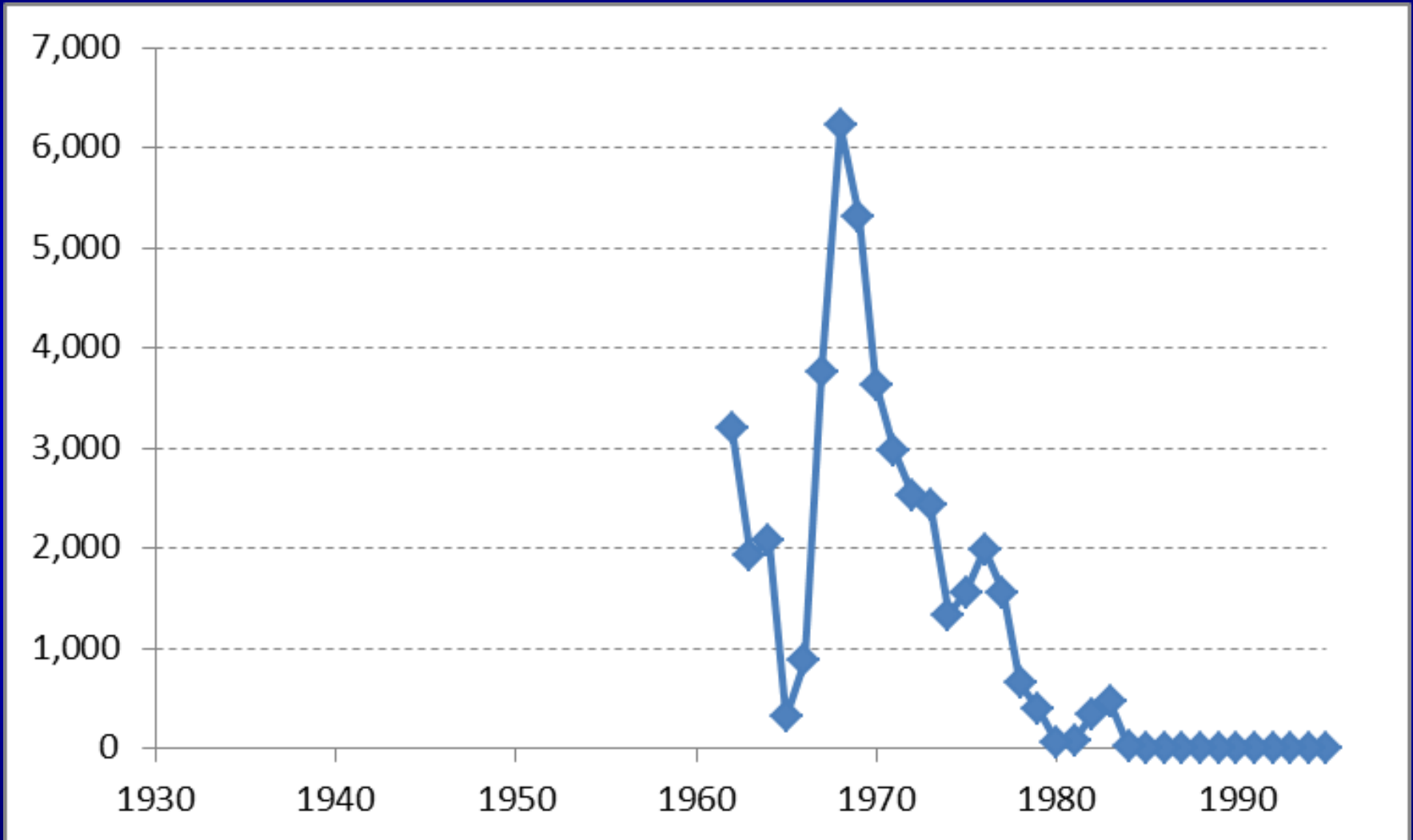
Coho Counts – McNary Dam (1954-1995)



History

- Two small programs in Snake River basin
- Fertilized egg outplants – LCR stock from Mitchell Act Hatcheries
 - IDFG in Clearwater River
 - ODFW in Grande Ronde River.
- Adult returns poor and programs terminated within six to seven years
- Snake River Coho were soon determined to be extinct

Coho Counts – Ice Harbor Dam (-1995)

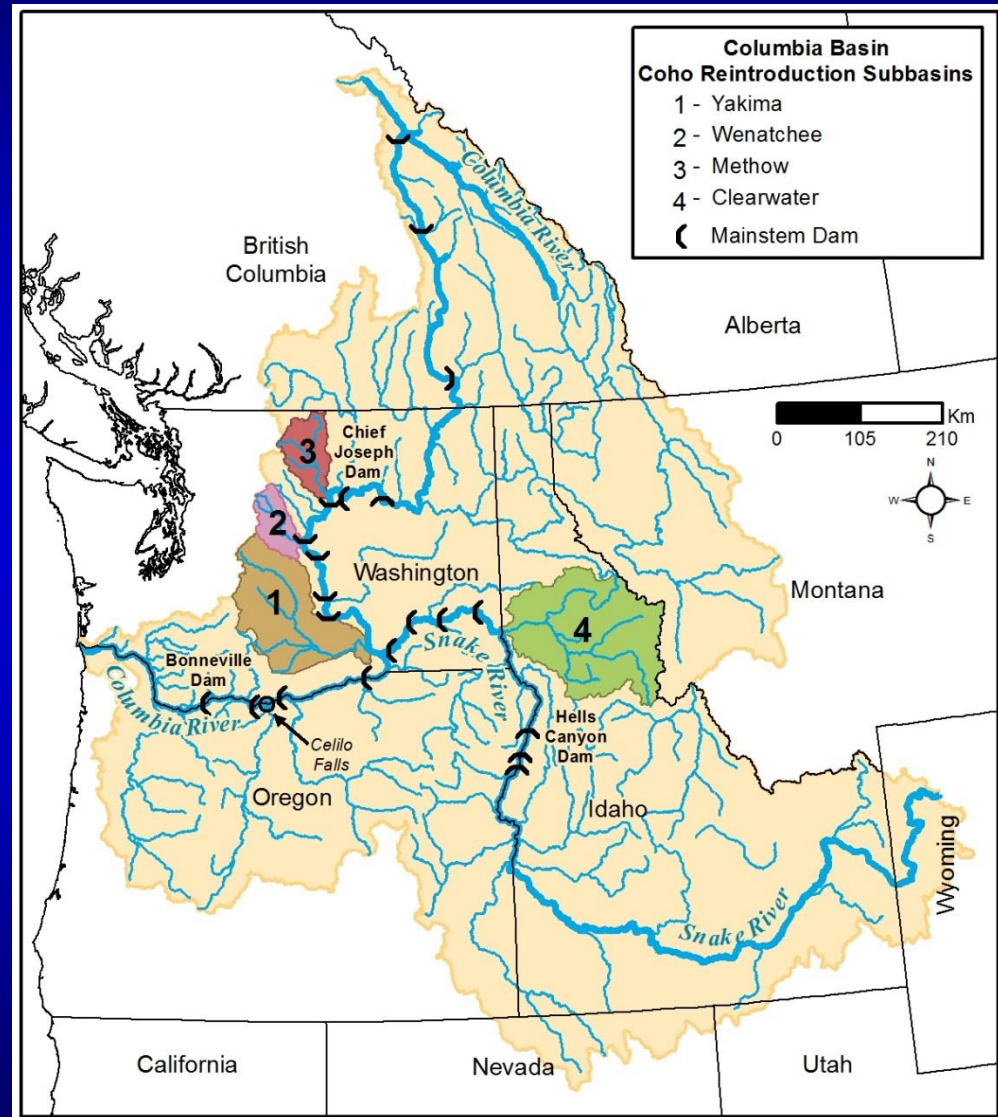


Extirpation of Interior Columbia Coho

- *US vs. Oregon (1977)* - recognized tribal treaty fishing rights, status of tribes as co-managers, and created TAC and PAC for negotiation of hatchery production and in-river harvest levels
- 1987 Columbia River Fish Management Plan - releases of Mitchell Act hatchery coho smolts in Umatilla R and Yakima R
- Programs were for harvest mitigation (releases in lower mainstem locations)

Tribal Coho Reintroduction Programs

- Mid-1990s, tribes began reintroduction programs for coho – to reestablish natural populations
- Yakama Nation (YN)
 - Yakima R
 - Wenatchee R
 - Methow R
- Nez Perce Tribe (NPT)
 - Clearwater R



Approach to Reintroduction

- Common to each program:
- Initial years - transport and release of from Mitchell Act hatchery LCR smolts (note: segregated harvest augmentation hatchery rearing for 15-20+ generations)
- However, as adults returned in-basin, they were captured for broodfish, to create an integrated localized stock
- Within 5-10 years 100% of juveniles now produced from local broodstock - LCR releases eliminated

Questions re. Reintroduction

- **State and Federal Opposition:**
 - concern for impacts of a tribal coho fishery on steelhead sport fishery
 - concern for impacts on ESA-listed stocks
 - note: because Coho were already extirpated, they were not listed ...?
- **Difficulty in obtaining program financing**
 - sources - YKFP, PCSRF, BPA
 - delays due to Master Planning process
- **Currently – are state and federal agencies supportive? Adequate funds?**

Questions re. Reintroduction

- Choice of broodstock to initiate reintroduction was the composite lower Columbia River (LCR) stock
 - loss of genetic fitness?
 - potential to readapt to natural environment?
- Transition to use of in-basin returns is complete
- How to transition to use of natural origin fish? (are fish marked or not?)

Questions re. Reintroduction

- Reintroduction/release Approaches
 - Adult outplants
 - Fertilized eggs in egg-boxes
 - Summer parr releases
 - Smolts – direct released
 - Smolts – acclimated from temporary, or from large acclimation ponds
- Return/Cost effectiveness? – adult-per-adult return rate?, cost per adult?
- Distribution for natural spawning into unoccupied habitats? “stray rate”?

Questions re. Reintroduction

- M&E trends – How to measure Program success? Increase in:
 - Natural spawning redd counts & distribution?
 - Survival measures and “SARs?”
 - improvement in SARs? - in-basin NO > in-basin HO > LCR
 - improving productivity (recruits/spawner)?
- Established program NO escapement goals? Will supplementation be scaled back/ceased? Continue some harvest augmentation production?

Questions re. Harvest

- What is impact of reintroduction program fish on lower river and Zone 6 harvest?
- Reintroduction program fish w or w/out adipose clip, and mark selective fisheries?
- How to perform run forecasts in light of growth of reintroduced natural populations?
- Constraints on Zone 6 Coho harvest due to impacts on listed steelhead; mesh size limits (8")?

Workshop Agenda

- **Monday - July 8, 2013 – 2-5 PM**
 - Welcome – Joel Moffett, Dave Johnson (NPT)
 - Introduction (Peter Galbreath - CRITFC)
 - Yakima River Coho Reintroduction Program (Todd Newsome - YN)
 - Mid-Columbia Coho Reintroduction Program (Cory Kamphaus - YN)
- **Tuesday - July 9, 2013**
 - Clearwater River Coho Reintroduction Program (Tui Moliga - NPT)
 - Field visits of Clearwater River Program

Workshop Agenda

- **Wednesday – July 10, 2013 – 8 to noon**
 - **Umatilla River Coho Production Program (Jon Lovrak - CTUIR)**
 - **Klickitat River Coho Production Program (Bill Bosch - YN)**
 - **Coho Returns to the Hood and Deschutes Rivers (Brad Houslet - CTWSRO)**
 - **Coho Harvest in the Zone 6 Fishery**
 - **Open Discussion**