Introduction:
Inter-Tribal Workshop on Coho Reintroduction and Production Programs

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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
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)
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 extrirpated, 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