

Coquille Fall Chinook Conservation Hatchery Program



CHRIS KERN, ODFW WEST REGION ADMINISTRATOR

JOHN OGAN, COQUILLE INDIAN TRIBE ASSISTANT EXECUTIVE
DIRECTOR FOR NATURAL RESOURCES

Management Context

- Managed under the Coastal Multispecies Plan
- At time of plan adoption the population was **highly viable** – limiting factors were relevant in closing the gap between current and desired status.
 - Primary limiting factors included peripheral habitat connectivity & instream habitat structure.
 - Secondary limiting factors included predation by non-native fish, gravel, harvest/ sedimentation, water quantity, water temperatures.



Management Context

Plan Actions

Predation: *modify/remove bass limits, targeted removal , restore salmonid habitat, meet water quality standards.*

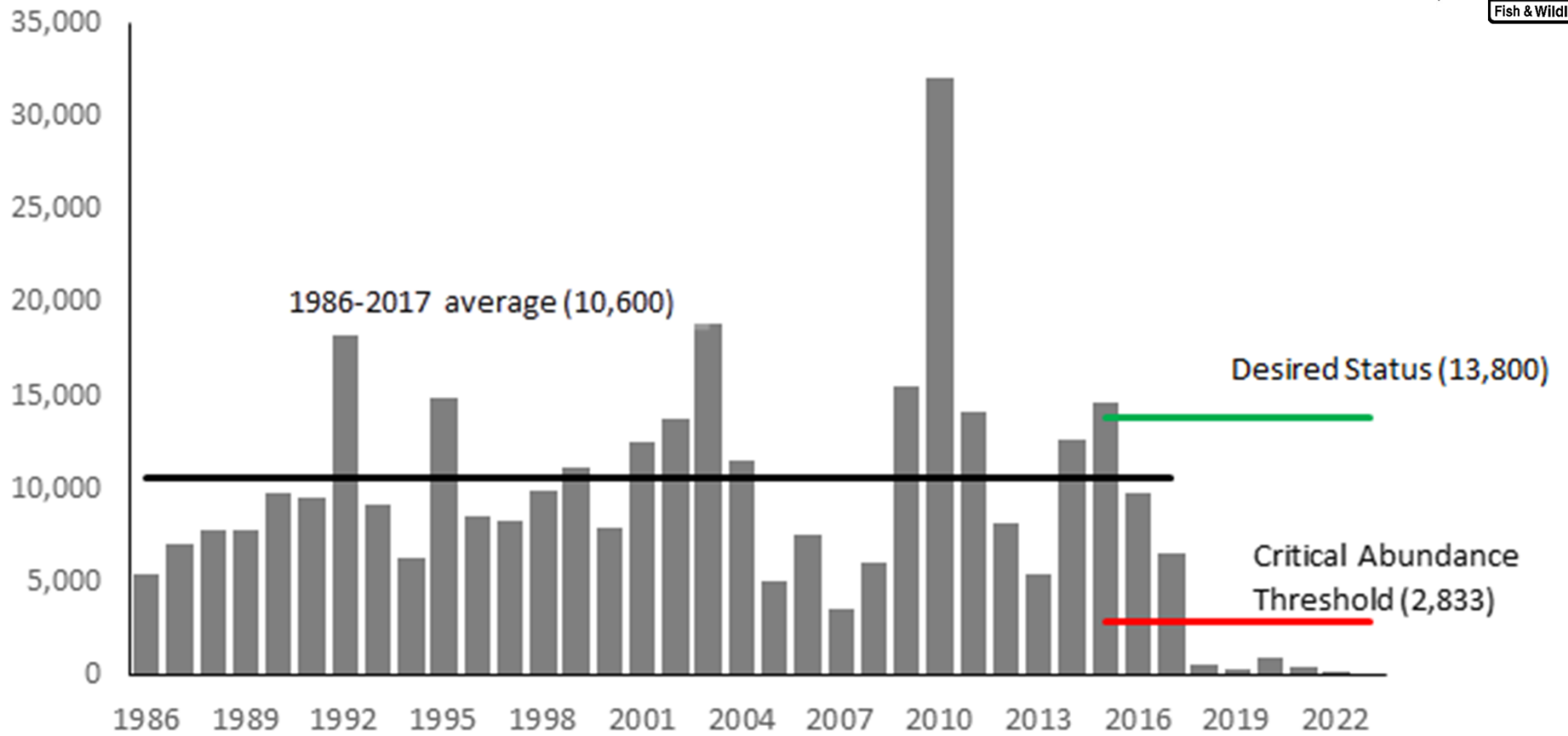
Habitat: *multiple actions recommended, see CMP*

Harvest: *managed under sliding scale*

Hatchery: *150K smolt release in lower basin*



Coquille Fall Chinook Spawning Abundance 1986-2021



ODFW/CIT Partnership



In 2021, the CIT declared an emergency for the Coquille Fall Chinook population and began working directly with ODFW on actions.

The CIT has invested in staffing and resources, and in coordinating efforts by the local community.

OFWC/ODFW and CIT MOA - collaborative effort to mutually negotiate, define, and allocate functions and responsibilities.

Coquille River fall Chinook salmon management is within the scope of the MOA - proposed Conservation Hatchery Operational Plan developed cooperatively.

ODFW and the CIT cooperatively developing M&E plan for the conservation hatchery program and the population in general.

The CIT is increasing capacity and expertise to address needs, including e-fishing boats.

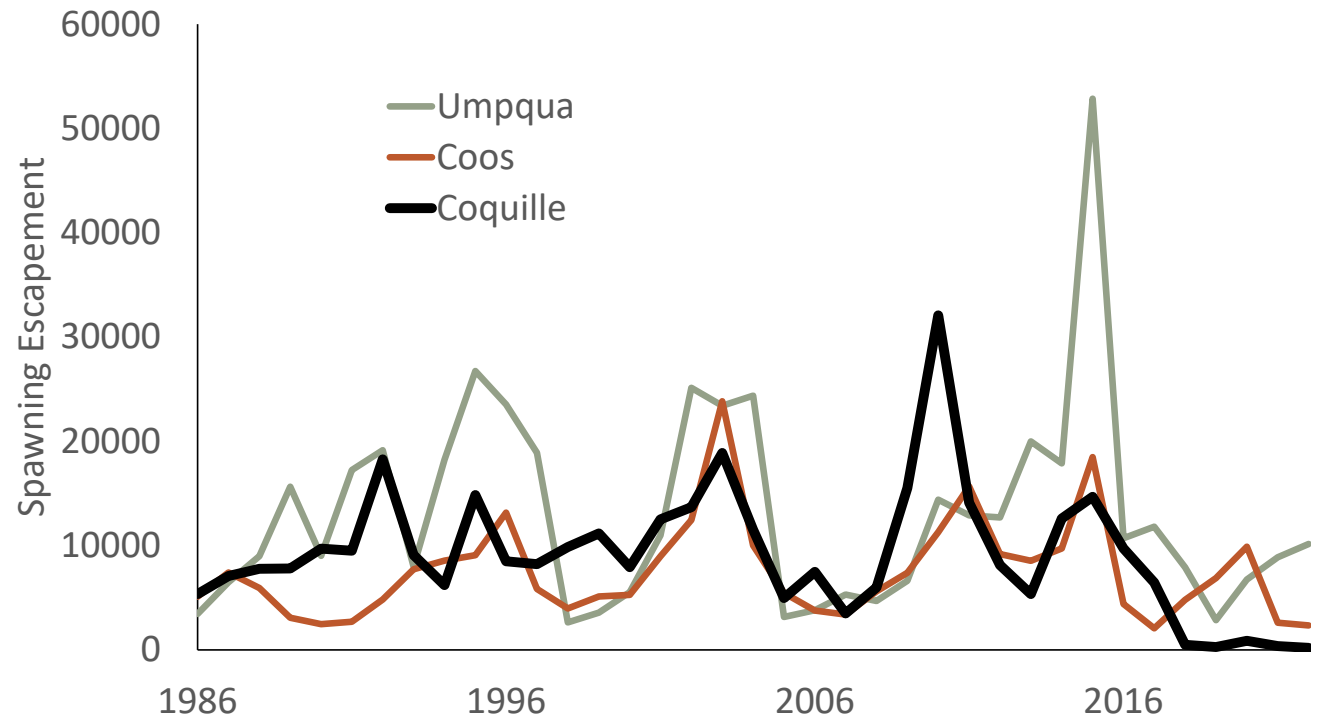
ODFW/CIT actively working on bass removals now.

CIT/ODFW collaboration on grant application strategy to address data gaps and expand habitat restoration efforts.

Coquille Specific Decline



- General decline in 2016 coastwide fall Chinook assoc. with poor ocean conditions/drought.
- Greatest decline in Coquille and no subsequent increase

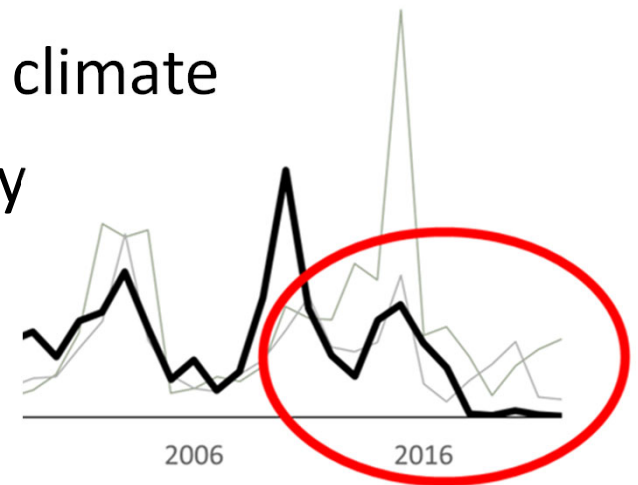


POSSIBLE Limiting Factors Reviewed



2020 ODFW Assessment Evaluated:

- Ocean conditions
- Predation
- Environmental factors – temperature, flow, climate
- Environmental factors – habitat productivity
- Hatchery interactions
- Disease

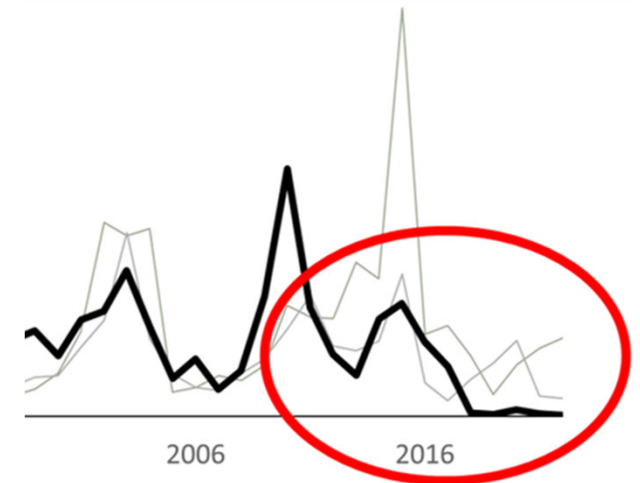


Conclusions



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Recommended Actions



2020 ODFW Assessment Recommended:

- Address predation – direct removals, encourage public harvest, assess bass population dynamics; future YY males?
- Improve temperature monitoring, model future water temperatures, and prioritize aquatic habitat for restoration
- Improve understanding of effects of freshwater and ocean conditions on Chinook (and predator) population
- Conservative fishery management
- Consider use of conservation hatchery as an emergency measure

Recovery Focus

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- Conduct removals
- Habitat actions
- Assess population size/dynamics
- Model removal effectiveness

K d e l w d w

- Improve conditions for fall chinook
- Decrease suitability of habitat for SMB
- Monitor temp/flows/disturbance

K d u y h v w

- Manage very conservatively until recovered

Actions to date



Limiting factor: Predation

Removal of smallmouth and striped bass ODFW/CIT (2020-current)

- 2020-2021: 7,300 SMB removed, 98 hours of e-fishing;
- 2022 (thru July): 14 days of activity, 1,700 SMB removed, 34 hours of e-fishing.
- 2022 community-sponsored bass derby: 2,000 SMB removed, second event planned for September.

Smallmouth bass population assessment (2021)

- 2021 “bio blitz”: 30 fish biologists (ODFW, CIT, TU, BLM). Assess SMB population to inform control and management. 5 e-fishing boats, >1,500 SMB removed. Snorkel team population estimates, documented upper distribution of SMB. Otoliths and genetic samples taken for age and genetics. Analysis in progress.



Actions to date



Limiting factor: Habitat (examples)

CIT:

- Over \$8M in direct/in-kind funds for Coquille Basin restoration work 2000-2021 (instream, wetland, estuary, upland, riparian habitats; 24 fish barriers removed, opened 6 miles, 135 miles of stream habitat assessment/planning). Examples include Winter Lake, South Fork, Cochran Ranch.
- 2022: applied for \$11M federal funds; secured >\$3M to date - Coaledo tide gate, Beaver Slough fish passage, Coos, Curry and Douglas counties various projects (incl. tide gates, riparian, meadow and prairie restoration).

ODFW:

- Winter Lake (407 ac, 6 mi of tidal channel), technical partic. in numerous basin projects (Bandon Marsh, Baker Culvert, riparian, large wood, forest practices work)
- Funded 3 fish passage projects with drought funding.
- Applied for 8 additional ISWR in basin
- Intensive fish monitoring for effectiveness at restoration sites.
- Deployed 23 temperature loggers.



Actions to date



Limiting factor: Fisheries

- Complete salmon fishery closure (2021 and 2022).
- Closure to harvest of naturally-produced fall Chinook 2020, reduced bag limit 2019.

Hatchery:

- No collection of naturally-produced broodstock for hatchery harvest augmentation program when below CAT, per CMP.



Population at very high risk



- Habitat improvements and reducing predation will take time to accrue population benefits.
- Population remains at very high risk until/if limiting factors are addressed.
- Conservation hatchery program is a “lifeboat” for the wild population to give them a better chance to persist while actions on limiting factors are underway.



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Types of hatchery programs



Harvest Augmentation

Enhance or maintain fisheries without impairing naturally reproducing populations; existing augmentation program at Bandon Hatchery.

Conservation

Maintain or increase the number of naturally-produced fish without reducing the productivity (e.g., survival) of naturally-produced fish populations

- Several forms of conservation hatchery program (egg-banking, captive rearing, etc.)
- Coquille program would be "supplementation" conservation hatchery program
 - Routes a portion of an imperiled wild population through a hatchery for part of its life cycle to gain a temporary survival boost...

Proposal to implement a conservation hatchery program



CMP 635-500-6775 (7): Adaptive Management. The Department shall employ adaptive management principles within its statutory authority in support of optimizing fisheries and achieving the desired status goals for the SMUs. The Department's adaptive management of the SMUs will include five elements: research; monitoring; evaluation; a feedback loop; and reporting.

Given the rapid change in status of wild fall chinook in the basin, the Department and CIT believe it is necessary to exercise adaptive management and initiate a conservation hatchery program as an emergency measure while limiting factors are addressed.

CMP 635-500-6775 Section (6(b)): obtain Commission approval for starting new or eliminating existing hatchery programs in a management area relative to those in Table 13 and Table 14 of the CMP.

Conservation Hatchery Program Operational Plan



ODFW and CIT have established the following objectives to guide the implementation and evaluation of the program:

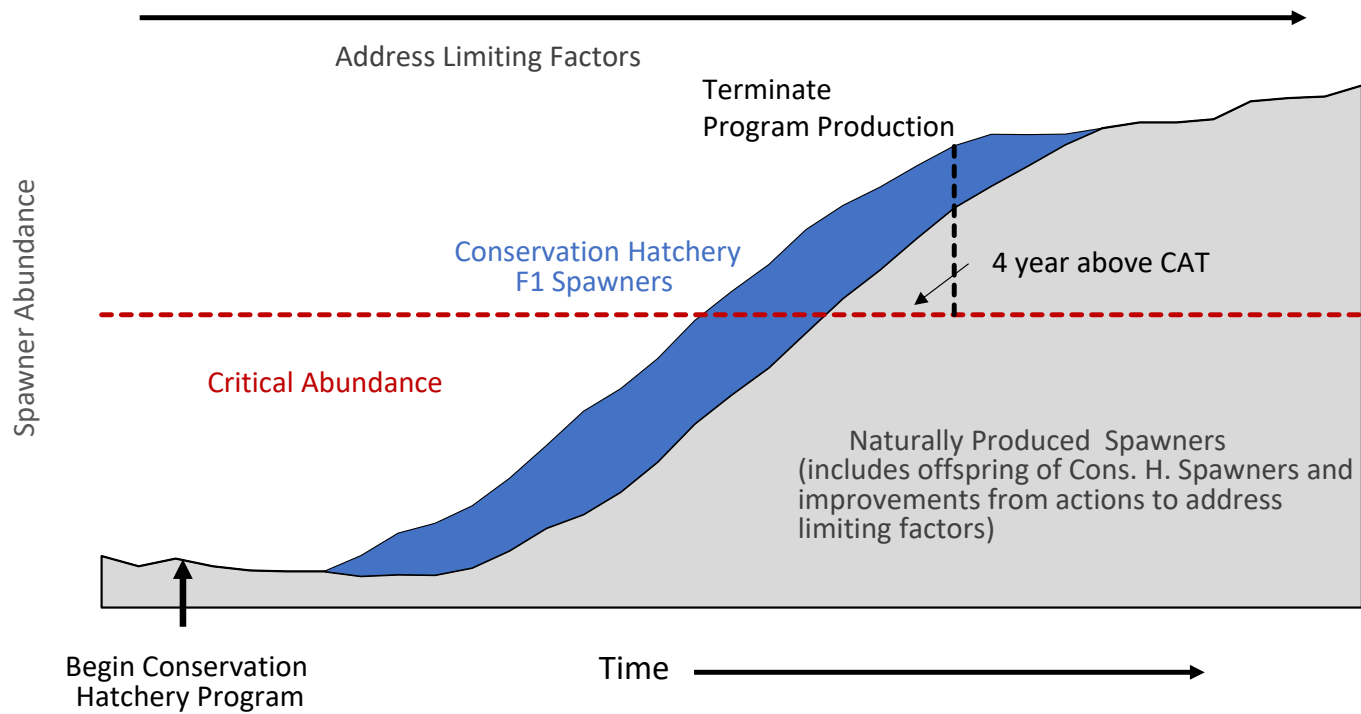
- 1) Prevent extirpation of naturally-produced fall Chinook in the Coquille River Basin while actions that address primary limiting factors for freshwater productivity are undertaken.
- 2) Conserve the genetic diversity of naturally spawning fall Chinook in the Coquille Basin.
- 3) Increase the abundance of naturally produced fall Chinook to a self-sustaining level, defined here as returns of unmarked fall Chinook exceeding the CMP CAT of 2,833 fish for four consecutive years and have a high likelihood of regularly exceeding the CAT in the future.

Conservation Hatchery Program Operational Plan



- All wild broodstock.
- Program size – maximum of 100K smolts (about 47K expected in first year)
- 100% marking of smolts with CWT or PBT – no fin clips – conservation program fish would not be harvestable (possible hatchery-only fisheries in lower bay in future).
- Spawning protocols to maximize genetic diversity
- Acclimate smolts in upper areas of basin to aid distribution of returning adults.
- Smolt size, timing and location of releases structured to minimize predation by non-native fish predators.

Example of potential conservation hatchery contributions to population





Monitoring & Evaluation (M&E) Adaptive Management

- ODFW and CIT developing a M&E plan for conservation hatchery program.
- Ensure sufficient coverage in spawning ground surveys to robustly estimate escapement.
- Increase survey coverage for evaluation of contributions of conservation hatchery program to the naturally-spawning population.
- M&E will inform adaptive management actions in the basin, including hatchery programs.

Program Review



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The purpose of these reviews is to inform future implementation of the program:

- Do actions (cons. hatchery, habitat, predation) need to be adjusted to improve performance?
- Have we met the criteria for success?
- What is the viability of the wild population?
- Are limiting factors are being addressed-and, if not, can they can reasonably be addressed with additional actions?
- Should the program continue?

Program Review



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The Department and CIT will recommend to the Commission that the program be discontinued under the following scenarios

Naturally-produced spawner abundances >CAT of 2,833 for 4 consecutive years and high likelihood population will remain above the threshold in the absence of program,

or,

An assessment indicates that the naturally produced population is unlikely to persist into the foreseeable future despite ongoing efforts to address limiting factors

Staff Recommendation



- Have the Department add a new Coquille Fall Chinook Conservation Hatchery Program in the Coquille basin.

