Oregon Lower Columbia River Recovery Plan Annual Report Card: 2017

This annual report card is an abbreviated status report that reviews the most recent research, monitoring and evaluation data for Lower Columbia River Salmon and Steelhead. Viable salmonid population (VSP) metrics, where they exist, are used to compare against the populations status at the time the Plan was implemented to determine whether status has improved, remained the same or declined. The annual report card also documents formal adaptive management decisions, recommendations and actions in regards to achieving plan goals under the delisting scenarios in the plan. Detailed information regarding VSP metrics and yearly plan goals are found at http://www.odfwrecoverytracker.org/.

Coho: (ESU wide)

Wild adult coho abundance increased across the Evolutionarily Significant Unit (ESU) compared to 2016, with the exception of the Scappoose population and was affected by a moderate marine survival rate. While the Scappoose population abundance decreased by 68% from 2016 estimates all other, monitored populations increased in abundance from a 19% increase in the Clatskanie to a 467% increase in the Clackamas. Yearly abundance goals for 2017 have not been produced, but when 2017 adult abundance is compared against the CATAS 100 year average delisting goals the coastal strata population's average about 15% of the goals, while the Cascade strata populations average approximately 55% of the goals.

The lower gorge and upper gorge/Hood River populations were not monitored in 2017 due to access issues associated with the Eagle Creek fire. Additionally, it has been difficult to obtain yearly abundance estimates for these two populations due to patchy distribution and limited spawning miles. Starting in 2019 ODFW will move from monitoring random sites within these populations to index sites to detect trends over time.

The 2017 LCR coho harvest for ocean and Columbia River fisheries (10.8%) remained below the NOAA harvest guidelines of 18% for all populations that are subject to the interim evaluation criteria.

Under the interim measurable criteria for biological viability, the Sandy and Hood will not pass the abundance/productivity goals, the Clatskanie, Scappoose, Clackamas, Sandy and Hood will not pass the spatial structure goals (percent occupancy of habitat) and the Lower Gorge and Hood will not pass the diversity goals (pHOS). Examination of average Coho abundance pre and post plan (2002-2009 v. 2010-2016) shows all but one primary populations increasing. Due to sampling difficulties discussed above, we were unable to detect trends in the UG/Hood population.

Fall Chinook: (ESU wide)

Abundance based surveys began for Clatskanie, Scappoose, Sandy and Clackamas populations in 2012. Index counts go back further in the Clatskanie and Sandy populations. To date, there are not enough yearly abundance estimates to produce yearly abundance goals against which interim measurable

criteria for biological viability can be assessed, but this information should be available in 2018. Current trends from 2013-2017 remain similar amongst the years and are at extremely low levels. The Big Creek and Young's Bay populations continue to return at low numbers (31-189). The Clatskanie and Scappoose populations continue to have abundance levels near zero. The Clackamas population has varied from 34-700 adults and spawning is limited by temperature and flow until October. Currently, Sandy River fish abundance estimates are problematic because spring, fall and late-fall Chinook spawners overlap spatially and temporally. Staff have collected otoliths and genetic material from carcasses on the spawning ground to proportion spawners between the different runs, and funding was secured in 2018 to process these samples. There are no current estimates of abundance for Sandy fall chinook populations. There are no abundance estimates for Hood River natural origin fall chinook since the removal of Powerdale Dam.

Harvest data for LCR fall chinook was estimated at the ESU level for ocean and mainstem Columbia River fisheries (below Bonneville Dam). The ESU is subject to a yearly harvest rate under a harvest matrix referred to as "abundance based management". The harvest rate, at the ESU level, was calculated for ocean and Columbia River fisheries (36.1%) and was below the allowable 2017 harvest rate of 41% for all populations, with the possible exception of gorge strata stocks. Harvest upstream of Bonneville Dam is not calculated and the total harvest rate is unknown for gorge strata populations.

Under the interim measurable criteria for biological viability, none of the monitored populations are currently in jeopardy of failing interim goals (only 5 years of data), but given the fact most of the populations have abundance levels near zero there should be a strong concern for meeting future abundance and diversity goals.

Late-Fall Chinook: (Sandy)

No data are reported for any of the recommended metrics, nor is harvest estimated. As noted above, estimating abundance for Sandy late fall-Chinook will depend on further research to proportion spawner estimates among spring, fall, and late-fall Chinook. This population is listed as a low risk of extinction, but no methodology is finalized to assess risks (see explanation under Sandy Fall Chinook).

Spring Chinook: (Clackamas, Sandy and Hood)

Clackamas and Sandy spring Chinook populations have increased in abundance nearly every year since plan adoption including 2017. Both populations are well above the delisting goals and approaching broad sense recovery goals. Model estimates of naturally produced Hood River spring Chinook escapement were not available for the 2017 run year due to data limitations. A total of 20 adults and 4 jacks were captured at adult collection facilities, a fairly significant reduction from the previous year (n=142 adults, 2 jacks). Hood River abundance estimates for 2012-2017 are now included in the recovery tracker. Currently, there are not enough yearly abundance estimates to produce yearly abundance goals against which interim measurable criteria for biological viability could be assessed for Hood spring Chinook.

Harvest data for LCR spring Chinook is estimated at the ESU level for ocean, mainstem Columbia River and tributaries. The ESU is subject to a yearly combined ocean and freshwater harvest rate of 25%. The harvest rate, at the ESU level, was calculated and below the allowable harvest rate for years 2010-2016. Clackamas spring Chinook are part of the Upper Willamette ESU and harvest remains below the evaluation threshold of 15% for freshwater fisheries.

Winter Steelhead: (Clatskanie, Scappoose, Clackamas, Sandy, Hood)

Adult abundance in the Clackamas, Sandy and Hood populations all decreased from 2016 abundance levels, but the Sandy population still is above long term delisting goals. Under the interim measurable criteria for biological viability, the Hood River population will not meet the diversity goal (pHOS).

The Clatskanie and Scappoose populations are within the SW Washington Distinct Population Segment (DPS). This is an unlisted DPS that has only broad sense recovery goals. Both populations had modeled abundance in the 2,000-3,500 fish range during the writing of the recovery plan, but average returns for the Clatskanie are less than 1,000 fish and less than 200 in the Scappoose from 2012-2018. For the last two consecutive years, adult returns in the Scappoose have been under 50 spawners.

Summer Steelhead: (Hood)

Adult returns of summer steelhead followed the same pattern as winter steelhead and decreased in the Hood population during 2017. Currently, there are not enough yearly abundance estimates to produce yearly abundance goals against which interim measurable criteria for biological viability can be assessed.

Habitat Restoration and Effectiveness Monitoring-

ESU wide restoration goals were developed in 2014 based on best available science and modeled in threat reduction scenarios to reduce tributary habitat mortality to a level that is consistent with recovery plan mortality rates for each population, under the delisting scenario. The habitat restoration targets are useful as a starting point to visualize the relative amount and types of restoration work needed in tributaries. When or if these targets are met, all implementers are encouraged to continue to implement additional projects until the biological listing factors for each population are fully met. Table 1 lists habitat restoration accomplishments by population for 2017.

Table 1. Habitat Restoration Projects Completed within the ESU during 2017*

Population	Culverts Replaced (#)	Water Conserved(cfs)	LWD placed (mile)	Irrigation Improvement Projects (#)	Side Channel Creation (mile)	Alcove Creation (m2)	Riparian Planting (mile)
Young's Bay							.6
Big Creek	1						
Clatskanie	3		1.6				.1
Scappoose							.3
Clackamas	3		1.52		.45	465	9.06
Sandy			2.5		1.1	56	.25
Lower Gorge							1.8
Upper Gorge							
Hood		1	.5	4	.7		
Total	**7**	**1**	**6.12**	**4**	**2.25**	**521**	**12.11**

*Information from OWEB and BPA databases as well as annual and restoration practioners reports

According to the plan, the schedule for completing habitat restoration is listed as within 15 years. We are now 8 years since plan adoption. If practitioners were on track to meet restoration goals over a 15 year period, then 53% of the goals should be achieved in each population. The Young's Bay and Sandy populations are on track to meet most of the restoration goals. Riparian goals have been met in the Clackamas and Scappoose populations. The remaining populations vary from 0%-41% of the goals.

Key accomplishments from local restoration practitioners are:

- Clatsop SWCD completed a Lewis and Clark Streamside Assessment
- Clackamas WES completed a restoration and storm water detention project in the Clackamas River floodplain
- Hood River Watershed Group secured an OWEB Focused Investment Capacity Building grant
- Columbia River Estuary Task Force completed a 42-acre floodplain reconnection project on the newly acquired public Flights End property on Sauvie Island. Investigating the effects of Beaver Dam Analogues is a portion of the project.

Adaptive management:

None at this time

Research Monitoring and Evaluations Addendums:

While not adaptive management per se, monitoring of fish populations is critical to a yearly assessment of the effectiveness of plan actions and prioritization of limited monitoring funds. The following actions are recommended for implementation:

- Money was secured to read Sandy basin Chinook genetic samples for this continuous reccomendation. Once samples are read, ODFW Corvallis Research staff to take results and proportion fall, late-fall and spring Chinook and apply to Sandy Chinook estimates to define population estimates for Sandy Chinook runs. Update the recovery tracker.

- ODFW Conservation and Recovery staff to resume annual meetings with fish districts to define district priorities for conservation plan implementation.

- ODFW East Research to continue working with the Confederated Tribes of the Warm Springs (CTWS) to genotype returning adult summer and winter steelhead to better define the spatial and temporal overlap of steelhead in the Hood River basin.

Current and past reports as well as presentations and a host of LCR Recovery Plan information can be found at http://www.dfw.state.or.us/fish/CRP/lower_columbia_plan.asp.

Recovery Plan Adopted: August 2010
Date Reviewed: December 2018