

Lower Columbia Fall Chinook SMU

ESA Designation:
Threatened 1999

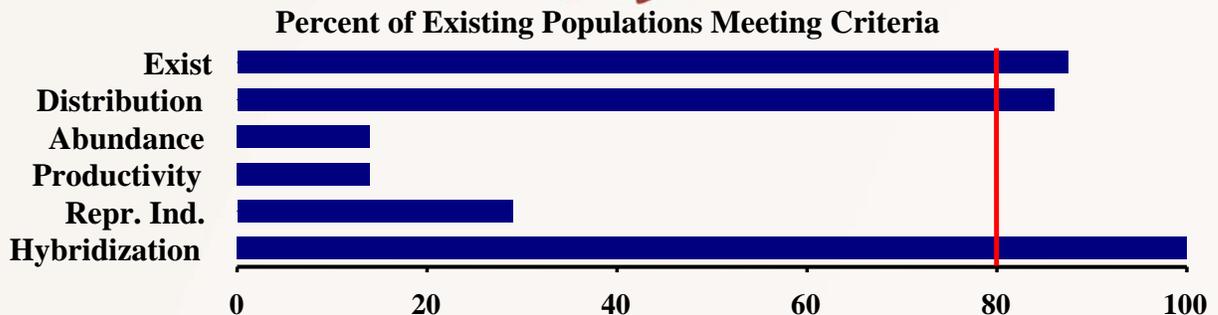
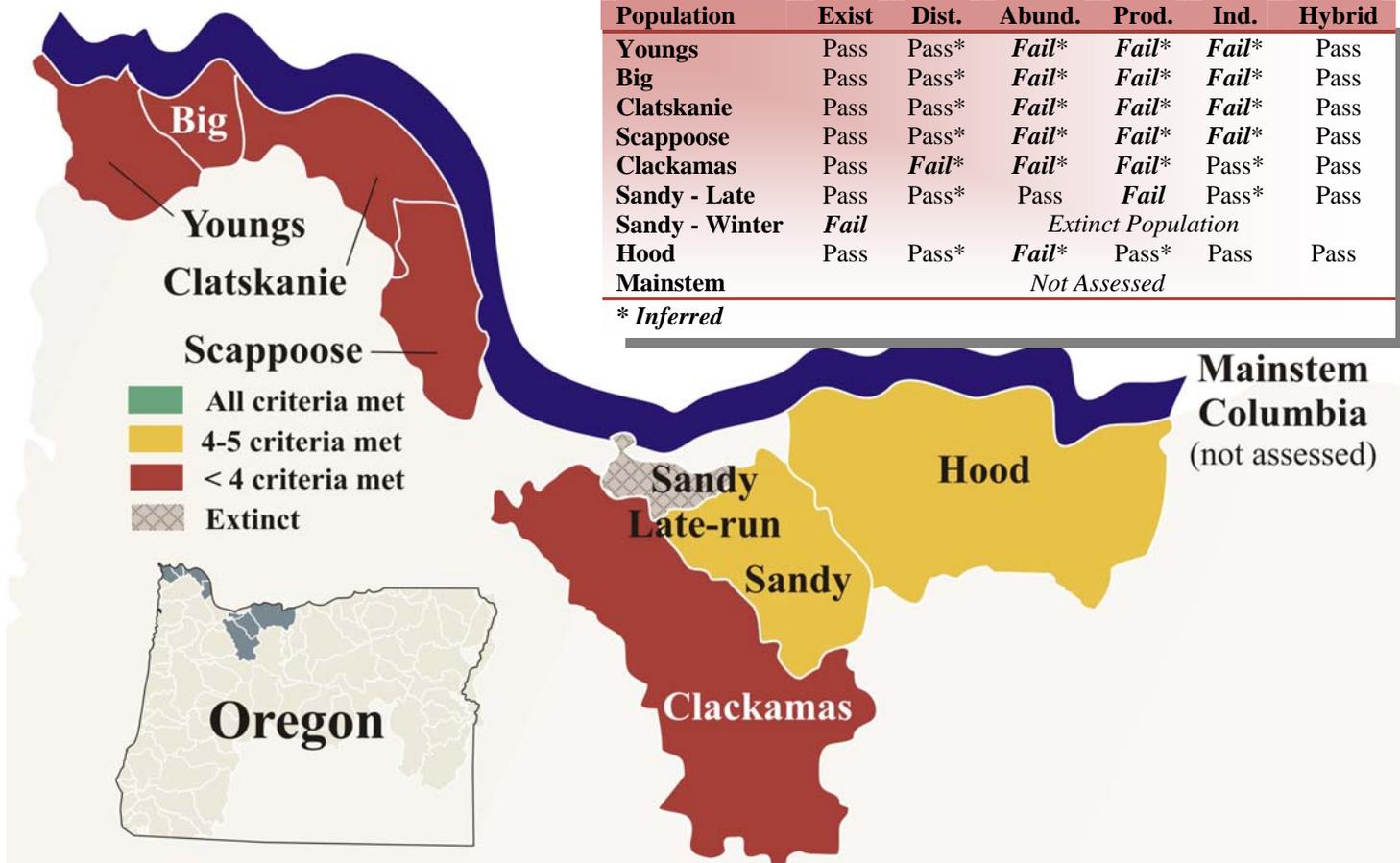
State Status:
Critical

Interim Assessment:
At Risk

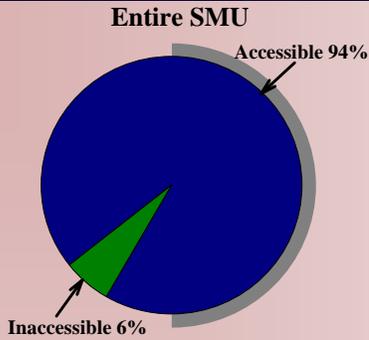
This SMU includes nine populations in Columbia River tributaries between the Columbia River mouth and Fifteenmile Creek. A mainstem Columbia River population may exist, but it was not assessed under this report. The near term sustainability of the SMU is at risk with one population extinct (Sandy winter-run), and several others with extremely low returns or a high degree of hatchery influence. Numerous hatcheries in both Oregon and Washington release fall Chinook which spawn in tributaries within this SMU. The mainstem Columbia population was not considered in the assessment outcome of this SMU because its status is poorly understood as well as its dynamics with tributary populations in both Oregon and Washington. Limited data and inferences from other information for populations in this SMU provide a qualified level of confidence in the assessment of interim criteria.

Population	Exist	Dist.	Abund.	Prod.	Ind.	Hybrid
Youngs	Pass	Pass*	Fail*	Fail*	Fail*	Pass
Big	Pass	Pass*	Fail*	Fail*	Fail*	Pass
Clatskanie	Pass	Pass*	Fail*	Fail*	Fail*	Pass
Scappoose	Pass	Pass*	Fail*	Fail*	Fail*	Pass
Clackamas	Pass	Fail*	Fail*	Fail*	Pass*	Pass
Sandy - Late	Pass	Pass*	Pass	Fail	Pass*	Pass
Sandy - Winter	Fail		Extinct Population			
Hood	Pass	Pass*	Fail*	Pass*	Pass	Pass
Mainstem			Not Assessed			

* Inferred

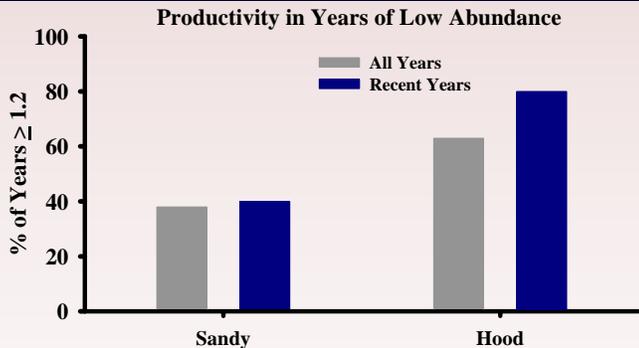


Distribution - Pass



- The SMU passed this criterion because six of seven existing populations access most of their historical habitat. Most (94%) of the habitat historically used within the SMU is still accessible today.
- Current distribution and habitat use of spawners relative to historic distribution is not well understood.
- The only population to fail was the Clackamas. With recent small runs in the Clackamas, it is likely less than 50% of the historic habitat is being used.
- Habitat modifications affecting this SMU include passage barriers within the Clackamas, Sandy, and Hood basins, and urbanization.

Productivity –Fail

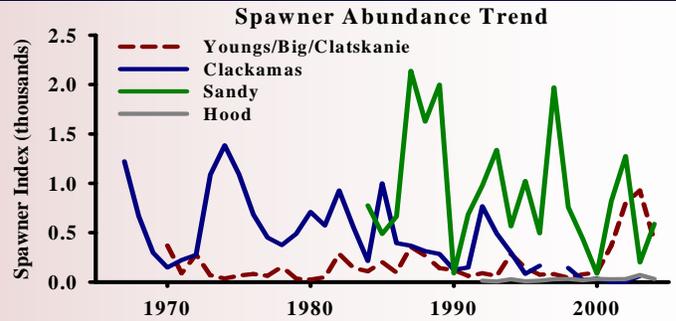


- Productivity could only be estimated in the Sandy and Hood.
- Though estimates could not be made for the Clackamas, it failed because of a consistent downward trend in returns since termination of hatchery releases.
- Productivity for the Sandy late-run has generally been less than 1.2 recruits per spawner.
- The Youngs, Big, Clatskanie, and Scappoose populations failed productivity because of high hatchery influences.

Additional Information

- The continued recent decline of fall Chinook abundance in the Clackamas despite recent improvements in ocean conditions is concern for the future of this population.

Abundance - Fail



- Only one population, the Sandy late-run passed the criterion.
- Abundance trends have been variable for each of the populations within the SMU.
- The abundance trends for the Youngs/Big/Clatskanie, and Clackamas reflect the combined abundance of hatchery and wild fish. The Youngs/Big/Clatskanie trend is in terms of fish-per-mile in index reaches. Trends in the Sandy and Hood are wild fish counts.
- Abundance in the Clackamas has been declining since in-basin hatchery releases were terminated in the 1980s.
- Returns to the Hood have consistently been below 100 fish.

Independence – Fail

- The significance of hatchery fish to natural spawning is not well understood in this SMU. Evaluations of the interim criterion were based primarily on anecdotal information.
- Three of seven existing populations passed this criterion including the Clackamas, Sandy late-run, and Hood.
- Until the late 1990s many of the returns to the Clackamas were thought to be hatchery fish. Since hatchery releases were terminated, all spawners are naturally produced but returns have dropped significantly.
- Coded-wire tag (CWT) recoveries indicated that few (<10%) spawning late-run Chinook in the Sandy were of hatchery origin.
- The hatchery fraction of returns to Powerdale Dam in the Hood ranged from 0-40% since 1992 but have been less than 10% in 3 of the last 5 years.
- CWT recoveries showed that a majority of spawners in the Youngs, Big, and Clatskanie are hatchery strays from hatchery releases in both Oregon and Washington.