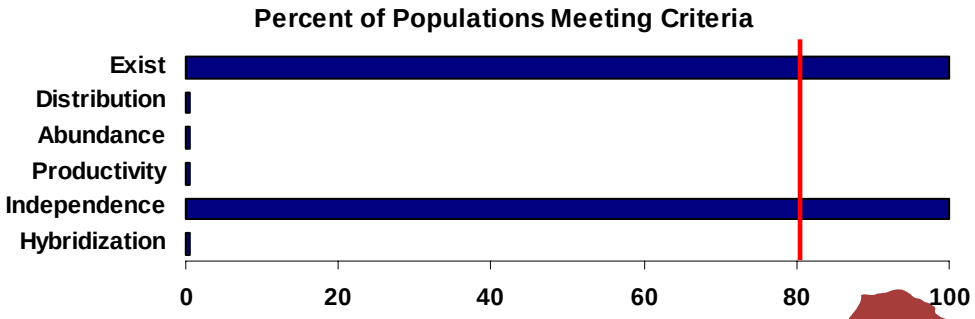
Odell Lake Bull Trout SMU

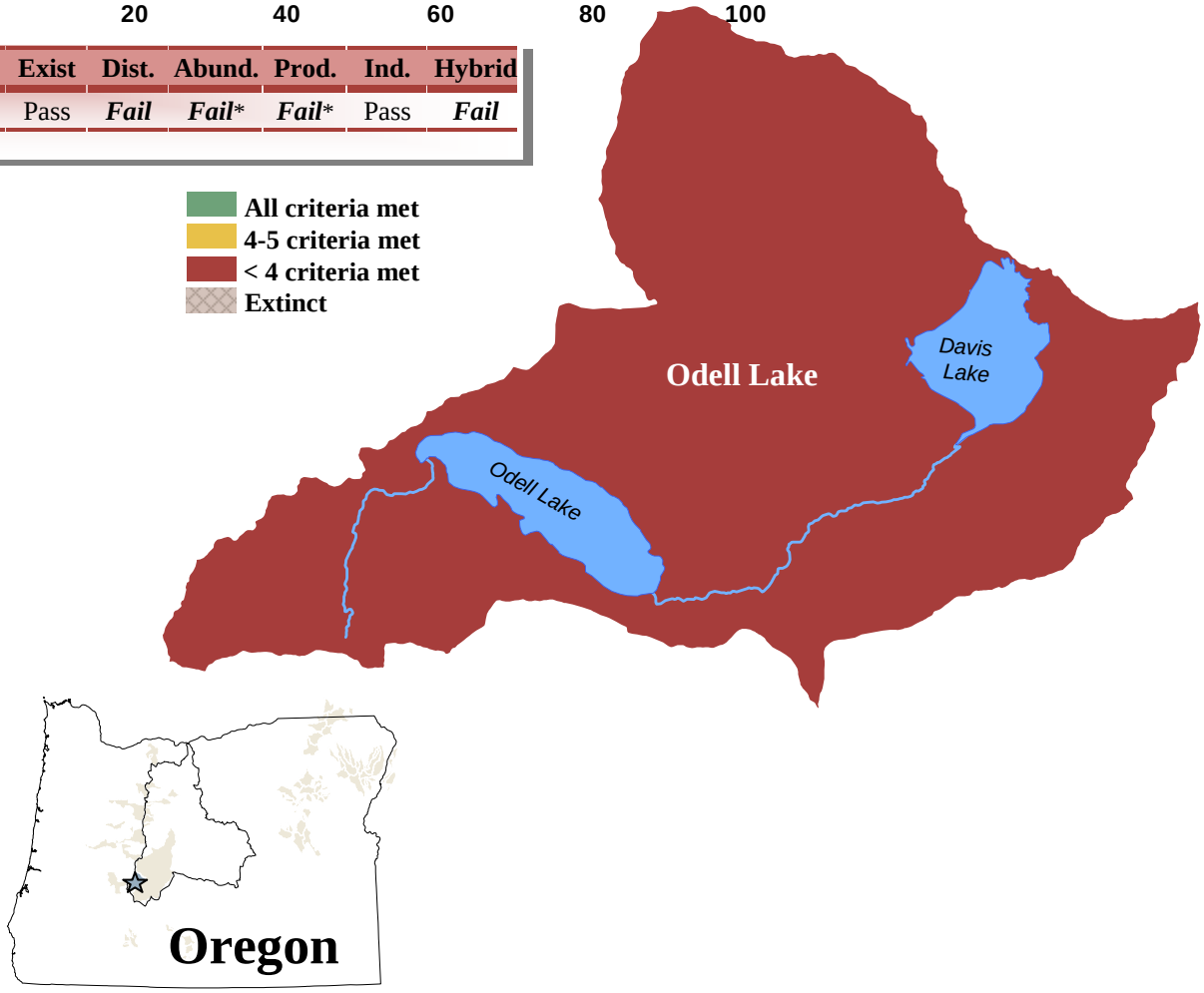
ESA Designation:	State Status:	Interim Assessment:
Threatened 1998	*Critical*	*At Risk*

The Odell Lake Bull Trout SMU is comprised of one population, the single remaining natural adfluvial population in Oregon. Odell Lake is physically isolated from the Upper Deschutes River basin by a 5,500 year old lava flow which impounded Odell Creek and created Davis Lake. The abundance of the Odell Lake bull trout population is perilously low and spawning habitat is severely limited and of marginal quality. The presence of non-native salmonids, particularly lake trout, brook trout, and kokanee, drastically limit productivity. The Odell Lake SMU meets two of the six interim criteria and is classified as 'at risk'. Limited data sets and inferences from other information for populations in this SMU provide a qualified level of confidence in the assessment of interim criteria.

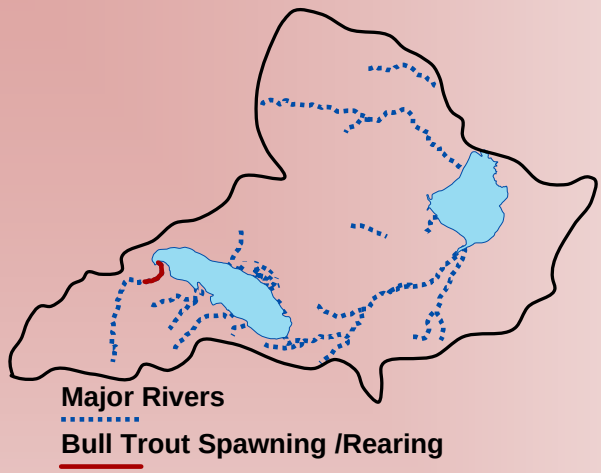


Population	Exist	Dist.	Abund.	Prod.	Ind.	Hybrid
Odell Lake	Pass	*Fail*	*Fail**	*Fail**	Pass	*Fail*

* *Inferred*



Distribution - Fail



- Bull trout currently occupy Odell Lake, Trapper and Odell creeks, and two Odell Creek tributaries.
- Bull trout spawning distribution is limited to 1.3 km of Trapper Creek between the mouth and a barrier falls. Quality of spawning habitat is marginal, degrading significantly over the past 70 years.
- Crystal Creek historically supported spawning bull trout; however, sediment input from the construction of a railroad crossing impacted habitat quality. Only kokanee currently spawn in Crystal Creek.

Abundance - Fail

- Total abundance of Odell Lake bull trout is unknown.
- Based on field observations, selected datasets, and professional judgment, biologists estimate fewer than 50 adult bull trout exist in the Odell Lake population.
- Odell Lake bull trout are at risk of the deleterious effects of inbreeding and genetic drift.

Hybridization - Fail

- Historically brook trout were stocked in high mountain lakes in the Odell Lake watershed, including Yoran Lake, headwaters of Trapper Creek.
- Hybridization with brook trout has been observed in Trapper Creek; however the degree to which it occurs is undocumented. Given the extremely small size of the bull trout population, any degree of hybridization is considered a significant impact. The Odell Lake population fails the hybridization criterion.

Productivity - Fail

- Data are not available to quantitatively assess productivity.
- Productivity is likely depressed by interactions with non-native salmonids; brook trout hybridize with bull trout in Trapper Creek, kokanee redds are frequently superimposed over bull trout redds, and lake trout compete and/or prey on bull trout in Odell Lake.
- Degraded and restricted spawning habitat may also limit productivity.

Additional Information

- Odell Lake bull trout are native trout sustained by natural production and pass the reproductive independence criterion.
- The USFW implemented a channel restoration project on Trapper Creek in 2002 and 2003. The project was designed to create high quality spawning and rearing habitat for bull trout through the addition of large wood and spawning gravel and by increasing the overall amount of pool habitat.
- ODFW is currently evaluating the impact of superimposition of kokanee redds on bull trout redds.