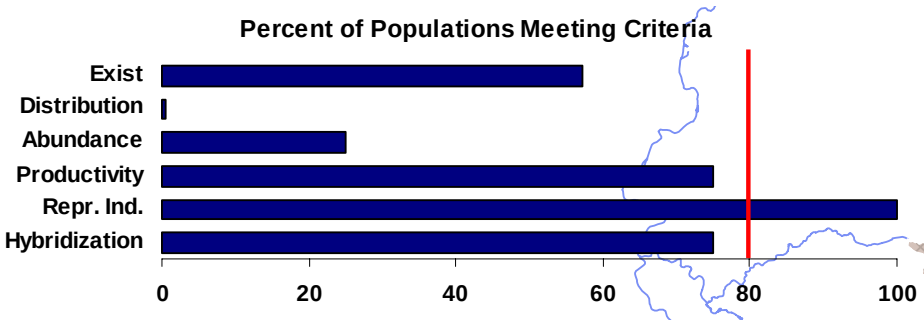
Willamette Bull Trout SMU

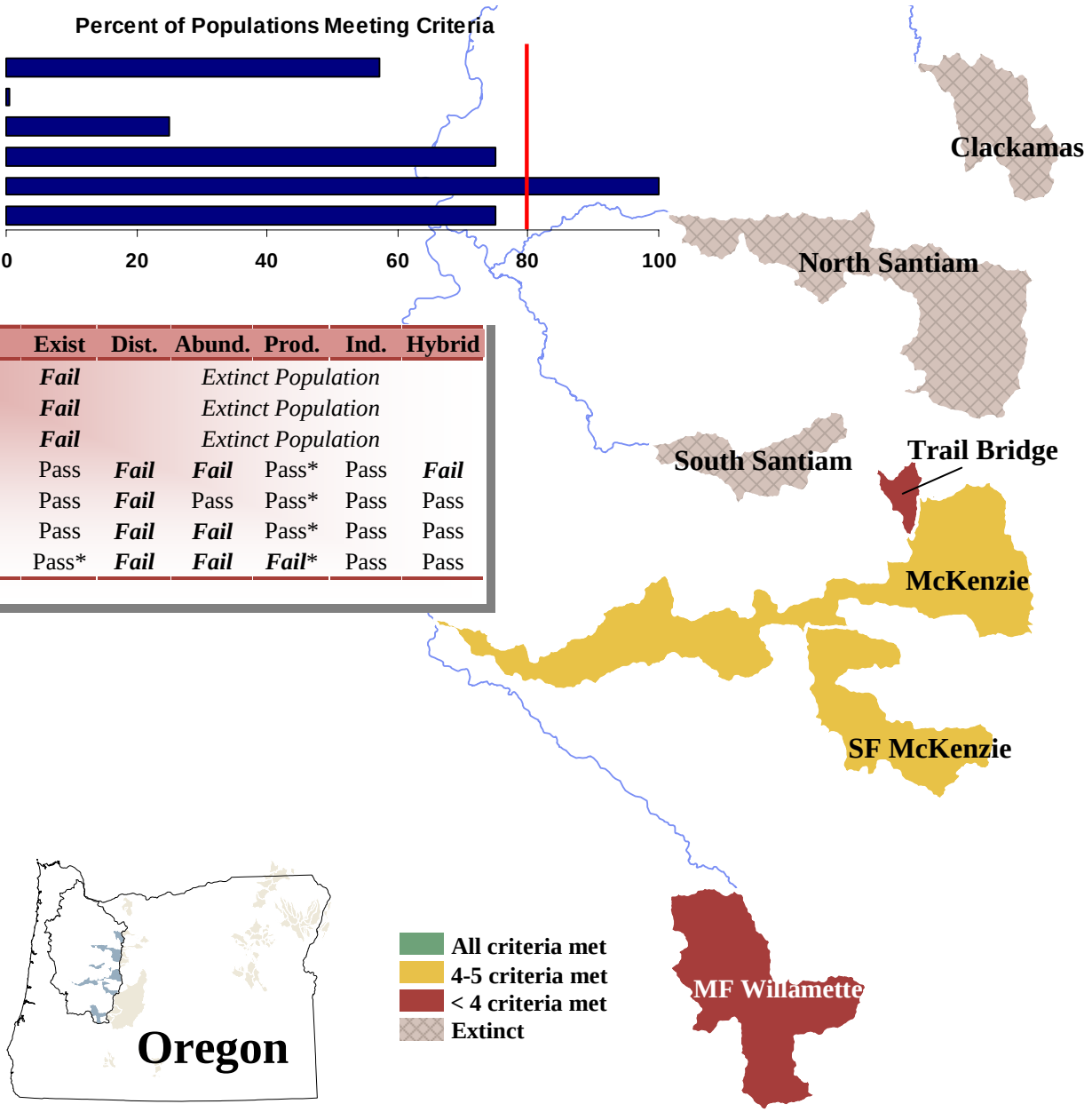
ESA Designation:	State Status:	Interim Assessment:
Threatened 1998	*Critical*	*At Risk*

The Willamette Bull Trout SMU is comprised of seven populations, three of which are classified as extinct. Sightings of bull trout were last documented before 1960 in Clackamas, North Santiam, and South Santiam basins. All four existing populations have an extremely limited spawning distribution, and three populations are isolated above dams lacking upstream passage. Bull trout abundance in the Middle Fork Willamette population has dropped to precariously low numbers. ODFW and USFS biologists are attempting to restore this population with bull trout from the McKenzie population. The SMU meets only the reproductive independence criterion and is classified as 'at risk'. Limited datasets and inferences from other populations in this SMU provide a qualified level of confidence in the assessment of the interim criteria.

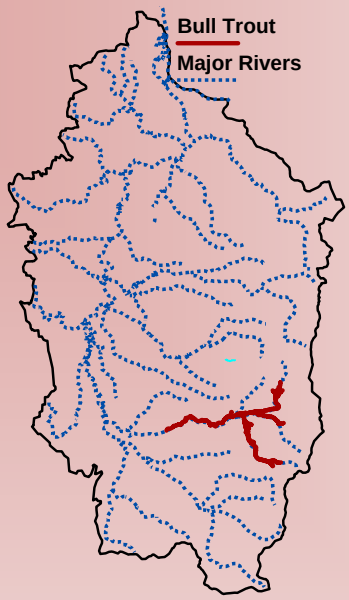


Population	Exist	Dist.	Abund.	Prod.	Ind.	Hybrid
Clackamas	***Fail***		*Extinct Population*			
North Santiam	***Fail***		*Extinct Population*			
South Santiam	***Fail***		*Extinct Population*			
Trail Bridge	Pass	***Fail***	***Fail***	Pass*	Pass	***Fail***
McKenzie	Pass	***Fail***	Pass	Pass*	Pass	Pass
SF McKenzie	Pass	***Fail***	***Fail***	Pass*	Pass	Pass
MF Willamette	Pass*	***Fail***	***Fail***	***Fail****	Pass	Pass

**Inferred*



Distribution - Fail



- Historically, bull trout in the McKenzie River basin functioned as a single population. Dam construction in the early 1960s fragmented the population and spawning habitat.
- Currently spawning distribution of each population is less than five Km and movement between populations is impeded by dams. Therefore each existing population fails the distribution criterion.
- Bull trout in the McKenzie population utilize up to 170 km of the McKenzie River and its tributaries throughout their life cycle. Large fluvial adults have been observed downstream of Leaburg Dam and a few individuals pass above the dam each year.

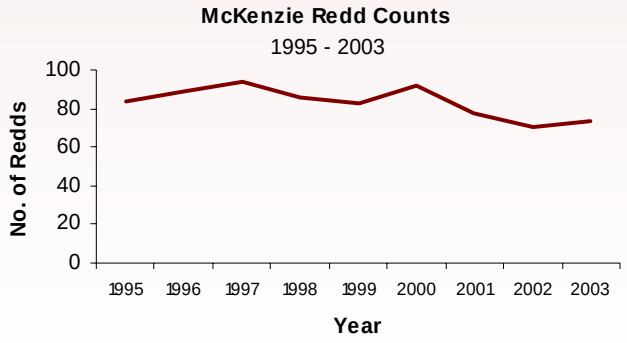
Abundance - Fail

- The McKenzie population is estimated to contain 200 adults and passes the abundance criterion.
- Trial Bridge, SF McKenzie, and Middle Fork Willamette populations are very small; each is estimated to contain fewer than 50 adults. These populations fail the criterion and are at risk of inbreeding.
- All existing populations are at risk of the deleterious effects of genetic drift.

Hybridization - Fail

- Brook trout have been stocked in many Cascade Mountain high alpine lakes. Some releases resulted in self-sustaining brook trout populations.
- A population of brook trout is present in Trail Bridge Reservoir, where hybridization between bull trout and brook trout is a threat to bull trout. The Trail Bridge bull trout population fails the criterion.
- Brook trout are present in the Middle Fork Willamette, McKenzie, and SF McKenzie basins, however distribution of bull trout and brook trout do not overlap. Hybridization has not been observed during routine sampling in these bull trout populations, therefore they pass the hybridization criterion.

Productivity - Fail



- Redd counts between 1995 and 2003 indicate population trend for the McKenzie population is relatively stable. This population passes the criterion.
- SF McKenzie and Trail Bridge populations show an increasing tend in abundance between 1995 and 2003 and pass the criterion.
- The MF Willamette population fails the criterion because there is no indication of natural production.

Additional Information

- Bull trout in the Willamette SMU are native fish sustained by natural production. All populations pass the reproductive independence criterion.