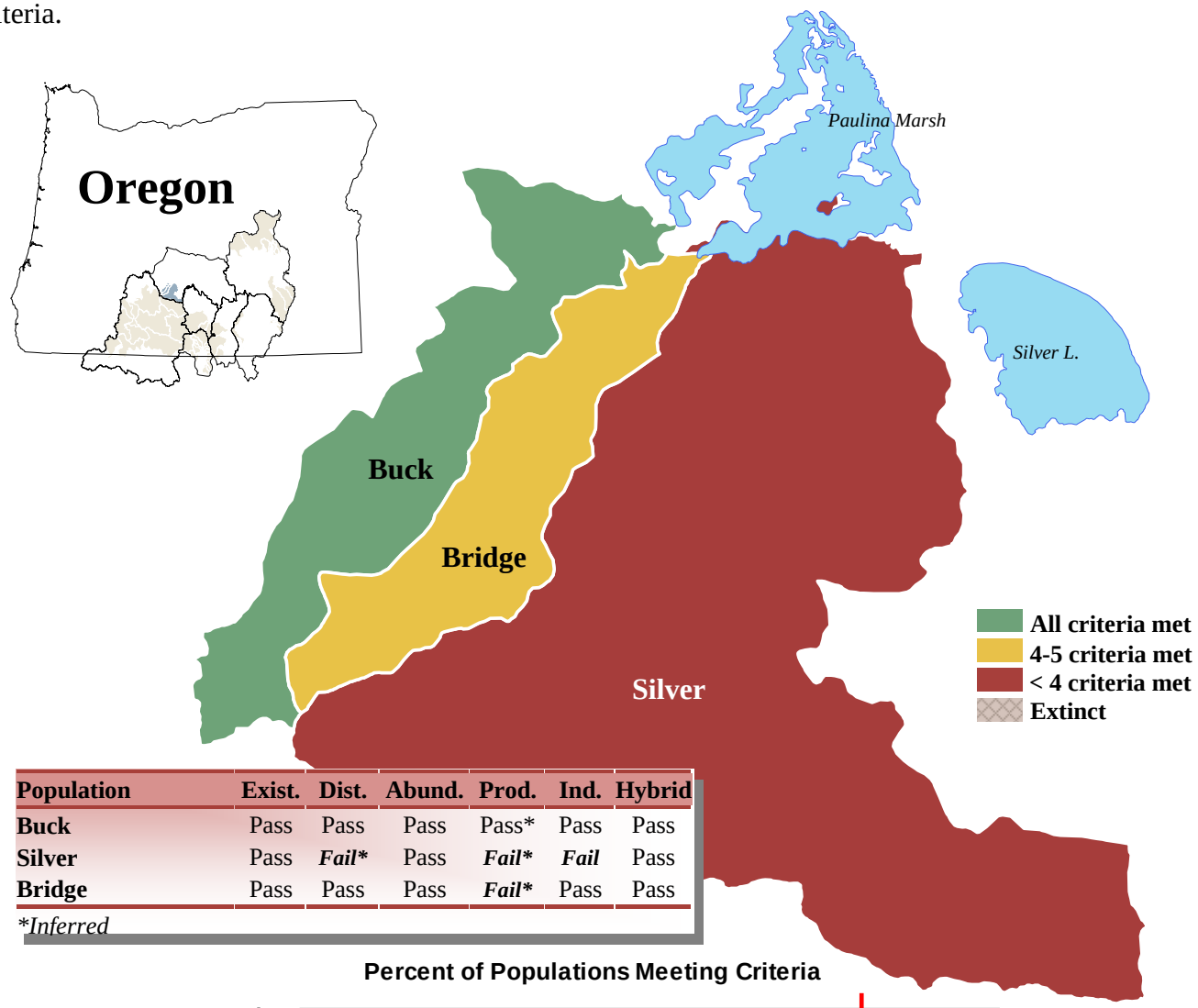
Fort Rock Redband Trout SMU

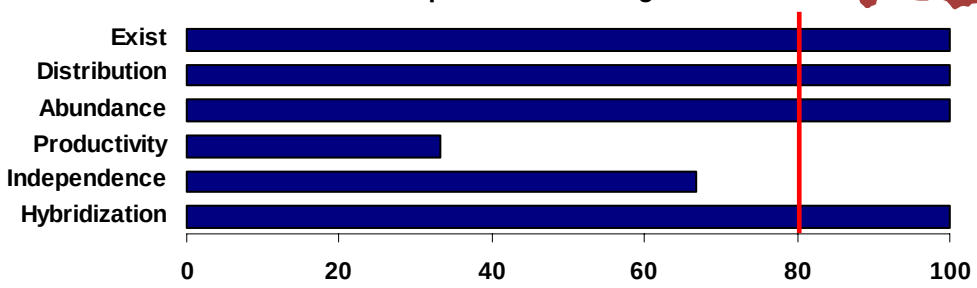
ESA Designation:	State Status:	Interim Assessment:
Not Warranted 2000	*Vulnerable*	*At Risk*

The Fort Rock Redband Trout SMU is comprised of three populations in the Silver Lake basin. Populations occupy tributaries of Paulina Marsh which has been diked, channelized, and drained for agricultural purposes. Populations are only connected during consecutive high water years, severely limiting the opportunities for the expression of a migratory life history and inter-population mixing. Lack of a migratory life history and degraded habitat impacts the potential productivity. This SMU is classified as 'at risk' because eighty percent of the populations meet only three of the six interim criteria. Limited data sets and inferences from other information for populations in this SMU provide a qualified level of confidence in the assessment of the interim criteria.

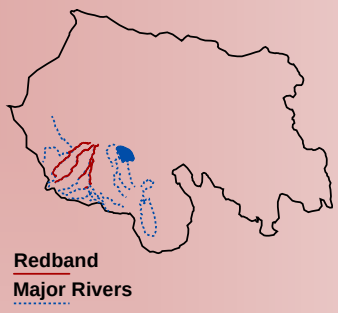


Population	Exist.	Dist.	Abund.	Prod.	Ind.	Hybrid
Buck	Pass	Pass	Pass	Pass*	Pass	Pass
Silver	Pass	***Fail****	Pass	***Fail****	***Fail***	Pass
Bridge	Pass	Pass	Pass	***Fail****	Pass	Pass

**Percent of Populations Meeting Criteria*

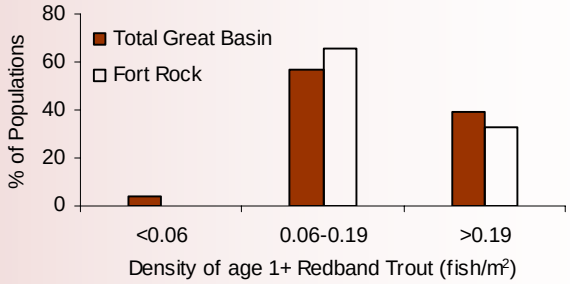


Distribution - Fail



- Redband trout occupy three tributary streams of Paulina Marsh. The marsh is diked, channelized, and drained. As a result populations are connected infrequently during consecutive high water years providing sporadic opportunities for inter-population mixing. The expression of migratory life histories is rare.
- Distribution in Silver Creek is limited relative to the size of the basin. Redband are not present in the upper tributaries and Thompson Valley Reservoir is a barrier to upstream movement. Silver Creek failed the distribution criterion.
- Silver Lake, a remnant pluvial lake, is uninhabitable and disconnected from native trout populations.

Abundance - Pass



- A population survey estimated 56,964 (+/- 23%) age 1+ redband trout in Fort Rock Basin in 1999.
- Mean density was considered moderate relative to densities throughout Eastern Oregon. Sites with the highest densities were located in narrow, protected canyon reaches. Given moderate to high densities, all populations meet the abundance criterion.
- This review is based on estimates made during high water years. Densities and total population abundance are expected to fluctuate with instream flow and habitat quality.

Productivity – Fail

- Quantitative data necessary to accurately assess productivity do not exist. The criterion is assessed based on the qualitative evaluation of current distribution and abundance, presence of large migratory individuals, habitat quality and presence of non-native species.
- Populations, where distribution and abundance are limited, and not connected to habitats capable of supporting multiple life histories, fail the criterion. High densities of brook trout in the upper reaches of Silver Creek may also limit productivity of that population.
- The Buck population passes the criterion based on sampling in 1976, which documented similar densities found in 1999, suggesting population trend is stable through varying climactic cycles.

Independence - Fail

- Hatchery rainbow trout were stocked extensively in Silver Creek between 1925 and 1984. Buck and Bridge creeks were stocked periodically through the 1960s. Stocking programs in moving waters were eliminated in 1984.
- The extent and effects of interbreeding between hatchery and wild stocks are unknown.
- Stocking of domestic rainbow trout currently occurs in Thompson Valley Reservoir on Silver Creek. Hatchery fish are able to leave the reservoir during high water years and may potentially spawn with native redband trout. Silver Creek fails the reproductive independence criterion until effects of current stocking programs can be better assessed.

Additional Information

- Non-native cutthroat trout are not present in the Fort Rock Basin and not a threat to redband trout. All populations pass the hybridization criterion.
- Past logging activities may have caused increased sedimentation in the upper reaches. The lower reaches are impacted by grazing, channelization, and flooding. However, due to restoration efforts habitat conditions in upper Buck Creek are improving.