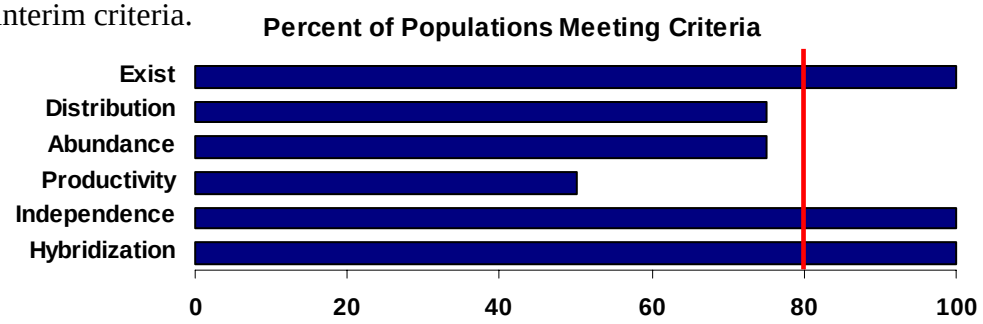
Warner Lakes Redband Trout SMU

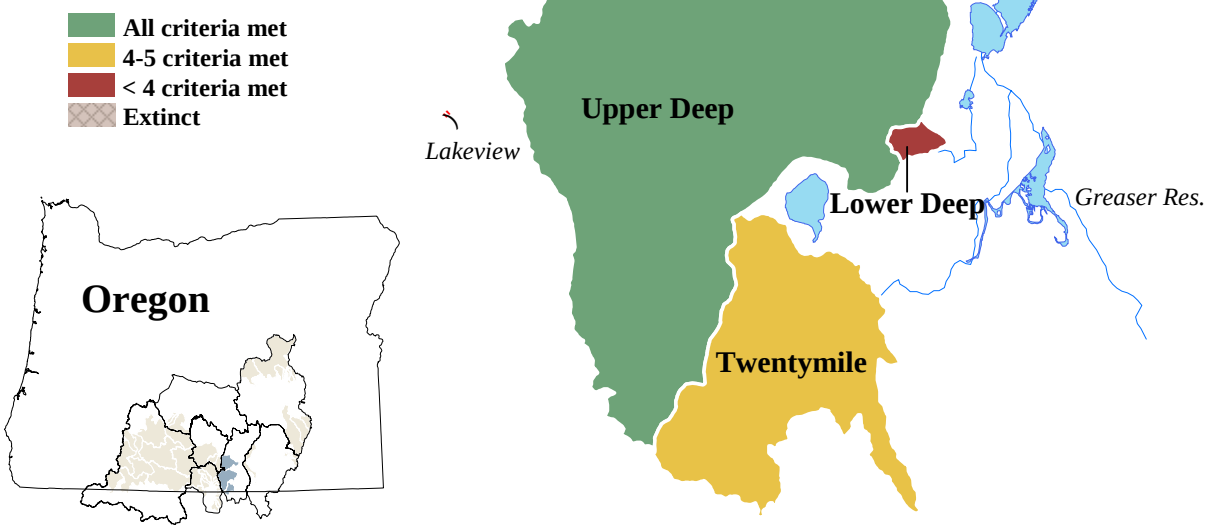
ESA Designation:	State Status:	Interim Assessment:
Not Warranted 2000	*Vulnerable*	*At Risk*

The Warner Lakes Redband Trout SMU includes four populations in the interior basin of pluvial Lake Warner. Distribution is widespread in perennial streams and lakes, although multiple irrigation diversions and the presence of non-native warm water fish in Warner Lakes limits the expression of an adfluvial life history. Although densities and abundance are relatively high in the headwater and mid-reaches, densities in the lower reaches may be low and vulnerable to extreme environmental fluctuations and degraded habitat. Only three of the six interim criteria were met, thereby classifying this SMU 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 the interim criteria.

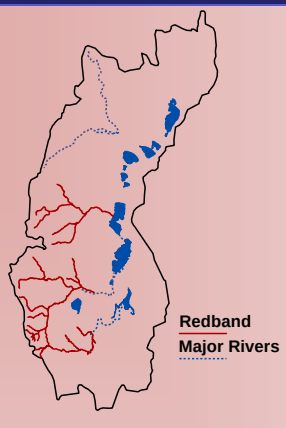


Population	Exist.	Dist.	Abund.	Prod.	Ind.	Hybrid
Honey	Pass	Pass	Pass	Pass*	Pass	Pass
Lower Deep	Pass	***Fail****	***Fail****	***Fail****	Pass	Pass
Upper Deep	Pass	Pass	Pass	Pass*	Pass	Pass
Twentymile	Pass	Pass	Pass	***Fail****	Pass	Pass

** Inferred*

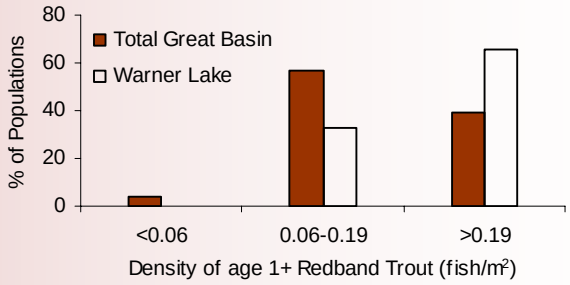


Distribution - Fail



- Redband trout are widespread in perennial streams and lakes.
- The Upper Deep population is isolated upstream by Deep Creek falls and is unable to mix with other populations in the SMU. Twentymile is also isolated from other populations by irrigation dams and diversions.
- Other populations are connected to large lakes and able to intermix in high water years, however irrigation diversions and low water quality limit the expression of an adfluvial life history.
- The distribution of redband trout varies according to annual precipitation and fluctuation of instream flows.

Abundance - Fail



- A population survey estimated 54,866 (+/- 33%) age 1+ redband trout in Warner Valley in 1999. Mean density was considered high relative to densities throughout Eastern Oregon, although lower reaches of stream in each population unit were under-represented.
- A 2000 population survey of Twentymile documented high densities in the upper reaches and extremely low densities in the lower reaches. The low densities were due to a die off caused by high water temperatures.
- Abundance of adfluvial redband trout in Warner Lakes is severely depressed and significantly less than historical levels.

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.
- Recruitment may be inconsistent as observed in total or partial year class failures. Reduced and episodic population growth may put small populations further at risk.

Independence - Pass

- Hatchery rainbow trout were stocked in all populations between 1925 and 1989. Stocking programs were eliminated in 1989.
- Effects of interbreeding are uncertain. Warner Valley redband trout is considered genetically distinct and any introgression has reached equilibrium within the SMU.

Additional Information

- Non-native cutthroat trout are not present in the Warner Lakes Basin and not a threat to redband trout. All populations pass the hybridization criterion.
- Crappie, largemouth bass, and brown bullheads were introduced into many of the Warner Lakes in the 1970s. Non-native warm-water fish species in the lakes and reservoirs compete with redband trout and prey on smaller individuals.
- Upstream and downstream passage is lacking or inadequate in many of the lower reaches and is also a serious issue for Warner Suckers.