John Day Bull Trout SMU

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

The John Day Bull Trout SMU includes 20 populations distributed among headwater streams of the North Fork, Middle Fork, and Upper Mainstem John Day Rivers. Five populations in the Middle Fork John Day and two in the Mainstem John Day Rivers are considered extinct. Overall abundance within the SMU is extremely low and spawning distribution is highly fragmented and restricted to small tributary streams. Productivity of most populations is limited by habitat quality, non-native species, and a lack of a migratory life history. The SMU only meets the reproductive independence criterion 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 the interim criteria.

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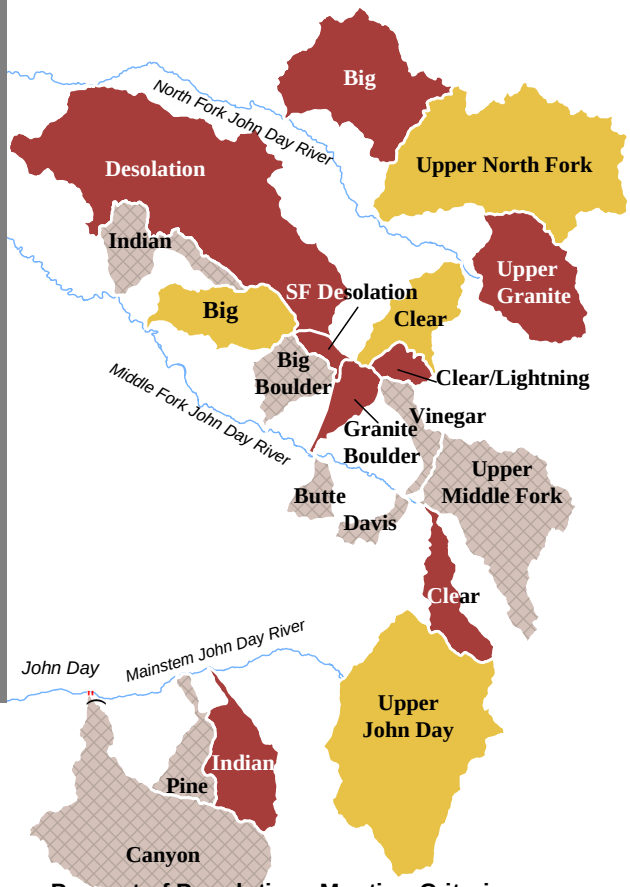
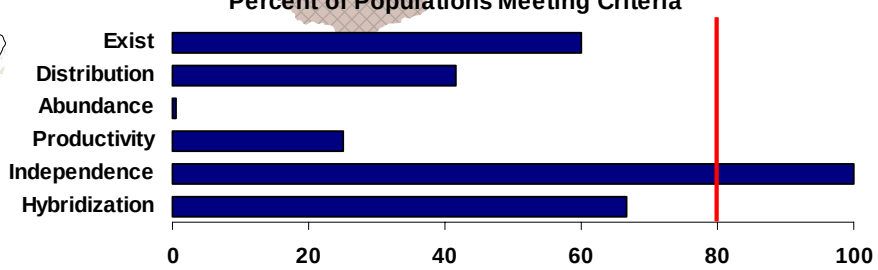
Population	Exist	Dist.	Abund.	Prod.	Ind.	Hybrid
North Fork						
Upper North Fork	Pass	Pass	***Fail****	Pass*	Pass	***Fail****
Upper Granite	Pass	***Fail***	***Fail****	***Fail****	Pass	Pass
Big	Pass	***Fail****	***Fail****	***Fail****	Pass	***Fail****
Clear	Pass	Pass	***Fail****	***Fail****	Pass	Pass
Clear/Lightning	Pass	***Fail****	***Fail****	***Fail****	Pass	Pass
Desolation	Pass	Pass	***Fail****	***Fail****	Pass	***Fail****
SF Desolation	Pass	***Fail***	***Fail****	***Fail****	Pass	***Fail****
Middle Fork						
Clear	Pass	***Fail***	***Fail****	***Fail****	Pass	Pass
Granite Boulder	Pass	***Fail***	***Fail****	***Fail****	Pass	Pass
Big	Pass	Pass	***Fail****	Pass*	Pass	Pass
Upper Middle Fork	***Fail***	*Extinct Population*				
Big Boulder	***Fail***	*Extinct Population*				
Davis	***Fail***	*Extinct Population*				
Vinegar	***Fail***	*Extinct Population*				
Butte	***Fail***	*Extinct Population*				
Indian	***Fail***	*Extinct Population*				
Mainstem						
Upper John Day	Pass	Pass	***Fail****	Pass*	Pass	Pass*
Indian	Pass	***Fail***	***Fail****	***Fail****	Pass	Pass
Pine	***Fail***	*Extinct Population*				
Canyon	***Fail***	*Extinct Population*				

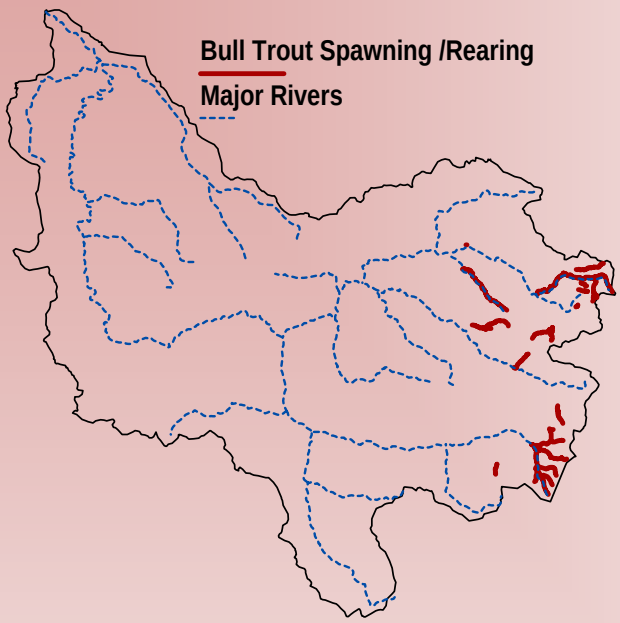
**Inferred*



All criteria met
4-5 criteria met
< 4 criteria met
Extinct



Distribution - Fail



- Bull trout distribution in the John Day basin is highly fragmented and constricted to headwater streams.
- Spawning and rearing distribution is limited to less than ten km for at least five of the populations: Clear (MFJD), Granite Boulder, Indian (MSJD), SF Desolation, and Upper Granite.
- Three populations do not have year-around access to migratory corridors or other populations. The SF Desolation population is above a natural barrier and Clear Creek (NFJD) and Indian Creek (MSJD) are above an impassable diversion and dewatered reaches respectively.
- Adult and sub-adult bull trout seasonally utilize the entire North Fork John Day River for rearing and foraging, and in the Upper Mainstem John Day River they are suspected to forage down to the vicinity of the town of John Day. Migratory bull trout have been captured in the Mainstem John Day River near the town of Spray; however use of the lower reaches is sporadic due to warm water temperatures and low flows during the summer months.

Abundance- Fail

- Abundance estimates are not available for individual populations. Based on professional opinion, none of the John Day SMU populations exceed 100 reproductive adults. All populations are considered at risk of inbreeding and fail the abundance criterion.
- Abundance of all populations combine does not exceed 1,000 reproductive adults. Bull trout in the SMU are at risk of genetic drift. Basin-wide redd counts estimated 540 (± 38%) redds in 2002, 193(± 31 %) redds in 2003, and 235 (± 35%) redds in 2004 in the John Day SMU.

Hybridization - Fail

- Brook trout were stocked in tributary streams and high alpine lakes in the North Fork John Day and mainstem John Day basins beginning in 1925.
- Four bull trout populations in the North Fork are sympatric with brook trout and hybridization is common. These populations fail the hybridization criterion.
- Brook trout are present in the Upper John Day population; however the incidence of hybridization is rare. This population passes the criterion.
- Brook trout are not present in the Middle Fork John Day Basin. All populations in this basin pass the hybridization criterion.

Productivity - Fail

- Data are not available to quantitatively assess productivity.
- Populations fail the criterion if they are limited in distribution and abundance, are sympatric with brook trout, or do not express a migratory life history.
- Only the North Fork John Day, Upper John Day, and Big (MFJD) populations pass the criterion. These populations appear to be the most abundant and widely distributed with access to habitats capable of supporting a migratory life history strategy.

Additional Information

- Bull trout in the John Day Basin are native fish sustained by natural production. All populations pass the reproductive independence criterion.
- Elevated water temperature and reduced stream flow due to water diversions in the mainstem rivers and large tributaries act as barriers to migration during summer and early fall, impacting movement between populations.