

Securing the existing Yellowstone cutthroat trout population in Little Timber Creek is a conservation priority. Fish surveys to determine the distribution of brown trout and Yellowstone cutthroat trout are necessary to guide development of a specific conservation approach. Depending on findings, potential actions include nonnative removal or suppression and construction of a barrier to protect the headwaters Yellowstone cutthroat trout population.

The potential for Little Timber Creek to provide spawning habitat for fluvial Yellowstone cutthroat trout is unknown. Determining the sufficiency of flow and habitat condition in the lower end of Little Timber Creek would aid in determining the suitability of the stream to support a spawning run. FWP will seek opportunities to work with private landowners on water use efficiency and habitat management should these be identified as useful in promoting a spawning run in Little Timber Creek.

6.2.38 Big Timber Creek

Big Timber Creek (Figure 6-16) has its headwaters in the GNF, on the east flank of the Crazy Mountains. It flows for about 35 miles before it joins the Yellowstone River near the town of Big Timber. Valley portions of the watershed are mostly under private ownership, although several state-owned parcels are present.

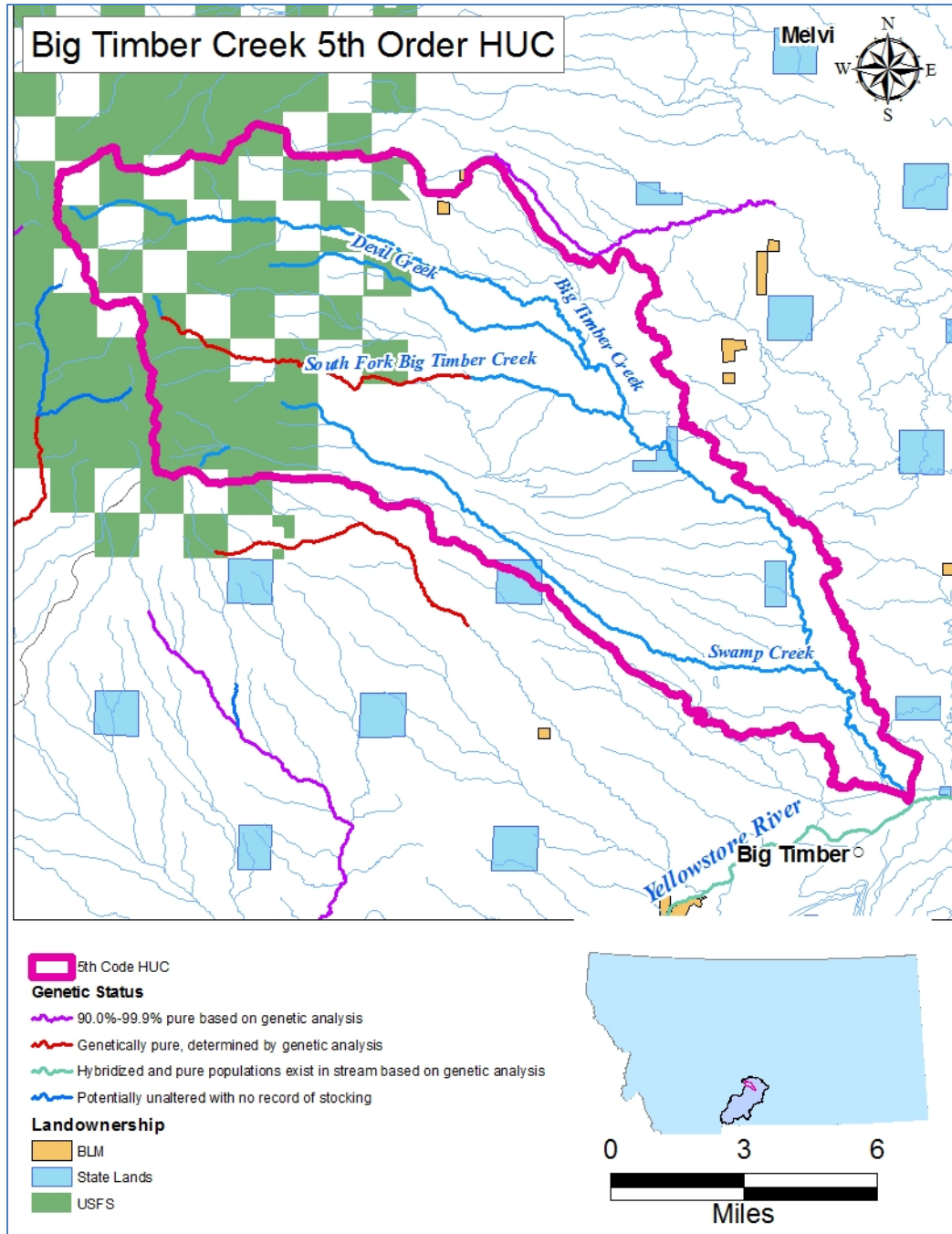


Figure 6-16: Distribution of Yellowstone cutthroat trout in the Big Timber Watershed (FWP GIS database).

Fishes present in the Big Timber Creek watershed include nonnative brook, brown, and rainbow trout (Table 6-40). Historically, Yellowstone cutthroat trout resided throughout the Big Timber Creek watershed. Currently, these nonhybridized Yellowstone cutthroat trout are restricted to the South Fork Big Timber Creek. This population may be a remnant, or the result of stocking Yellowstone cutthroat trout in Crazy Lake. Fish surveys in Devil Creek and the Middle Fork of

Big Timber Creek in late 1990s found both streams inhabited by brook trout with no other species present.

Table 6-40: Distribution and abundance of fishes in Big Timber Creek (MFISH database).

<i>Begin Mile</i>	<i>End Mile</i>	<i>Species</i>	<i>Abundance</i>	<i>Life History</i>	<i>Genetic Status</i>	<i>Data Rating</i>
15	31	Brook trout	Abundant	N/A	N/A	NSPJ
0	26	Brown trout	Common	N/A	N/A	NSPJ
0	15	Common carp	Common	Adfluvial	N/A	NSPJ
0	15	Mountain sucker	Abundant	N/A	N/A	NSPJ
0	226	Mountain whitefish	Common	N/A	N/A	NSPJ
15	31	Rainbow trout	Rare	N/A	N/A	NSPJ
0	15	White sucker	Common	N/A	N/A	NSPJ

Conservation priorities relevant to the Big Timber Creek watershed include protecting the nonhybridized population of Yellowstone cutthroat trout in the South Fork Big Timber Creek. Given the age of the available data for South Fork Big Timber Creek (1993), and the small sample size used in evaluating genetic composition (N=6), reevaluating the status of its Yellowstone cutthroat trout is a priority. Additionally, opportunities to return Yellowstone cutthroat trout to historically occupied streams should be explored. Removals of nonnatives, along with construction of barriers to protect waters from reinvasion are among the potential conservation actions.

6.2.39 Otter Creek

The Otter Creek watershed (Figure 6-17) drains the east side of the Crazy Mountains, and joins the Yellowstone River near Big Timber. Most land in the basin is in private ownership, although some state and BLM lands occur throughout the watershed

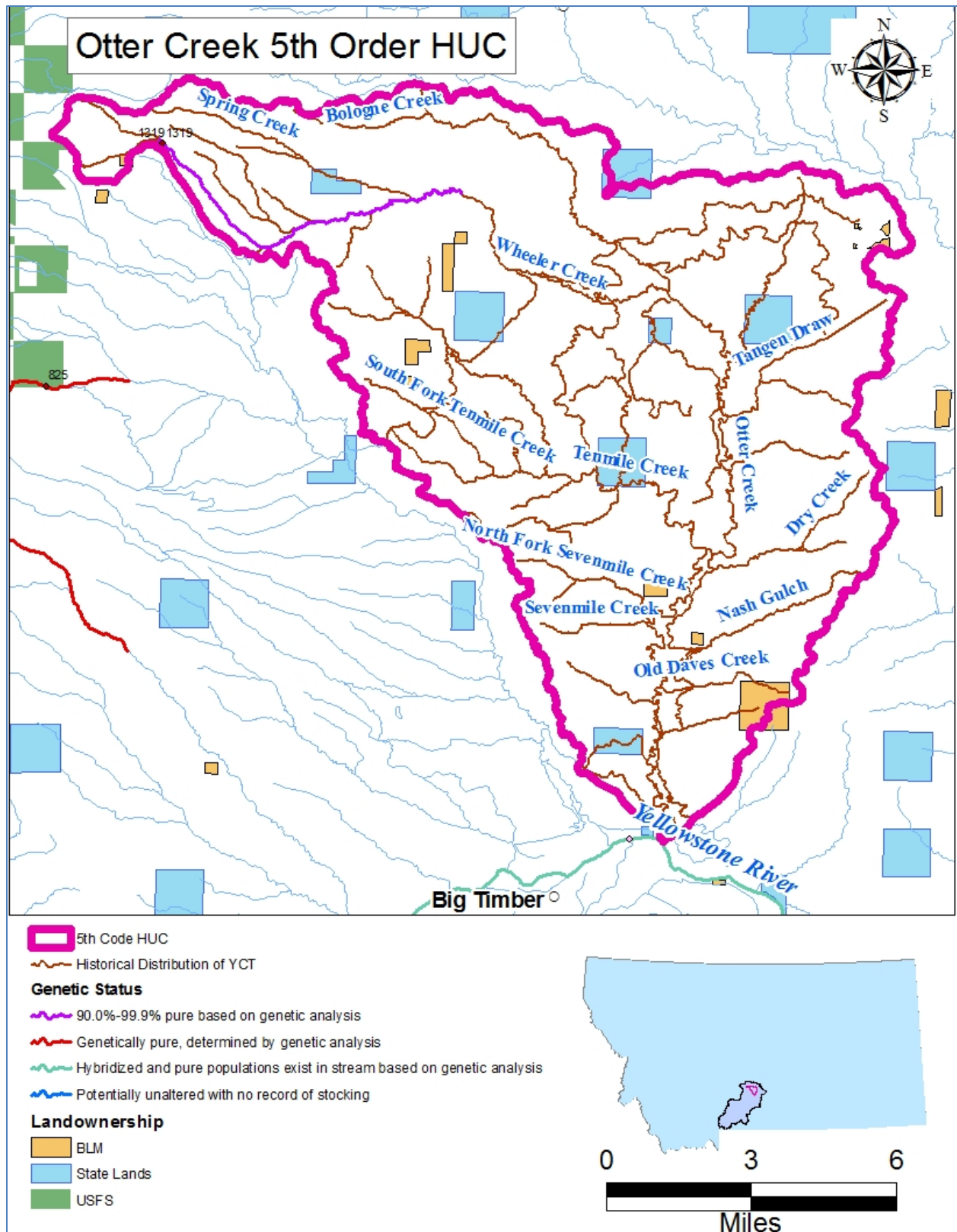


Figure 6-17: Distribution of Yellowstone cutthroat trout in the Otter Creek Watershed (FWP GIS database).

Fisheries information for the Otter Creek watershed includes fish surveys on the main stem, and genetic analysis of Yellowstone cutthroat trout in Wheeler Creek. Genetic testing found these to be hybrids, with 93.4% of alleles being Yellowstone cutthroat trout in origin, making this a conservation population. In 2004, seining in the lower portion of Otter Creek yielded only suckers and members of the minnow family (Table 6-41). A record of westslope cutthroat trout is probably an error. Securing the remaining Yellowstone cutthroat trout population in Wheeler Creek is a conservation priority. FWP will investigate potential projects, such as removal of nonnatives, and construction of a barrier to prevent further invasion.

As a chronically dewatered stream, Otter Creek probably has limited potential to support a spawning run of Yellowstone cutthroat trout from the Yellowstone River. Nonetheless, opportunities may exist to work with water users to improve efficiency and promote in-stream flow. FWP will seek to identify willing partners in implementing associated conservation actions.

Table 6-41: Distribution and abundance of fishes in Otter Creek (MFISH database).

<i>Begin Mile</i>	<i>End Mile</i>	<i>Species</i>	<i>Abundance</i>	<i>Data Quality</i>	<i>Life History</i>	<i>Genetic Status</i>
0	1	Fathead minnow	Unknown	EFSSO	Unknown	N/A
						N/A
0	1	Lake chub	Rare	EFSSO	Unknown	N/A
0	1	Longnose dace	Rare	EFSSO	Unknown	N/A
0	1	Mountain sucker	Unknown	EFSSO	Unknown	
0	17	Rainbow trout	Unknown	NSPJ	Year-round resident	Tested conservation
14	15	Westslope cutthroat trout	Common	EFSSO	Unknown	Unknown
0	1	White sucker	Unknown	EFSSO	Unknown	N/A
7	15	Yellowstone cutthroat trout	Common	EFSSO	Year-round resident	Tested conservation

6.2.40 Sweet Grass Creek

Sweet Grass Creek (Figure 6-18) originates in the Crazy Mountains, and flows for 75 miles before its confluence with the Yellowstone River. Its headwaters are in the GNF. The valley portions of the watershed are mostly under private ownership, although state and BLM lands occur throughout the watershed.