

1.B.11. Special Status Aquatic Resources

Profile

Special status aquatic species include species officially listed or proposed for listing as Endangered or Threatened under ESA, candidates for listing as Endangered or Threatened under ESA, and species designated by the BLM State Director as Sensitive. The BLM manages special status species under the policy established in BLM Manual 6840 in addition to requirements set forth under ESA. State laws protecting species apply to all BLM programs and actions to the extent that they are consistent with FLPMA.

Endangered or Threatened species are species officially listed by the Secretary of the Interior under ESA and for which a final rule has been published in the *Federal Register*. Proposed species are species that have been officially proposed for listing as Endangered or Threatened by the Secretary of the Interior and for which a proposed rule has been published in the *Federal Register*. Candidate species are species designated as candidates for listing as Endangered or Threatened by the FWS or NMFS and are included on a list published in the *Federal Register*. Candidate status indicates existing information warrants listing of the species, but other species have higher priority.

Sensitive species are those species designated by the BLM State Director in cooperation with State wildlife agencies (e.g., IDFG) after reviewing current information within the state and adjoining states. Species are added to or removed from the Sensitive list periodically, typically every five to seven years. Idaho BLM ranks Sensitive aquatic species into four types.

- ***Type 1. Threatened, Endangered, Proposed and Candidate Species*** – These species are listed by FWS or NMFS as Threatened or Endangered, or they are Proposed or Candidates for listing under ESA.
- ***Type 2. Range wide/Globally Imperiled Species*** – These species are experiencing significant declines throughout their range with a high likelihood of being listed in the foreseeable future due to their rarity and/or significant endangerment factors.
- ***Type 3. Regional/State Imperiled Species*** – These species are experiencing significant declines in population or habitat and are in danger of regional or local extinctions in Idaho in the foreseeable future if factors contributing to their decline continue.
- ***Type 4. Peripheral Species*** – These species are generally rare in Idaho with the majority of the breeding range largely outside the state.

Idaho BLM also added a Type 5 (Watch) category. Watch list species are not considered BLM Sensitive species, and associated Sensitive species policy guidance does not apply. Watch list species include species that may be added to the Sensitive species list depending on new information concerning threats, species biology, or statewide trends. The Watch List includes species with insufficient data on population or habitat trends or where the threats are poorly understood. However, there are indications that these species may warrant special status species designation, and appropriate inventory or research efforts should be a management priority.

Indicators

Indicators for fisheries resources within the planning area were developed by assessing data for stream habitat conditions and fish distribution. A literature search was conducted to identify the

most critical stream habitat features to a species of fish. The Natural Conditions Database (Overton et al., 1995) was used to predict what the stream habitat indicators should be based on the stream gradient and geology (volcanic). Once the indicators were identified, the appropriate condition for functioning properly, functioning at risk, or functioning at an unacceptable risk could be established.

This process for developing indicators for fisheries resources complies with current BLM management direction through an Interagency Memorandum, dated July 9, 2004, providing a framework for incorporating the aquatic and riparian component of the Interior Columbia Basin Strategy into BLM plan revisions (Quigley & Arbelbide, 1997).

The *Interior Columbia Basin Ecosystem Management Project: Scientific Assessment* is a broad-scale assessment using landscape information and standardized stream inventory data to define indicators for assessing the condition of aquatic habitats and fish populations in managed and unmanaged watersheds throughout the Columbia River Basin (ICBEMP, 1999). Development of the Scientific Assessment eventually led to the Interior Columbia Basin Strategy, a blueprint for land use plans throughout the basin. The guidance in *A Framework for Incorporating the Aquatic and Riparian Habitat Component of the Interior Columbia Basin Strategy into BLM and Forest Service Plan Revisions* was used to define the riparian habitat and fisheries indicators for the Jarbidge planning area.

The riparian habitat and fisheries indicators were consistent with the recommendations made by the NMFS (NMFS, 1997). This process uses a Matrix of Pathways and Indicators to define the biological requirements of the Federally listed species, evaluate the condition of the environmental baseline, and make determinations for how land management actions affect the Federally listed species and its habitat. The FWS has adapted this process to assess bull trout populations throughout the Columbia River Basin (FWS, 1998).

Standards 2 (Riparian Areas and Wetlands), 3 (Stream Channel/Floodplain), 7 (Water Quality), and 8 (Threatened and Endangered [T&E] Plants and Animals) of the S&Gs could serve as indicators for special status aquatic species habitat (BLM, 1997). See Appendix 2 for more information on S&G assessments.

S&G assessments were conducted by BLM from 1998 through 2003 in 44 allotments on a total of 840,000 acres within the planning area. Standards for riparian areas and wetlands (Standard 2), stream channel/floodplain (Standard 3), and water quality (Standard 7) did not apply to nearly half of the acres assessed. The majority of the acres where Standards 2, 3, and 7 did apply did not meet the standards. The standard for Threatened and Endangered plants and animals (Standard 8) was met on 15% of the acres assessed and was not met on nearly three-quarters of the acres assessed (Table 14).

Table 14. S&G Determinations for Standards 2, 3, 7, and 8, 1998-2003

Standard	Determination*				Standard Does Not Apply
	Standard is Being Met	Progress is Being Made Towards Meeting Standard	Standard is Not Being Met		
			Cattle Not a Significant Factor	Cattle a Significant Factor	
2 – Riparian Areas and Wetlands	3%	4%	8%	44%	41%
3 – Stream Channel/Floodplain	3%	3%	8%	46%	42%
7 – Water Quality	2%	0%	14%	29%	43%
8 – T&E Plants and Animals	15%	0%	30%	44%	4%

Percentages were rounded to the nearest whole number and Standards may not total 100%.
 *Determination displayed as percent of 840,000 acres assessed.

Bull Trout



Columbia River Basin bull trout (Figure 7), the only Federally listed fish within the planning area, were listed by the FWS as a Threatened species in June 1998 (63 FR 31647). Bull trout are present in suitable stream habitat in the upper Jarbidge watershed, but are not found in any other streams

within the planning area.

The indicators used to assess bull trout populations include sub-population size, growth and survival, life history and diversity, isolation, and persistence and genetic integrity. The indicators used to assess bull trout habitat include: water temperature, sediment, chemical contaminants and nutrients, physical barriers, substrate embeddedness, large woody debris, pool frequency and quality, large pools, off-channel habitat, refugia, stream channel width/maximum depth ratio, streambank condition, floodplain connectivity, change in peak/base flow, increases in drainage networks, road density and location, disturbance history, riparian conservation areas and disturbance regimes.

Redband Trout

Redband trout are a BLM Sensitive fish species. The FWS was petitioned twice to list redband populations in the desert basins of southern Idaho, eastern Oregon, and northern Nevada as Endangered or Threatened under the ESA (60 FR 49819, 65 FR 14932). Redband trout were found in 18 stream reaches during 2006 surveys (Appendix 5). Redband trout are found in the Bruneau River and its tributaries, including the Jarbidge River. Redband trout are also present in Salmon Falls Creek and several of its tributaries.

Redband have been found in the headwater tributaries to Clover Creek, but there currently is no data confirming their presence in lower Clover Creek (Megargle et al., 2004).

Figure 8. Redband Trout



The indicators used to assess redband trout habitat in the planning area included pool frequency, large pools, streambank stability, water temperature, habitat connectivity/barriers, and watershed functional condition.

White Sturgeon

White sturgeon are a BLM Sensitive species found in the Snake River reaches within the planning area. This species of fish prefers deep pool habitat with a fine-bottom substrate (Quigley & Arbelbide, 1997). Historically, white sturgeon were present in the Snake River from its confluence with the Columbia River upstream to Shoshone Falls. The present distribution of white sturgeon is fragmented into sub-populations confined between the Upper Salmon Falls Dam, Lower Salmon Falls Dam, and Bliss Dam and Bliss rapids (Hanson et al., 1992). Habitat indicators have not been developed for white sturgeon.

Shoshone Sculpin

Shoshone sculpin are a BLM Sensitive species found in springs and spring-fed streams along the Snake River and in the Snake River near Bliss Bridge (Griffith & Daley, 1984). They are not found in the Snake River above Shoshone Falls, but have been found in numerous spring systems in the Hagerman Valley (Wallace & Griffith, 1982). They are also found above Bliss bridge upstream to the mouth of Salmon Falls Creek, in Crystal Springs (outside of planning area), and above Niagara Springs. Shoshone sculpin require habitats with clear, cool water with moderate water velocities. Habitat indicators have not been developed for Shoshone sculpin.

Aquatic Snails/Mollusks

Federally listed mollusks in the planning area include Bliss Rapids snail (*Taylorconcha serpticola*), Utah valvata snail (*Valvata utahensis*), Idaho springsnail (*Pyrgulopsis idahoensis*), Bruneau Hot springsnail (*Pyrgulopsis bruneauensis*), and Snake River physa snail (*Physa natricina*). These Federally listed snails occur in suitable habitats in the Snake River and the lower Bruneau River. The habitat requirements for these snails generally include cold, well-oxygenated, flowing water with low turbidity.

Sensitive mollusks within the planning area include short-face lanx (*Fisherola nuttalli*), California floater (*Anodonta californiensis*), and the Columbia pebblesnail (*Fluminicola columbianus*). The short-face lanx is found in the Snake River from the Rupert area downstream to near King Hill. The California floater, a freshwater mussel, is found in the Snake River in scattered locations between Bliss and Alkali Creek. The Columbia pebblesnail is found in the Snake River below Lower Salmon Falls Dam and in the

tailwaters of the Bliss Dam. There is very little site-specific information on the life history and habitat requirements for these species.

In 1995, the FWS prepared a recovery plan for Snake River aquatic species (FWS, 1995). This plan identified cold, well-oxygenated, flowing water with low turbidity as an important habitat element for Snake River snails, but did not develop indicators for the long-term recovery of these species.

Current Condition

In 2006, BLM compiled fisheries distribution information from a variety of sources, including IDFG, NDOW, DEQ, and the US Geological Survey. This information, as well as information from Idaho Power for the distribution of special status aquatic snails, is displayed on (Figure 9).

The designated status has changed for only one species of fish within the planning area since the 1987 RMP (Table 15). Jarbidge River bull trout were listed as Threatened under the ESA in April 1999 (64 FR 1710). The status for redband trout, White sturgeon, and Shoshone sculpin were updated to Sensitive – Type 2 in 2003. These species are experiencing significant declines throughout their range with a high likelihood of becoming Federally listed in the foreseeable future due to their rarity and/or significant endangerment factors. This includes species ranked by the CDC with global ratings of G1-G3 or species where recent data indicate the species is significant range-wide risk and this information is currently reflected by CDC global rankings.

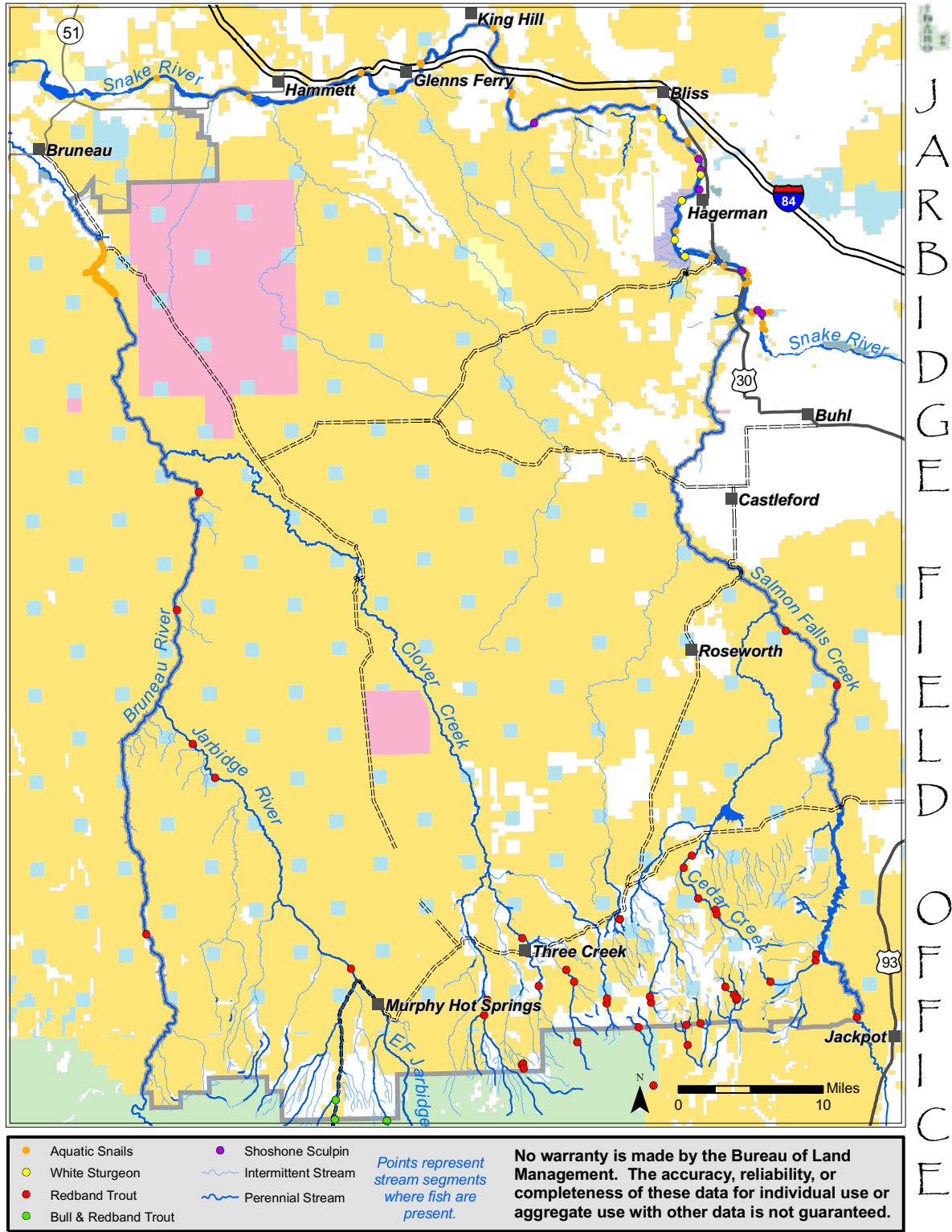
Table 15. Current Status of Special Status Fish Designated in the 1987 Jarbidge RMP

Common Name	Scientific Name	1985 ^A	2006 ^B	Rank ^C
Bull trout	<i>Salvelinus confluentus</i>	Not ESA listed	Type 1	G4/S3
Redband trout	<i>Oncorhynchus mykiss gairdeneri</i>	Sensitive	Type 2	G3/S2
White sturgeon	<i>Acipenser transmontanus</i>	Sensitive	Type 3	G4/S1
Shoshone sculpin	<i>Cottus greenei</i>	Sensitive	Type 4	G2/S2

^A (BLM, 1985)
^B 1–Federally listed, proposed for listing, or designated Candidate species, 2–range wide imperiled, 3–regional/state imperiled, 4–at periphery of range, 5–Watch species
^C G = Global ranking: 5–secure, 4–apparently secure, 3–vulnerable, 2–imperiled, 1–critically imperiled
S = State ranking: 5–secure, 4–apparently secure, 3–vulnerable, 2–imperiled, 1–critically imperiled

The Jarbidge River watershed contains migratory, or fluvial, bull trout and six local populations of resident bull trout occupying the East Fork Jarbidge River, including the East Fork headwaters, Cougar Creek, and Fall Creek; West Fork Jarbidge River, including Sawmill Creek; Dave Creek; Jack Creek; Pine Creek; and Slide Creek. Although Cougar, Fall, Sawmill, Pine and Slide Creeks are managed by the USFS, all are essential to the long-term conservation of the Jarbidge River Distinct Population Segment (DPS) of bull trout (FWS, 2004).

Figure 9. Locations of Special Status Fish and Aquatic Species



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Dave Creek is a western tributary to the East Fork of the Jarbidge River. The creek originates on public land managed by the USFS then flows through private property to BLM-managed public land. Dave Creek contains a local population of resident (non-migratory) bull trout and may provide spawning and rearing habitat for fluvial bull trout. This creek supports the most extensively known suitable bull trout spawning and rearing habitat in the Jarbidge River Watershed, primarily due to its low stream gradient and abundance of spawning gravel. The local population of bull trout in Dave Creek could be a significant factor in future bull trout recovery efforts because of its suitability for spawning and connectivity to other suitable bull trout streams in the Jarbidge River Watershed.

Bull Trout

In 2002, the BLM completed stream habitat surveys on the East Fork Jarbidge River, West Fork Jarbidge River, Dave Creek, Deer Creek and Buck Creek. The surveys were completed on sections of stream that were representative of larger stream reaches with similar habitat characteristics such as stream gradient, width, and depth (Figure 9, Appendix 6).

Water temperature data for the Jarbidge River and its East Fork, Dave Creek, and Buck Creek indicate water temperatures in July and August exceed the 59°F and was considered to be functioning properly for bull trout. The stream reaches with elevated water temperature can be reducing the ability of bull trout to migrate to or between headwater stream reaches that are suitable for bull trout spawning.

The streambank stability data for Dave Creek (74 % stable), Jarbidge River (77%), and East Fork Jarbidge River (77 % stable) indicate streambank stability is below levels considered good for bull trout. The streambank stability data for Buck Creek determined that 100% of the streambanks were stable and meeting the habitat requirements of bull trout. Instream sediment data for the East Fork Jarbidge River (>20%), Dave Creek (37%) and Buck Creek (25%) indicate the presence of fine sediments exceeding standards considered good for bull trout. Once the fine sediments enter a stream channel they can become embedded in the streambed and reduce the survival of bull trout eggs in the gravel. The substrate embeddedness data determined the East Fork Jarbidge River (>31%), Dave Creek (50-75%) and Buck Creek (50-75%) had embedded stream substrates at levels that were not functioning appropriately for bull trout.

The stream habitat survey determined there were 170 pools per mile in Buck Creek, 150 pools per mile in Dave Creek, and 142 pools per mile in Deer Creek. These streams meet the habitat requirements for bull trout. The East Fork Jarbidge River contained 51 pools per mile, less than what is considered functioning properly for bull trout. Pool habitats are created by large woody debris and large boulders in the stream channel. The amount of large woody debris in Dave Creek (97/mile) was functioning properly for bull trout but the amount of woody debris in Buck Creek (15/mile) and East Fork Jarbidge River (31/mile) are considered to be not functioning properly for bull trout. The occurrence of large pools (average maximum greater than 1.6 feet) important for bull trout rearing and overwintering, was at 73% of available habitat and functioning properly for Buck Creek. Large pools for Dave Creek (60% available habitat) and the East Fork Jarbidge River

(45% available habitat) were functioning at reduced levels for bull trout.

Bull trout populations in the Jarbidge River Watershed are patchy and variable between stream reaches and years. This distribution appears to be determined by seasonal fluctuations in water temperature (Warren & Partridge, 1993; Zoellick et al., 1996). The water temperature requirements for bull trout include temperatures ranging from approximately 39°F to 48°F for spawning and 39°F to 53°F for rearing. Generally, bull trout spawning occurs in the fall as water temperatures decline to 48°F. This decline varies from year to year based on climatic variables, usually occurring around the first week in September and continuing through the end of the spawning period in mid to late October. The Jarbidge FO has monitored water temperatures in the Jarbidge Watershed since 1992 with continuous water temperature recorders (BLM).

The current water temperature data suggests cooler, wetter summers may allow seasonal expansion of juvenile-rearing conditions for bull trout and distributions are narrowed in warmer, drier years. Dave Creek and Jack Creek have the most hospitable temperature regime for adult and juvenile rearing, while the Jarbidge River and its East Fork have limited potential and may serve as seasonal migration corridors or over-wintering areas for migratory bull trout. Adult bull trout have not been found in the lower Jarbidge River when water temperatures exceed 57°F (Zoellick et al., 1996).

An interagency recovery team was established to identify habitat features limiting bull trout populations in the Jarbidge River Watershed. The recovery team is developing a recovery plan including inventory, monitoring, and habitat improvement objectives for bull trout.

Redband Trout

In 2006, stream habitat surveys were completed on 21 miles of 20 streams containing redband trout (Appendix 5). These streams were divided into reaches based on stream gradient, width, and depth. Twenty-four of the forty-eight streams reaches surveyed had streambank stability ratings of 80% or higher and are functioning properly for fish. The remaining 24 stream reaches had streambank stability ratings of 50% to 80% (21 reaches) or less than 50% (4 reaches). Figure 10 displays the condition of habitat suitable for redband trout in the planning area.