# Chapter 16. Mid-Columbia Recovery Unit—Grande Ronde River Critical Habitat Unit

# Chapter 16. Grande Ronde River Critical Habitat Unit

The Grande Ronde River CHU is essential to the conservation of bull trout because is supports strong bull trout populations and provides high-quality habitat to potentially expand bull trout distribution and is considered to be essential for bull trout recovery in the Mid-Columbia RU. The eleven populations in this CHU are spread over a large geographical area with multiple age classes, containing both resident and fluvial fish. This bull trout stronghold also has a prey base; connectivity with the Snake River; general distribution of bull trout throughout the habitat; and varying habitat conditions. But in several of the populations, including the Wenaha River, Lostine River, Lookingglass Creek, and Little Minam River populations, excellent habitat conditions exist; many streams and rivers are designated as Wild and Scenic Rivers and/or located within or near Wilderness areas.

Two wilderness areas are designated within the Grande Ronde River basin. The Eagle Cap Wilderness is located in the Wallowa-Whitman National Forest, encompasses 146,272 (ha) (361,446 ac), and includes most of the Minam, upper Wallowa and Lostine river drainages as well as Bear Creek and Hurricane Creek and a small portion of Catherine Creek. Federal Wild and Scenic River status is designated for the Lostine and Minam Rivers and Oregon State Scenic Waterway status is designated to the Minam and Wallowa Rivers. The Grande Ronde River with its headwaters in the Wallowa-Whitman National Forest is designated as a Federal Wild and Scenic River and a State Scenic Waterway, from the confluence with the Wallowa River to the Washington border. The Wenaha-Tucannon Wilderness is located in the Umatilla National Forest, encompasses 71,817 ha (177,465 ac), and includes most of the Wenaha River drainage. The Wenaha River is designated as a Federal Wild and Scenic River. The Little Minam core area is located entirely within the Eagle Cap Wilderness (see Appendix 1 for more detailed information).

The Grande Ronde River Critical Habitat Unit is located in northeast Oregon and southeast Washington and includes the mainstem Grande Ronde River from its headwaters to the confluence with the Snake River. This CHU contains two core areas: the Grande Ronde River and the Little Minam. The Grande Ronde core area includes large portions of Union and Wallowa Counties and a small portion of Umatilla County in Oregon as well as about a third of Asotin County and small portions of Columbia, and Garfield counties in Washington. The Little Minam core area is located entirely within the Eagle Cap Wilderness on the western edge of the Wallowa subbasin, in both Union and Wallowa Counties, Oregon. This CHU is within the Middle Columbia River Recovery Unit.

Two wilderness areas are designated within the Grande Ronde Critical Habitat Unit. The Eagle Cap Wilderness is located in the Wallowa-Whitman National Forest, encompasses 361,446 acres, and includes most of the Minam, upper Wallowa and Lostine river drainages as well as Bear Creek and Hurricane Creek and a small portion of Catherine Creek. Federal Wild and Scenic River status is designated for the Lostine and Minam rivers and Oregon State Scenic Waterway status is designated to the Minam and Wallowa rivers. The Grande Ronde River with its headwaters in the Wallowa-Whitman National Forest is designated as a Federal Wild and Scenic River and a State Scenic Waterway from the confluence with the Wallowa River to the Washington border. The Wenaha-Tucannon Wilderness is located in the Umatilla National Forest, encompasses 177,465 acres and includes most of the Wenaha River drainage. The Wenaha River is designated as a Federal Wild and Scenic River.

The Grande Ronde Critical Habitat CHU contains at least ten local populations in the Grande Ronde River Basin CHU, these include: 1) Upper Grande Ronde; 2) Catherine; 3) Indian; and 4) Minam/Deer; 5) Lostine/Bear; 6) Upper Hurricane; 7) N.F. Wenaha; 8) S.F. Wenaha; 9) Butte and WF Butte; and 10) Lookingglass. The Little Minam core area includes the Little Minam River, a tributary to the Minam River. This core area encompasses tributaries containing one local population located above a barrier falls at approximately km 9 (mi 5.6) as well as the Little Minam River below the barrier to the confluence with the Minam River.

The designated critical habitat described below is our best assessment of stream or river reaches essential for conservation of bull trout for the Grande Ronde River Basin Critical Habitat Unit, and is based on the best scientific and commercial information available. These stream reaches are believed to be essential for the conservation of the species because they currently support bull trout populations (occupied habitat) and/or provide high quality habitat to potentially expand bull trout distribution and are considered to be essential for recovery of bull trout in the Mid-Columbia Recovery Unit.

The Grande Ronde River Basin CHU is essential to the recovery unit because it is a bull trout stronghold within the Middle Columbia Recovery Unit and within the states of Oregon and Washington. The Grande Ronde basin core area contains ten healthy local populations. The Little Minam Core area contains one healthy resident population. In total, these eleven populations are spread over a large geographical area with multiple age classes, containing both resident and fluvial fish. This bull trout stronghold also has: an anadromous prey base; connectivity with the Snake River; bull trout are generally distributed throughout the habitat; and habitat conditions vary; but in several of the populations including the Wenaha, Lostine, Lookingglass, and Little Minam populations there are excellent habitat conditions (many designated as wild and scenic rivers and/or located within or near wilderness).

**Rationale for determining Critical Habitat based on the Seven Guiding Principles**

1. *Conserve opportunity for diverse life-history expression* – The Grande Ronde River CHU contains at least ten local populations with fluvial and resident life history forms and multiple age classes in the Grande Ronde River Basin core area and one resident population in the Little Minam River core area. The Little Minam River supports a healthy resident population located in the wilderness above a barrier falls. Connectivity with the Snake River and Grande Ronde River and among populations is possible for the Grande Ronde River Basin core area. The Little Minam River has one-way connectivity, from the resident population downstream to the Minam River. The barrier waterfall on the Little Minam (RM 5.6) prevents upstream migration of bull trout.

2. *Conserve opportunity for genetic diversity* – Large geographical area containing eleven local populations with both fluvial and resident life histories; therefore, genetic diversity is likely. No recent genetic data is available for this CHU.

3. *Ensure bull trout are distributed across representative habitats* – Ten populations in the Grande Ronde River CHU (Upper Grande Ronde River, Catherine, Indian, Minam/Deer, Lostine/Bear, Upper Hurricane, N.F. Wenaha, S.F. Wenaha, Butte and WF Butte, and Lookingglass). The isolated core area of the Little Minam includes one population, the Little Minam River. This CHU contains a variety of habitat conditions which are spread over a large geographical area with connectivity to other core areas.

4. *Ensure sufficient connectivity among populations* – Bull trout move freely (seasonally) within the Snake River and Grande Ronde River. There are natural and manmade barriers that prevent connectivity in the CHU. The Little Minam Core area and Grande Ronde River Core areas have one way connectivity between core areas due to a barrier falls on the Little Minam River. Existing passage problems (diversions, low flows, high stream temperatures, irrigation dams, and culvert fish passage barriers) occur in this CHU and limit connectivity at least seasonally within or between populations.

5. *Ensure sufficient habitat to support population viability (e.g., abundance, trend indices)* –The Eagle Cap and the Wenaha-Tucannon wilderness areas are within this CHU, as well as Federal wild and Scenic Rivers, and private lands. The populations are relatively stable and habitat conditions are generally excellent (especially for the Wenaha, Lostine, Lookingglass, and Little Minam populations). These river systems provide a variety of habitat types.

6. *Consider threats (e.g., climate change)* – Climate change is a threat in this CHU. The nature of the threat includes increase in fire frequency and magnitude, increase in peak flows, increase in air and stream temperatures, and exotic invasion/expansion.

7. *Ensure sufficient redundancy in conserving population units* – The entire occupied and some unoccupied areas are essential for conservation because the CHU is a bull trout stronghold within the Mid-Columbia Recovery Unit and within the states of Oregon and Washington. The Grande Ronde Basin Core Area contains ten healthy (overall) fluvial and resident populations. The Little Minam Core Area contains one healthy resident population. These eleven total populations are spread over a large geographical area with multiple age classes, containing both fluvial and resident fish.

## Grande Ronde River Core Area

The Grande Ronde Critical core area contains at least ten local populations: in the Grande Ronde River Basin CHU and within the greater Middle Columbia Recovery Unit. Eight local populations were designated in the Grande Ronde River Draft Recovery Unit Plan (Service 2002a, pp.11-36). The 2008 Core Area Status Assessment team recommends at least ten local populations as follows: 1) Upper Grande Ronde; 2) Catherine; 3) Indian; and 4) Minam/Deer; 5) Lostine/Bear; 6) Upper Hurricane; 7) N.F. Wenaha; 8) S.F. Wenaha; 9) Butte and West Fork Butte; and 10) Lookingglass (Service 2008a, pp.4-5).

The following water bodies are included in this CHU (see Table 49).

**Grande Ronde River** extending from its confluence with the Snake River upstream 267.2 km (166 mi) to Meadow Brook Creek, including the state ditch provides key FMO habitat for sub-adult and adult fluvial bull trout and is an important migratory corridor. It is the primary artery that supports and links ten local populations in the Grande Ronde River and Wallowa River basins. The Upper Grande Ronde River from the junction with Meadow Brook Creek upstream 18.5 km (11.5 mi) is utilized as spawning and rearing habitat. (Buchanan et al. 1997, p. 105-107; P. Boehne, pers. comm. 2009).

**Menatchee Creek** from the confluence with the Grande Ronde River upstream 15.3 km (9.5 mi) to the headwaters provides FMO habitat for bull trout. Historical data indicate bull trout presence in this stream. Currently, bull trout have not been confirmed. Menatchee Creek was sampled with one pass electrofishing by WDFW and USFS personnel and no bull trout were

found in 14 sites surveyed in 2007. (Buchanan et al. 1997, pp. 107; Service 2000, pp.35-36; Mendel in litt. 2008, Mendel et al. 2008, pp.22-35, WDFW, 2010).

**Wenaha River** from its confluence with the Grande Ronde River upstream 35 km (21.7 mi) to the junction of the North Fork and South Fork Wenaha River is critical habitat. Collectively, the Wenaha River and its tributaries support three bull trout populations, which is about one-third of the populations within in the Grande Ronde basin. The Wenaha River system is the basin's stronghold. The lower 16 km (10 mi) of the Wenaha River near the confluence with Beaver Creek provide FMO habitat for fluvial bull trout and a migratory connection to the Grande Ronde River. Spawning and rearing has been documented in the upper Wenaha and in South Fork Wenaha, Milk Creek, North Fork Wenaha, Beaver Creek, Butte Creek, and West Fork Butte Creek. All other tributaries named are documented FMO habitat for bull trout (Buchanan et al. 1997, pp.107, 111; Mendel, in litt. 2008, G. Mendel, pers. comm. 2009; P. Sankovich, pers. comm. 2009).

**Crooked Creek** from its confluence with the Wenaha River upstream 7.2 km (4.5 mi) to the confluence with First Creek provides FMO habitat. Crooked Creek from its confluence with the First Creek upstream 5.2 km (3.2 mi) to the confluence with Third Creek provides spawning and rearing habitat. WDFW documented a bull trout in lower Crooked Creek, downstream of First Creek in 1986. USFS also captured one bull trout (approx. 200 mm) below First Creek in 1995 or 1996 (WDFW, 2010). The reach on Crooked Creek from the confluence with First Creek to the confluence with Third Creek at is currently unoccupied. This reach provides essential foraging, migratory, and overwintering habitat for bull trout. Portions of Crooked Creek were sampled in 2008 with one pass electrofishing, but no bull trout were documented (Buchanan et al. 1997, pp. 107, 111; Mendel, in litt. 2008, G. Mendel, pers. comm. 2009; P. Sankovich, pers. comm. 2009).

*First Creek* from its confluence with the Crooked Creek upstream 2.2 km (1.4 mi) is currently unoccupied, but has the potential to provide essential foraging, migratory, and overwintering habitat for bull trout (Buchanan et al. 1997, p. 107, 111; G. Mendel, pers. comm. 2009; P. Sankovich, Service, pers. comm. 2009).

*Third Creek* from its confluence with the Crooked Creek upstream 5.3 km (3.3 mi) to the confluence with Trout Creek is currently unoccupied, but has the potential to provide essential foraging, migratory, and overwintering habitat for bull trout (Buchanan et al. 1997: p. 107, 111; G. Mendel, pers. comm. 2009).

Trout Creek from the confluence with Third Creek upstream to approximately 3.2 km (2.0 mi) upstream is currently unoccupied, but has the potential to provide essential foraging, migratory, and overwintering habitat for bull trout (Buchanan et al. 1997: p. 107, 111; G. Mendel, pers. comm. 2009).

**Butte Creek** from its confluence with the Wenaha River upstream 11.5 km (7.2 mi) to the confluence with East Fork and West Fork Butte Creek provides spawning and rearing habitat. Butte Creek and the West Fork of Butte Creek also have recent bull trout redd counts (of 31-32 redds, respectively) in 2005 and 2006, although the survey areas were not exactly the same during the two years. Eight total bull trout redds were documented in Butte Creek in 2005. (Buchanan et al. 1997; pp. 107, 111; Mendel, in litt. 2008, G. Mendel, pers. comm. 2009; P. Sankovich, pers. comm. 2009, Mendel, Trump, Gembala, et al. 2006, p. 47, WDFW, 2010).)

*East Fork Butte Creek* from its confluence with Butte Creek upstream 1.6 km (1.0 mi) provides spawning and rearing habitat. Bull trout have been documented in the lower section (Mendel et al. 2008). WDFW conducted one-pass electrofishing in 2006, and documented bull trout in 3 of the 3 surveyed sites in the lower mile of East Fork Butte Creek (WDFW, 2010).

*West Fork Butte Creek* from the confluence with Butte Creek upstream 4.2 km (2.6 mi) to the confluence with Rainbow Creek provides spawning and rearing habitat. Recent surveys in 2005 and 2006, were conducted from Rainbow Creek to East Fork Butte Creek, where redd distribution differed substantially between the upper and lower sections in both years. Total redds documented in 2005 were 23; the upper section had 16 redds in 2005 but only 2 redds in 2006. The lower section had 7 redds in 2005, and 30 redds in 2006. WDFW conducted one pass electrofishing in 2006, and documented bull trout in all six sites surveyed between East Fork and Preacher Creek. (Buchanan et al. 1997, pp. 107, 111; Mendel, in litt. 2008, G. Mendel, pers. comm..2009; P. Sankovich, pers. comm. 2009; Mendel et al. 2008, 74-75 and 84-87, WDFW, 2010).

**Beaver Creek** from its confluence with the Wenaha River upstream 2.5 km (1.6 mi) provides spawning and rearing habitat (G. Mendel, pers. comm. 2009).

**North Fork Wenaha River** from its junction with the Wenaha River upstream 18.8 km (11.7 mi) provides spawning and rearing habitat. Recent information is available regarding the relative abundance of bull trout in northern tributaries of the Wenaha River within Washington State. The North Fork Wenaha River within Washington has bull trout redd counts of 82, 86 (both partial counts) in 2006 and 2007 respectively, and 153 redds in 2005. WDFW conducted one pass electrofishing at 10 sites in 2005 from the state line upstream about 5 miles to a small falls and bull trout were documented for each site surveyed, and in general, multiple age classes of bull trout were reported for each site. In 2006 WDFW electro-fished six sites upstream of the falls and documented bull trout in each site up to the forks of the North Fork Wenaha. Bull trout and redds were observed upstream of the forks in 2006 by WDFW.(Buchanan et al. 1997, pp. 107, 111; Mendel, in litt. 2008 , 2009; P. Sankovich, Service, pers. comm. 2009; Mendel et al. 2008, pp. 68-73 and 76-84, WDFW, 2010).

**South Fork Wenaha River** from its junction with the Wenaha River upstream 13.1 km (8.1 mi) provides spawning and rearing habitat (Buchanan et al. 1997, pp. 107, 111; G. Mendel, pers. comm. 2009; P. Sankovich, pers. comm. 2009).

*Milk Creek* from its mouth at the South Fork Wenaha River upstream 5.2 km (3.2 mi) provides spawning and rearing habitat (Buchanan et al. 1997, pp. 107, 111; G. Mendel, pers. comm. 2009; P. Sankovich, pers. comm. 2009).

**Lookingglass Creek** from its confluence with the Grande Ronde River upstream 24.1 km (15.0 mi) to a barrier falls provides FMO habitat for a total distance of 19.8 km (12.3 mi) and spawning and rearing habitat for a total distance of 4.6 km (2.8 mi) to the headwaters. The Lookingglass Creek system supports a local population and bull trout spawn and rear throughout the identified stream reaches. Lower portions of Lookingglass Creek also provide probable foraging habitat for fluvial fish and a migratory connection to the Grande Ronde River. Fifty eight total redds on Lookingglass were reported in 2008, in four miles of stream, with the majority of redds documented in the upper two reaches. There appears to be a slight downward

trend in redd counts in recent years. (Buchanan et al. 1997, pp. 105, 110, 111; Bellerud, et al, 1997, pp. 37-48; D. Crabtree, pers. comm. 2008, 2009).

*Little Lookingglass Creek*, a tributary to Lookingglass Creek, provides FMO habitat for 5.4 km (3.4 mi) to the National Forest boundary and spawning and rearing (and FMO) habitat for 4.2 km (2.6 mi) from the National Forest boundary to the confluence with Buzzard Creek (Buchanan et al. 1997, pp.105, 111; D. Crabtree, pers. comm. 2009).

*Summer Creek* from the confluence of Lookingglass Creek upstream 0.6 km (0.4 mi) provides spawning and rearing habitat for bull trout (D. Crabtree, pers. comm. 2009).

**Indian Creek** from the confluence with the Grande Ronde River 32.6 km (20.3 mi) upstream and includes three tributary streams (Camp, East Fork and North Fork Indian creeks). Indian Creek supports a bull trout local population with spawning and rearing occurring in the upper 15.2 km (9.5 mi) portion of Indian Creek and the identified reaches of Camp Creek, East Fork, and North Fork Indian Creek. The lower section (below the USFS boundary) of Indian Creek provides FMO habitat for fluvial bull trout and a connection to the Grande Ronde River for a distance of 17.7 km (11 mi) (P. Boehne, pers. comm. 2009; T. Bailey, pers. comm. 2008).

*Camp Creek* from the confluence with Indian Creek upstream contains spawning and rearing habitat for a distance of 1.1 km (0.7 mi) (Buchanan et al. 1997, pp.105, 110; P. Boehne, pers. comm. 2009).

*East Fork Indian Creek* from the confluence with Indian Creek upstream contains spawning and rearing habitat for a distance of 3.1 km (1.9 mi) (P. Boehne, pers. comm. 2009; Buchanan et al. 1997).

*North Fork Indian Creek* from the confluence with Indian Creek upstream 1.4 km (0.9 mi) provides FMO habitat (above and below a waterfall) and spawning and rearing habitat continues upstream for an additional 5.1 km (3.1 mi) above the FMO reach (P. Boehne, pers. comm. 2009).

**Catherine Creek** from the confluence with the Grande Ronde River upstream to the junction of North Fork and South Fork Catherine Creek provides 78.9 km (49 mi) FMO habitat. Spawning and rearing habitat continues upstream from the FMO reach for 7.4 km (4.6 mi) to the confluence with North Fork and South Fork Catherine Creek. Bull trout have been observed throughout the mainstem and migratory fluvial fish are present (Service 2002a, pp. 16-19; Buchanan et al. 1997, pp.104-116; P. Boehne, pers. comm. 2009).

*North Fork Catherine Creek* from its mouth at Catherine Creek upstream a distance of 14 km (8.7 mi) provides spawning and rearing habitat. ODFW surveyed 1.3 miles of bull trout spawning habitat on North Fork Catherine Creek from 1998 to 2006. Bull trout redds were highest in 1998 with 19 redds and dropped to a low of 2 redds in 2006. (Service 2002a, pp.17-19; ODFW 2006; Buchanan et al. 1997, p. 105; T. Bailey, pers. comm.2008; P. Boehne, pers. comm. 2009).

Middle Fork Catherine Creek from its junction with North Fork Catherine Creek upstream 4.3 km (2.7 mi) to the confluence with Squaw Creek provides spawning and rearing habitat (Service 2002a, pp.17-19; Buchanan et al. 1997, p. 105; P. Boehne, pers. comm. 2009).

*South Fork Catherine Creek* from its junction with Catherine Creek upstream 10.7 km (6.7 mi) provides spawning and rearing habitat (Service 2002a, pp.17-19; P. Boehne, pers. comm. 2009, B. Lovatt, pers. comm. 2009; Buchanan et al. 1997, p. 105).

Pole Creek from its mouth at South Fork Catherine Creek upstream 3.9 km (2.4 mi) to its headwaters provides spawning and rearing habitat (P. Boehne, pers. comm. 2009; Buchanan et al. 1997, p. 105).

Sand Pass Creek from its mouth at South Fork Catherine Creek upstream 2.9 km (1.8 mi) to its headwaters provides spawning and rearing habitat (P. Boehne, pers. comm. 2009; Buchanan et al. 1997, p.105).

Collins Creek from its junction with South Fork Catherine Creek upstream 3 km (1.9 mi) to its headwaters provides spawning and rearing habitat (Buchanan et al. 1997, p.105).

**Five Points Creek** from its confluence with the Grande Ronde River upstream 3.1 km (1.9 mi) provides unoccupied potential FMO habitat and potential spawning and rearing habitat continues upstream 18.9 km (11.7 mi) above the FMO reach. Habitat and water temperatures are suitable for bull trout. This reach provides essential foraging, migratory, and overwintering habitat in the lower portion, and spawning and rearing habitat in the upper portion. An isolated bull trout sighting was made in Lower Five Points Creek on USFS lands. Five Points Creek is identified in the draft recovery plan (Recovery Task 5.2.3) as a potential area to expand bull trout distribution necessary to achieve conservation and recovery. (Buchanan, et al.1997, p. 110; Service 2002a, p. 43; P. Boehne, pers. comm. 2009).

*Middle Fork Five Point Creek* from its confluence with Five Point Creek upstream 2.7 km (1.7 mi) is unoccupied FMO habitat. This reach has the potential to provide essential spawning and rearing habitat; it flows into Five Points Creek and provides equally high quality habitat with potential to support expanded bull trout distribution essential for conservation and recovery (P. Boehne, pers. comm. 2009).

Tie Creek from its confluence with Middle Fork Five Points Creek upstream 0.9 km (0.5 mi) is potential spawning and rearing habitat. Currently unoccupied, this reach has the potential to provide essential spawning and rearing habitat for bull trout. This short reach flows into Five Points Creek and provides equally high quality habitat with potential to support expanded bull trout distribution necessary for conservation and recovery (P. Boehne, pers. comm. 2009).

Fiddlers Hell Creek from its confluence with Middle Fork Five Points Creek upstream 1.4 km (0.9 mi) is potential spawning and rearing habitat. Currently unoccupied, this reach has the potential to provide essential spawning and rearing habitat for bull trout. This short reach flows into Five Points Creek and provides equally high quality habitat with potential to support expanded bull trout habitat necessary for conservation and recovery (P. Boehne, pers. comm. 2009).

Mount Emily Creek from its confluence with Middle Fork Five Points Creek upstream 2.1 km (1.3 mi) is potential spawning and rearing habitat. Currently unoccupied, this reach has the potential to provide essential spawning and rearing habitat for bull trout. This short reach connects to Five Points Creek (Recovery Task 5.2.3) and provides high quality habitat with potential to support expanded

bull trout distribution necessary for conservation and recovery (P. Boehne, pers. comm. 2009).

**Fly Creek** from its confluence with the Grande Ronde River upstream 13.5 km (8.4 mi) to Lookout Creek provides FMO habitat for bull trout that spawn and rear in Lookout Creek. This reach provides foraging, migratory, and overwintering habitat for bull trout which spawn and rear in Lookout Creek, a tributary to Fly Creek (Buchanan et al. 1997, pp.104,105; J. Zakel, pers. comm. 2006; P. Boehne, pers. comm. 2009).

*Little Fly Creek* from its confluence with Fly Creek upstream 1.6 km (1 mi) is spawning and rearing habitat and connects to Fly and Lookout creeks.

*Lookout Creek* from its confluence with Fly Creek upstream 6.9 km (4.3 mi) to approximately 0.6 km (1 mi) above USFS Road 5160 is spawning and rearing habitat. Bull trout have been observed in Lookout Creek. Future verification of the upper distribution boundary of SR habitat is recommended by the USFS. (P. Boehne, pers. comm. 2009; J. Zakel, pers. comm. 2006).

**Sheep Creek** from its confluence with the Grande Ronde River provides FMO habitat upstream for 11.3 km (7 mi) and fluvial bull trout utilize 3.9 km (2.4 mi) of spawning and rearing habitat above the FMO reach. Currently unoccupied, this reach has the potential to provide essential foraging, migratory and overwintering habitat in the lower portion and suitable spawning and rearing habitat in the upper portion (P. Boehne, pers. comm. 2009). Sheep Creek is identified in the draft recovery plan (Recovery Task 5.2.3) as an area to potentially expand bull trout distribution essential to achieve conservation and recovery (Service 2002a, p.43).

*East Fork Sheep Creek* from its confluence with Sheep Creek upstream 4.8 km (3 mi) provides potential spawning and rearing habitat. Currently unoccupied, this reach has the potential to provide essential spawning and rearing habitat for bull trout (P. Boehne, pers. comm. 2009). East Fork Sheep Creek is identified in the recovery plan (Recovery Task 5.2.3) as an area to potentially expand bull trout distribution necessary to achieve conservation and recovery in the draft recovery plan (Service 2002a, p.43).

*Chicken Creek* from its confluence with Sheep Creek upstream 8.5 km (5.3 mi) provides FMO habitat and spawning and rearing habitat continues for 0.4 km (0.3 mi) above the FMO reach. (Buchanan et al. 1997, p.104, 105, 110; P. Boehne, pers. comm. 2009).

Indiana Creek from its mouth at Chicken Creek upstream 3.5 km (2.1 mi) provides spawning and rearing habitat. There is a large culvert near the mouth that is a passage barrier, bull trout are located upstream (Buchanan et al. 1997, pp. 105, 110; P. Sankovich, Service, pers. comm. 2009; P. Boehne, pers. comm. 2009).

**Limber Jim Creek** from its confluence with the Grande Ronde River upstream 13.1 km (8.1 mi) contains FMO habitat from the confluence upstream for 7.4 km (4.6 mi) and spawning and rearing habitat upstream 5.7 km (3.5 mi) of the FMO reach to the headwaters. The lower portion of Limber Jim Creek provides FMO habitat up to a potentially impassable falls, and occupied spawning and rearing habitat occurs above the falls (Buchanan et al. 1997, pp.105, 110; P. Sankovich, pers. comm. 2009; P. Boehne, pers. comm. 2009).

*Marion Creek* at the confluence with Limber Jim Creek to the headwaters upstream 3.4 km (2.1 mi) to its junction with Limber Jim Creek provides spawning and rearing habitat for bull trout (P. Boehne, pers. comm. 2009).

**Clear Creek** from its confluence with the Grande Ronde River upstream 6.8 km (4.2 mi) provides FMO habitat and spawning and rearing habitat extends for 4.8 km (3 mi) above the FMO reach (Buchanan et al. 1997, P. 105, 110; P. Sankovich, Service, pers. comm. 2009; P. Boehne, pers. comm. 2009).

*Unnamed tributary* from the confluence with Clear Creek upstream provides 2.2 km (1.4 mi) FMO habitat and spawning and rearing habitat upstream of the FMO reach for 2.5 km (1.6 mi) (P. Boehne, pers. comm. 2009).

**Wallowa Lake** from the ordinary high water mark provides a surface area of 605 ha (1,496 ac) FMO habitat.

**Wallowa River** from the confluence with the Grande Ronde River upstream for 80.4 km (50 mi) to the dam at Wallowa Lake provides FMO habitat for sub-adult and adult fluvial bull trout and is an essential migratory corridor for movement from upper watershed spawning streams to the Grande Ronde River. Fluvial fish that spawn in the Lostine, Deer, Minam, Bear, and upper Hurricane Rivers use the Wallowa River to move to and from FMO habitat in the Grande Ronde and Snake Rivers (Service 2002a, p. 24; Buchanan et al. 1997, p.106). Current bull trout use in the Wallowa River from Hurricane Creek confluence upstream to Wallowa Lake is largely unknown. The dam currently lacks upstream passage for fish at Wallowa Lake and unscreened diversions below the dam currently provide limited habitat conditions and connectivity for bull trout in this section of the Wallowa River. In the future, if passage is provided for fish at Wallowa Lake (the Nez Perce Tribe and BPA have a proposal to reintroduce sockeye), then this section of the Wallowa River will likely be utilized by bull trout as FMO habitat.

**Wallowa River** from the head of Wallowa Lake continues upstream 1.5 km (0.9 mi) as spawning and rearing habitat. Historically, bull trout were present in the Wallowa River above Wallowa Lake, however, this population is believed to have been extirpated by the 1950's (Buchanan et al. 1997, p. 110). Although a reintroduction program using bull trout and Dolly Varden (*Salvelinus malma*) from Alaska was initiated in 1968, this program was not successful and was terminated in 1978. No bull trout or Dolly Varden was captured in the Wallowa Lake fishery between 1980 and 1996. In 1997, 600 bull trout from Big Sheep Creek, a tributary to the Imnaha River, were introduced into Wallowa River above Wallowa Lake. These fish were salvaged because a hydroelectric diversion in the Big Sheep drainage (Imnaha River Subbasin) was being decommissioned (Service 2002a, pp.35). Recent creel counts and 2002 snorkel counts indicate that bull trout are present (G. Sausen, pers. comm., 2009).

*East Fork Wallowa River* from the confluence with the Wallowa River at the head of the lake upstream from Wallowa Lake 1.1 km (0.7 mi) to a waterfall provides occupied spawning and rearing habitat.

*West Fork Wallowa River* from the confluence with the Wallowa River at the head of the lake upstream from Wallowa Lake 0.9 km (0.6 mi) to a waterfall provides occupied spawning and rearing habitat.

**Minam River** from the confluence with the Wallowa River upstream 72.9 km (35.3 mi) and extending up the North Minam River supports a bull trout local population with spawning and

rearing habitat occurring in the tributary streams (Elk and East Fork Elk creeks)and the upper 55 km (34.2 mi) of the Minam River. Lower sections of the Minam River are utilized as FMO habitat for a distance of 18.7 km (11.6 mi). Bull trout have been observed throughout the mainstem and migratory fluvial fish and resident fish are present. The status of bull trout in the Minam River is "low risk of extinction." Minam River has had surveys conducted by ODFW in past years, with limited documentation of bull trout numbers observed (Service 2002a, pp.20-22; Buchanan et al. 1997, pp.106, 111, 116; Service 2008e, p.12).

*North Minam River* from the confluence with the Minam River for 2.1 km (1.3 mi) provides spawning and rearing habitat (Buchanan et al. 1997, Service 2002a, pp.20-22; A. Miller, pers. comm. 2009).

*Elk Creek* from the confluence with the Minam River upstream 2.6 km (1.6 mi) provides spawning and rearing habitat (Buchanan et al. 1997; Service 2002a, pp.20-22; A. Miller, pers. comm. 2009).

East Fork Elk Creek from the confluence with Elk Creek upstream 0.5 km (0.3 mi) provides spawning and rearing habitat (Buchanan et al. 1997, pp. 106, 111; Service 2002a, pp.20-22; A. Miller, pers. comm. 2009).

## Little Minam River Core Area

The Little Minam River core area includes the Little Minam River, a tributary to the Minam River. All of the designated streams in this core area are located within the Eagle Cap Wilderness. This core area encompasses tributaries containing one local resident population located above a barrier falls as well as the Little Minam River below the barrier to the confluence with the Minam River.

**Little Minam River** from its confluence with the Minam River upstream 24.1 km (15 mi) contains an isolated, resident bull trout local population above the barrier falls in portions of the Little Minam River, Boulder Creek, and Dobbin Creek. This reach provides foraging, migratory, and overwintering habitat in the lower portion as well as spawning and rearing habitat in the upper portion. The 8.1 km (5 mi) stretch of the Little Minam River below the barrier falls is critical habitat because of the presence of bull trout in this reach, high water quality, and the potential importance that emigrants from the Little Minam local population / core area may provide to other downstream populations. All of the Little Minam River and its tributaries are within the Eagle Cap Wilderness Area. Tributaries include Boulder and Dobbin creeks. Currently a resident population exists above a barrier falls at rkm 8 (rm 4.9). This resident population does not experience immigration of bull trout from other areas in the Grande Ronde River. The foraging, migratory, and overwintering designation of this stream is included due to the presence of bull trout in this reach, high water quality, and the potential importance emigrants from the Little Minam Core Area may provide to other essential populations (Buchanan et al. 1997, pp. 106, 112, 113; Service 2002a, pp. 32-35; P. Sankovich, pers. comm., 2008 and T. Bailey, pers. comm. 2008).

*Boulder Creek* from the confluence with the Little Minam River upstream 0.7 km (0.4 mi) provides spawning and rearing habitat (Buchanan et al. 1997, pp.106, 113; P. Sankovich, pers. comm., 2008 and T. Bailey, pers. comm. 2008).

*Dobbin Creek* from the confluence with the Little Minam River upstream 5.2 km (3.2 mi) provides spawning and rearing habitat (Buchanan et al. 1997, pp. 106, 113; P. Sankovich, pers. comm., 2008 and T. Bailey, pers. comm. 2008).

**Deer Creek** from the confluence with the Wallowa River upstream to the headwaters contains 14.9 km (9.2 mi) FMO habitat and 11.1 km (6.9 mi) spawning and rearing habitat. Bull trout have been observed throughout the mainstem and both fluvial and resident fish are present. Deer Creek bull trout are considered to be part of the Minam River local population. The status of bull trout in Deer Creek has been listed as special concern (Buchanan et al. 1997, pp. 106, 110, 116; Service 2002a, pp.20-23). Limited spawning surveys have been conducted on Deer Creek. Four bull trout redds were documented in 1.4 miles of survey on Deer Creek in 2000. In 2008, a USFS culvert replacement project on Deer Creek upstream of the confluence with Sage Creek has likely provided fish passage all year to all age classes of bull trout and other fish species above this culvert (G. Sausen, pers. comm. 2009). This bull trout fish passage restoration project was listed as task 1.2.3, 1.2.5, and 1.4.2 in the draft recovery plan (Service 2002a, p.164; A. Miller, pers. comm. 2009).

*Sage Creek* from the confluence of Deer Creek 2.8 km (1.7 mi) upstream is identified as an area to potentially expand bull trout spawning and rearing distribution necessary to achieve conservation and recovery. A culvert at the mouth is currently a fish passage barrier. The U.S. Forest Service is fixing this culvert to restore bull trout connectivity in Sage Creek in 2010 (A. Miller, pers. comm. 2009; Service 2002a, p.43; Service 2002a, p.20).

**Bear Creek** from its confluence with the Wallowa River upstream 12.1 km (7.5 mi) provides FMO habitat. The lower portions of Bear Creek and Little Bear Creek are utilized by fluvial bull trout and considered to be part of the Lostine River local population; thus, connectivity may be important to population viability. Bear Creek spawning and rearing habitat begins at National Forest boundaries and continues upstream 21.9 km (13.6 mi). A total of fourteen bull trout redds were documented in a 2.3 mile survey reach of Bear Creek in 2008. In the draft recovery plan, Bear Creek is identified as a stream to potentially expand bull trout spawning and rearing habitat downstream (Recovery Task 5.2.3). Bull trout have been observed throughout the mainstem and fluvial fish are present (Buchanan et al. 1997; Service 2002a, pp.109, 116-117, Sausen 2009, pp.47; A. Miller, pers. comm. 2009).

*Little Bear Creek* FMO habitat extends 3.9 km (2.4 mi) from the confluence of Bear Creek and spawning and rearing habitat continues for 6.9 km (4.3 mi) above the FMO reach. Little Bear Creek is identified in the draft recovery plan (Recovery Task 5.2.3) as an area to potentially expand bull trout distribution necessary to achieve conservation and recovery (Buchanan et al. 1997, p.106; Service 2002a, pp.109, 116-117; A. Miller, pers. comm. 2009).

*Goat Creek* from its confluence with the Bear Creek upstream 1.7 km (1.1 mi) provides spawning and rearing habitat for both resident and fluvial bull trout. Total number of bull trout redds observed in this stream from the mouth to approximately 0.9 miles upstream to an impassable falls has ranged from 3-9 redds in survey years 1999-2008. In 2008, four total redds were documented in Goat Creek. Except in 2008, this stream has had more redds documented than a larger reach of stream surveyed annually on Bear Creek. Goat Creek is a cold perennial stream that is critical to the Bear Creek bull trout

population. (Buchanan et al. 1997, p.106; Sausen 2009, p.41, G. Sausen, pers. comm. 2009).

**Lostine River** from its confluence with the Wallowa River upstream for 40.4 km (25.1 mi) to the mouth of the East Lostine River provides habitat for fluvial and resident fish. Bull trout spawning and rearing habitat is 15.1 km (9.4 mi) upstream of the Lostine River Bridge to the headwaters upstream of Shady campground. The Lostine River downstream of Lostine River Ranch is utilized as FMO habitat. Migration studies on fluvial bull trout tagged in the Lostine River reported migration within the river and movement into the Wallowa River and Grande Ronde River to near the town of Elgin, Oregon. Bull trout redd surveys in the fall of 2008 found 53 total redds for 10.1 miles of index survey between RM 9.4 and RM 24.5 of the Lostine River. Fluvial size redds were the dominant redd size recorded during the spawning surveys. Mean redd area ($m^2$) ranged from 0.9-1.3 in 2004-2008 for the Lostine River. Migration studies on fluvial size bull trout tagged in the Lostine reported migration within the Lostine to spawning habitat and overwintering habitat, and movement into the Wallowa River and Grande Ronde to near the town of Elgin (several miles of movement). Hybridization with brook trout appears to be occurring. Genetic samples have been taken but have not been reported to date and in 2008 bull trout and potential brook trout hybrids were observed on the spawning grounds. The Nez Perce Tribe has expressed concerns with the number of potential bull trout hybrids they have caught at their weir located on the Lostine River near the confluence with the Wallowa River. (P. Howell, pers. comm. 2005; Sausen 2009, pp.8, 13, 20; Buchanan et al. 1997, p.106; Service 2002a, pp.23-25; G. Sausen, pers. comm. 2009).

*Silver Creek* from its confluence with the Lostine River upstream 0.5 km (0.3 mi) to Hunter Falls provides spawning and rearing habitat (Buchanan et al. 1997, p.106; A. Miller, pers. comm. 2009).

*Lake Creek* from its confluence with the Lostine River 1.2 km (0.7 mi) provides spawning and rearing habitat (Buchanan et al. 1997, p.106; G. Sausen, pers. comm. 2009).

**Hurricane Creek** from its confluence with the Wallowa River upstream 14 km (8.7 mi) to Slick Rock Creek supports a local population; bull trout spawn and rear in the upper 8.0 km (5.0 mi) and utilize the lower portion as FMO habitat. Fluvial fish are present in Hurricane Creek in the lower section. However, miles 3.0-7.0 are not included as critical habitat due to irrigation withdrawals upstream where the stream channel is dewatered. Resident bull trout occur above the Consolidated–Moonshine Ditch diversion dam. The upper distribution of resident spawning and rearing bull trout is from the ditch to below Slick Rock Falls. Howell reported that genetic sampling in 2003 in Hurricane Creek documented numerous brook trout and apparent hybrids and sampled only 25 fish after 4 days of sampling. Genetic analysis underway will indicate how many of these fish are hybrids. The Hurricane Creek population appears to be small and potentially substantially hybridized. In addition, electrofishing data on Hurricane Creek for bull trout collected by ODFW in 2002, suggests a population of approximately 200 bull trout, 300 brook trout, and 150 hybrids above the natural barrier cascade (Buchanan et al. 1997, pp. 106, 113; Service 2002a, pp.27-28, Service 2008a, p.8).

## Table 49. Water body segments designated as critical habitat for bull trout, including documentation of occupancy and site-specific rationale in the Grande Ronde River CHU/CHSU

| CHU—CHSU | Water Body Name | State | Information Documenting Bull Trout Occupancy | Essential Habitat Rationale | LLID |
|---|---|---|---|---|---|
| Grande Ronde River–None | Bear Creek | OR | Bear Creek from its confluence with the Wallowa River upstream 12.1 km (7.5 mi) provides FMO habitat. The lower portions of Bear Creek and Little Bear Creek are utilized by fluvial bull trout and considered to be part of the Lostine River local population; thus, connectivity may be important to population viability. Bear Creek spawning and rearing habitat begins at National Forest boundaries and continues upstream 21.9 km (13.6 mi). A total of fourteen bull trout redds were documented in a 2.3 mile survey reach of Bear Creek in 2008. In the draft recovery plan, Bear Creek is identified as a stream to potentially expand bull trout spawning and rearing habitat downstream (Recovery Task 5.2.3). Bull trout have been observed throughout the mainstem and fluvial fish are present (Buchanan et al. 1997; Service 2002a, pp.109, 116-117, Sausen 2009, pp.47; A. Miller, pers. comm. 2009). | See CHU text | 1175411 455843 |
| Grande Ronde River–None | Beaver Creek | OR | Beaver Creek from its confluence with the Wenaha River upstream 2.5 km (1.6 mi) provides spawning and rearing habitat (G. Mendel, pers. comm. 2009). | See CHU text | 1177863 459547 |
| Grande Ronde River–None | Boulder Creek | OR | Boulder Creek from the confluence with the Little Minam River upstream 0.7 km (0.4 mi) provides spawning and rearing habitat (Buchanan et al. 1997, pp.106, 113; P. Sankovich, pers. comm., 2008 and T. Bailey, pers. comm. 2008). | See CHU text | 1176327 453117 |
| Grande Ronde River–None | Butte Creek | OR | Butte Creek from its confluence with the Wenaha River upstream 11.5 km (7.2 mi) to the confluence with East Fork and West Fork Butte Creek provides spawning and rearing habitat. Butte Creek and the West Fork of Butte Creek also have recent bull trout redd counts (of 31-32 redds, respectively) in 2005 and 2006, although the survey areas were not exactly the same during the two years. Eight total bull trout redds were documented in Butte Creek in 2005. (Buchanan et al. 1997; pp. 107, 111; Mendel, in litt. 2008; G. Mendel, pers. comm. 2009; P. Sankovich, pers. comm. 2009, Mendel, Trump, Gembala, et al. 2006, p. 47, WDFW, 2010).) | See CHU text | 1176788 459820 |

| CHU—CHSU | Water Body Name | State | Information Documenting Bull Trout Occupancy | Essential Habitat Rationale | LLID |
|---|---|---|---|---|---|
| Grande Ronde River–None | Camp Creek | OR | Camp Creek from the confluence with Indian Creek upstream contains spawning and rearing habitat for a distance of 1.1 km (0.7 mi) (Buchanan et al. 1997, pp.105, 110; P. Boehne, pers. comm. 2009). | See CHU text | 1177578 453867 |
| Grande Ronde River–None | Catherine Creek | OR | Catherine Creek from the confluence with the Grande Ronde River upstream to the junction of North Fork and South Fork Catherine Creek provides 78.9 km (49 mi) FMO habitat. Spawning and rearing habitat continues upstream from the FMO reach for 7.4 km (4.6 mi) to the confluence with North Fork and South Fork Catherine Creek. Bull trout have been observed throughout the mainstem and migratory fluvial fish are present (Service 2002a, pp. 16-19; Buchanan et al. 1997, pp.104-116; P. Boehne, pers. comm. 2009). | See CHU text | 1178722 453139 |
| Grande Ronde River–None | Chicken Creek | OR | Chicken Creek from its confluence with Sheep Creek upstream 8.5 km (5.3 mi) provides FMO habitat and spawning and rearing habitat continues for 0.4 km (0.3 mi) above the FMO reach. (Buchanan et al. 1997, p.104, 105, 110 ; P. Boehne, pers. comm. 2009). | See CHU text | 1183955 450948 |
| Grande Ronde River–None | Clear Creek | OR | Clear Creek from its confluence with the Grande Ronde River upstream 6.8 km (4.2 mi) provides FMO habitat and spawning and rearing habitat extends for 4.8 km (3 mi) above the FMO reach (Buchanan et al. 1997, P. 105, 110; P. Sankovich, pers. comm. 2009; P. Boehne, pers. comm. 2009). | See CHU text | 1183105 450628.1 |
| Grande Ronde River–None | Collins Creek | OR | Collins Creek from its junction with South Fork Catherine Creek upstream 3 km (1.9 mi) to its headwaters provides spawning and rearing habitat (Buchanan et al. 1997, p.105). | See CHU text | 1175430 451055 |

| CHU—CHSU | Water Body Name | State | Information Documenting Bull Trout Occupancy | Essential Habitat Rationale | LLID |
|---|---|---|---|---|---|
| Grande Ronde River–None | Crooked Creek | OR and WA | Crooked Creek from its confluence with the Wenaha River upstream 7.2 km (4.5 mi) to the confluence with First Creek provides FMO habitat. Crooked Creek from its confluence with the First Creek upstream 5.2 km (3.2 mi) to the confluence with Third Creek provides spawning and rearing habitat. WDFW documented a bull trout in lower Crooked Creek, downstream of First Creek in 1986. USFS also captured one bull trout (approx. 200 mm) below First Creek in 1995 or 1996 (WDFW, 2010). The reach on Crooked Creek from the confluence with First Creek to the confluence with Third Creek at is currently unoccupied. This reach provides essential foraging, migratory, and overwintering habitat for bull trout. Portions of Crooked Creek were sampled in 2008 with one pass electrofishing, but no bull trout were documented (Buchanan et al. 1997, pp. 107, 111; Mendel in litt, 2008; G. Mendel, pers. comm. 2009; P. Sankovich, pers. comm. 2009). | See CHU text | 1175523 459767 |
| Grande Ronde River–None | Deer Creek | OR | Deer Creek from the confluence with the Wallowa River upstream to the headwaters contains 14.9 km (9.2 mi) FMO habitat and 11.1 km (6.9 mi) spawning and rearing habitat. Bull trout have been observed throughout the mainstem and both fluvial and resident fish are present. Deer Creek bull trout are considered to be part of the Minam River local population. The status of bull trout in Deer Creek has been listed as special concern (Buchanan et al. 1997, pp. 106, 110, 116; Service 2002a, pp.20-23). Limited spawning surveys have been conducted on Deer Creek. Four bull trout redds were documented in 1.4 miles of survey on Deer Creek in 2000. In 2008, a USFS culvert replacement project on Deer Creek upstream of the confluence with Sage Creek has likely provided fish passage all year to all age classes of bull trout and other fish species above this culvert (G. Sausen, pers. comm. 2009). This bull trout fish passage restoration project was listed as task 1.2.3, 1.2.5, and 1.4.2 in the draft recovery plan (Service 2002a, p.164; A. Miller, pers. comm. 2009). | See CHU text | 1176996 456197 |

| CHU—CHSU | Water Body Name | State | Information Documenting Bull Trout Occupancy | Essential Habitat Rationale | LLID |
|---|---|---|---|---|---|
| Grande Ronde River–None | Dobbin Creek | OR | Dobbin Creek from the confluence with the Little Minam River upstream 5.2 km (3.2 mi) provides spawning and rearing habitat (Buchanan et al. 1997, pp. 106, 113; P. Sankovich, pers. comm., 2008 and T. Bailey, pers. comm. 2008). | See CHU text | 1176543 452590 |
| Grande Ronde River–None | East Fork Butte Creek | WA | East Fork Butte Creek from its confluence with Butte Creek upstream 1.6 km (1.0 mi) provides spawning and rearing habitat. Bull trout have been documented in the lower section (Mendel et al. 2008). WDFW conducted one-pass electrofishing in 2006, and documented bull trout in 3 of the 3 surveyed sites in the lower mile of East Fork Butte Creek (WDFW, 2010). | See CHU text | 1177217 460637 |
| Grande Ronde River–None | East Fork Elk Creek | OR | East Fork Elk Creek from the confluence with Elk Creek upstream 0.5 km (0.3 mi) provides spawning and rearing habitat (Buchanan et al. 1997, pp. 106, 111; Service 2002a, pp.20-22; A. Miller,, pers. comm. 2009). | See CHU text | 1174701 451657 |
| Grande Ronde River–None | East Fork Indian Creek | OR | East Fork Indian Creek from the confluence with Indian Creek upstream contains spawning and rearing habitat for a distance of 3.1 km (1.9 mi) (P. Boehne, pers. comm. 2009; Buchanan et al. 1997). | See CHU text | 1177493 453684 |
| Grande Ronde River–None | East Fork Wallowa River | OR | East Fork Wallowa River from the confluence with the Wallowa River at the head of the lake upstream from Wallowa Lake 1.1 km (0.7 mi) to a waterfall provides occupied spawning and rearing habitat. | See CHU text | 1172120 452737 |
| Grande Ronde River–None | East Fork Sheep Creek | OR | East Fork Sheep Creek from its confluence with Sheep Creek upstream 4.8 km (3 mi) provides potential spawning and rearing habitat. Currently unoccupied, this reach has the potential to provide essential spawning and rearing habitat for bull trout (P. Boehne, pers. comm. 2009). East Fork Sheep Creek is identified in the recovery plan (Recovery Task 5.2.3) as an area to potentially expand bull trout distribution necessary to achieve conservation and recovery in the draft recovery plan (Service 2002a, p.43). | See CHU text | 1184751 450257 |
| Grande Ronde River–None | Elk Creek | OR | Elk Creek from the confluence with the Minam River upstream 2.6 km (1.6 mi) provides spawning and rearing habitat (Buchanan et al. 1997; Service 2002a, pp.20-22; A. Miller, USFS, pers. comm. 2009). | See CHU text | 1174603 451779 |

| CHU—CHSU | Water Body Name | State | Information Documenting Bull Trout Occupancy | Essential Habitat Rationale | LLID |
|---|---|---|---|---|---|
| Grande Ronde River–None | Fiddlers Hell Creek | OR | Fiddlers Hell Creek from its confluence with Middle Fork Five Points Creek upstream 1.4 km (0.9 mi) is potential spawning and rearing habitat. Currently unoccupied, this reach has the potential to provide essential spawning and rearing habitat for bull trout. This short reach flows into Five Points Creek and provides equally high quality habitat with potential to support expanded bull trout habitat necessary for conservation and recovery (P. Boehne, pers. comm. 2009). | See CHU text | 1181597 454275 |
| Grande Ronde River–None | First Creek | WA | First Creek from its confluence with the Crooked Creek upstream 2.2 km (1.4 mi) is currently unoccupied, but has the potential to provide essential foraging, migratory, and overwintering habitat for bull trout (Buchanan et al. 1997, p. 107, 111; G. Mendel, pers. comm. 2009; P. Sankovich, pers. comm. 2009). | See CHU text | 1175710 460351 |
| Grande Ronde River–None | Five Points Creek | OR | Five Points Creek from its confluence with the Grande Ronde River upstream 3.1 km (1.9 mi) provides unoccupied potential FMO habitat and potential spawning and rearing habitat continues upstream 18.9 km (11.7 mi) above the FMO reach. Habitat and water temperatures are suitable for bull trout. This reach provides essential foraging, migratory, and overwintering habitat in the lower portion, and spawning and rearing habitat in the upper portion. An isolated bull trout sighting was made in Lower Five Points Creek on USFS lands. Five Points Creek is identified in the draft recovery plan (Recovery Task 5.2.3) as a potential area to expand bull trout distribution necessary to achieve conservation and recovery. (Buchanan, et al.1997, p. 110; Service 2002a, p. 43; Paul Boehne, USFS, pers. comm. 2009). | See CHU text | 1182220 453464.1 |
| Grande Ronde River–None | Fly Creek | OR | Fly Creek from its confluence with the Grande Ronde River upstream 13.5 km (8.4 mi) to Lookout Creek provides FMO habitat for bull trout that spawn and rear in Lookout Creek. This reach provides foraging, migratory, and overwintering habitat for bull trout which spawn and rear in Lookout Creek, a tributary to Fly Creek (Buchanan et al. 1997, pp.104, 105; J. Zakel, pers. comm. 2006; P. Boehne, pers. comm. 2009). | See CHU text | 1183950 452096 |

| CHU—CHSU | Water Body Name | State | Information Documenting Bull Trout Occupancy | Essential Habitat Rationale | LLID |
|---|---|---|---|---|---|
| Grande Ronde River–None | Goat Creek | OR | Goat Creek from its confluence with the Bear Creek upstream 1.7 km (1.1 mi) provides spawning and rearing habitat for both resident and fluvial bull trout. Total number of bull trout redds observed in this stream from the mouth to approximately 0.9 miles upstream to an impassable falls has ranged from 3-9 redds in survey years 1999-2008. In 2008, four total redds were documented in Goat Creek. Except in 2008, this stream has had more redds documented than a larger reach of stream surveyed annually on Bear Creek. Goat Creek is a cold perennial stream that is critical to the Bear Creek bull trout population. (Buchanan et al. 1997, p.106; Sausen 2009, p.41, G. Sausen, pers. comm. 2009). | See CHU text | 1175379 454181 |
| Grande Ronde River–None | Grande Ronde River | OR | Grande Ronde River extending from its confluence with the Snake River upstream 267.2 km (166 mi) to Meadow Brook Creek, including the state ditch provides key FMO habitat for sub-adult and adult fluvial bull trout and is an important migratory corridor. It is the primary artery that supports and links ten local populations in the Grande Ronde River and Wallowa River basins. The Upper Grande Ronde River from the junction with Meadow Brook Creek upstream 18.5 km (11.5 mi) is utilized as spawning and rearing habitat. (Buchanan et al. 1997, p. 105-107; P. Boehne, pers. comm. 2009). | See CHU text | 1169845 460718 |

| CHU—CHSU | Water Body Name | State | Information Documenting Bull Trout Occupancy | Essential Habitat Rationale | LLID |
|---|---|---|---|---|---|
| Grande Ronde River–None | Hurricane Creek | OR | Hurricane Creek from its confluence with the Wallowa River upstream 14 km (8.7 mi) to Slick Rock Creek supports a local population; bull trout spawn and rear in the upper 8.0 km (5.0 mi) and utilize the lower portion as FMO habitat. Fluvial fish are present in Hurricane Creek in the lower section. However, miles 3.0 7.0 are not included as critical habitat due to irrigation withdrawals upstream where the stream channel is dewatered. Resident bull trout occur above the Consolidated–Moonshine Ditch diversion dam. The upper distribution of resident spawning and rearing bull trout is from the ditch to below Slick Rock Falls. Howell reported that genetic sampling in 2003 in Hurricane Creek documented numerous brook trout and apparent hybrids and sampled only 25 fish after 4 days of sampling. Genetic analysis underway will indicate how many of these fish are hybrids. The Hurricane Creek population appears to be small and potentially substantially hybridized. In addition, electrofishing data on Hurricane Creek for bull trout collected by ODFW in 2002, suggests a population of approximately 200 bull trout, 300 brook trout, and 150 hybrids above the natural barrier cascade (Buchanan et al. 1997, pp. 106, 113; Service 2002a, pp.27-28, Service 2008a, p.8). | See CHU text | 1173021 454196 |
| Grande Ronde River–None | Indian Creek | OR | Indian Creek from the confluence with the Grande Ronde River 32.6 km (20.3 mi) upstream and includes three tributary streams (Camp, East Fork and North Fork Indian creeks). Indian Creek supports a bull trout local population with spawning and rearing occurring in the upper 15.2 km (9.5 mi) portion of Indian Creek and the identified reaches of Camp Creek, East Fork, and North Fork Indian Creek. The lower section (below the USFS boundary) of Indian Creek provides FMO habitat for fluvial bull trout and a connection to the Grande Ronde River for a distance of 17.7 km (11 mi) (P. Boehne, pers. comm. 2009; T. Bailey, pers. comm. 2008). | See CHU text | 1179201 455342 |

| CHU—CHSU | Water Body Name | State | Information Documenting Bull Trout Occupancy | Essential Habitat Rationale | LLID |
|---|---|---|---|---|---|
| Grande Ronde River–None | Indiana Creek | OR | Indiana Creek from its mouth at Chicken Creek upstream 3.5 km (2.1 mi) provides spawning and rearing habitat. There is a large culvert near the mouth that is a passage barrier, bull trout are located upstream (Buchanan et al. 1997, pp. 105, 110; P. Sankovich, pers. comm. 2009; P. Boehne, pers. comm. 2009). | See CHU text | 1183863 450237 |
| Grande Ronde River–None | Lake Creek | OR | Lake Creek from its confluence with the Lostine River 1.2 km (0.7 mi) provides spawning and rearing habitat (Buchanan et al. 1997, p.106; G. Sausen, pers. comm.. 2009). | See CHU text | 1174103 453321 |
| Grande Ronde River–None | Limber Jim Creek | OR | Limber Jim Creek from its confluence with the Grande Ronde River upstream 13.1 km (8.1 mi) contains FMO habitat from the confluence upstream for 7.4 km (4.6 mi) and spawning and rearing habitat upstream 5.7 km (3.5 mi) of the FMO reach to the headwaters. The lower portion of Limber Jim Creek provides FMO habitat up to a potentially impassable falls, and occupied spawning and rearing habitat occurs above the falls (Buchanan et al. 1997, pp.105, 110; P. Sankovich,, pers. comm. 2009; P. Boehne, pers. comm. 2009). | See CHU text | 1183437 450889 |
| Grande Ronde River–None | Little Bear Creek | OR | Little Bear Creek FMO habitat extends 3.9 km (2.4 mi) from the confluence of Bear Creek and spawning and rearing habitat continues for 6.9 km (4.3 mi) above the FMO reach. Little Bear Creek is identified in the draft recovery plan (Recovery Task 5.2.3) as an area to potentially expand bull trout distribution necessary to achieve conservation and recovery (Buchanan et al. 1997, p.106; Service 2002a, pp.109, 116-117; A. Miller, pers. comm. 2009). | See CHU text | 1175553 454853 |
| Grande Ronde River–None | Little Fly Creek | OR | Little Fly Creek from its confluence with Fly Creek upstream 1.6 km (1 mi) is spawning and rearing habitat and connects to Fly and Lookout creeks. | See CHU text | 1184665 451210 |
| Grande Ronde River–None | Little Lookingglass Creek | OR | Little Lookingglass Creek, a tributary to Lookingglass Creek, provides FMO habitat for 5.4 km (3.4 mi) to the National Forest boundary and spawning and rearing (and FMO) habitat for 4.2 km (2.6 mi) from the National Forest boundary to the confluence with Buzzard Creek (Buchanan et al. 1997, pp.105, 111; D. Crabtree, pers. comm. 2009). | See CHU text | 1178748 457499 |

| CHU—CHSU | Water Body Name | State | Information Documenting Bull Trout Occupancy | Essential Habitat Rationale | LLID |
|---|---|---|---|---|---|
| Grande Ronde River–None | Lookingglass Creek | OR | Lookingglass Creek from its confluence with the Grande Ronde River upstream 24.1 km (15.0 mi) to a barrier falls provides FMO habitat for a total distance of 19.8 km (12.3 mi) and spawning and rearing habitat for a total distance of 4.6 km (2.8 mi) to the headwaters. The Lookingglass Creek system supports a local population and bull trout spawn and rear throughout the identified stream reaches. Lower portions of Lookingglass Creek also provide probable foraging habitat for fluvial fish and a migratory connection to the Grande Ronde River. Fifty eight total redds on Lookingglass were reported in 2008, in four miles of stream, with the majority of redds documented in the upper two reaches. There appears to be a slight downward trend in redd counts in recent years. (Buchanan et al. 1997, pp. 105, 110, 111; Bellerud, et al, 1997, pp. 37-48; D. Crabtree, pers. comm. 2008, 2009). | See CHU text | 1178423 457068 |
| Grande Ronde River–None | Lookout Creek | OR | Lookout Creek from its confluence with Fly Creek upstream 6.9 km (4.3 mi) to approximately 0.6 km (1 mi) above USFS Road 5160 is spawning and rearing habitat. Bull trout have been observed in Lookout Creek. Future verification of the upper distribution boundary of SR habitat is recommended by the USFS. (P. Boehne, pers. comm. 2009; J. Zakel, pers. comm. 2006). | See CHU text | 1184763 451094 |

| CHU—CHSU | Water Body Name | State | Information Documenting Bull Trout Occupancy | Essential Habitat Rationale | LLID |
|---|---|---|---|---|---|
| Grande Ronde River–None | Lostine River | OR | Lostine River from its confluence with the Wallowa River upstream for 40.4 km (25.1 mi) to the mouth of the East Lostine River provides habitat for fluvial and resident fish. Bull trout spawning and rearing habitat is 15.1 km (9.4 mi) upstream of the Lostine River Bridge to the headwaters upstream of Shady campground. The Lostine River downstream of Lostine River Ranch is utilized as FMO habitat. Migration studies on fluvial bull trout tagged in the Lostine River reported migration within the river and movement into the Wallowa River and Grande Ronde River to near the town of Elgin, Oregon. Bull trout redd surveys in the fall of 2008 found 53 total redds for 10.1 miles of index survey between RM 9.4 and RM 24.5 of the Lostine River. Fluvial size redds were the dominant redd size recorded during the spawning surveys. Mean redd area (m2) ranged from 0.9-1.3 in 2002a-2008 for the Lostine River. Migration studies on fluvial size bull trout tagged in the Lostine reported migration within the Lostine to spawning habitat and overwintering habitat, and movement into the Wallowa River and Grande Ronde to near the town of Elgin (several miles of movement). Hybridization with brook trout appears to be occurring. Genetic samples have been taken but have not been reported to date and in 2008 bull trout and potential brook trout hybrids were observed on the spawning grounds. The Nez Perce Tribe has expressed concerns with the number of potential bull trout hybrids they have caught at their weir located on the Lostine River near the confluence with the Wallowa River. (P. Howell, pers. comm. 2005; Sausen 2009, pp.8, 13, 20; Buchanan et al. 1997, p.106; Service 2002a, pp.23-25; G. Sausen, pers. comm. 2009). | See CHU text | 1174900 455521 |
| Grande Ronde River–None | Marion Creek | OR | Marion Creek at the confluence with Limber Jim Creek to the headwaters upstream 3.4 km (2.1 mi) to its junction with Limber Jim Creek provides spawning and rearing habitat for bull trout (P. Boehne, pers. comm. 2009). | See CHU text | 1182669 451055 |

| CHU—CHSU | Water Body Name | State | Information Documenting Bull Trout Occupancy | Essential Habitat Rationale | LLID |
|---|---|---|---|---|---|
| Grande Ronde River–None | Menatchee Creek | WA | Menatchee Creek from the confluence with the Grande Ronde River upstream 15.3 km (9.5 mi) to the headwaters provides FMO habitat for bull trout. Historical data indicate bull trout presence in this stream. Currently, bull trout have not been confirmed. Menatchee Creek was sampled with one pass electrofishing by WDFW and USFS personnel and no bull trout were found in 14 sites surveyed in 2007. (Buchanan et al. 1997, pp. 107; Service 2002a, pp.35-36; Mendel, in litt., 2008, Mendel et al. 2008, pp.22-35, 2010). | See CHU text | 1173643 460072 |
| Grande Ronde River–None | Middle Fork Catherine Creek | OR | Middle Fork Catherine Creek from its junction with North Fork Catherine Creek upstream 4.3 km (2.7 mi) to the confluence with Squaw Creek provides spawning and rearing habitat (Service 2002a, pp.17-19; Buchanan et al. 1997, p. 105; P. Boehne, pers. comm. 2009). | See CHU text | 1176174 451521 |
| Grande Ronde River–None | Middle Fork Five Points Creek | OR | Middle Fork Five Point Creek from its confluence with Five Point Creek upstream 2.7 km (1.7 mi) is unoccupied FMO habitat. This reach has the potential to provide essential spawning and rearing habitat; it flows into Five Points Creek and provides equally high quality habitat with potential to support expanded bull trout distribution essential for conservation and recovery (P. Boehne, pers. comm. 2009). | See CHU text | 1181439 454813 |
| Grande Ronde River–None | Milk Creek | OR | Milk Creek from its mouth at the South Fork Wenaha River upstream 5.2 km (3.2 mi) provides spawning and rearing habitat (Buchanan et al. 1997, pp. 107, 111; G. Mendel, pers. comm. 2009; P. Sankovich, pers. comm. 2009). | See CHU text | 1178825 459132 |

| CHU—CHSU | Water Body Name | State | Information Documenting Bull Trout Occupancy | Essential Habitat Rationale | LLID |
|---|---|---|---|---|---|
| Grande Ronde River–None | Minam River | OR | Minam River from the confluence with the Wallowa River upstream 72.9 km (35.3 mi) and extending up the North Minam River supports a bull trout local population with spawning and rearing habitat occurring in the tributary streams (Elk and East Fork Elk creeks)and the upper 55 km (34.2 mi) of the Minam River. Lower sections of the Minam River are utilized as FMO habitat for a distance of 18.7 km (11.6 mi). Bull trout have been observed throughout the mainstem and migratory fluvial fish and resident fish are present. The status of bull trout in the Minam River is "low risk of extinction." Minam River has had surveys conducted by ODFW in past years, with limited documentation of bull trout numbers observed (Service 2002a, pp.20-22; Buchanan et al. 1997, pp.106, 111, 116; Service 2008a, p.12). | See CHU text | 1177211 456214 |
| Grande Ronde River–None | Mount Emily Creek | OR | Mount Emily Creek from its confluence with Middle Fork Five Points Creek upstream 2.1 km (1.3 mi) is potential spawning and rearing habitat. Currently unoccupied, this reach has the potential to provide essential spawning and rearing habitat for bull trout. This short reach connects to Five Points Creek (Recovery Task 5.2.3) and provides high quality habitat with potential to support expanded bull trout distribution necessary for conservation and recovery (P. Boehne, pers. comm. 2009). | See CHU text | 1181474 454732 |
| Grande Ronde River–None | North Fork Catherine Creek | OR | North Fork Catherine Creek from its mouth at Catherine Creek upstream a distance of 14 km (8.7 mi) provides spawning and rearing habitat. ODFW surveyed 1.3 miles of bull trout spawning habitat on North Fork Catherine Creek from 1998 to 2006. Bull trout redds were highest in 1998 with 19 redds and dropped to a low of 2 redds in 2006. (Service 2002a, pp.17-19; Service 2008a, pp. Buchanan et al. 1997, p. 105; T. Bailey, pers. comm.2008; P. Boehne, , pers. comm. 2009). | See CHU text | 1176472 451197 |
| Grande Ronde River–None | North Fork Indian Creek | OR | North Fork Indian Creek from the confluence with Indian Creek upstream 1.4 km (0.9 mi) provides FMO habitat (above and below a waterfall) and spawning and rearing habitat continues upstream for an additional 5.1 km (3.1 mi) above the FMO reach (P. Boehne, pers. comm. 2009). | See CHU text | 1178201 454333 |

| CHU—CHSU | Water Body Name | State | Information Documenting Bull Trout Occupancy | Essential Habitat Rationale | LLID |
|---|---|---|---|---|---|
| Grande Ronde River–None | North Fork Wenaha River | OR and WA | North Fork Wenaha River from its junction with the Wenaha River upstream 18.8 km (11.7 mi) provides spawning and rearing habitat. Recent information is available regarding the relative abundance of bull trout in northern tributaries of the Wenaha River within Washington State. The North Fork Wenaha River within Washington has bull trout redd counts of 82, 86 (both partial counts) in 2006 and 2007 respectively, and 153 redds in 2005. WDFW conducted one pass electrofishing at 10 sites in 2005 from the state line upstream about 5 miles to a small falls and bull trout were documented for each site surveyed, and in general, multiple age classes of bull trout were reported for each site. In 2006 WDFW electro-fished six sites upstream of the falls and documented bull trout in each site up to the forks of the North Fork Wenaha. Bull trout and redds were observed upstream of the forks in 2006 by WDFW.(Buchanan et al. 1997, pp. 107, 111; Mendel in litt., 2008; G. Mendel, pers. comm. 2009; P. Sankovich, pers. comm. 2009; Mendel et al. 2008, pp. 68-73 and 76-84, WDFW, 2010). | See CHU text | 1177950 459508 |
| Grande Ronde River–None | North Minam River | OR | North Minam River from the confluence with the Minam River for 2.1 km (1.3 mi) provides spawning and rearing habitat (Buchanan et al. 1997, Service 2002a, pp.20-22; A. Miller, pers. comm. 2009). | See CHU text | 1175368 452725 |
| Grande Ronde River–None | Pole Creek | OR | Pole Creek from its mouth at South Fork Catherine Creek upstream 3.9 km (2.4 mi) to its headwaters provides spawning and rearing habitat (P. Boehne, pers. comm. 2009; Buchanan et al. 1997, p. 105). | See CHU text | 1175604 451070 |
| Grande Ronde River–None | Sage Creek | OR | Sage Creek from the confluence of Deer Creek 2.8 km (1.7 mi) upstream is identified as an area to potentially expand bull trout spawning and rearing distribution necessary to achieve conservation and recovery. A culvert at the mouth is currently a fish passage barrier. The U.S. Forest Service is fixing this culvert to restore bull trout connectivity in Sage Creek in 2010 (A. Miller, pers. comm. 2009; Service 2002a, p.43; Service 2002a, p.20). | See CHU text | 1176074 455005 |

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|---|---|---|---|---|---|
| Grande Ronde River–None | Sand Pass Creek | OR | Sand Pass Creek from its mouth at South Fork Catherine Creek upstream 2.9 km (1.8 mi) to its headwaters provides spawning and rearing habitat (P. Boehne, pers. comm. 2009; Buchanan et al. 1997, p.105). | See CHU text | 1175518 451080 |
| Grande Ronde River–None | Sheep Creek | OR | Sheep Creek from its confluence with the Grande Ronde River provides FMO habitat upstream for 11.3 km (7 mi) and fluvial bull trout utilize 3.9 km (2.4 mi) of spawning and rearing habitat above the FMO reach. Currently unoccupied, this reach has the potential to provide essential foraging, migratory and overwintering habitat in the lower portion and suitable spawning and rearing habitat in the upper portion (P. Boehne, pers. comm. 2009). Sheep Creek is identified in the draft recovery plan (Recovery Task 5.2.3) as an area to potentially expand bull trout distribution essential to achieve conservation and recovery (Service 2002a, p.43). | See CHU text | 1183818 451047 |
| Grande Ronde River–None | Silver Creek | OR | Silver Creek from its confluence with the Lostine River upstream 0.5 km (0.3 mi) to Hunter Falls provides spawning and rearing habitat (Buchanan et al. 1997, p.106; A. Miller, pers. comm. 2009). | See CHU text | 1174277 453958 |
| Grande Ronde River–None | South Fork Catherine Creek | OR | South Fork Catherine Creek from its junction with Catherine Creek upstream 10.7 km (6.7 mi) provides spawning and rearing habitat (Service 2002a, pp.17-19; P. Boehne, pers. comm. 2009, B. Lovatt, pers. comm. 2009; Buchanan et al. 1997, p. 105). | See CHU text | 1176472 451196 |
| Grande Ronde River–None | South Fork Wenaha River | OR | South Fork Wenaha River from its junction with the Wenaha River upstream 13.1 km (8.1 mi) provides spawning and rearing habitat (Buchanan et al. 1997, pp. 107, 111; G. Mendel, pers. comm. 2009; P. Sankovich, pers. comm. 2009). | See CHU text | 1177950 459507 |
| Grande Ronde River–None | Summer Creek | OR | Summer Creek from the confluence of Lookingglass Creek upstream 0.6 km (0.4 mi) provides spawning and rearing habitat for bull trout (D. Crabtree, pers. comm. 2009). | See CHU text | 1179828 457664 |

| CHU—CHSU | Water Body Name | State | Information Documenting Bull Trout Occupancy | Essential Habitat Rationale | LLID |
|---|---|---|---|---|---|
| Grande Ronde River–None | Third Creek | WA | Third Creek from its confluence with the Crooked Creek upstream 5.3 km (3.3 mi) to the confluence with Trout Creek is currently unoccupied, but has the potential to provide essential foraging, migratory, and overwintering habitat for bull trout (Buchanan et al. 1997: p. 107, 111; G. Mendel, pers. comm. 2009). | See CHU text | 1176238 460458 |
| Grande Ronde River–None | Tie Creek | OR | Tie Creek from its confluence with Middle Fork Five Points Creek upstream 0.9 km (0.5 mi) is potential spawning and rearing habitat. Currently unoccupied, this reach has the potential to provide essential spawning and rearing habitat for bull trout. This short reach flows into Five Points Creek and provides equally high quality habitat with potential to support expanded bull trout distribution necessary for conservation and recovery (P. Boehne, pers. comm. 2009). | See CHU text | 1181587 454227 |
| Grande Ronde River–None | Trout Creek | WA | Trout Creek from the confluence with Third Creek upstream to approximately 3.2 km (2.0 mi) upstream is currently unoccupied, but has the potential to provide essential foraging, migratory, and overwintering habitat for bull trout (Buchanan et al. 1997: p. 107, 111; G. Mendel, pers. comm. 2009). | See CHU text | 1176271 460887 |

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|---|---|---|---|---|---|
| Grande Ronde River–None | Wallowa River | OR | Wallowa River from the confluence with the Grande Ronde River upstream for 80.4 km (50 mi) to the dam at Wallowa Lake provides FMO habitat for sub-adult and adult fluvial bull trout and is an essential migratory corridor for movement from upper watershed spawning streams to the Grande Ronde River. Fluvial fish that spawn in the Lostine, Deer, Minam, Bear, and upper Hurricane Rivers use the Wallowa River to move to and from FMO habitat in the Grande Ronde and Snake Rivers (Service 2002a, p. 24; Buchanan et al. 1997, p.106). Current bull trout use in the Wallowa River from Hurricane Creek confluence upstream to Wallowa Lake is largely unknown. The dam currently lacks upstream passage for fish at Wallowa Lake and unscreened diversions below the dam currently provide limited habitat conditions and connectivity for bull trout in this section of the Wallowa River. In the future, if passage is provided for fish at Wallowa Lake (the Nez Perce Tribe and BPA have a proposal to reintroduce sockeye), then this section of the Wallowa River will likely be utilized by bull trout as FMO habitat. | See CHU text | 1177853 457255 |
| Grande Ronde River–None | Wallowa River | OR | Wallowa River from the head of Wallowa Lake continues upstream 1.5 km (0.9 mi) as spawning and rearing habitat. Historically, bull trout were present in the Wallowa River above Wallowa Lake, however, this population is believed to have been extirpated by the 1950's (Buchanan et al. 1997, p. 110). Although a reintroduction program using bull trout and Dolly Varden (Salvelinus malma) from Alaska was initiated in 1968, this program was not successful and was terminated in 1978. No bull trout or Dolly Varden was captured in the Wallowa Lake fishery between 1980 and 1996. In 1997, 600 bull trout from Big Sheep Creek, a tributary to the Imnaha River, were introduced into Wallowa River above Wallowa Lake. These fish were salvaged because a hydroelectric diversion in the Big Sheep drainage (Imnaha River Subbasin) was being decommissioned (Service 2002a, pp.35). Recent creel counts and 2002 snorkel counts indicate that bull trout are present (G. Sausen, pers. comm., 2009). | See CHU text | 1177853 457255 |

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|---|---|---|---|---|---|
| Grande Ronde River–None | Wallowa Lake | OR | Wallowa Lake from the ordinary high water mark provides a surface area of 605 ha (1,496 ac) FMO habitat. | See CHU text | 1172095 453100 |
| Grande Ronde River–None | Wenaha River | OR | Wenaha River from its confluence with the Grande Ronde River upstream 35 km (21.7 mi) to the junction of the North Fork and South Fork Wenaha River is critical habitat. Collectively, the Wenaha River and its tributaries support three bull trout populations, which is about one-third of the populations within in the Grande Ronde basin. The Wenaha River system is the basin's stronghold. The lower 16 km (10 mi) of the Wenaha River near the confluence with Beaver Creek provide FMO habitat for fluvial bull trout and a migratory connection to the Grande Ronde River. Spawning and rearing has been documented in the upper Wenaha and in South Fork Wenaha, Milk Creek, North Fork Wenaha, Beaver Creek, Butte Creek, and West Fork Butte Creek. All other tributaries named are documented FMO habitat for bull trout (Buchanan et al. 1997, pp.107, 111; Mendel in litt., 2008; G. Mendel, pers. comm. 2009; P. Sankovich, pers. comm. 2009). | See CHU text | 1174512 459454 |
| Grande Ronde River–None | West Fork Butte Creek | WA | West Fork Butte Creek from the confluence with Butte Creek upstream 4.2 km (2.6 mi) to the confluence with Rainbow Creek provides spawning and rearing habitat. Recent surveys in 2005 and 2006, were conducted from Rainbow Creek to East Fork Butte Creek, where redd distribution differed substantially between the upper and lower sections in both years. Total redds documented in 2005 were 23; the upper section had 16 redds in 2005 but only 2 redds in 2006. The lower section had 7 redds in 2005, and 30 redds in 2006. WDFW conducted one pass electrofishing in 2006, and documented bull trout in all six sites surveyed between East Fork and Preacher Creek. (Buchanan et al. 1997, pp. 107, 111;Mendel in litt., 2008; G. Mendel, pers. comm. 2009; P. Sankovich, pers. comm. 2009; Mendel et al. 2008, 74-75 and 84-87, WDFW, 2010). | See CHU text | 1177221 460632 |
| Grande Ronde River–None | West Fork Wallowa River | OR | West Fork Wallowa River from the confluence with the Wallowa River at the head of the lake upstream from Wallowa Lake 0.9 km (0.6 mi) to a waterfall provides occupied spawning and rearing habitat. | See CHU text | 1172120 452736 |

| CHU—CHSU | Water Body Name | State | Information Documenting Bull Trout Occupancy | Essential Habitat Rationale | LLID |
|---|---|---|---|---|---|
| Grande Ronde River–None | Unnamed Tributary to Clear Creek | OR | Unnamed tributary from the confluence with Clear Creek upstream provides 2.2 km (1.4 mi) FMO habitat and spawning and rearing habitat upstream of the FMO reach for 2.5 km (1.6 mi) (P. Boehne, pers. comm. 2009). | See CHU text | 1183298 450133 |
| Grande Ronde River–None | Little Minam River | OR | Little Minam River from its confluence with the Minam River upstream 24.1 km (15 mi) contains an isolated, resident bull trout local population above the barrier falls in portions of the Little Minam River, Boulder Creek, and Dobbin Creek. This reach provides foraging, migratory, and overwintering habitat in the lower portion as well as spawning and rearing habitat in the upper portion. The 8.1 km (5 mi) stretch of the Little Minam River below the barrier falls is critical habitat because of the presence of bull trout in this reach, high water quality, and the potential importance that emigrants from the Little Minam local population / core area may provide to other downstream populations. All of the Little Minam River and its tributaries are within the Eagle Cap Wilderness Area. Tributaries include Boulder and Dobbin creeks. Currently a resident population exists above a barrier falls at RKM 8 (RM 4.9). This resident population does not experience immigration of bull trout from other areas in the Grande Ronde River. The foraging, migratory, and overwintering designation of this stream is included due to the presence of bull trout in this reach, high water quality, and the potential importance emigrants from the Little Minam Core Area may provide to other essential populations (Buchanan et al. 1997, pp. 106, 112, 113; Service 2002a, pp. 32-35; P. Sankovich, pers. comm., 2008 and T. Bailey, pers. comm. 2008). | See CHU text | 1176719 454005 |