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WAITSBURG LEVEE REHABILITATION ASSISTANCE PROJECT

Federal Natural Resources Law Compliance and Biological Assessment

ADMINISTRATIVE RECORD – DO NOT DESTROY

FILE NUMBER: PM-EC-2017-0074

March 2018

SUMMARY

This biological assessment (BA) is prepared pursuant to section 7(a)(2) of the Endangered Species Act (ESA) to evaluate effects of the proposed Waitsburg Levee Rehabilitation Assistance Project, on listed species under the jurisdiction of the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS).

The Corps concludes that the project “may affect, and is likely to adversely affect” Middle Columbia River steelhead and Columbia River DPS bull trout. The Corps has also determined that the proposed project would result in no take of species listed under the Migratory Bird Treaty Act (MBTA), no disturbance or take under the Bald and Golden Eagle Protection Act (BGEPA), and no effects on essential fish habitat (EFH) pursuant to section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA).

If additional information regarding this document is required, please contact John Hook, Environmental Resource Specialist in the Environmental Compliance Section of the U.S. Army Corps of Engineers, Walla Walla District, at (509) 527-7239, or by email at john.d.hook@usace.army.mil. Other correspondence can be mailed to:

John Hook
U.S. Army Corps of Engineers Walla Walla District
201 North Third Ave.
Walla Walla, WA 99362

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John Hook
Biologist/Preparer
U.S. Army Corps of Engineers
Walla Walla District
Environmental Compliance Section

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Ben Tice
Biologist/Reviewer
U.S. Army Corps of Engineers
Walla Walla District
Environmental Compliance Section

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BA	Biological Assessment
BGEPA	Bald and Golden Eagle Protection Act
BO	Biological Opinion
Corps	Walla Walla District, U.S. Army Corps of Engineers
DPS	Distinct Population Segment
EFH	Essential Fish Habitat
ESA	Endangered Species Act of 1973, as amended
FCRPS	Federal Columbia River Power System
FR	Federal Register
FWCA	Fish and Wildlife Coordination Act
HUC	Hydrologic Unit Code
MBTA	Migratory Bird Treaty Act
MPI	Matrix of Pathway Indicators
MSA	Magnuson-Stevens Fishery Conservation and Management Act
NMFS	National Marine Fisheries Service
OHWM	Ordinary High Water Mark
PBF	Physical and Biological Features
RM	River Mile
RPA	Reasonable and Prudent Alternative
USFWS	U.S. Fish and Wildlife Service

1. Federal Action

1.1. INTRODUCTION

The U.S. Army Corps of Engineers Walla Walla District (Corps) proposes to repair the levee along the Touchet River in Waitsburg, Washington. The levee was damaged during a high water event during the 2017 flood season.

The Touchet River near Waitsburg experienced a significant flood event during the 2017 flood season. The flood peak that caused erosion damage to the Waitsburg Left Bank Levee Segment was not recorded or measured. Flows on the Touchet River have not been recorded since 1993. Many basins near the Touchet River experienced floods greater than a 10-year average annual flood event during the 2017 flood season.

During these higher than normal flood events, high stream velocities often cause levee damage from erosion of the revetment protecting the levee. The location where erosion is occurring is where the river is impinging the levee. The 2017 damages were the result of erosion extending downstream from the main impingement area, to the tie-in point where the levee meets high ground. If repairs are not done, more erosion of the levee will occur and ultimately lead to a levee breach. It has been estimated that an event as small as a 50-year flood could cause enough erosion that it would lead to a levee breach. Whereas, if the levee were repaired to its original design the levee at this location could withstand nearly a 200-year flood event.

1.2. BACKGROUND INFORMATION

The City of Waitsburg (City) has a population of about 1,300, and occupies approximately one square mile on the Touchet River's floodplain between river miles 45 and 43. The City is surrounded by farming and other agricultural activities in southeastern Washington and is bounded on the north and northeast by the Touchet River and on the south and southwest by Coppei Creek (Figure 1).

The Touchet River is a large tributary of the Walla Walla River (hydrologic unit code 17070102) in southeastern Washington, with headwaters in the Blue Mountains. It is approximately 85 miles in length and drains an area of approximately 740 square miles. The Touchet River drains into the Walla Walla River west of the town of Touchet, Washington. The Walla Walla River drains into the Columbia River approximately 21 miles upstream of McNary Lock and Dam. Main tributaries of the Touchet River include the North Fork Touchet River, the South Fork Touchet River, Patit Creek, Coppei Creek, and Whetstone Creek (Figure 2).

Figure 1. Project location in Waitsburg, Washington.

The US Army Corps of Engineers (Corps) constructed an authorized levee on the Touchet River both upstream and downstream of the City's Main Street Bridge. The levee has been operated and maintained by the City. The federal authorized levee has been reconstructed and rehabilitated multiple times since its construction in 1951.

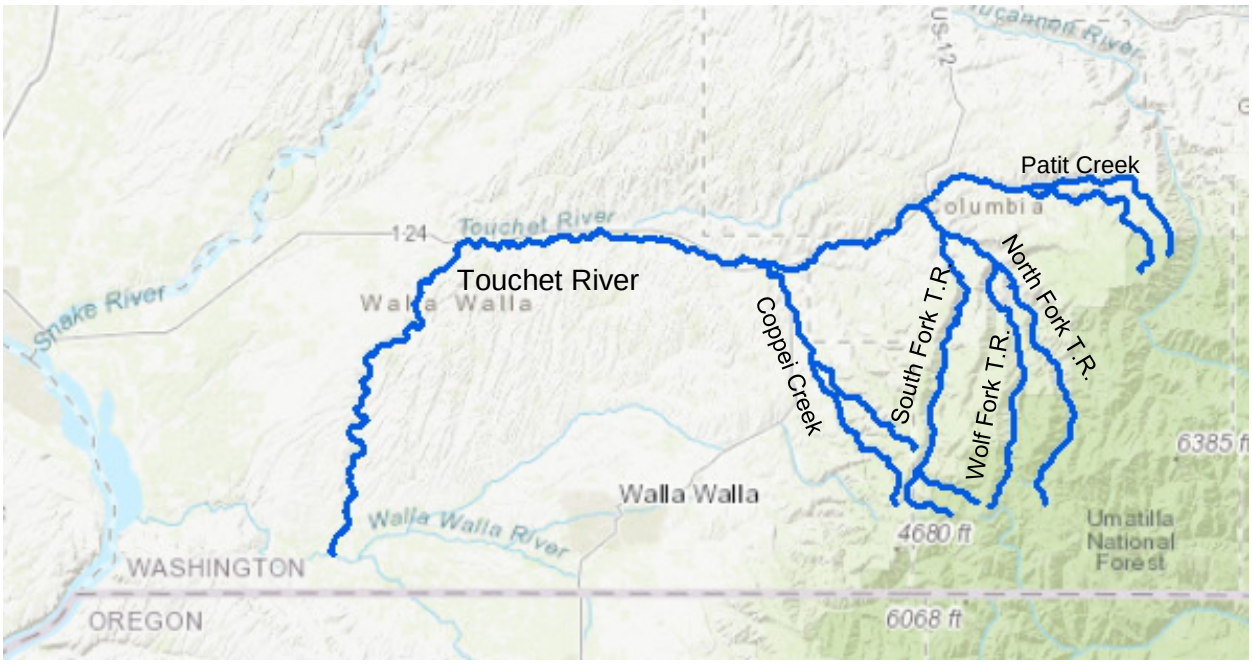

Figure 2. The Touchet River.

The City and the surrounding area have repeatedly incurred damages due to flooding on the Touchet River and Coppei Creek. The Touchet River has peak flows in the spring from snowmelt and low flows in the summer and fall. However, the area has had reoccurring major winter flood events resulting from winter storms, combined with rapid snowmelt and frozen ground. Significant recorded floods occurred in 1906, 1931, 1949, 1964, 1972, and 1996 on the Touchet River. The maximum flood of record on the Touchet River at Waitsburg occurred in December 1964, with a peak discharge of 9,350 cubic feet per second (cfs). A similar level flood occurred in February 1996 with an estimated discharge of 9,300 cfs.

During the last flood (1996), the Touchet River and Coppei Creek levees were overtopped at several locations. The Touchet River over flowed the banks approximately one mile upstream of the City near Whiskey Creek and the old Millrace Channel. Touchet River flood waters spread out across the valley and over-land flows entered and flooded the east side of the City. Within the City, the Touchet River overtopped levees near the Prescott Avenue Bridge (east HWY 12 Bridge), along the City Park, and downstream of the Main Street Bridge (Amonette 2009). The southwest side of the City did not flood during the 1996 flood event due to intensive flood fight efforts by the City of Waitsburg, the Walla Walla County and the Corps.

The flood inundated over 75% of Waitsburg, destroyed homes, damaged public infrastructure, blocked highways, isolated residents from access to critical services, and damaged the sewage treatment facilities. Damages to both private and public property during the 1996 flood were extensive, with a total estimated damage exceeding $13 million reported by the State of Washington, Recreation and Conservation Office.

Due to the devastation from the 1996 flood, the City of Waitsburg and the surrounding areas of Walla Walla County were declared a State and a Federal Emergency. The Corps conducted preplanning and flood fight assistance under the Flood Control and Coastal Emergency Act (PL84-99) and received funds from FEMA to accelerate the repair the federal levee in preparation for high flows during the spring freshet. PL 84-99 also authorizes the Corps to restore a flood protection system to its pre-disaster status if damaged by a flood event.

Following the high water event in 2017, a silt bluff developed along the 35 feet immediately upstream of the levee tie-in point (Figure 3). The silt bluff is a result of an impingement upstream of the levee that creates scouring flows and is expected to continue to advance inland if not repaired or armored. As erosion at the silt bluff continues it is expected to exacerbate erosion at the end of the levee. It is estimated that as little as a 50-year flood event could lead to failure of the levee at this point and cause flooding throughout the City.


Figure 3. Silt bluff upstream of the levee tie in point.

1.3. PURPOSE AND NEED

The purpose of the proposed action is to rehabilitate the levee along the Touchet River in the city of Waitsburg. The project is needed due to damage suffered during flooding in 2017. Without repair to the levee, the City is at risk of significant flood damage.

1.4. SITE DESCRIPTION

The site is located approximately 800 feet upstream of the Highway 12 Bridge in Waitsburg, Washington (Figure 4). It is on the left bank of the Touchet River, at the upstream end of the levee, where it ties into high ground.

The tie-in is located where there are relict wood pilings for an abandoned railroad bridge abutment. The only remaining evidence of the bridge is three pilings exposed on the slope. The bridge was demolished after the 1996 floods caused damage.

The bluff extends along the back yard of a residence on Willard Street. The eroded bluff is approximately 19 feet in height, with 15 feet of fill over native soils. The native soils appear to be clayey enough that they are relatively erosion resistant. The overlying fill, however, is highly erodible. Erosive conditions at the impingement cause

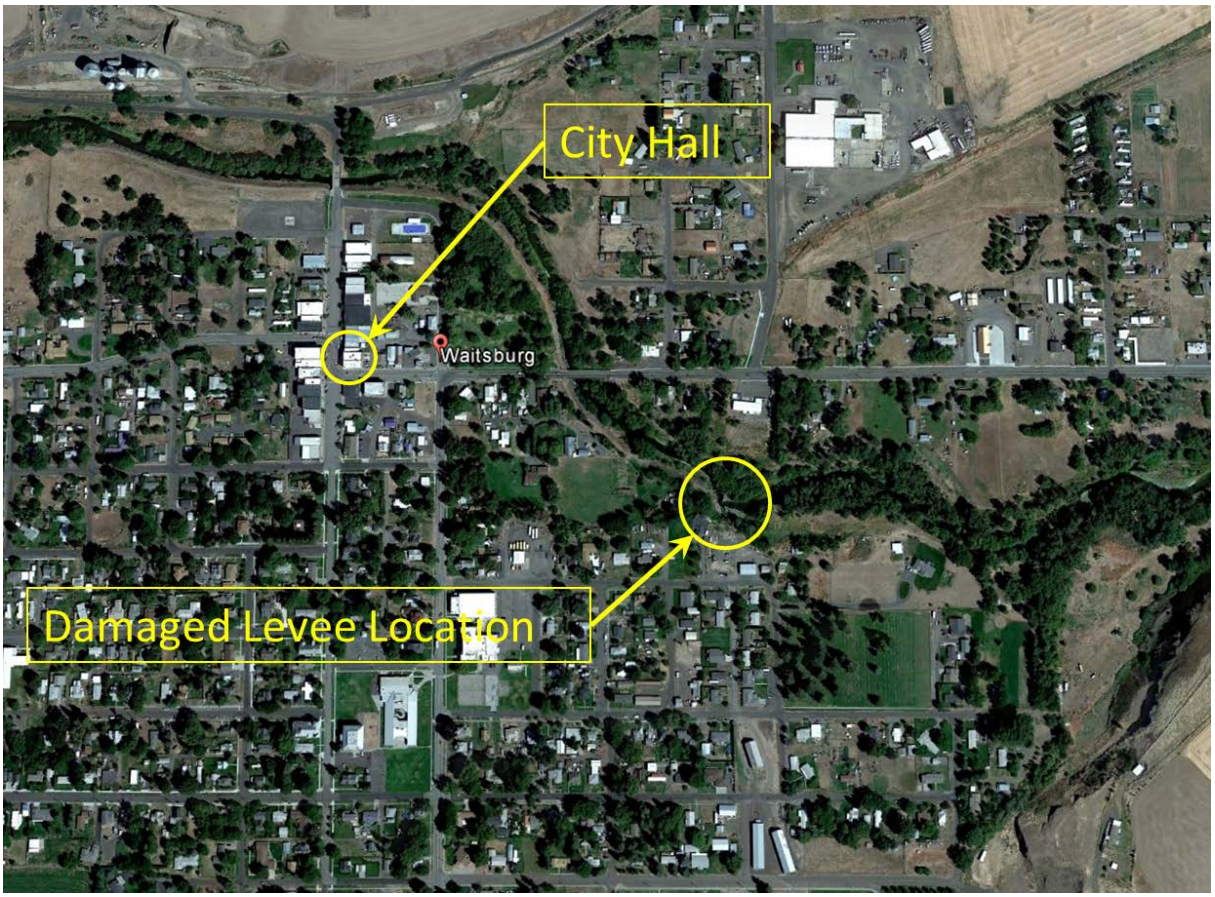

Figure 4. The project location in Waitsburg, Washington.

undermining of the fill. The fill sloughs, leaving the tall vertical scarp with 15 feet of fill exposed over 4 feet of native loess soils.

It should be noted that the eroded bluff is completely upstream of the levee. The impingement site is causing riverbank erosion that is intruding into the back yard of a private residence and the eroded bluff is not being evaluated or considered for repairs.

1.5. DESCRIPTION OF THE PROPOSED ACTION

The Corps proposes to construct a riprap buttress at the upstream end of the levee to armor and protect the levee tie-in point. Equipment to be used could include an excavator, dump trucks, cranes, or similar machinery. To construct the buttress the levee would be excavated and the bench surface on top of the levee would be extended upstream to provide a stable surface to stage excavation machinery. Once a work platform was stabilized, the levee would be excavated to approximately 20 feet back from its current slope. A toe wall would be constructed at the base of the levee and large riprap would be placed to construct a robust revetment at the tie in point of the levee. The riprap would then be filled with smaller rock and sand, and the original contours of the levee restored. The levee surface would then be reseeded.

To minimize any further impingement of the river at high flows, the riprap buttress would not extend into the river. Riprap would be scavenged if available, but it is expected that riprap will need to be brought in from off site. Imported riprap would be clean quarry rock up to 4 foot in width. Construction work would be performed from the top of the levee or from the yard located behind the levee. Construction equipment would be staged at a secured area in Waitsburg, not along the Touchet River. Material excavated from the levee would be trucked to an offsite disposal location.

1.6. PROJECT TIMELINE

All work would be conducted during the normal in-water work window of July 15 to August 15, 2018. The work is expected to take 4 weeks to complete.

1.7. PROPOSED CONSERVATION MEASURES

The Corps proposes the following conservation measures as part of the proposed action.

1. All heavy equipment (i.e., crane and excavator, dump trucks) will access the project site via existing roadways, parking areas, the top of the levee, and disturbed upland areas.

2. A Pollution Control Plan (PCP) will be prepared by the Contractor and carried out commensurate with the scope of the project that includes the following:
    - BMPs to confine, remove, and dispose of construction waste.
    - Procedures to contain and control a spill of any hazardous material.
    - Steps to cease work under high flow conditions.

3. Only enough supplies and equipment to complete the project will be stored on site.

4. All equipment will be inspected daily for fluid leaks, any leaks detected will be repaired before operation is resumed.

5. Before operations begin, and as often as necessary during operation, all equipment that will be used below the OHWM will be steam cleaned until all visible oil, grease, mud, and other visible contaminates are removed.

6. Stationary power equipment operated within 150 feet of the Touchet River will be diapered to prevent leaks.

7. A sediment containment barrier or silt fence would be used to contain sediment within the proposed action area.

2. Listed Species

2.1. SPECIES LISTED FOR THE PROJECT AREA

The Corps reviewed the list of threatened and endangered species that pertain to the action area under the jurisdiction of the USFWS and NMFS on 15 February, 2018 [USFWS Ref# 01EOFW00-2018-SLI-0639 (Table 1)]. Yellow-billed cuckoo do not occur in the project area, and will not be affected by the proposed actions. As a result, they will not be discussed in detail.

Table 1. Federal Register (FR) notices for final rules that list threatened and endangered species or designate critical habitats.

Species	Listing Status and Reference	Critical Habitat
NMFS		
Steelhead (*Oncorhynchus mykiss*)		
Middle Columbia River DPS	T:01/05/06; 71 FR 834	Yes: 07/10/00; 65 FR 42422
USFWS		
Yellow-billed cuckoo (*Coccyzus americanus*)	T: 10/3/14; 79 FR 59991	No: 11/12/2014; 79 FR 67154
Columbia River Bull Trout (*Salvelinus confluentus*)		
Columbia River DPS	T: 06/10/98; 63 FR 31647	Yes: 09/02/05; 70 FR 56211; 10/18/10; 75 FR 63898

2.2. SPECIES STATUS

2.2.1 Middle Columbia River Steelhead

Listing History

Middle Columbia River steelhead were first listed as threatened on March 25, 1999 (64 FR 14517), and reaffirmed as threatened on January 5, 2006 (71 FR 834). Protective regulations were issued on June 28, 2005 (70 FR 37160), and critical habitat for this DPS was listed on September 5, 2005 (70 FR 52630).

Distribution

Middle Columbia River steelhead include all naturally spawning populations of steelhead in drainages upstream of the Wind River, Washington, and the Hood River, Oregon, up to, and including, the Yakima River, Washington. Major drainages in this DPS are the Deschutes, John Day, Umatilla, Walla Walla, Yakima, and Klickitat river systems (Figure 5). The Cascade Mountains form the western border of the plateau in both Oregon and Washington, while the Blue Mountains form the eastern edge. The southern border is marked by the divides that separate the upper Deschutes and John Day basins from the Oregon High Desert and drainages to the south. The Wenatchee Mountains and Palouse areas of eastern Washington border the Middle Columbia on the north (NMFS 2016).

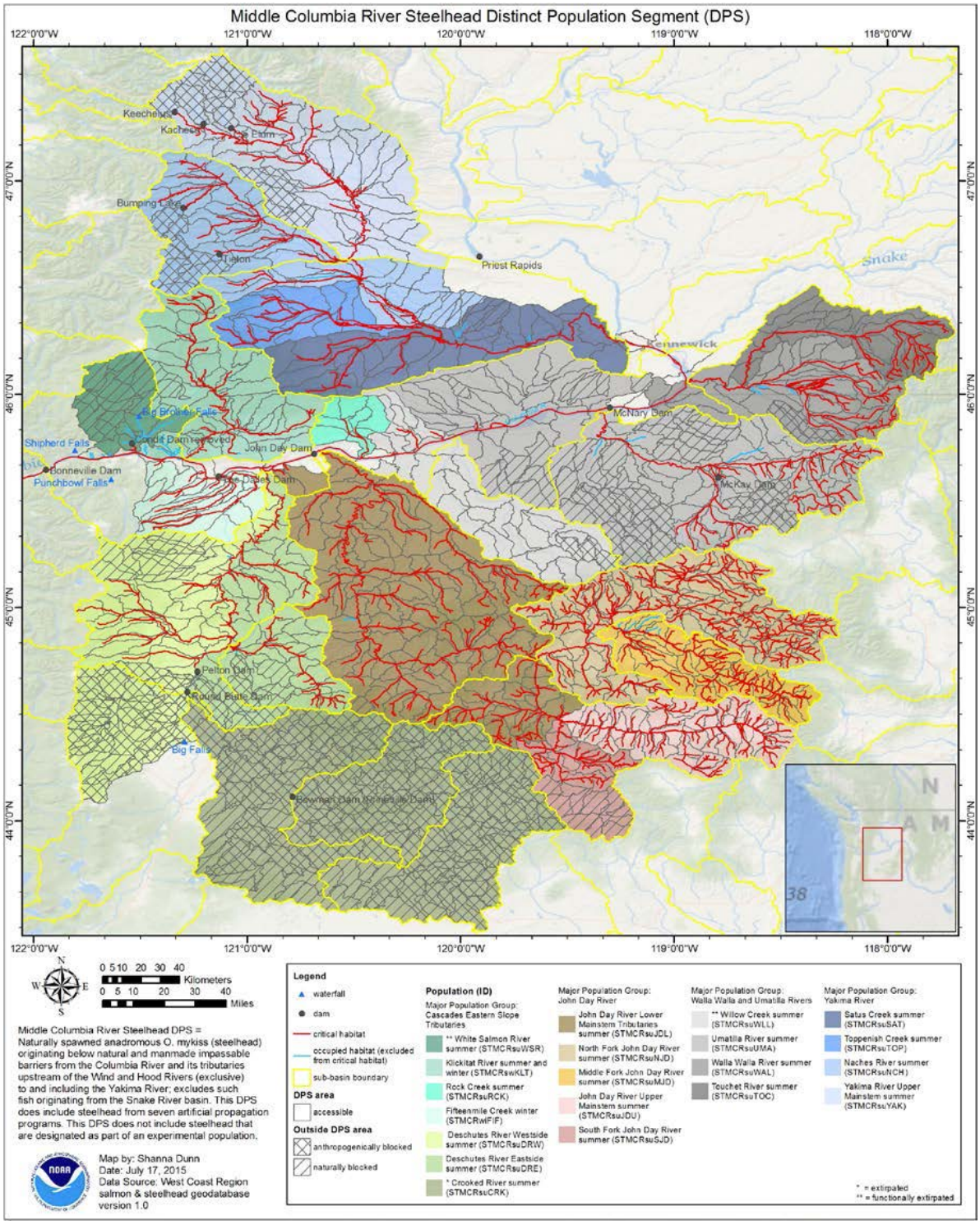

Figure 5. Middle Columbia River steelhead DPS distribution.

Life History/Biological Requirements

Steelhead exhibit one of the most complex groups of life history traits of any species of Pacific salmonid. These fish can be anadromous (migratory) or freshwater residents.

Steelhead can also spawn more than once (iteroparous), whereas most other anadromous salmonids spawn once and then die (semelparous).

Within the range of West Coast steelhead, spawning migrations occur throughout the year, with seasonal peaks of activity. Most steelhead can be categorized as one of two run types, based on their sexual maturity when they re-enter freshwater and how far they go to spawn. In the Columbia River, summer steelhead enter freshwater between May and October and require several months to mature before spawning; winter steelhead enter freshwater between November and April with well-developed gonads and spawn shortly thereafter. Winter steelhead are called ocean-maturing or coastal type, and summer steelhead, stream-maturing or inland type. The Middle Columbia River steelhead DPS includes the only populations of inland winter steelhead in the United States in the Klickitat River, White Salmon River, Fifteenmile Creek, and possibly Rock Creek.

Steelhead spawn in clear, cool streams with suitable gravel size, depth, and current velocity. Productive steelhead habitat is characterized by complexity, primarily in the form of large and small woody structure. Steelhead may enter streams and arrive at spawning grounds weeks or even months before they spawn and are therefore vulnerable to disturbance and predation. They need cover, in the form of overhanging vegetation, undercut banks, submerged vegetation, submerged objects such as logs and rocks, floating debris, deep water, turbulence, and turbidity.

Young steelhead typically rear in streams for some time before migrating to the ocean as smolts. Steelhead smolts have been shown to migrate at ages ranging from 1 to 5 years throughout the Columbia Basin, but most steelhead generally smolt after 2 years in freshwater (Busby et al. 1996). Most steelhead spend 2 years in the ocean before migrating back to their natal streams. Adults rarely eat or grow upon returning to freshwater.

Factors for Decline

All populations of Middle Columbia steelhead use the mainstem Columbia River to migrate to and from the ocean, and all are affected by the mainstem Federal dams, as well as by other forms of development that alter the river environment. Mainstem Columbia River conditions include impaired fish passage, altered water temperature and thermal refuges, and changes in mainstem nearshore habitat (NMFS 2009). In addition, changes in the Columbia River have altered the relationships between salmonids and other fish, bird, and pinniped species. Increases in competition with other fish species and predation from non-native fishes, birds, and pinnipeds continues to limit recovery of salmonid species in the Columbia River.

Current pressures on Upper Columbia River steelhead include loss of quality habitat, predation, poor ocean conditions and limited fishing pressure. The limited amount of suitable habitat available, caused by habitat degradation and passage barriers is the main factor limiting recovery.

Local Empirical Information

Middle Columbia River Basin steelhead utilize the project area primarily for migration habitat and limited spawning and rearing. In snorkel and electrofishing surveys conducted from 1998 to 2006, Washington Department of Fish and Wildlife found the largest quantities of juvenile steelhead in headwater areas upstream of the project area (Mendel et al, 2007). Juvenile steelhead were rarely encountered downstream of Waitsburg City Park, however small numbers of steelhead were encountered near or below the project area in 2000, 2001, and 2004.

Spawning surveys performed as part of the same monitoring project found the greatest concentration of steelhead redds in reaches above the main stem Touchet River. While redds were most commonly observed in the North, South, and Wolf forks of the Touchet River and in the North and South forks of Coppei Creek, 2001 surveys recorded 7 redds between the confluence of the North and South forks and Highway 12 in Waitsburg (Mendel et al., 2002). This proposed action area is immediately downstream of this reach. No recent surveys have documented redds at or below the action area.

Steelhead have also been regularly counted at McNary Dam since the dam's completion. Presently, fish counters count fish in real time and review video of hours when no counters are present at the dam. Although stocks are indiscriminately counted as "steelhead", Passive Integrated Transponder (PIT) tag passage information is presented for McNary Dam in Figure 6. A significant proportion (approximately 93%) of adult steelhead that pass McNary do so between July 1st and October 31st (Figure 6), and a large portion of these fish overwinter in Lake Wallula (Keefer et al. 2016).

Ten-year-average adult steelhead passage at McNary is approximately 226,264 fish passing in a given year, although many of these fish are not from the Middle Columbia River DPS. Five –year median daily PIT tag observations of out-migrating juvenile Middle Columbia River steelhead peak at 14 a day in May with the majority of juveniles passing April – June (Figure 6). Adult passage typically begins in April and continues October, although steelhead pass McNary in small numbers at all times of the year.

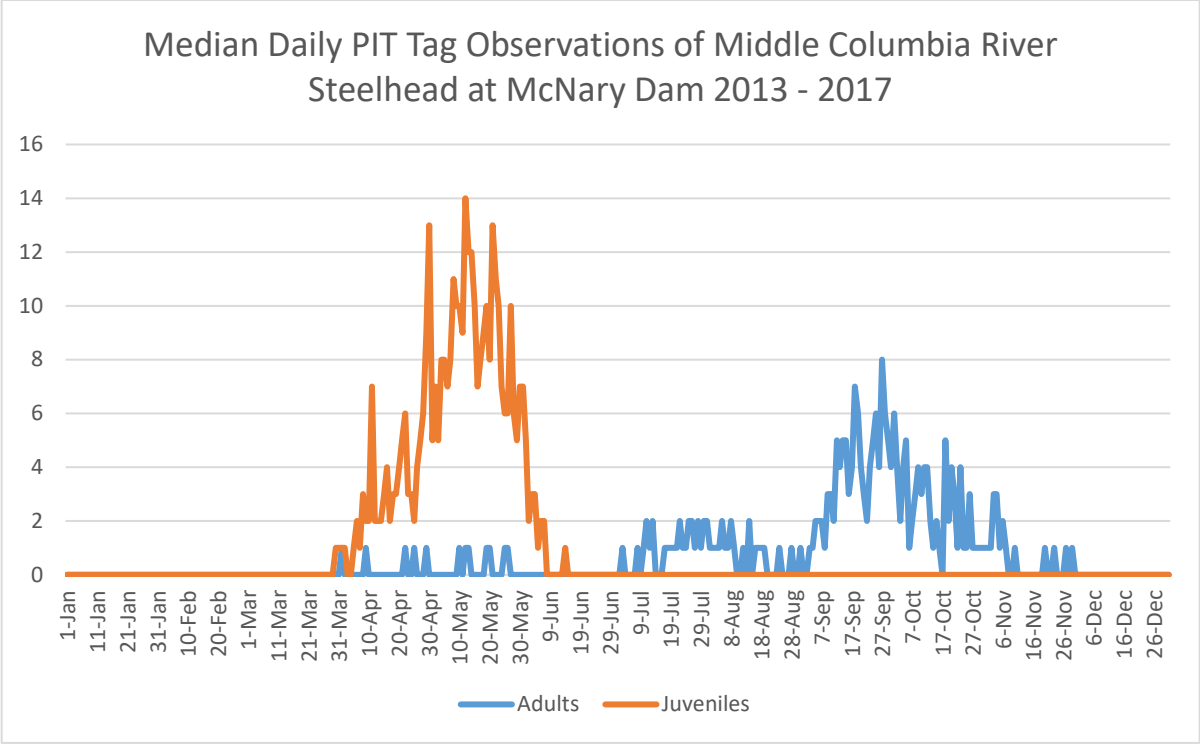

Figure 6. Passage timing and counts of adult and juvenile PIT-tagged Middle Columbia River steelhead passing McNary Dam (DART 2018).

Ongoing Monitoring

Passage of adult and juvenile steelhead is monitored at the Columbia and Snake River dams. There are also several other monitoring programs by other federal, state and tribal organizations throughout the watershed.

2.2.2 Bull Trout

Listing History

The USFWS issued a final rule listing the Columbia River population of bull trout as threatened on June 10, 1998 (63 FR 31647), while critical habitat for this species was listed on September 30, 2010. Bull trout are currently listed throughout their range in the United States as a threatened species.

Distribution

Historically, bull trout occupied much of the Columbia and Snake River Basins (USFWS 2015); however, they now occur in less than half of their historic range (Rieman et al. 1997). Populations remain in portions of Oregon, Washington, Idaho, Montana, and Nevada. Within the Lower Mid-Columbia Recovery Unit, bull trout occupy six core regions along the western Blue Mountains in Washington and Oregon (Figure 7). The Walla Walla River basin, which includes the Touchet River, holds the most abundant populations of bull trout in the Recovery Unit, primarily due to the quality of habitat in the

headwater spawning areas (USFW 2015). Most basins in the Recovery Unit support both a resident and fluvial population.

The mainstem Mid-Columbia River near the action area is classified as foraging, migrating, and overwintering habitat. Wydoski and Whitney (2003) noted that bull trout have occasionally been collected in the tail races of Priest Rapids and Wanapum Dams on the mainstem Columbia River. Anglin et al. (2010) reported that a PIT tagged bull trout from the Walla Walla River was detected in a fishway at Priest Rapids suggesting that the fluvial individuals may migrate hundreds of miles in a season. Bull trout are also known to pass over Lower Granite Dam in small numbers, peaking at 9 individuals in recent years (FPC 2015).

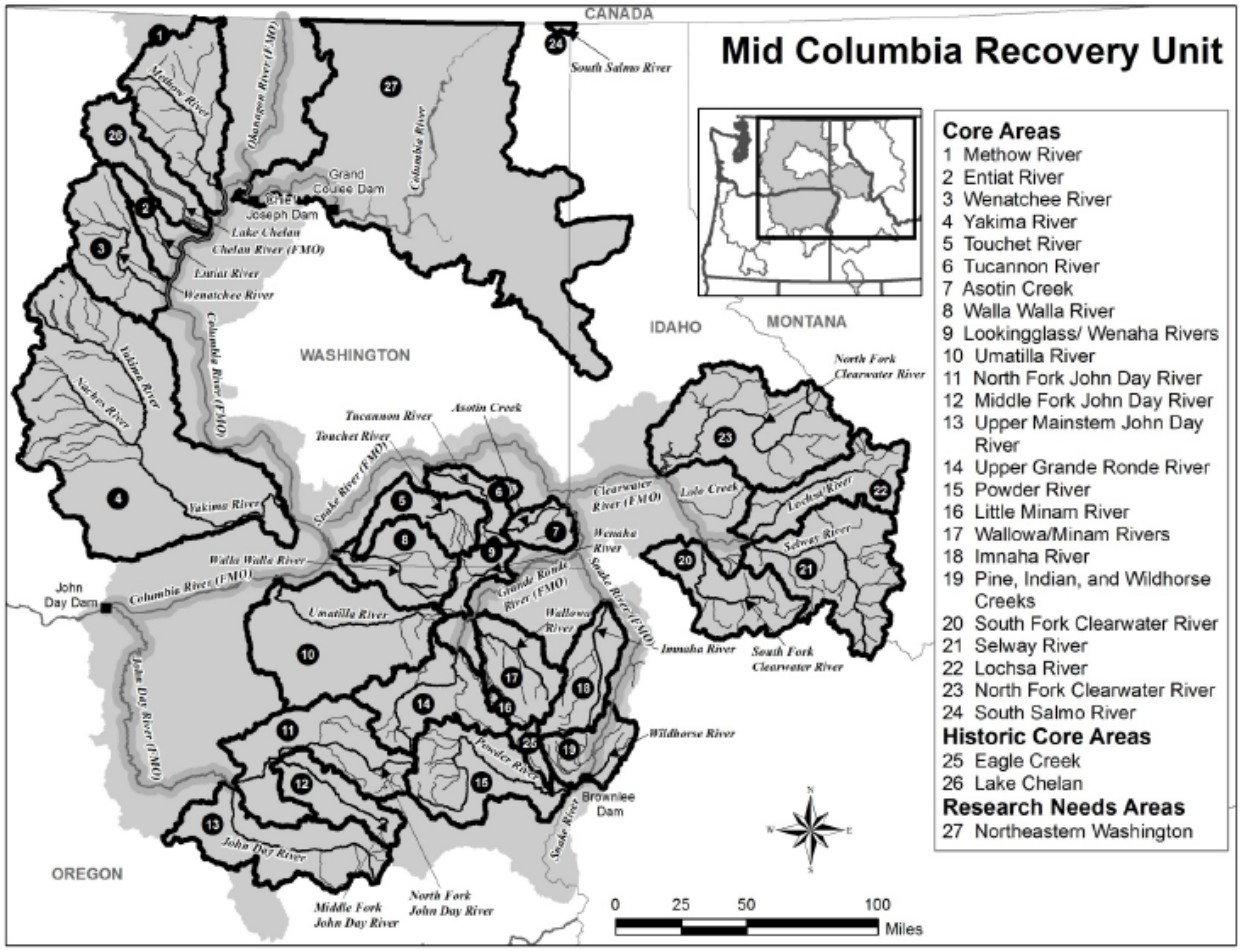

Figure 7. The Mid-Columbia Recovery Unit and Core Areas for bull trout (USFWS 2015).

Life History and Biological Requirements

Individual bull trout may exhibit resident or migratory life history strategies. Resident bull trout carry out their entire life cycle in the stream in which they spawn and rear. Migratory bull trout spawn in tributary streams, but eventually travel to larger streams (fluvial), lakes (adfluvial) or even the ocean as anadromous fish where they mature. Fluvial and resident bull trout are more likely to occupy the mainstem Touchet River

than adfluvial or anadromous individuals. In general, bull trout do not exhibit anadromous life histories on the frequency or magnitude of steelhead and salmon species. Therefore, it is unlikely that populations as far inland as the Touchet River would exhibit this behavior.

Bull trout have the most specific habitat requirements of any salmonid native to the Columbia River basin, typically referred to as “the four Cs” – Cold, Clean, Complex, and Connected habitats (Rieman and McIntyre 1993). Specifically, bull trout require colder water temperatures than other salmonids; clean stream substrates; complex stream channels with deep pools, overhanging banks, and suitable in-channel cover; and connectivity between spawning, rearing, and overwintering habitats (USFWS 2015).

Bull trout prefer cold water habitat. Spawning generally occurs in the coldest stream segments in a basin at water temperatures between 5 to 9 degrees Celsius (Goetz 1989). Optimal temperature for egg incubation is 2 to 4 degrees Celsius and 7 to 8 degrees Celsius for juvenile rearing, while 15 degrees Celsius is considered the thermal maximum for juvenile bull trout (Goetz 1989, Fraley and Shepard 1989, Rieman and McIntyre 1995, Dunham et al. 2003, McMahon et al. 2007). Wydoski and Whitney (2003) reported that all life history types of bull trout (anadromous, adfluvial, fluvial, and resident) require water temperatures below 15 degrees Celsius.

Bull trout normally reach maturity in four to seven years, typically live for 10 years, and may reach 20 years or more (McPhail and Baxter 1996, Al -Chokhachy and Budy 2008). They generally spawn from August to November during periods of decreasing water temperatures. Migratory bull trout may travel over 100 miles to their spawning grounds. Egg incubation is normally 100 to 145 days and fry remain in the substrate for several months.

Bull trout are opportunistic feeders. Their diet requirements vary depending on their size and life history strategy. Resident and juvenile bull trout prey on insects, zooplankton and small fish. Adult migratory bull trout mainly eat other fish.

Bull trout eggs are buried in gravel. Incubation lasts approximately 220 days in water that is ideally between 35.6 and 39.2°F (2 and 4°C) (Table 2). Fry take approximately 65-90 days to absorb their yolk sacs. In warmer water, juvenile growth rates are significantly reduced (McPhail and Baxter 1996). After depleting their yolk sacs, the fry will spend up to three weeks developing parr marks and actively feeding on benthic and drifting aquatic insects before inflating their air bladder. Bull trout fry are very closely associated with cover and the riverbed, and they almost never feed on terrestrial insects (McPhail and Baxter 1996). The fry emerge from the stream bed at approximately 25-28mm total length and will continue to hold close to the bottom while foraging for benthic invertebrates during their acclimation to their new world. Rearing juveniles use a benthic microhabitat of very low velocity water in which the fry can move about while avoiding swift currents (Fish 2004). Adult migratory bull trout are a freshwater piscivore, an apex predator, and an opportunistic feeder. At all life history stages, they need access to an adequate prey base, which for adults necessitates habitats accessible

through migratory corridors with suitable temperature, habitat complexity, and passage (USFWS 1998).

After 1 to 4 years in their natal stream, migratory smolt populations will travel downstream to the coast, a large river, or lake (depending on specific life history) to recruit to the adult stage. Adult individuals achieve sexual maturity at between four and seven years of age. Spawning is usually biennial, occurring only every other year or sometimes every three years, at which point the sexually mature adults fight the current back to the specific headwater in which they were produced to spawn. Several studies have shown a strong preference for spawning in small streams as opposed to larger rivers (Fish 2004).

Spawning begins when water temperatures drop below 48.2°F (9°C), typically 41-48.2°F (5-9°C) (Table 2). Spawning typically occurs between August and November. As with many salmonids, bull trout exhibit varying degrees of sexual dimorphism. Females do not exhibit significant changes during the spawn, but the males will develop bright red or orange sides and a kype (hooking of the lower jaw), although these distinctions vary from population to population (Fish 2004).

Bull trout are brood hiders, which means that their reproductive strategy is to hide their young from potential predators in the substrate (Breder and Rosen 1966). Once spawning commences the females will focus all of their time and energy into digging redds in the loose gravel substrate into which they will deposit their eggs. Bull trout prefer small gravel, usually digging their redds in areas dominated by substrate particles less than 20mm in diameter.

Redds can range in water depth from 10cm to over a meter, and range in size from less than a meter in diameter to over 2 meters (McPhail and Baxter 1996). While the females are digging redds, the males are trying to court the females while at the same time driving other competing males out of the area. Once the female is satisfied with her nest and her mate, she will release her eggs (up to 5,000) into the redd, closely followed by a male who will cover the eggs with his sperm. Once the eggs are fertilized, the female will sweep pebbles into the nest to cover the eggs by undulating her tail while keeping the caudle and anal fins in contact with the substrate.

Spawning seems to cease when water temperatures drop to about 41°F (5°C) (Allen 1987). Unlike salmon species, and like steelhead, bull trout have iteroparity (the ability to spawn multiple times), so after spawning the adults will drift back downstream to their winter homes. Spawning is thought to occur biannually due to the fact that the fish survive spawning and need a year or so to recover afterwards (Fish 2004).

Table 2. Bull trout general life history timing with associated temperatures.

Bull Trout	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Temp	Length	Lethal Limits
Upstream adult migration													10-12.2°C		22°C
Downstream Adult Migration															
Overwintering															
Adult spawning													4-14°C		
Egg incubation													1.2-5.4°C	100-220 days	
Alevin													3.9-4.4°C	60-90 days	
Fry emergence															
Juvenile rearing													3.9-10°C	1-4 years	21°C
Downstream juvenile migration													<12.2°C	At night	21°C

Factors for Decline

Bull trout are estimated to have occupied about 60 percent of the Columbia Basin and presently occur in only about 45 percent of their historic range. The decline of bull trout is primarily due to habitat degradation and fragmentation, blockage of migratory corridors, poor water quality, past fisheries management practices and the introduction of non-native species. Declining salmon and steelhead populations could also negatively impact bull trout populations by reducing the number of juvenile salmon and steelhead available to bull trout for prey.

Local Empirical Information

Bull trout may utilize the project area for migration and overwintering habitat. In snorkel and electrofishing surveys conducted from 1998 to 2006, Washington Department of Fish and Wildlife found the largest quantities of bull trout in headwater areas upstream of the project area (Mendel et al., 2007). The greatest quantities of bull trout were recorded in the headwaters of the Wolf Fork and the North Fork above Spangler Creek. One juvenile bull trout was recorded in the mainstem Touchet River, between the confluence of the North and South Forks and Coppei Creek, in 1998. No bull trout have been documented in the Touchet River at or below the project area.

Bull trout spawning surveys performed in the Touchet River basin have focused on reaches upstream of the proposed action area – the Wolf and North forks of the Touchet River, and the Burnt fork of the South Fork Touchet River. Redd counts from 1990 – 2006 ranged from 4 in 1997 to 101 in 2003 in the Wolf Fork, from 9 in 2006 9 to 47 in 2000 in the North Fork, and from 0 in 2003 to 16 in 2001 in the Burnt Fork (Mendel et al., 2007). No recent surveys have documented redds at or below the action area.

While documentation of bull trout in and below the proposed action area is lacking, recent studies have shown that Walla Walla River subbasin bull trout migration to, from, and through Lake Wallula above McNary Dam. Anglin et al. (2010) reported that bull trout dispersed into the mainstem Columbia River from the Walla Walla River, and at times, this dispersal included a relatively long migration upstream to Priest Rapids Dam and downstream to John Day Dam. This data suggests that migratory bull trout from the Walla Walla River subbasin may also utilize the lower Snake River as bull trout of unknown origin are occasionally documented in the Ice Harbor south shore fishway (Barrows et al. 2015). While there is clear evidence that migratory bull trout utilize the Middle Columbia River and interact with FCRPS dams, little is known about the number of bull trout migrating through the proposed project area in any given year.

Ongoing Monitoring

Fish passage including bull trout is monitored at Columbia and Lower Snake River dams between March and November, and for juveniles between April and October each year. Any bull trout observations are recorded, though few, if any, are generally seen in any year at McNary Dam.

2.3. STATUS OF CRITICAL HABITAT

2.3.1 Geographical Extent of Designated Critical Habitat

2.3.1.1 Middle Columbia River Steelhead

NMFS designated critical habitat for Middle Columbia River steelhead in the Upper Yakima, Naches, Lower Yakima, Middle Columbia/Lake Wallula, Walla Walla, Umatilla, Middle Columbia/Hood, Klickitat, Upper John Day, North Fork John Day, Middle Fork John Day, Lower John Day, Lower Deschutes, and Trout subbasins, and the Columbia River migration corridor (NMFS 2005) (Figure 9). Essential elements of Middle Columbia River steelhead critical habitat are found in Table 3.

2.3.1.2 Bull trout

Bull trout critical habitat was designated in 2005. The USFWS revised the designation in 2010. A final rule was published on October 18, 2010, and took effect on November 17, 2010. A total of 19,729 miles of stream and 488,251 acres of reservoirs and lakes are designated as bull trout critical habitat. The Snake, Columbia, Yakima, and Walla Walla Rivers, which encompass the project area, are designated as bull trout critical habitat (Figure 10). Physical and Biological Features (PBF) for bull trout critical habitat are listed in Table 4.

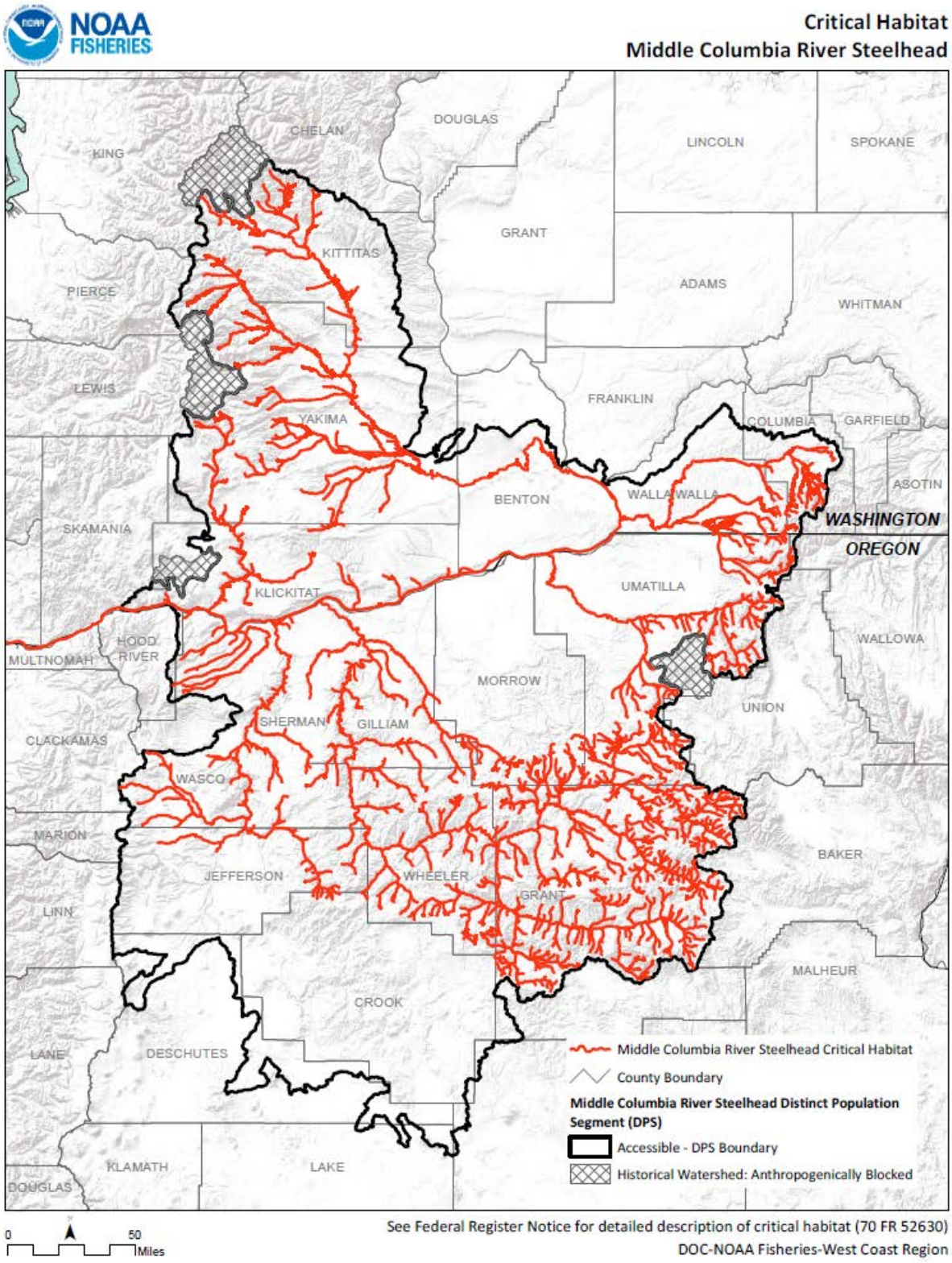

Figure 8. Middle Columbia steelhead Critical Habitat. Not pictured is the Columbia River migration corridor which extends to the estuary.

Table 3. Essential elements of critical habitat designated for Middle Columbia River steelhead.

Feature		Species Life History Event
Site Type	**Site Attribute**	
Freshwater spawning	Substrate Water quality Water quantity	Adult spawning Embryo incubation Alevin development
Freshwater rearing	Floodplain connectivity Forage Natural cover Water quality Water quantity	Fry emergence Fry/parr growth and development
Freshwater migration	Free of artificial obstructions Natural cover Water quality Water quantity	Adult sexual maturation Adult upstream migration, holding Kelt (steelhead) seaward migration Fry/parr seaward migration
Estuarine areas	Forage Free of obstruction Natural cover Salinity Water quality Water quantity	Adult sexual maturation Adult “reverse smoltification” Adult upstream migration, holding Kelt (steelhead) seaward migration Fry/parr seaward migration Fry/parr smoltification Smolt growth and development Smolt seaward migration
Nearshore marine areas	Forage Free of obstruction Natural cover Water quantity Water quality	Adult sexual maturation Smolt/adult transition
Offshore marine areas	Forage Water quality	Adult growth and development

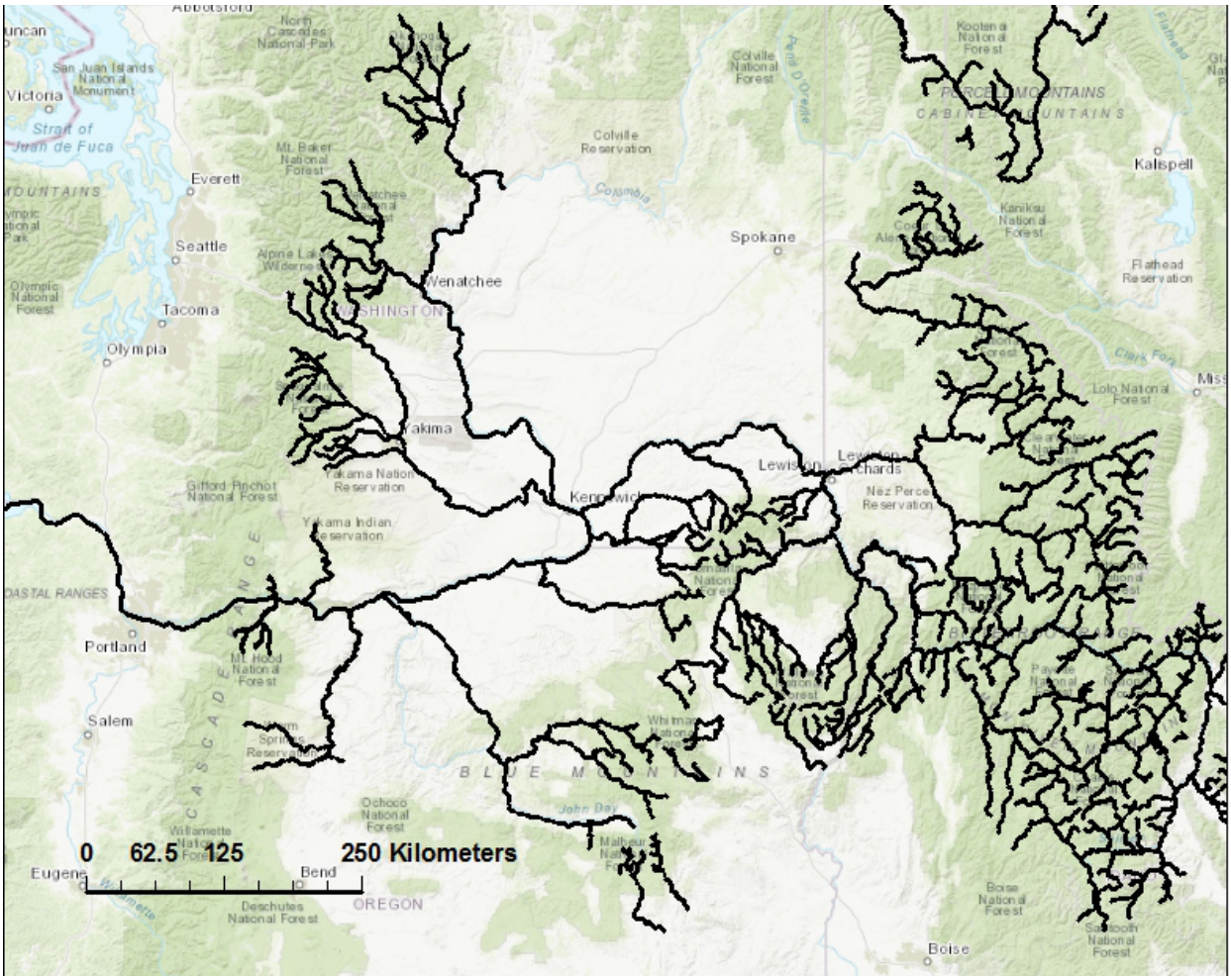

Figure 9. Bull trout critical habit near the action area.

Table 4. Physical and Biological Features of critical habitat designated for bull trout.

PBFs		
1	Water Quality	Springs, seeps, groundwater sources, and subsurface water connectivity (hyporehic flows) to contribute to water quality and quantity and provide thermal refugia.
2	Migration Habitat	Migration habitats with minimal physical, biological, or water quality impediments between spawning, rearing, overwintering, and freshwater and marine foraging habitats, including but not limited to permanent, partial, intermittent, or seasonal barriers.
3	Food Availability	An abundant food base, including terrestrial organisms of riparian origin, aquatic macroinvertebrates, and forage fish.
4	Instream Habitat	Complex river, stream, lake, reservoir, and marine shoreline aquatic environments, and processes that establish and maintain these environments, with features such as large wood, side channels, pools, undercut banks and clean substrates, to provide a variety of depths, gradients, velocities, and structure.
5	Water Temperature	Water temperatures ranging from 2 to 15 °C (36 to 59 °F), with adequate thermal refugia available for temperatures that exceed the upper end of this range. Specific temperatures within this range will depend on bull trout life-history stage and form; geography; elevation; diurnal and seasonal variation; shading, such as that provided by riparian habitat; streamflow; and local groundwater influence.
6	Substrate Characteristics	In spawning and rearing areas, substrate of sufficient amount, size, and composition to ensure success of egg and embryo overwinter survival, fry emergence, and young-of-the-year and juvenile survival. A minimal amount (e.g., less than 12 percent) of fine substrate less than 0.85 mm (0.03 in.) in diameter and minimal embeddedness of these fines in larger substrates are characteristic of these conditions.
7	Stream Flow	A natural hydrograph, including peak, high, low, and base flows within historic and seasonal ranges or, if flows are controlled, minimal flow departure from a natural hydrograph.
8	Water Quantity	Sufficient water quality and quantity such that normal reproduction, growth, and survival are not inhibited.
9	Nonnative Species	Sufficiently low levels of occurrence of nonnative predatory (e.g., lake trout, walleye, northern pike, smallmouth bass); interbreeding (e.g., brook trout); or competing (e.g., brown trout) species that, if present, are adequately temporally and spatially isolated from bull trout.

3. Environmental Baseline

This section is an analysis of the effects of past and ongoing human and natural factors leading to the current status of the species, its habitat (including designated critical habitat), and ecosystem within the action area. The environmental baseline is a "snapshot" of a species' health at a specified point in time. It does not include the effects of the action under review in the consultation.

The baseline includes State, tribal, local, and private actions already affecting the species or that will occur contemporaneously with the consultation in progress. Unrelated Federal actions affecting the same species or critical habitat that have completed formal or informal consultation are also part of the environmental baseline, as are Federal and other actions within the action area that may benefit listed species or critical habitat.

3.1. HISTORIC CONDITIONS

The Touchet River near the action area has been impacted by multiple anthropogenic factors in the past century. River channels in the basin have been straightened to reduce flooding and erosion. The hydrograph has been altered due to irrigation withdrawals. Dams, diversions, and weirs have been placed at several locations within the basin. (Narum et al. 2004)

3.2. CURRENT CONDITIONS

Currently, the Touchet River near the action area is contained by the levee project. It passes through the community of Waitsburg at the proposed action area. The shoreline is heavily developed locally and the river passes through multiple yards and a city park.

3.3. MATRIX OF PATHWAYS AND INDICATORS

NMFS uses the "Matrix of Pathways and Indicators" (MPI) to summarize important environmental parameters and levels of condition for each. USFWS adopted a similar strategy in 1997 based on NMFS' matrix. The NMFS matrix is divided into six overall pathways (major rows in the matrix):

- Water Quality
- Channel Condition and Dynamics
- Habitat Access
- Flow/Hydrology
- Habitat Elements
- Watershed Conditions

Each represents a significant pathway by which actions can have potential effects on anadromous salmonids and their habitats, and could be used for analyzing bull trout habitat as well.

There has not been an on-site evaluation of current habitat indicators using the MPI within the action area for this project; however, after review of the description of the

proposed action, and using the matrix to determine if the potential impacts of the proposed action, the Corps has determined that the proposed action will not restore or degrade the function of habitat indicators of the environmental baseline, but will maintain existing baseline conditions within the action area (Table 5). For the purposes of the MPI checklist, "maintain" means that the function of an indicator does not change (i.e., it applies to all indicators regardless of functional level). Each indicator will be discussed in the following section.

3.4. BASELINE CONDITION JUSTIFICATION

3.4.1 Water Quality

The *Temperature* parameter is “not properly functioning”. The main stem Touchet River at the project area averages 21.3 °C during the proposed work window (WDOE 2018). This project would have no effect on river temperatures.

The *Sediment* parameter is “not properly functioning”. The Touchet River near the proposed action area is characterized by finer benthic particle sizes and reduced abundance of sediment intolerant macroinvertebrates than observed at upstream locations or at regional reference sites (Wiseman et al., 2010).

The *Chemical Contaminants/Nutrients* parameter is “at risk”. Runoff from impervious surfaces in the Waitsburg area and farmland along the Touchet River from Dayton down may represent a source of nutrient loading of chemical contaminants. This project would have no effect on contaminant or nutrient levels.

3.4.2 Habitat Access

The *Physical Barriers* parameter is “properly functioning” within the Touchet River. There are no physicals barriers near the proposed action area. This project would have no effect on physical barriers for either upriver migrating adults, downriver migrating juveniles.

3.4.3 Habitat Elements

The *Substrate* parameter is “not properly functioning”. Substrates within the project area are impaired by fine sediments.

The *Large Woody Debris* parameter is “not properly functioning”. Land use patterns and flood control levees have reduced the woody debris available to the Touchet River. A 2009 assessment found an extremely low value of 12 pieces of large woody debris per mile in the Touchet River near the proposed action area (Amonette 2009). This project would have no effect of deposition of large woody debris.

Table 5. Checklist for Documenting Environmental Baseline and Effects of Proposed Action on Relevant Anadromous Salmonid Habitat Indicators.

Pathways	**Environmental Baseline**			**Effects of the Action**		
Indicators	Properly Functioning	At Risk	Not Properly Functioning	Restore	Maintain	Degrade
Water Quality						
Temperature			X		X	
Sediment			X		X	
Chemical Contamination or Nutrient Enrichment		X			X	
Habitat Access						
Physical Barriers	X				X	
Habitat Elements						
Substrate			X		X	
Large Woody Debris			X		X	
Pool Frequency\			X		X	
Pool Quality			X		X	
Off-Channel Habitat			X		X	
Refugia			X		X	
Channel Condition and Dynamics						
Width:Depth Ratio			X		X	
Streambank Condition		X			X	
Floodplain Connectivity			X		X	
Flow and Hydrology						
Peak/Base Flows		X			X	
Drainage Network Increase		X			X	
Watershed Conditions						
Road Density and Location		X			X	
Disturbance History			X		X	
Riparian Reserves			X		X	

The *Pool Frequency* parameter is “not properly functioning”. Channel stabilization, increased sediment loads, and lack of large woody debris limit pool formation and frequency in the Touchet River (Amonette 2009). This project would have no effect on pool frequency.

The *Pool Quality* parameter is “not properly functioning”. Elevated sediment loads and lack of large woody debris impair pool quality in the Touchet River. This project would have no effect on the pool quality of the river.

The *Off-Channel Habitat* parameter is “not properly functioning”. Levees in the action area limit off channel habitats in the Touchet River. This project would have no effect on available off-channel habitat in the river.

The *Refugia* parameter is “not properly functioning”. Refugia sources such as large woody debris and deep pools are limited in the Touchet River. This project would have no effect on the available refugia in the river.

3.4.4 Channel Condition and Dynamics

The *Width to Depth Ratio* parameter is “not properly functioning”. High sediment loads and channel migration within the levees have widened and reduced depths in the Touchet River (Amonette 2009). This project would have no effect on the river’s width to depth ratio.

The *Streambank Condition* parameter is “at risk”. There are areas of erosion sporadically along the shoreline. Generally, only a thin band of riparian vegetation exists along the river as the natural riparian and floodplain has been overtaken by anthropogenic land uses. This project would have no effect on streambank condition.

The *Floodplain Connectivity* parameter is “not properly functioning”. Levees were constructed to confine the river, not allowing the river access to the floodplain. This project would have no effect on the river’s floodplain connectivity.

3.4.5 Flow and Hydrology

The *Peak/Base Flows* parameter is “at risk”. Summer flows in the Touchet River are reduced by withdrawals, but peak spring flows are likely unaffected. The hydrograph has been modified from its historic condition. This project would have no effect on river flows.

The *Drainage Network Increase* parameter is “at risk”. Development and impervious surfaces have increased local runoff in some areas along the Touchet River and the action area is located within a developed area. This project would not increase impervious surfaces, and would have no effect on the watershed’s drainage network.

3.4.6 Watershed Conditions

The *Road Density and Location* parameter is “at risk”. The road network within the Touchet River Basin has expanded greatly over the past century. This project does not

require building any new roads. This project would have no effect on the road density of the watershed.

The *Disturbance History* parameter is “not properly functioning”. The Touchet River basin has been significantly altered as a result of agricultural development. The project would have no effect on the overall disturbance level of the basin.

The *Riparian Reserves* parameter is “not properly functioning”. In general there is only a thin band of riparian vegetation along the Touchet River below Dayton, Washington with the exception of Lewis and Clark State Park. High levels of channel migration within the basin lead to perpetually poor riparian vegetation as tree and shrub saplings do not have time to establish (Amonette 2009). In many places no riparian trees are present, often replaced by levees and riprap. This project would have no effect on the riparian reserves of the river corridor.

4. Effects of the Action on Listed Species

This section includes an analysis of general project-related effects of the proposed action, as well as specific effects on the species and critical habitat PBFs. Effects to listed species will be avoided primarily through a limited summer work window of July 15 through August 15. The nearest monitoring station to the proposed project area, at Bolles bridge approximately 4.2 river miles downstream, indicates that mean daily temperatures in the main stem Touchet River are consistently above 20 °C during the summer work window (Figure 10). While these temperatures are not immediately lethal for steelhead and bull trout, they are well outside the preferred temperature range for both species. Additionally, migratory patterns of both species would suggest that few fish would be present in the lower Touchet River during the proposed work window. Because of the low number of steelhead and bull trout present in the Touchet River near the action area during the work window the risk of harming a listed species during construction is low, though not discountable.

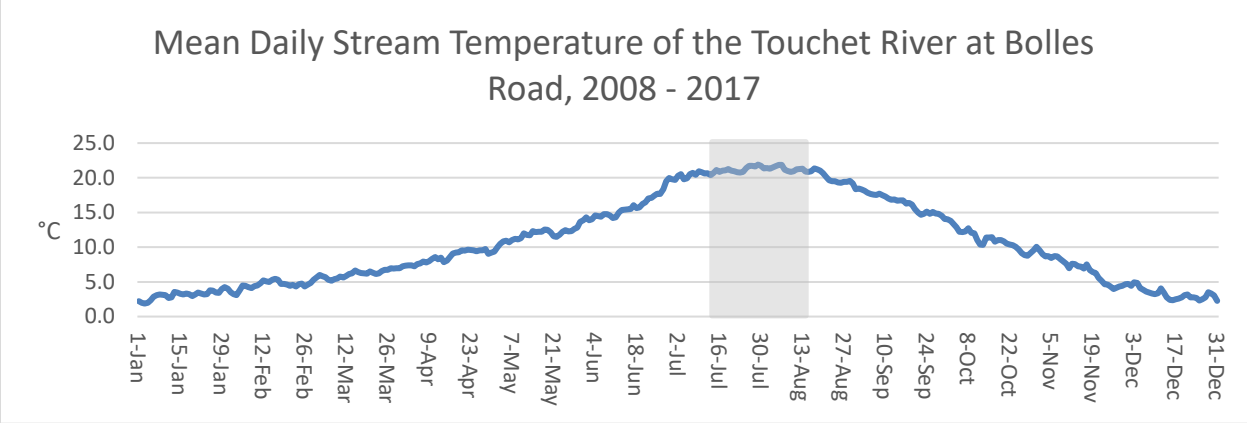

Figure 10. Mean daily stream temperature near the proposed project site in the Touchet River. The shaded area indicates the proposed work window.

4.1. DIRECT EFFECTS

Direct effects include all immediate impacts (adverse and beneficial) resulting from project related actions. Potential direct effects to ESA-listed species associated with the proposed project may include *entrainment* during excavation activities, temporary degraded *water quality* and minor *alteration of substrates* associated with excavation. A further detailed analysis of these potential effects is provided in the sections below.

4.1.1 Entrainment

Entrainment may occur if fish are trapped in the bucket of the excavator during excavation of the bank at the action area and during the construction of the toe wall. The potential for entrainment is very low, largely dependent on the likelihood of fish occurring within the excavation area, the scope and scale of the excavation activity, and the life stage of the fish. Given the proposed timing of in-water work (July 15 through August 15), location of proposed excavation activities (i.e., near the shoreline), use of

an open bucket excavator, initial establishment of a toe wall, and relatively slow speed of excavation; it is reasonably certain that the risk of injury or lethal take of juvenile ESA-listed fish species from proposed excavation activities will be minimal, although not discountable. Adult salmonids (if present) will likely avoid the excavation area.

4.1.2 Water Quality

Sediment/Turbidity

Short-term, localized project-related increases in background turbidity levels will likely occur as a result of proposed excavation activities and during the establishment of the toe wall. In the short term, increases in turbidity can reduce forage quantity for salmonids, and disrupt behavioral patterns such as feeding and sheltering. Exposure duration is a critical determinant of physical or behavioral turbidity effects. Salmonids have evolved in systems that periodically experience short-term pulses (days to weeks) of high suspended sediment loads, often associated with flood events, and are adapted to such seasonal high pulse exposures (NMFS 2011).

Given the existing substrate conditions (primarily sandy-silt) and highly erodible silt bluff near the action area, there is a significant risk of sedimentation and turbidity due to the proposed project activities. However any sediment mobilized should be contained at the action area by the silt barrier. Given that few individuals of listed species are likely to be present and that sediment would be contained by a silt barrier, it is anticipated the any project related increases in background turbidity will be very limited and highly localized. As such, short-term increases in background turbidity are not expected to result in long-term adverse effects to ESA-listed fish species, or significant net change in function of the in-stream habitat.

Chemical Contamination

Equipment operating near and over the river channel within the action area represents a potential source of chemical contamination. Accidental spills of construction materials or petroleum products would adversely affect water quality and potentially impact ESA-listed species. Development and implementation of a Pollution Control Plan (PCP) that will include containment measures and spill response for construction-related chemical hazards will significantly reduce the likelihood for chemical releases within the action area.

4.1.3 Alteration of Substrates

The proposed project will result in the alteration of in-water substrates associated with excavation of the levee and construction of the toe wall at its base. There will be limited excavation of the river bed, at the base of the levee, to accommodate the construction of the toe wall. Current sandy-silt substrates at the eroding levee face would be replaced with riprap at the toe wall.

In general, the environmental baseline within the project action area has been degraded by development and human activity, and provides very little habitat complexity for juvenile and adult salmonids. As such, given the existing baseline conditions and

substrates (primarily sandy-silt), proposed timing of in-water work (outside the peak migration stages), relative size of the action area, and proposed excavation techniques, it is reasonably certain that the proposed alteration of existing substrates will not result in long-term adverse effects to ESA-listed fish species or their designated Critical Habitat. Forage quantity for juvenile fish may be temporarily reduced within the immediate in-water work area as benthic organisms become disturbed by excavation; however, recolonization of benthic organisms will likely occur within a month following project completion (NMFS 2009).

4.2. INDIRECT EFFECTS

Indirect effects of a proposed action are those impacts that are reasonably certain to occur later in time (after construction of the project is complete). Rehabilitation of the Waitsburg levee on the Touchet River is intended to maintain the existing channel contours, but prevent anticipated damages to the levee in the future. As the project is designed to maintain current conditions, there are no anticipated indirect effects to listed species that are reasonably certain to occur.

4.3. EFFECTS ON CRITICAL HABITAT

4.3.1 Anadromous Salmonids

Only freshwater rearing and migration Water Quality is expected to be affected by the proposed action (Table 6); therefore, no other PBF will be discussed further.

Water Quality: The proposed project would result in short-term, localized increases in background turbidity as a result of excavation and construction of the toe wall. Through the use of a sediment containment barrier, sediments would be contained and allowed to settle within the action area. It is anticipated the any project related increases in background turbidity will be very limited and highly localized. ***Therefore, this project is not likely to adversely affect anadromous salmonid water quality***.

4.3.2 Bull Trout

Only Water Quality is expected to be affected by the proposed action (Table 7); therefore, no other PBF will be discussed further.

Water Quality: The proposed project would result in short-term, localized increases in background turbidity as a result of excavation and construction of the toe wall. Through the use of a sediment containment barrier, sediments would be contained and allowed to settle within the action area. It is anticipated the any project related increases in background turbidity will be very limited and highly localized. ***Therefore, this project is not likely to adversely affect bull trout water quality***.

Table 6. Effects determinations for the proposed action to the PBFs of critical habitats designated for ESA listed anadromous salmonids.

Site	Essential Physical and Biological Features	Effect Determination
Freshwater spawning	Substrate	No effect
	Water quality	No effect
	Water quantity	No effect
Freshwater rearing	Floodplain connectivity	No effect
	Forage	No effect
	Natural cover	No effect
	Water quality	Not likely to adversely affect
	Water quantity	No effect
Freshwater migration	Free of artificial obstructions	No effect
	Natural cover	No effect
	Water quality	Not likely to adversely affect
	Water quantity	No effect
Estuarine areas	Forage	No effect
	Free of obstruction	No effect
	Natural cover	No effect
	Salinity	No effect
	Water quality	No effect
	Water quantity	No effect
Nearshore marine areas	Forage	No effect
	Free of obstruction	No effect
	Natural cover	No effect
	Water quantity	No effect
	Water quality	No effect
Offshore marine areas	Forage	No effect

4.4. CUMULATIVE EFFECTS

The proposed action is located in the community of Waitsburg, WA. Major effects to listed resources near the action area are primarily the result of urban development, the construction of the FCRPS, agriculture, and associated water diversion and water control activities. Additional effects to the Touchet River could result from an increase in recreational and commercial use of the area. Recreation in the area includes fishing, hunting, boating, bird watching, and swimming, while commercial activities are dominated by agriculture.

Table 7. Effects determinations for the proposed action to the PBFs of critical habitats designated for bull trout.

PBFs		
1	Water Quality	Not likely to adversely affect
2	Migration Habitat	No Effect
3	Food Availability	No Effect
4	Instream Habitat	No Effect
5	Water Temperature	No Effect
6	Substrate Characteristics	No Effect
7	Stream Flow	No Effect
8	Water Quantity	No Effect
9	Nonnative Species	No Effect

Other actions that may contribute to cumulative effects would include additional residential development along the Touchet River, although the terrain, land ownership, and zoning may limit the extent of development. Increased impervious surfaces could add to runoff that may contribute additional oils, pesticides, fertilizers, and hazardous wastes to fish bearing waters. These activities are reasonably certain to continue, and when considered with the proposed action will not result in measurable effects on ESA-listed species.

4.5. EFFECTS DETERMINATIONS

4.5.1 Listed Species

The Corps determined that the proposed action may affect, and is likely to adversely affect Middle Columbia River steelhead and bull trout. Effects determinations for listed species are summarized in Table 8.

4.5.2 Critical Habitat

Because of the limits on the intensity, extent, and duration of the adverse effects on the environment, the PBFs of the critical habitat of ESA listed species in the action area are likely to remain functional, or retain their current ability to become functionally established, to serve the intended conservation role for the species. Therefore, the Corps has determined that the proposed action is not likely to adversely affect critical habitat.

Table 8. Effect determinations for listed species and critical habitat that may occur in the project area.

Species	Species Determination	Critical Habitat Determination
Middle Columbia River steelhead	May Affect, Likely to Adversely Affect	Not Likely to Adversely Affect
Bull Trout	May Affect, Likely to Adversely Affect	Not Likely to Adversely Affect

5. Magnuson-Stevens Act - Essential Fish Habitat

The consultation requirement of section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA) directs Federal agencies to consult with NMFS on all actions, or proposed actions that may adversely affect Essential Fish Habitat (EFH). Adverse effects include the direct or indirect physical, chemical, or biological alterations of the waters or substrate and loss of, or injury to, benthic organisms, prey species and their habitat, and other ecosystem components, if such modifications reduce the quality or quantity of EFH. Adverse effects to EFH may result from actions occurring within EFH or outside EFH, and may include site-specific or EFH-wide impacts, including individual, cumulative, or synergistic consequences of actions (50 CFR 600.810). Section 305(b) also requires NMFS to recommend measures that may be taken by the action agency to conserve EFH.

There is no EFH in the Touchet River. ***Therefore, the Corps has determined there will be no adverse effects to EFH as a result of this project.***

6. Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act (FWCA) authorizes the USFWS to evaluate the impacts to fish and wildlife species from proposed Federal water resource development projects that could result in the control or modification of a stream or body of water that might have effects on the fish and wildlife resources that depend on that body of water or its associated habitats. ***The proposed action does not modify a body of water and therefore does not involve activities subject to the FWCA.***

7. Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (16 U.S.C. §§ 703-712, as amended) prohibits the taking of and commerce in migratory birds (live or dead), any parts of migratory birds, their feathers, or nests. Take is defined in the MBTA to include by any means or in any manner, any attempt at hunting, pursuing, wounding, killing, possessing or transporting any migratory bird, nest, egg, or part thereof. ***The proposed action would not result in take of migratory birds.***

8. Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (BGEPA) prohibits the taking or possession of and commerce in bald and golden eagles, with limited exceptions, primarily for Native American Tribes. Take under the BGEPA includes both direct taking of individuals and take due to disturbance. Disturbance is further defined on 50 CFR 22.3.
Bald eagles are known to nest throughout Corps managed lands in the Walla Walla District. While all nest sites have not been documented in the District, locations of some are known. None are known to occur in or near the proposed action area.

Throughout most of the western United States golden eagles are year-long residents (Polite and Pratt 1999), breeding from late January through August with peak activity in March through July (Polite and Pratt 1999). They may also move down-slope for winter or upslope after the breeding season (Polite and Pratt 1999; Technology Associates 2009). No golden eagles are known to occur or nest in the project area.

There are no known eagle nests near the project area. ***Therefore, this action would have no effect or take (to include disturbance) of either bald or golden eagles.***

9. Effects Summary

The Corps has determined that this action, as proposed, *may affect*, and is *likely to adversely affect* bull trout and steelhead, but is not likely to adversely affect their designated critical habitat. The proposed actions will have *no effect* on all other listed, proposed, and candidate species or their designated or proposed critical habitats (Table 10).

Table 10. Effect determinations for the listed species within the area potentially affected by this action.

Common Name	Species Determination	Critical Habitat Determination
Bull Trout	May Affect, Likely to Adversely Affect	May Affect, Not Likely to Adversely Affect
Middle Columbia River steelhead	May Affect, Likely to Adversely Affect	May Affect, Not Likely to Adversely Affect
MSA		
No Adverse Effects		
FWCA		
Not Applicable		
MBTA		
No Take		
BGEPA		
No Disturbance or Take		

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