Appendix B: Biological Documentation

Confederated Tribes of the Umatilla Indian Reservation and the City of Umatilla Joint Pump and Pipeline Project

Biological Assessment

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City of Umatilla

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ACRONYMS

B	
BA	Biological Assessment
BGEPA	Bald and Golden Eagle Protection Act
BIA	Bureau of Indian Affairs
BMP	Best Management Practice
C	
C	Celsius
CFR	Code of Federal Regulations
cfs	cubic feet per second
Commission	Federal Energy Regulatory Commission
CTUIR	Confederated Tribes of the Umatilla Indian Reservation
COU	City of Umatilla
CWA	Clean Water Act
D	
DART	Data Access in Real Time
DPS	Distinct Population Segment
E	
E	Endangered
EFH	Essential Fish Habitat
EPA	Environmental Protection Agency
ESA	Endangered Species Act
ESCP	Erosion and Sediment Control Plan
ESU	Evolutionarily Significant Unit
F	
F	Fahrenheit
FCRPS	Federal Columbia River Power System
FMO	foraging, migrating, overwintering
FR	Federal Register
FWCA	Fish and Wildlife Coordination Act
G	
Gpm	gallons per minute
I	
ICTRT	Interior Columbia Basin Technical Recovery Team
IPAC	Information for Planning and Consultation
M	

m	meter
MaSA	major spawning areas
MBTA	Migratory Bird Treaty Act
MCR	Middle Columbia River
mm	millimeter
MPI	matrices of pathways and indicators
MPG	major population groups
MSA	Magnuson-Stevens Fishery Conservation and Management Act
MTNHP	Montana Natural Heritage Program

N

n	sample size
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NWFSC	Northwest Fisheries Science Center

O

ODEQ	Oregon Department of Environmental Quality
ODFW	Oregon Department of Fish and Wildlife
OHWM	ordinary high water mark

P

PCB	Polychlorinated byphenyls
PCE	Primary Constituent Element
PFMC	Pacific Fisheries Management Council
PBF	Physical and Biological Feature
PIT	Passive Integrated Transponder
PPCP	Pollution Prevention Control Plan
PUD	public utility district

R

R	river
Rkm	river kilometer
RM	river mile
RNA	Research Needs Area
RSA	Rescue/Salvage Authorization
RU	recovery unit

S

SF	square feet

SR	Snake River
SWPPP	Stormwater Pollution Prevention Plan

T

T	Threatened

U

UCR	Upper Columbia River
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service

W

WCR	West Coast Region
WTF	water treatment facility
WWA	Wanaket Wildlife Area

X

$\tilde{x}$	median

1.0 FEDERAL ACTION

1.1 Introduction

The City of Umatilla (City or COU) is replacing and enlarging an existing pump station, associated water pipeline, and facilities. The Joint Pump and Pipeline Project (Project) is located on and near the south bank of the Columbia River, north of Highway 730 approximately 5 miles east of Umatilla, Oregon, in Umatilla County (Figure 1-1). The Project is being undertaken jointly by the COU and the Confederated Tribes of the Umatilla Indian Reservation (CTUIR).

The Project requires two federal actions: 1) issuance of an easement by the U.S. Army Corps of Engineers (USACE) to authorize use of USACE lands by the City and 2) issuance of a Clean Water Act (CWA) Section 404 permit and Section 10 permit by the USACE to authorize the effects the project may have on waters of the U.S. These federal actions require Endangered Species Act (ESA) consultation pursuant to Section 7(a)(2) of the ESA to evaluate the effects of the proposed Project on federally listed species under the jurisdiction of the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS). This biological assessment (BA) has been prepared by the City to support the USACE in the consultation process.

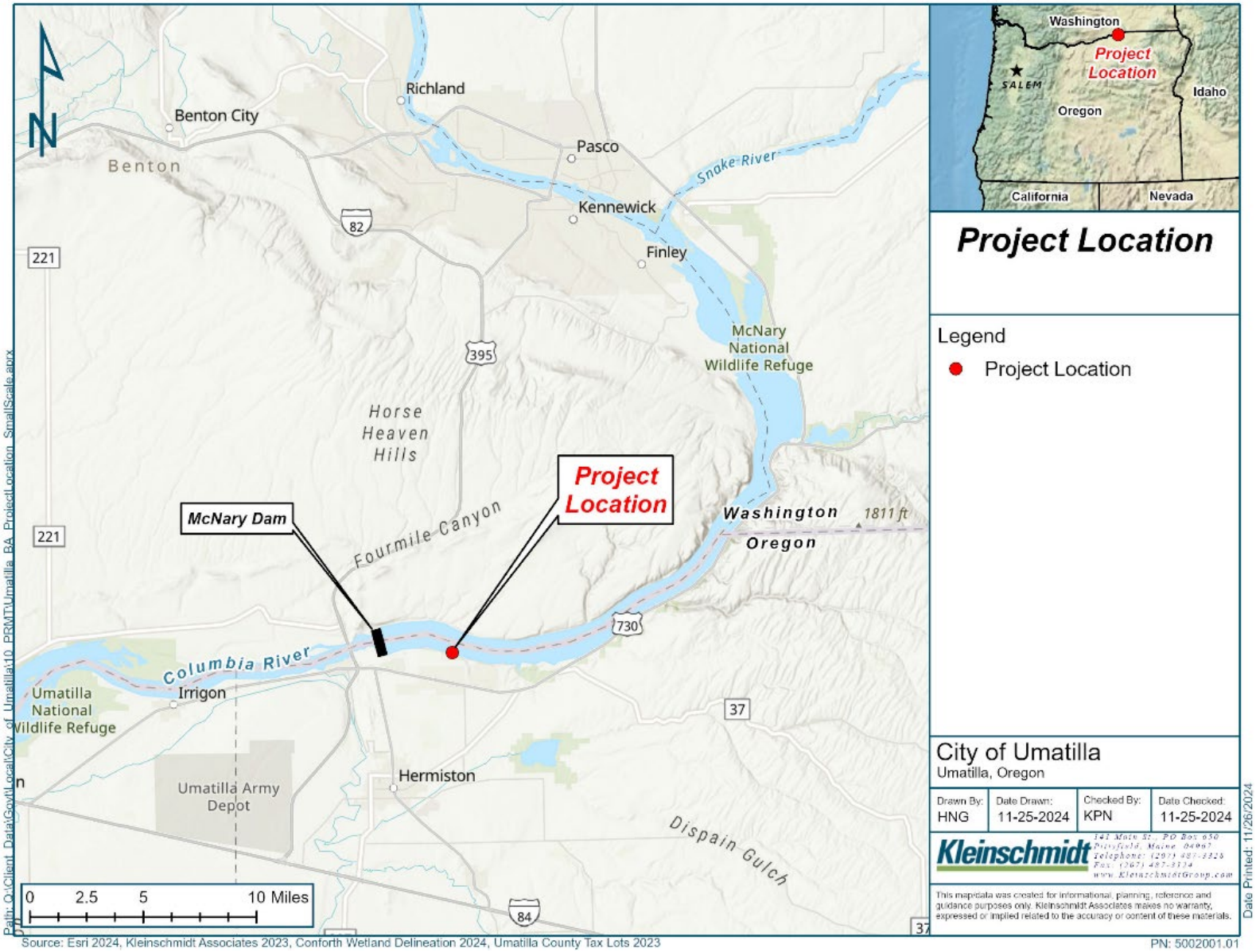

Figure 1-1 Project location

1.2 Background Information

The CTUIR own and operate a pump station on the south bank of the Columbia River. approximately 3.3 miles upstream of McNary Dam. From the pump station, a water pipeline runs up and over the south bank (approximately 175-foot elevation gain) where it continues to an open, unlined earthen ditch, which delivers CTUIR water to the Wanaket Wildlife Area (WWA). The diversion and conveyance facilities have been in operation for more than 60 years (collectively, the "CTUIR Existing Water Facilities"). The CTUIR Existing Water Facilities are located on and across portions of USACE, Bureau of Indian Affairs (BIA) (held in trust for the CTUIR), and City rights-of-way, and privately owned lands.

Beginning from its connection to the CTUIR pump station, the existing water pipeline is approximately 1,200 feet long and it empties into an approximately 4,400-foot-long unlined earthen ditch that conveys CTUIR water rights to the 2,817-acre Wanaket Wildlife Area (WWA). The WWA was acquired under the Columbia River Basin Wildlife Program by the Bonneville Power Administration in 1993 and the CTUIR assumed management responsibilities.

The CTUIR pump station contains two 150-horsepower Fairbanks Morse horizontal pump motors, which are not operated concurrently. The pumps are used from April through October to appropriate water under the CTUIR's two water rights identified as Certificate Nos. 90790 (for wildlife, wetlands maintenance, and stock use) and 90765 (for wildlife and wetlands maintenance). The two water rights combined allow a peak flow (diversion) rate not to exceed 7,200 gallons per minute.

The City has entered into an agreement with CTUIR to complete the Project and will assume ownership of the New Water Facilities and all future operation, maintenance, repair, and replacement obligations, accompanied by a long-term lease confirming the City rights of access on, to, across, and use of, affected CTUIR lands.

1.3 Purpose and Need

The Project is necessary to provide an adequate and reliable water supply for the current and projected uses of the CTUIR and the COU while minimizing environmental impacts, maintenance, and cost.

Currently, the Existing Water Facilities divert and pump CTUIR water rights from the Columbia River to the WWA. Once diverted, the CTUIR water is pumped through the partially buried water pipeline which extends up and over the south bank and briefly across the top of the

bluff before it discharges into an open, unlined earthen ditch which conveys the water to the WWA. Once completed, the Project will provide water to the COU Water Treatment Facility where it will then be pumped to the WWA. Completion of the Project will continue to benefit the WWA and result in more efficient use of the CTUIR water rights with reduced transmission losses.

The COU Water Treatment Facility will also contribute to the COU effort to supply potable and raw water service to the CTUIR Wanapa Industrial Site. This will enhance the CTUIR's economic development and that of other municipal water users in the area.

1.4 Description of the Proposed Action

The proposed action is for the development and construction of 1) a new pump station (New Pump Station) in the Columbia River, a navigable water; 2) a 3,460-foot-long water pipeline to the COU Water Treatment Facility; 3) a 4,550-foot-long water pipeline delivering up to 8.57 cubic feet per second (cfs) of raw river water to WWA; and 4) a connection to the COU water system for the purposes of delivering up to 23 cfs of raw and treated water to the CTUIR Wanapa Industrial Site and other COU customers as demand arises (Figure 1-2 and Appendix A). The New Water Pipeline (as previously mentioned #2 and #3) will be constructed along a new alignment that will replace the entire length of the existing water pipeline and the open, unlined earthen ditch to deliver water more efficiently to the WWA. The Project includes the securing of easements within and across USACE and privately owned lands and the use of a BIA utility right-of-way. Refer to Appendix A for design plan sheets. The action area includes the south bank of the Columbia River, river mile (RM) 296, approximately 3 miles upstream of McNary Dam and approximately 5 miles east of Umatilla, Oregon.

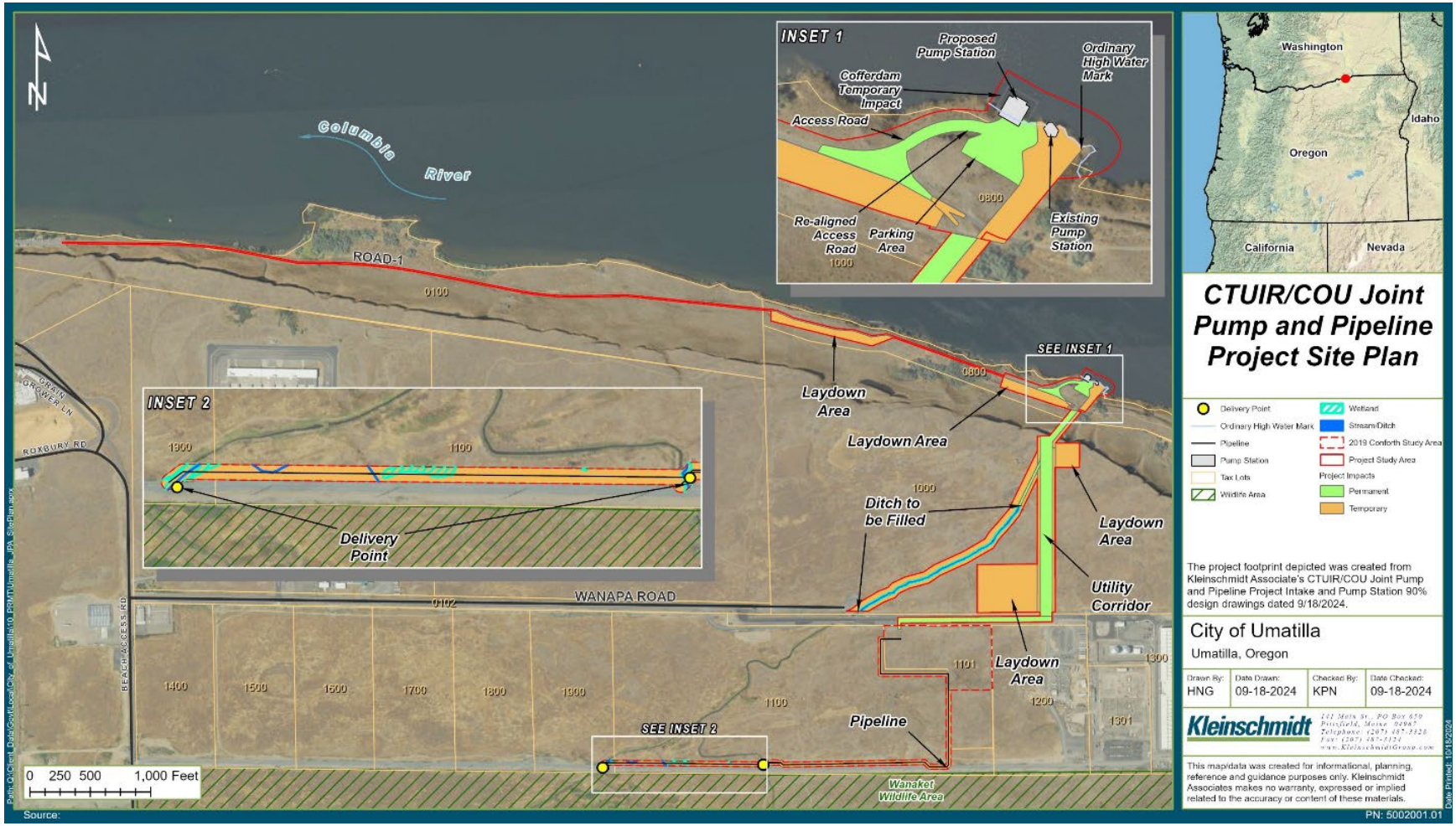

Figure 1-2 Project Site Plan.

The New Pump Station will be designed and constructed to meet NMFS criteria and the City's public works standards. The new City-owned pipeline will convey water from the New Pump Station to the COU water treatment facility (WTF) and CTUIR water to the WWA will assume the most direct routes as determined by the City and CTUIR.

The New Pump Station will be sized to meet the long-term needs of the CTUIR and COU over the expected 75+ year life of the Project. The New Pump Station will include fish exclusion screens designed to meet NMFS guidelines, a concrete wet well structure with multiple pump bays, and pumps with piping to deliver water to the Project water pipeline (Appendix A – design drawings, Figure 10). The New Pump Station will measure approximately 48 feet long and 50 feet wide, with a 33-foot-long by 38-foot-wide concrete masonry unit building housing the pumps on an operating deck approximately 17 feet above the Ordinary High-Water Mark (OHWM).

A brush-cleaned, retrievable, cylindrical screen system is proposed for the New Pump Station water intakes. The fish exclusion screen system will consist of two complete screen, track, and control systems and one track for future installation of a third screen. Each screen will include a 36-inch diameter rotating wedge wire cylinder, at least 48 inches long, with external and internal brushes. The screens will be sized for a maximum approach velocity of 0.4 feet per second (fps) and a maximum slot size of 1.75 millimeters (mm). Rotation of the wedge wire screen against the brushes for cleaning will be triggered by a programable schedule, differential pressure across the screen of greater than 6 inches, and operator command. Each screen will be designed to travel independently along a vertical retrieval track to enable the screen to be removed from the water for inspection, maintenance, or storage.

A temporary cofferdam structure will be used to isolate the immediate area around the New Pump Station to facilitate construction (Appendix A– design drawings, Figure 10). The new concrete tremie slab foundation below the New Pump Station will be extended to the cofferdam sheet piles to aid in sealing the cofferdam. Due to this fact, the permanent footprint (tremie slab with pump station) below the OHWM will be up to 0.027 acre. Work will occur from a barge in the river and/or from a crane on shore. The U-shaped cofferdam will be comprised of sheet pile cells secured in place by drilling and grouting anchors and/or piles below the OHWM into the substrate and wall framing above the OHWM. After the cofferdam has been sealed, water will be pumped out. Cofferdam construction will occur from December 1 – March 31, during the Oregon Department of Fish and Wildlife (ODFW) in-water work window.

The cofferdam will allow approximately 359,000 gallons of water to be moved to facilitate construction of the New Pump Station in-the-dry. Once the cofferdam is functional and in-the-dry work could begin, approximately 0.027 acre (221 cubic yards) of rock and soil overburden will be excavated, and the area graded for the New Pump Station. A concrete slab will be poured as a foundation below the OHWM (in the dry behind cofferdam) and the New Pump Station will be constructed above the concrete slab. The permanent footprint of the New Pump Station will extend parallel to 36 linear feet of shoreline, extend 33 feet perpendicular to the shoreline (at the OWHM), and an average depth of 5 feet below the OHWM (Appendix A – design drawings, Figure 10).

Construction of the proposed Project will occur over an estimated 18-24 month period. The cofferdam will be removed during the following in-water work window, December 1 – March 31. When the cofferdam is removed, the pilings will be cut level to the existing substrate and the top of the pilings and steel sheets will be removed. The existing CTUIR pump station will be decommissioned and removed completely after commissioning the New Pump Station to maintain water diversion for the WWA during construction.

The Project includes expanding the existing gravel parking area near the New Pump Station, including concrete pads for an emergency electrical generator and fuel storage. The concrete pads will measure approximately 300 square feet. The anticipated permanent impervious area will total 0.97 acres (pump station footprint, concrete pad footprints, access road, parking area, and the gravel pipeline access road). A blasting plan will be prepared to outline all activities for removal of upland bedrock required for the Project.

Project construction will require the temporary use of four laydown areas: two on USACE lands near the New Pump Station and two on BIA lands along the water pipeline to the COU Water Treatment Facility. The two laydown areas on USACE lands are both west of the existing CTUIR pump station and landward of the existing Lewis and Clark Commemorative Trail. The first laydown area will have a surface area of approximately 1 acre and will be located near the west side of the existing CTUIR pump station. This laydown area will be used as a materials staging area (Appendix A, Maps and Figures) (the "Materials Laydown Area"). The second laydown area will have a surface area of approximately 1.6 acres and will be 0.45 miles west of the existing CTUIR pump station. This area will be used as a secondary staging area for equipment (the "Equipment Laydown Area"). Vegetation will be removed from both temporary laydown areas, followed by excavation and grading. The two laydown areas on BIA lands are north of

Wanapa Road, along the utility corridor across Tax Lot 1000. The first is approximately 0.9 acres, approximately 1,250 feet north of Wanapa Road, and immediately east of the utility corridor (Appendix A, Maps and Figures) (the "Shared Laydown Area"). The second is 4.6 acres, immediately north of Wanapa Road and west of the utility corridor (Appendix A, Maps and Figures) (the "Primary Laydown Area"). Vegetation will be removed from both laydown areas on BIA lands followed by grading for temporary use.

Installation of the New Water Pipeline will occur in phases using best management practices (BMPs) for the overall scope of the Project. The existing 1,200-foot-long water pipeline will be removed, and the existing open, unlined earthen ditch in Tax Lot 1000 will be backfilled; this will be followed by restoration of the affected areas. A temporary water pipe will be used for approximately 1 year before the ditch is filled and restored. The New Water Pipeline to the COU Water Treatment Facility and from COU Water Treatment Facility to the WWA will be installed via trenches using excavators or trenchers.

The existing CTUIR pump station will be decommissioned and removed completely after establishment of the New Pump Station. The ditch in Tax Lot 1000 will be filled in with an excavator or bulldozer, initially using adjacent spoils that line the ditch which will have been removed during construction and dredging. Additional fill will be needed to match surrounding elevations; this material will be sourced from an established commercial site. All areas disturbed by implementation of the Project, including temporary laydown areas, will be revegetated with a native grass mix. All Project-related debris will be removed, and roadways will be swept.

1.5 Scope of the Proposed Federal Action

Pursuant to the ESA, the action area includes all areas directly or indirectly affected by the proposed action (50 Code of Federal Regulations [CFR] §402-02). The CTUIR's existing water facilities and action area for the proposed Project are on and across portions of USACE, BIA (held in trust for the CTUIR), COU rights-of-ways, and privately owned lands (Appendix A, Figure 2).

The scope of the Project consists of (a) fully replacing and ultimately enlarging and increasing the performance capacity of the pump station, and (b) installing a New Water Pipeline extending from the New Pump Station up and over the south riverbank to intertie with the City's Water Treatment Facility and continue to the WWA. The proposed action will not affect existing water rights and is anticipated to result in more efficient use of the existing CTUIR water rights.

Construction of the Project will require the installation of a cofferdam and in-water work within the Columbia River and a portion of the pump station will be located below the ordinary OHWM. The Columbia River is considered a navigable Water of the U.S. (WOTUS). WOTUS are protected under Section 404 of the CWA and Section 10 of the Rivers and Harbors Act. Any activity that involves a discharge of dredged or fill material into WOTUS is subject USACE regulations. Construction of any structure in or over any navigable water of the U.S. or outside the limits defined for navigable waters of the U.S. requires a Section 10 permit if the structure or work affects the course, location, or condition of the water. Section 10 applies to any dredging or disposal of dredged materials, excavation, filling, re-channelization, or any other modification of a navigable water of the U.S. and applies to all structures. Section 404 or Section 10 permits are issued by the USACE under the authority of the CWA.

This BA was prepared for the USACE, the lead federal agency.

1.6 Project Timeline

The Project is expected to take approximately 18-24 months to complete. The proposed work within the Columbia River below the OHWM will occur between December 1 and March 31, which is ODFW's preferred in-water work window. The pre-construction work will begin in December 2025, with permit approval. On December 1, 2025, the in-water work will begin. The construction of the cofferdam is estimated to be complete by March 31, 2026. The construction of the New Pump Station will begin in the dry in April 2026. The cofferdam will be removed starting December 1, 2026. After commissioning, the CTUIR pump station will be removed and the area will be restored to pre-construction condition by December 31, 2027. Post-construction activities will include daily operation of the New Water Facilities.

1.7 Proposed Conservation Measures

The pump station will be designed and constructed to meet NMFS criteria and the City's public works standards. The following measures are proposed reduce the potential effects of the proposed action on federally threatened and endangered species (T&E), and other aquatic, wildlife, and botanical resources within the action area.

1. Prior to the start of construction, a Fish Salvage Plan will be prepared and approved by NMFS. Work area isolation for all work below the bank full elevation will be described including the sequencing and schedule of any dewatering and re-watering activities. Fish protection measures, including pump screens, capture,

handling, transport, and reporting, will comply with the requirements for an Oregon Rescue/Salvage Authorization.

   a. Work area isolation will follow BMPs for fish protection, including allowing fish species to migrate out of the work area or removing fish before dewatering.

2. Prior to the start of construction, a National Pollutant Discharge Elimination System (NPDES) permit with a Stormwater Pollution Prevention Plan (SWPPP) will be prepared and approved by the Environmental Protection Agency (EPA) and Oregon Department of Environmental Quality (ODEQ).

   a. BMPs to confine, remove, and dispose of construction waste will be identified in the SWPPP.

   b. Procedures to contain and control a spill of any hazardous material will be identified in the SWPPP.

   c. Procedure to stop work under high flow conditions will be identified in the SWPPP.

   d. The removal of fill below the OHWM will be excavated and removed to an off-site location for proper upland disposal.

   e. All Project-related waste will be removed; trash will be picked up and roadways will be swept to avoid runoff-containing sediment.

3. A silt sock, turbidity curtain, and other erosion control methods for on-site stormwater containment will be installed along the shoreline side of the Project area to avoid runoff and soil loss along the shoreline and into the Columbia River.

4. All conditions of ODEQ's 401 Water Quality Certification will be followed.

5. Prior to ground disturbance or use of heavy equipment, the following areas will be clearly marked with flagging or survey paint: wetlands, water bodies, OHWM, equipment entry and exit points, road crossing alignments, and staging/storage/stockpile areas.

6. Heavy equipment will access the project site via designated access roadways, parking areas, disturbed upland areas, and/or floating barge(s).

7. Heavy equipment will be selected and operated to minimize adverse effects to the environment, e.g., low pressure tires, minimal hard-turn paths for track vehicles, use of temporary mats or plates to protect wet soils.

8. Heavy equipment will be cleaned as often as necessary during operation to keep all equipment, vehicles, and power tools free of external fluids and grease, and to prevent a leak or spill from entering the water.

a. 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.

9. Heavy equipment will be inspected daily for fluid leaks, and any leaks detected will be repaired prior to operation.
10. Stationary power equipment operated within 150 feet of the Columbia River will be diapered to prevent leaks.
11. Dust abatement measures appropriate for soil type, equipment use, wind conditions, and the effects of other erosion control measures will be implemented.
12. A Blasting Plan will be prepared and approved by EPA and ODEQ. Blasting-related operations, including obtaining, transporting, storing, handling, loading, detonating, and disposing of blasting material; drilling; and ground-motion monitoring shall comply with applicable federal, state, and local regulations. The plan will require that a cultural resource monitor be present during blasting activities to monitor any potential vibratory effects to rock feature sites. Blasting activities will occur in the dry.
13. Cofferdam construction will occur from December 1 – March 31, during the ODFW in-water work window.
14. Construction of the temporary cofferdam will include drilling holes and backfilling with concrete. This approach will cause less blunt impact to the substrate and is more precise than pile driving.
    a. In-water steel sheet piles will be installed using vibratory hammers with one of the NMFS-approved sound attenuation methods, therefore reducing potential hydroacoustic impacts to fish.
    b. When piles are removed, appropriate NMFS-approved methods will be used to minimize impacts to the Columbia River (e.g., install floating surface boom, dislodge pile with vibratory hammer, lift pile slowly, place pile in containment basin without removing adhered sediment, fill hole with clean native sediments immediately after removal, dispose of piles at an upland disposal site).
15. Per NMFS requirements, the barge will be a) large enough to remain stable under foreseeable loads and adverse conditions, b) inspected before arrival to ensure vessel and ballast are free of invasive species, and c) secured, stabilized and maintained as necessary to ensure no loss of balance, stability, anchorage, or other condition that can result in the release of contaminants or construction debris.
16. New pump station intake screens will be equipped with a self-monitoring system that will measure hydraulic head and reduce intake velocities as necessary to maintain an approach velocity of 0.4 fps, in compliance with NMFS criteria.

17. Aboveground powerlines will be relocated to underground, reducing bird-collision hazard in area.
18. Temporary staging areas and the former access road will be revegetated with a native grass mix following construction.

2.0 FEDERALLY LISTED SPECIES

2.1 Species Listed for the Project Area

The City requested a list of T&E species and proposed T&E species and critical habitats that may be affected by the Project or occur in the action area from the USFWS Information for Planning and Consultation (IPAC) on October 14, 2024 and on January 30, 2025 due to USFWS proposing new T&E species in December 2024 (Appendix B). The potential for anadromous species listed under the ESA and habitat protected under the Magnuson-Stevens Fishery Conservation and Management Act (MSA) to occur was identified using the IPAC, NOAA's West Coast Region species and habitat data (2024), and StreamNet Mapper (2024). There are no rare, threatened or endangered plant species in the Project area (NatureServe Explorer Pro 2023, ODA 2019). ESA listed species are summarized in Table 2-1.

Table 2-1 Summary of threatened (T), endangered (E), or proposed T or E species and designated/proposed critical habitats that may occur in the action area, including Federal Register (FR) notices of final rules.

Species	Current Listed Status and Reference	Critical Habitat and Reference
NMFS		
Chinook Salmon (*Oncorhynchus tshawtytscha*)		
Upper Columbia River Spring-run ESU	E: 6/28/05; 70 FR 37159	Yes: 9/2/05; 70 FR 52629
Snake River Spring/Summer-run ESU	T: 6/28/05; 70 FR 37159	Yes: 12/28/93; 58 FR 68543
Snake River Fall-run ESU	T: 6/28/05; 70 FR 37159	Yes: 12/28/93; 58 FR 68543
Sockeye Salmon (*Oncorhynchus nerka*)		
Snake River ESU	E 6/28/05; 70 FR 37159	Yes: 12/28/93; 58 FR 68543
Steelhead (*Oncorhynchus mykiss*)		
Upper Columbia River DPS	T: 1/5/06; 71 FR 833	Yes: 9/2/05; 70 FR 52630
Middle Columbia River DPS	T: 1/5/06; 71 FR 833	Yes: 7/10/00; 65 FR 42422
Snake River DPS	T: 1/5/06; 71 FR 833	Yes: 7/10/00; 65 FR 42422
USFWS		
Gray Wolf (*Canis lupus*)	E: 3/9/1978; 43 FR 9607 9615	Yes: 3/9/1978; 43 FR 9607 9615
Monarch Butterfly (*Danaus Plexippus)*	PT: 12/12/2024; 85 FR 81813	Proposed: 12/12/2024; 85 FR 81813

Suckley's Cuckoo Bumble Bee (*Bombus suckleyi*)	PE: 12/17/2024; 89 FR 102074	None Proposed or Designated
Bull Trout (*Salvelinus confluentus*)		
Bull Trout Columbia River DPS	T: 6/10/98; 63 FR 31647	Yes: 9/2/05; 70 FR 56211; 10/18/10; 75 FR 63898

Sources: NOAA 2024, NMFS 2023a, StreamNet 2024, USFWS 2024a, USFWS 2024b.

Based on species distribution, known ranges, and habitat requirements, several Pacific salmon species, steelhead and bull trout have the potential to occur in the Columbia River near the Project. However, it is unlikely gray wolf occur in proximity to the Project. The Project is located within a cultivated and developed landscape and does not provide habitat for gray wolves. Gray wolves require forested areas, prey availability (e.g. elk, deer), low human presence, and low road density (ODFW 2019). The closest known gray wolf activity occurs in northeastern Oregon (ODFW 2024, Figure 2-1). There are no known gray wolf packs in the vicinity of the proposed project area and required habitat and prey are lacking. Wolf activity in Umatilla County is limited to the Blue Mountains and foothills (Figure 2-1). Thus, the proposed Project will have no effect on gray wolves and the effects of the proposed action on this species is not analyzed any further in this BA.

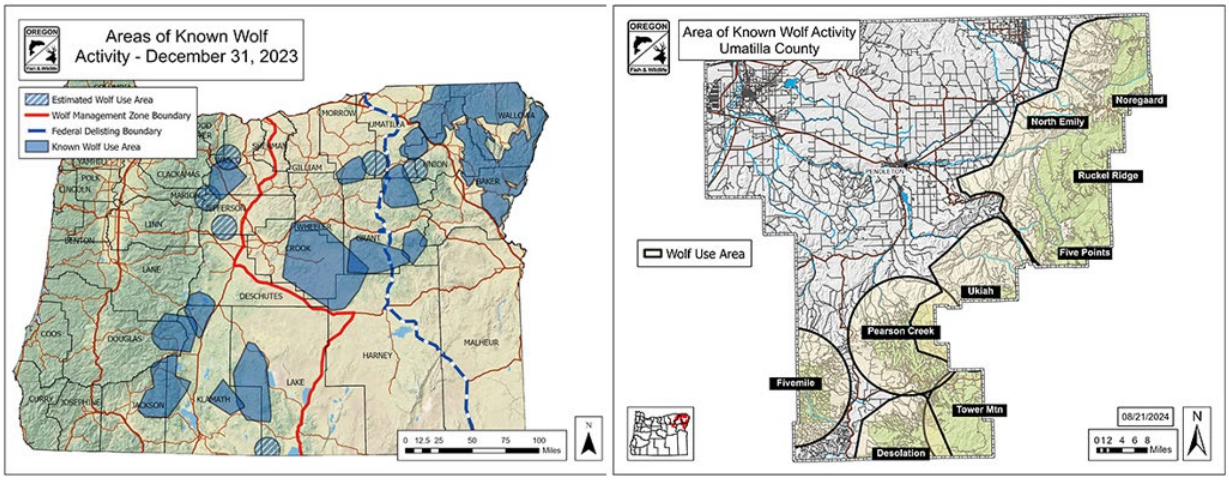

Figure 2-1 Areas of known wolf activity in Oregon (left) and Umatilla County (right)(ODFW 2019, 2024).

Monarch butterflies have the potential to be present within the action area during certain times of the year. This species relies on specific habitats for breeding, foraging, and migration. Their primary habitat requirements include open areas with abundant milkweed species (*Asclepias* spp.) for larval development, as milkweed is the sole host plant for monarch caterpillars. Adult monarchs require diverse nectar sources from native flowering plants to sustain energy, particularly during their fall migration south to overwintering sites in central Mexico. Key nectar plants in the region include species like

showy milkweed (*Asclepias speciosa*), goldenrod (*Solidago* spp.), and asters (*Symphyotrichum* spp.). These habitat conditions are not present at the proposed project area. Thus, the proposed Project will have no effect on monarch butterfly and the effects of the proposed action on this species is not analyzed any further in this BA.

Suckley's Cuckoo Bumble Bee rely on healthy populations of host bumble bee species, particularly *Bombus occidentalis* (the western bumble bee), for its survival. As an obligate social parasite, *B. suckleyi* does not establish its own colonies but infiltrates the nests of host species to lay its eggs. Habitat requirements include diverse, flower-rich environments that support both the cuckoo bumble bee and its hosts, with access to abundant nectar and pollen sources from native flowering plants and undisturbed areas suitable for nesting and overwintering. These resources are not present within the action area and therefore would have "No Effect" to this species. Thus, impacts to this species is not analyzed further in this BA.

2.2 Species Status

2.2.1 Anadromous Species

2.2.1.1 Upper Columbia River Spring-run Chinook Salmon

2.2.1.1.1 Listing History

The Upper Columbia River (UCR) spring-run Chinook salmon was listed as endangered under the ESA on March 24, 1999 (64 FR 14308), and the status was reaffirmed on June 28, 2005 (70 FR 37159) and April 14, 2014 (79 FR 20802).

2.2.1.1.2 Distribution

The UCR spring-run Chinook salmon evolutionary significant unit (ESU) includes naturally spawned spring-run Chinook salmon originating from Columbia River tributaries located upstream of the Rock Island Dam to Chief Joseph Dam and excluding the Okanogan River subbasin (85 FR 81822; Figure 2-2). The Okanogan population is considered extinct and not part of the ESU but is designated a "non-essential experimental population" in the Okanogan River subbasin (79 FR 20802). There are six artificial propagation programs included in the UCR spring-run Chinook ESU: Twisp River Program, Chief Joseph Spring Chinook Hathery Program (Okanogan release), Methow Program, Chiwawa River Program, White River Program, and Nason Creek Program (NMFS WCR 2022a). The ESU also includes a single major population group (MPG) referred to as the North Cascades MPG, composing of three populations: Wenatchee, Entiat, and Methow (NMFS WCR 2022a).

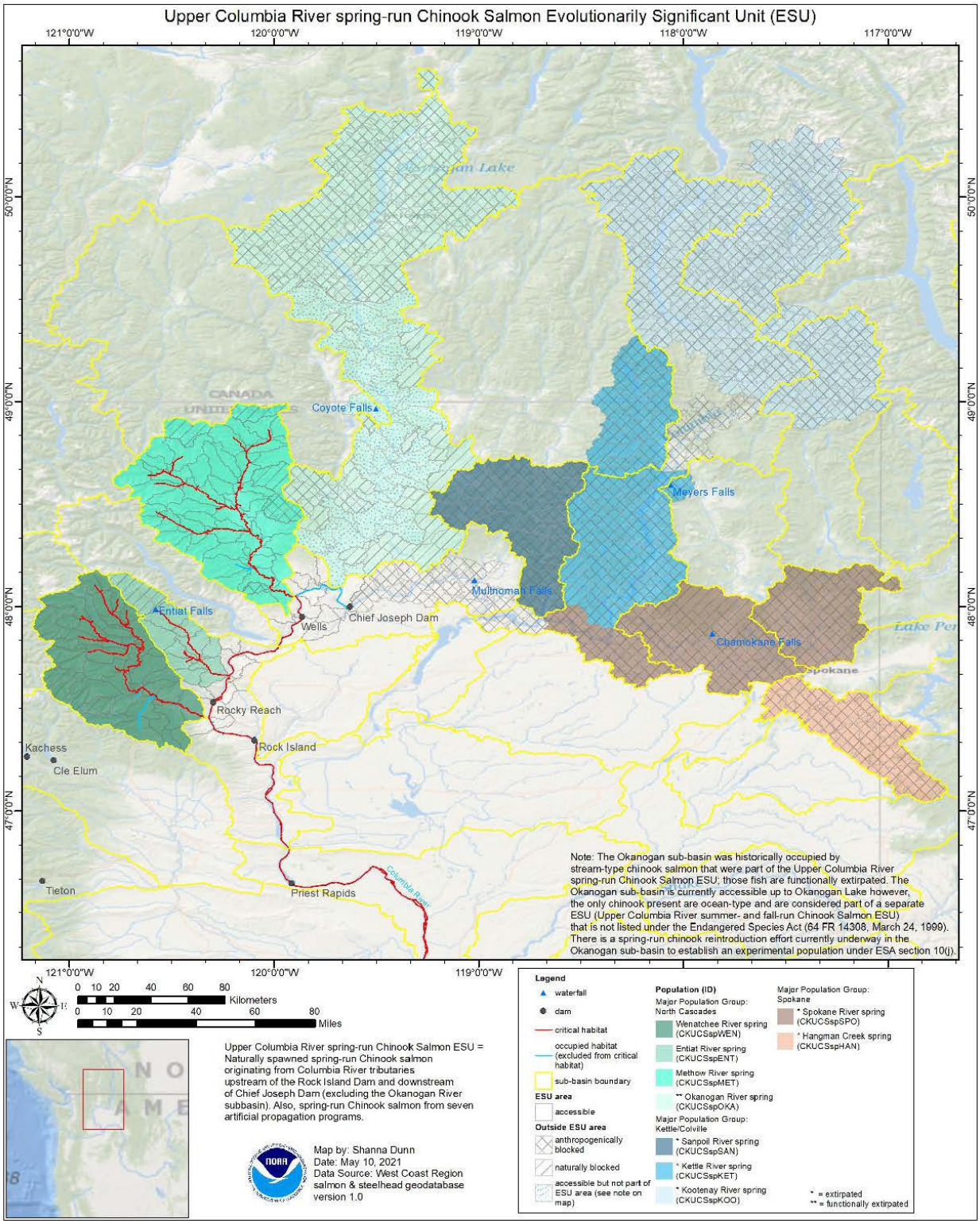

Figure 2-2 Upper Columbia River spring-run Chinook salmon population structure (taken from NMFS WCR 2022a).

2.2.1.1.3 Life History and Biological Requirements

Adult UCR spring-run Chinook return to the Columbia River after spending 2 to 3 years in the ocean, with returns peaking in mid-May (NOAA 2024a). The run is dominated by 4- and 5-year-old fish (NOAA 2024a). Adults continue migrating to UCR tributaries from April through July, holding in these freshwater tributaries until spawning season, which typically starts in the late summer and peaks in mid-to-late August. Juveniles spend approximately 1 year in freshwater before migrating to the ocean as 2-year-old fish.

The Columbia River serves as a migratory corridor for UCR spring-run Chinook to access spawning tributaries. UCR spring-run Chinook pass four federally-operated dams on the lower Columbia River (Bonneville, The Dalles, John Day, and McNary dams) and three hydropower dams (Priest Rapids, Wanapum, and Rock Island) operated by public utility districts (PUD) on the upper Columbia River to reach spawning tributaries (Figure 2-3). UCR spring-run Chinook populations spawn in the Wenatchee, Entiat, and Methow rivers. Adults from the Entiat River population must also pass Rocky Reach Dam and adults from the Methow population must pass the Rocky Reach and Wells dams.

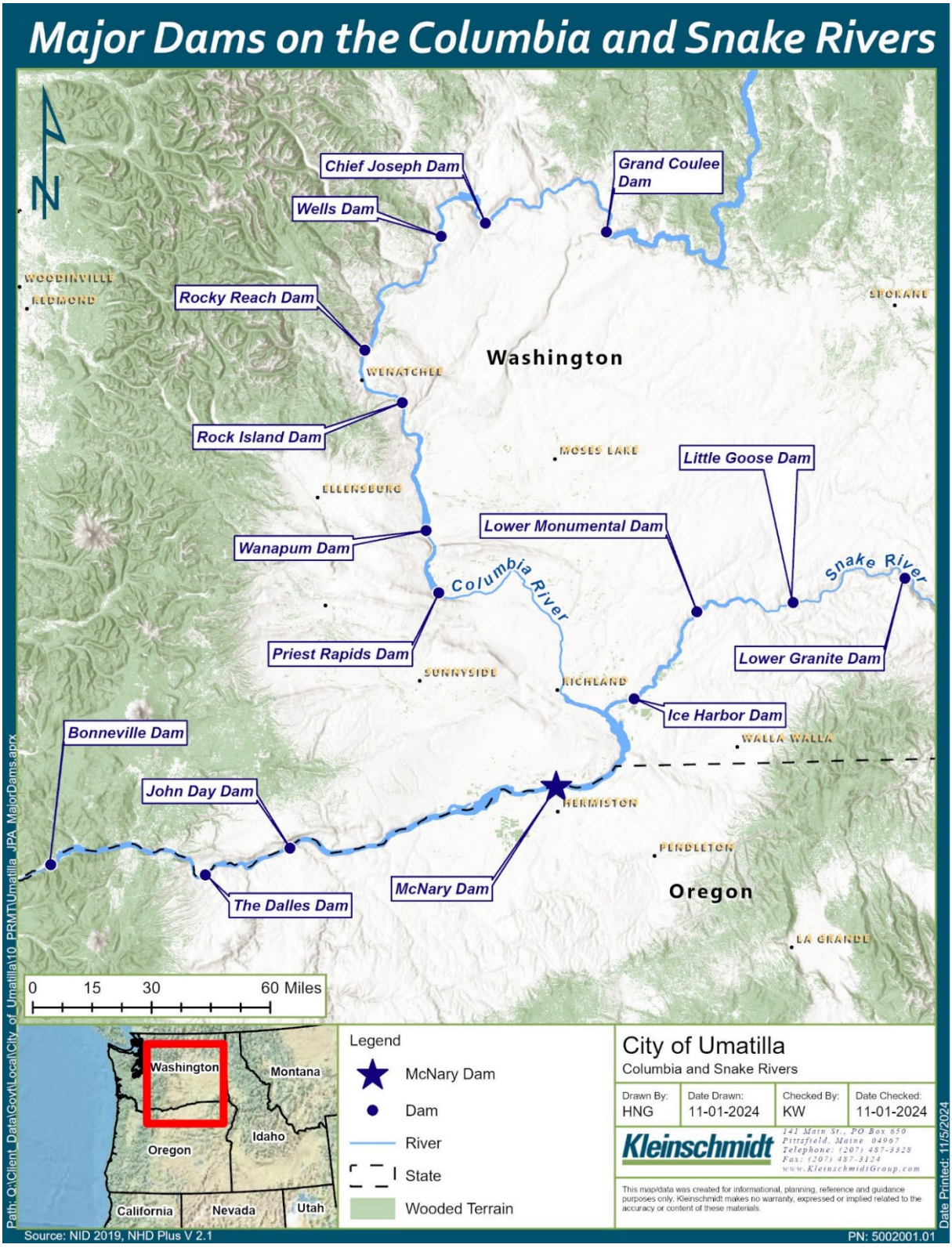

Figure 2-3 Location of dams on the Columbia and Snake rivers with McNary Dam approximately 2 miles downstream of the Project area.

UCR spring-run Chinook salmon have a complex life history that includes rearing in natal freshwater tributary streams, extensive river migrations, overwintering in the mainstem Snake River or Columbia Estuary, growing in the ocean, and returning to freshwater, natal streams to spawn. Healthy freshwater ecosystems, habitat connectivity and complexity, water quality, water temperature, and ocean conditions are important components to completing their life history.

2.2.1.1.4 Factors for Decline

Several factors have contributed to the decline of UCR spring-run Chinook salmon, including hydropower development in the mainstem Columbia River, loss of freshwater and estuarine habitat, avian predation, poor ocean conditions, overfishing, and hatchery practices (NMFS WCR 2022a).

2.2.1.1.5 Current Status

Adult UCR spring-run Chinook salmon migrate over 450 river miles (RM) past a minimum of seven dams between Rock Island Dam (RM 450) and Chief Joseph Dam (RM 545) to reach spawning tributaries in the Wenatchee, Entiat, and Methow rivers (Figure 2-3). McNary Dam (RM 292) is downstream of UCR spring-run Chinook spawning areas and is the fourth dam adult salmon pass after entering the Columbia River. At McNary Dam, there are two fish ladders for adult salmon and a fish facility and bypass system for juvenile, out-migrating fish. The proposed Project is located approximately 2 miles upstream of McNary Dam.

Counts of adult and juvenile UCR spring-run Chinook salmon are recorded at McNary Dam annually. The peak of the UCR spring-run Chinook salmon run at McNary Dam occurs from May through mid-July. Annual run timing between 2002 and 2023 for UCR spring Chinook detected via passive integrated transponder (PIT) tagged fish at McNary Dam is shown in Figure 2-4. The median start and end of the adult UCR spring Chinook run at McNary Dam is April 22 and August 19 (annual $\tilde{x}$ = 206 adult fish).

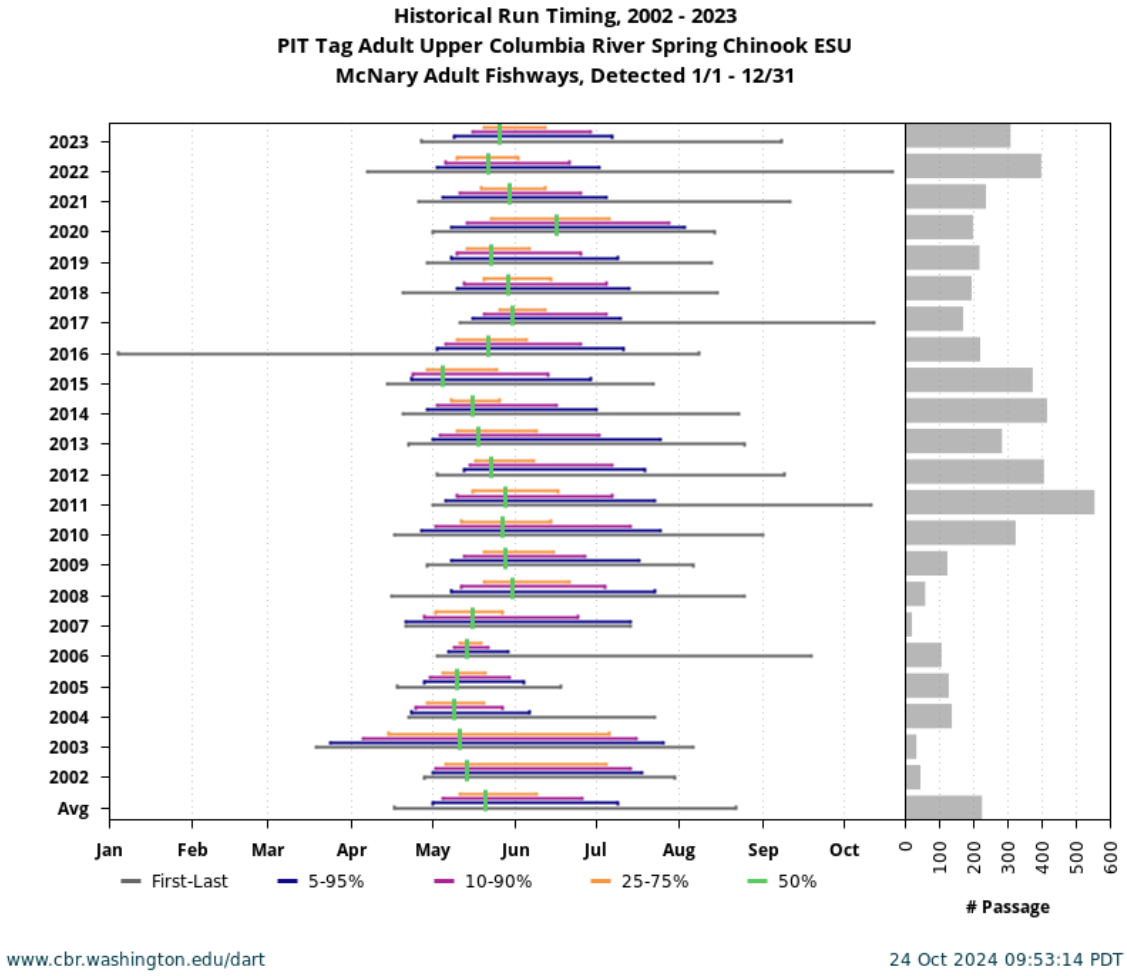

Figure 2-4 Historical run timing for PIT-tagged adult UCR spring Chinook at McNary Dam fishways, 2002-2023 (Columbia River DART 2024).

Peak downstream migration of juvenile UCR spring Chinook salmon at McNary Dam occurs between late April and the end of May (Columbia River DART 2024b). Juvenile fish migrate downstream from the Wenatchee, Entiat, and Methow rivers, past multiple hydropower projects, and then through Lake Wallula (the reservoir created by McNary Dam). Lake Wallula extends 64-miles from McNary Dam to the U.S. Department of Energy's Hanford Site on the Columbia River and into the Snake River to Ice Harbor Lock and Dam, which is operated by the USACE.

The timing of annual downstream migration for juvenile PIT-tagged UCR spring Chinook between 1999 and 2023 is shown in Figure 2-5 (Columbia River DART 2024a). These data indicate the median start and end date of the juvenile downstream migration at McNary Dam is April 15 and November 12 (annual $\tilde{x}$ = 3,299 juvenile fish).

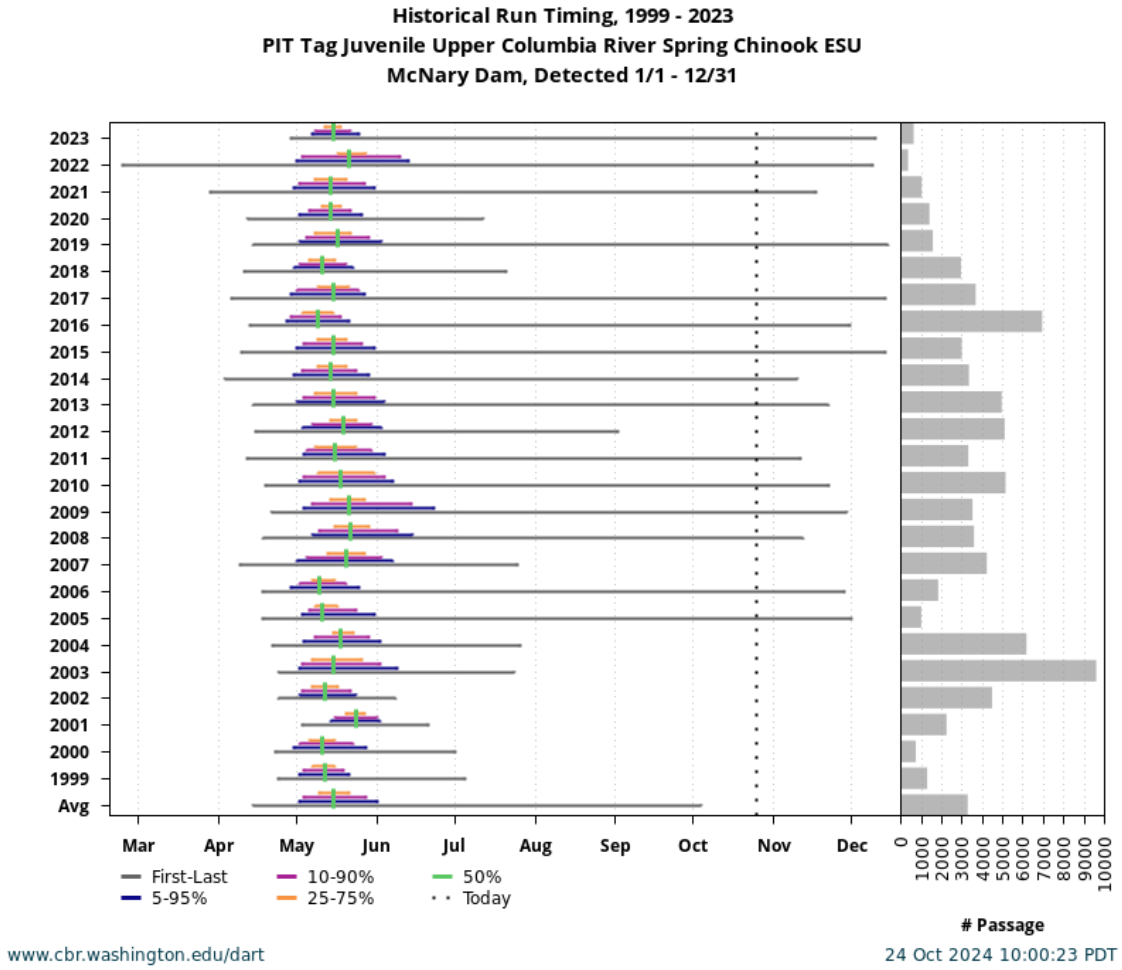

Figure 2-5 Historical run timing for PIT-tagged juvenile UCR spring Chinook at McNary Dam, 1999-2023 (Columbia River DART 2024a).

During the last 25 years, there have been only a few occurrences of PIT-tagged UCR spring Chinook at McNary Dam during the proposed in-water work window of December 1 through March 31 (Columbia River DART 2024a). In-water construction will occur outside the median migration window for adult (April 22 through August 19) and juvenile (April 15 through November 12) UCR spring Chinook salmon (Figure 2-4 and Figure 2-5, respectively). Adult fish were detected moving upstream at McNary Dam in 2 of 22 years in January and late March. Over a 25-year period (1999 through 2023), juvenile UCR spring Chinook were detected moving downstream at McNary Dam in February and late March in 2 years and detected during the first half of December in 6 years. UCR spring Chinook may pass near the Project construction area during in-water work window in late February and March (adults) or in first half of December (juveniles) based on the known migration timing (Columbia River DART 2024a).

Columbia and Snake River dams implement monitoring programs for adult and juvenile passage. In addition, there are several other federal, state, and tribal organizations throughout the watershed that implement monitoring programs.

2.2.1.2 Snake River Spring/ Summer-run Chinook Salmon

2.2.1.2.1 Listing History

The Snake River (SR) spring/summer-run Chinook salmon ESU was listed as a threatened species under the ESA on April 22, 1992 (57 FR 14653). The status was reaffirmed by NMFS on June 28, 2005 (70 FR 37159) and updated on April 14, 2014 (79 FR 20802).

2.2.1.2.2 Distribution

The ESU includes all naturally spawned spring/summer-run Chinook salmon originating from the mainstem Snake River and the Tucannon River, Grande Ronde River, Imnaha River, and Salmon River subbasins. The ESU includes 28 extant natural populations located within five MPGs (Figure 2-6). The MPGs include the Lower Snake River, Grand Ronde River/Imnaha River, South Fork Salmon River, Middle Fork Salmon River, and Upper Salmon River (NMFS WCR 2022b). In addition, there are 13 artificial propagation programs included: Tucannon River Program, Lostine River Program, Catherine Creek Program, Lookingglass Hatchery Program, Upper Grande Ronde Program, Imnaha River Program, McCall Hatchery Program, Johnson Creek Artificial Propagation Enhancement Program, Pahsimeroi Hatchery Program, Sawtooth Hatchery Program, Yankee fork Program, South Fork Salmon River Eggbox Program, and Panther Creek Program (NMFS WCR 2022b). SR spring/summer-run Chinook salmon no longer have access to historical spawning and rearing areas above Hells Canyon Dam or in the Clearwater River basin (NMFS WCR 2022b, NOAA 2024b).

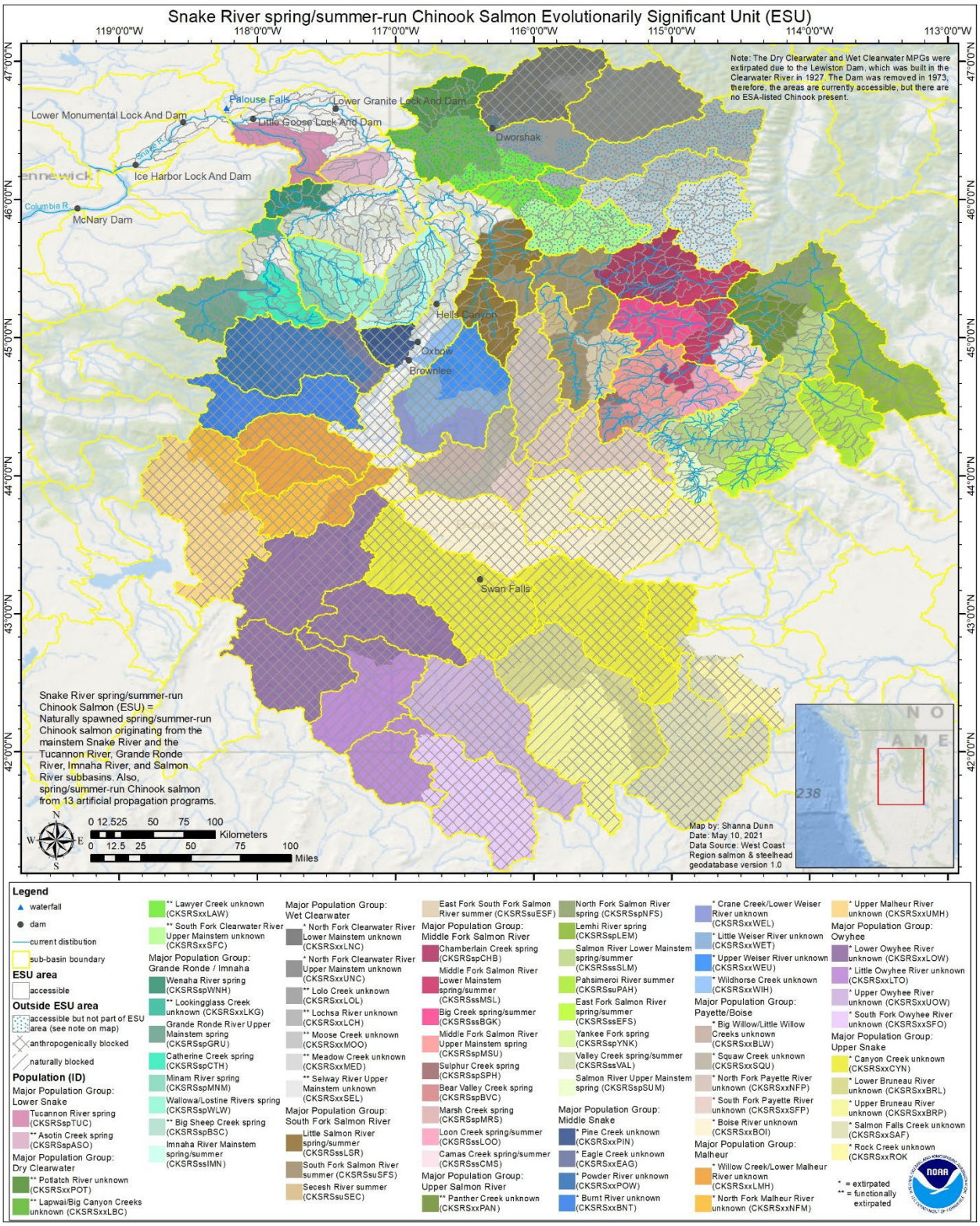

Figure 2-6 Snake River Spring/summer-run Chinook salmon population structure (taken from NMFS WCR 2022b).

2.2.1.2.3 Life History and Biological Requirements

SR spring/summer-run Chinook salmon migrate 325 river miles upstream in the Columbia River passing the four lower Columbia River dams to reach the Snake River. Adult salmon then migrate 145 river miles past the four lower Snake River dams to reach spawning tributaries (Figure 2-3). Most adult SR spring/summer-run Chinook return to the Columbia after spending 2 to 3 years in the ocean. SR spring-run adults may enter the Columbia River in March, with the run extending into the first week of June; SR summer-run adults enter the Columbia River in June, July, and August. Annual counts are made at Bonneville Dam by the USACE. SR spring/summer-run Chinook migrate upstream to small tributaries in Idaho and Oregon to spawn in the late-summer (Achord et al. 2007). SR spring-run Chinook typically spawn in higher elevation reaches of Snake River tributaries in mid- to late-August and SR summer-run Chinook typically spawn in lower elevation tributaries in late-August and September (NOAA 2024b).

Juvenile SR spring/summer Chinook rear for a full year before migrating in early to mid-spring to the ocean during their second year (NOAA 2024b). Some juveniles migrate from their natal stream in late summer and fall to overwinter in large rivers and commence migration to the ocean during the following year as smolts (Achord et al. 2007, NOAA 2024b).

SR spring/summer-run Chinook salmon have a complex life history that includes rearing in natal freshwater tributary streams, extensive river migrations, growing in the ocean, and returning to freshwater, natal streams to spawn. Healthy freshwater ecosystems, habitat connectivity and complexity, water quality, water temperature, and ocean conditions are important components to completing their life history.

2.2.1.2.4 Factors for Decline

Several factors have contributed to the decline of SR spring/summer-run Chinook salmon, including loss and degradation of habitat, reduced stream flows, hatchery practices, pinniped predation, ocean conditions/survival, and hydroelectric development on the Snake and Columbia rivers, which have resulted in altered flow regimes, affected estuarine habitats, and created barriers (NMFS WCR 2022b, NOAA 2024b). Habitat degradation includes, but is not limited to, lack of habitat complexity, simplified stream channels, lack of floodplain connectivity, loss of cold water refugia, and more conducive habitat conditions for non-native predator fish (NOAA 2024b).

2.2.1.2.5 Current Status

Based on the most recent 5-year status review (NMFS WCR 2022b), most SR spring/summer-run Chinook salmon populations remain at high overall risk for extinction due to low abundance/productivity (Ford 2022).

Counts of adult and juvenile SR spring/summer-run Chinook salmon are recorded at McNary Dam annually. The peak upstream migration for adult SR spring/summer Chinook passing McNary Dam is May through mid-July. Annual run timing between 2002 and 2023 for SR spring/summer Chinook detected via PIT-tagged fish at the McNary Dam fishways is shown in Figure 2-7 (Columbia River DART 2024a). These data show the median start and end of the adult SR spring/summer Chinook run at McNary Dam is April 16 and September 24 (annual $\tilde{x}$ = 1,197 adult fish).

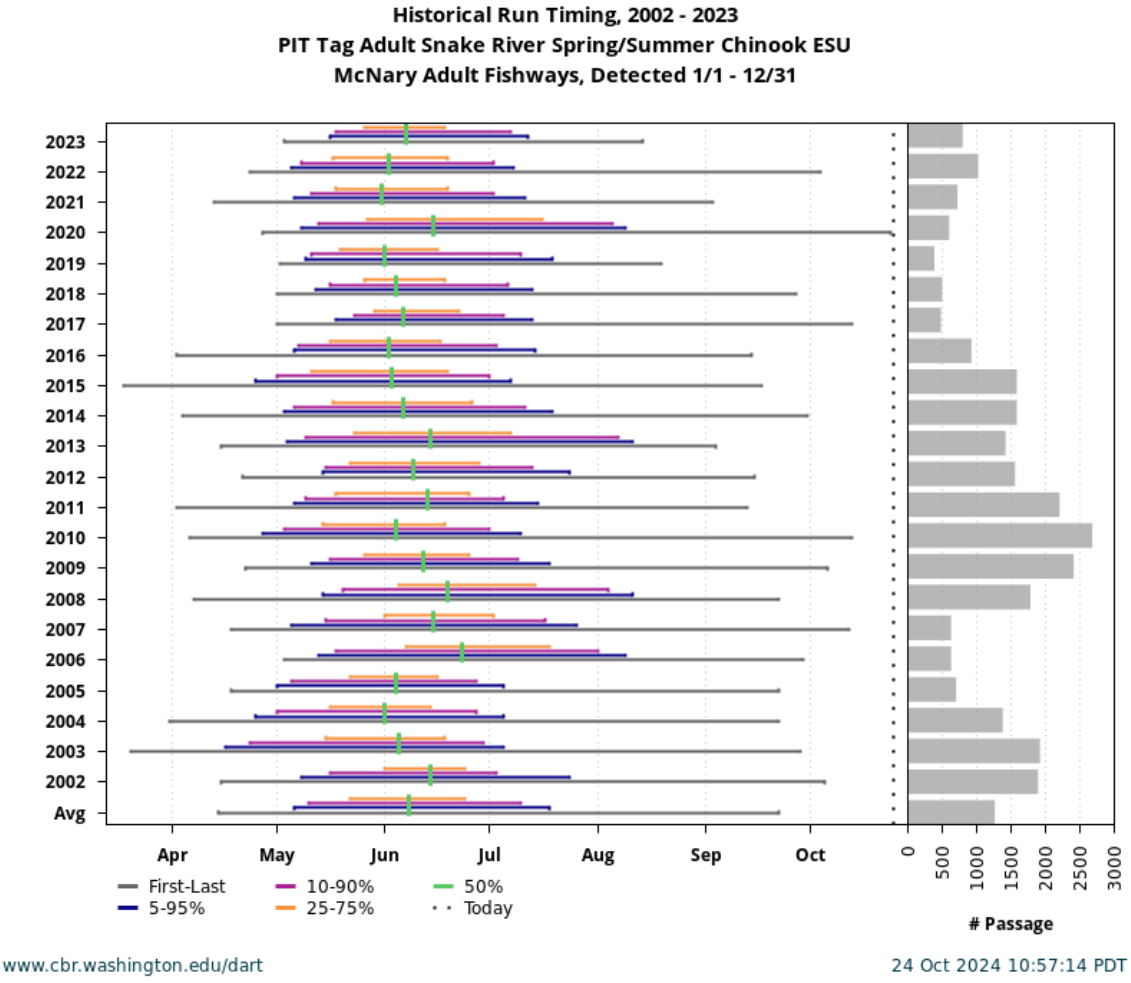

Figure 2-7 Historical run timing for PIT-tagged adult SR spring/summer Chinook at McNary Dam, 1999-2023 (Columbia River DART 2024a).

Juvenile SR spring/summer Chinook salmon migrate downstream from the Snake River through Lake Wallula before reaching McNary Dam. Annual migration patterns at McNary Dam for juvenile PIT-tagged SR spring/summer Chinook between 1999 and 2023 are shown in Figure 2-8. These data indicate the median start and end date of the juvenile downstream migration at McNary Dam is April 11 and July 27 (annual $\tilde{x}$ = 19,372 juvenile fish).

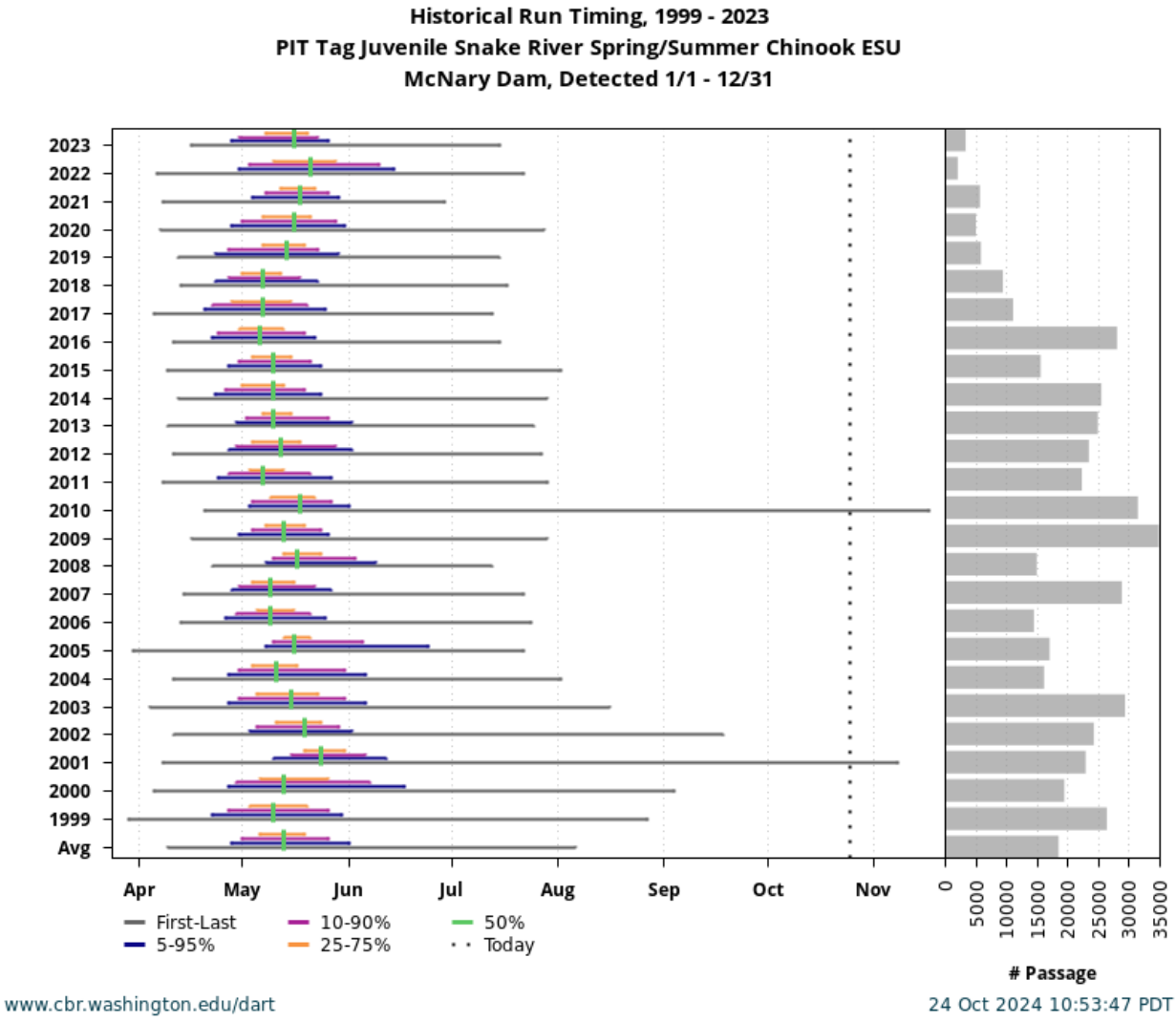

Figure 2-8 Historical run timing for PIT-tagged juvenile SR spring/summer Chinook salmon at McNary Dam, 1999-2023 (Columbia River DART 2024a).

During the last 25 years, there have been few occurrences of PIT-tagged SR spring/summer Chinook salmon at McNary Dam during the proposed in-water work window of December 1 through March 31 (Columbia River DART 2024a). In-water construction will occur outside the median migration window for adult (April 16 through September 24) and juvenile (April 11 through July 27) SR spring/summer Chinook salmon (Figure 2-7 and Figure 2-8 respectively). Adult fish have been detected moving upstream at McNary Dam in March in 3 of 22 years. Juvenile fish have been detected moving downstream at McNary Dam in late March in 2 of 25 years. The potential for SR spring/summer Chinook to occur in or near the Project construction area during in-water work window is limited based on the known migration timing (Columbia River DART 2024a).

Columbia and Snake River dams implement monitoring programs for adult and juvenile passage. In addition, there are several other federal, state, and tribal organizations throughout the watershed that implement monitoring programs.

2.2.1.3 Snake River Fall Chinook

2.2.1.3.1 Listing History

The SR fall-run Chinook salmon ESU was listed as a threated species under the ESA on April 22, 1992 (57 FR 14653), reaffirmed on June 28, 2005 (70 FR 37159), and updated on April 14, 2014 (79 FR 20802).

2.2.1.3.2 Distribution

The ESU includes naturally spawned fall-run Chinook salmon originating from the mainstem Snake River below Hells Canyon Dam and from the Tucannon River, Grande Ronde River, Imnaha River, Salmon River, and Clearwater River subbasins (Figure 2-9). There is one MPG in the ESU and one extant population, the Lower Snake River population. There are four artificial propagation programs (85FR 81822) including the Lyons Ferry Hatchery Program, Fall Chinook Acclimation Ponds Program, Nez Perce Tribal Hatchery Program, and Idaho Power Program (NOAA 2024c). Historically, this ESU included one large population upstream of Hells Canyon Complex using the middle Snake River to Shoshone Falls but was extirpated in the early 1960s after the construction of Hells Canyon Complex (NMFS WCR 2022c).

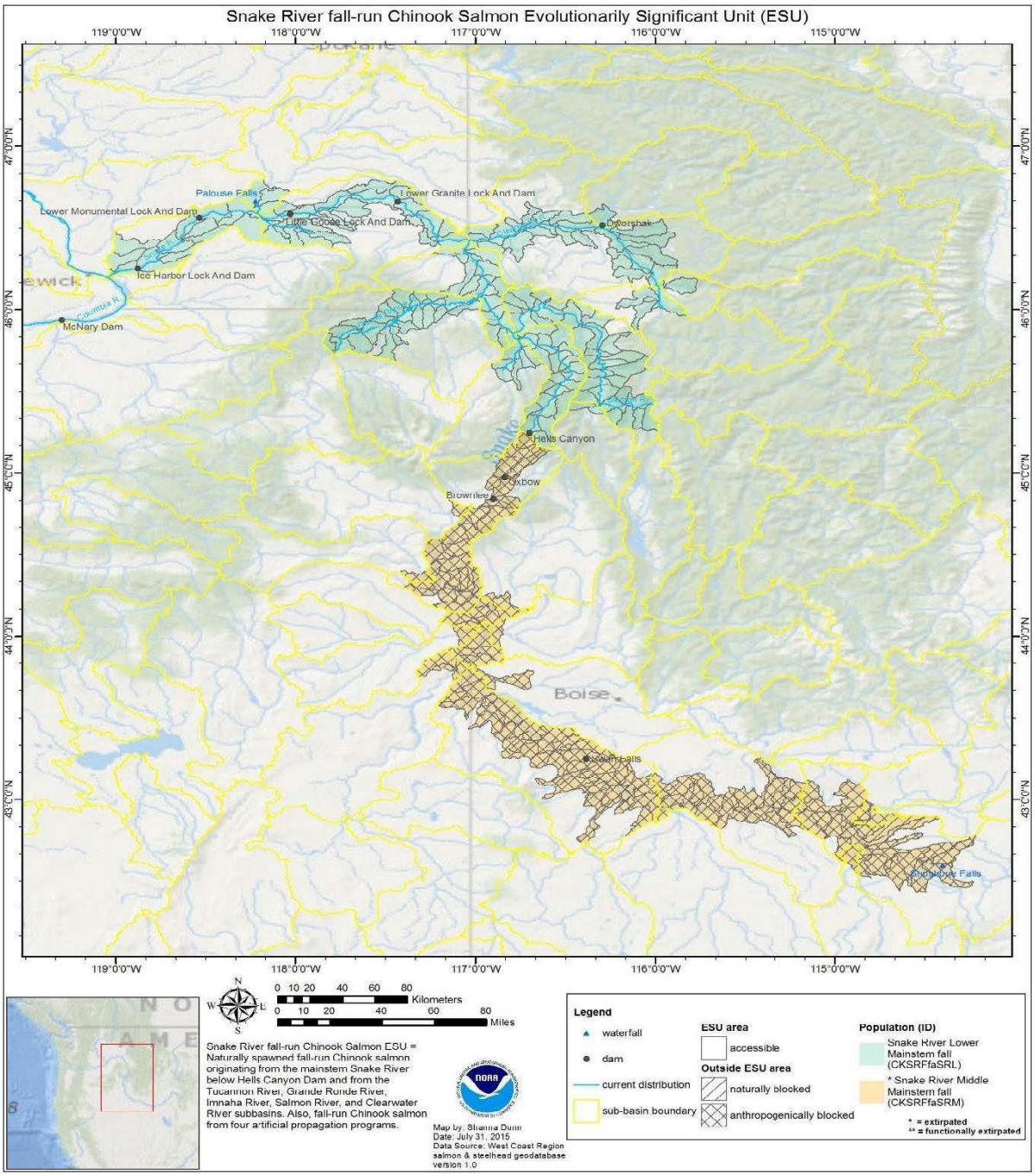

Figure 2-9 Snake River fall-run Chinook salmon ESU (taken from NMFS WCR 2022c).

2.2.1.3.3 Life History and Biological Requirements

SR fall-run Chinook salmon migrate over 470 river miles, passing the four lower Columbia River dams and the four lower Snake River dams (Figure 2-3) to access spawning tributaries.

SR fall-run Chinook are primarily mainstem spawners (NMFS WCR 2022c). Adult SR fall-run Chinook enter the Columbia River in July and August and pass the lower Snake River dams from August to November (NOAA 2024c). Spawning occurs from October through early December and juveniles emerge in March and April the following year. Spawning areas include the mainstem of the Snake River, between Asotin Creek and Hells Canyon Dam, and in the lower reaches of Tucannon, Grande Ronde, Clearwater, Salmon, and Imnaha Rivers (NMFS WCR 2022c, NOAA 2024c).

Some SR fall-run Chinook salmon migrate downstream within about 3 months of emergence and spend their first winter in the ocean (NOAA 2024c), while others are known to overwinter in the lower Snake River reservoirs or the Columbia River estuary (NMFS WCR 2022c). As SR fall-run Chinook salmon juveniles move downstream, they tend to use shallow shoreline habitats (less than 6-feet deep) during their first summer and fall before reaching the ocean by winter (NOAA 2024c).

SR fall-run Chinook salmon have a complex life history that includes rearing in natal freshwater tributary streams, extensive river migrations, overwintering in the mainstem Snake River or Columbia Estuary, growing in the ocean, and returning to freshwater, natal streams to spawn. Healthy freshwater ecosystems, habitat connectivity and complexity, water quality, water temperature, and ocean conditions are important components to completing their life history.

2.2.1.3.4 Factors for Decline

Several factors have contributed to the decline of SR fall-run Chinook salmon, including loss of primary spawning and rearing areas, hydroelectric development on the Columbia and Snake rivers, harvest, hatchery practices, degraded estuarine and nearshore habitat, and predation (NMFS WCR 2022c, NOAA 2024c). The most significant factor has been reduced access to historical spawning and rearing habitat in the Snake River. Swan Falls Dam blocked access to 157 miles of the middle mainstem Snake River in 1901 followed by construction of the Hells Canyon Complex in 1967, which blocked access to remaining spawning areas in the middle mainstem Snake River reach (NMFS WCR 2022c). Additionally, spawning and rearing habitat was lost during the creation of impoundments at the lower Snake River dams (NMFS WCR 2022c). The ESU continues to be threatened by habitat loss, degradation, or modification in the mainstem and tributaries, disease, predation; harvest, hatcheries, and climate change (NMFS WCR 2022c).

2.2.1.3.5 Current Status

SR fall-run Chinook salmon spawning is limited to about 20 percent of historically available habitat in the Snake River basin (NMFS WCR 2022c). The SR fall-run Chinook ESU includes one, large, extant population that is currently considered viable, but is not meeting its recovery goals (NOAA 2024c).

Counts of adult and juvenile of SR fall-run Chinook salmon are recorded at McNary Dam annually. The peak upstream migration for adult SR fall-run Chinook passing McNary Dam occurs in September. Annual run timing between 2002 and 2023 for SR fall Chinook detected via PIT-tagged fish is shown in Figure 2-10. These data show a median start and end June 24 to November 13 (annual $\tilde{x}$ = 691 adult fish) for the adult SR fall Chinook run at McNary Dam (via PIT-tag detection).

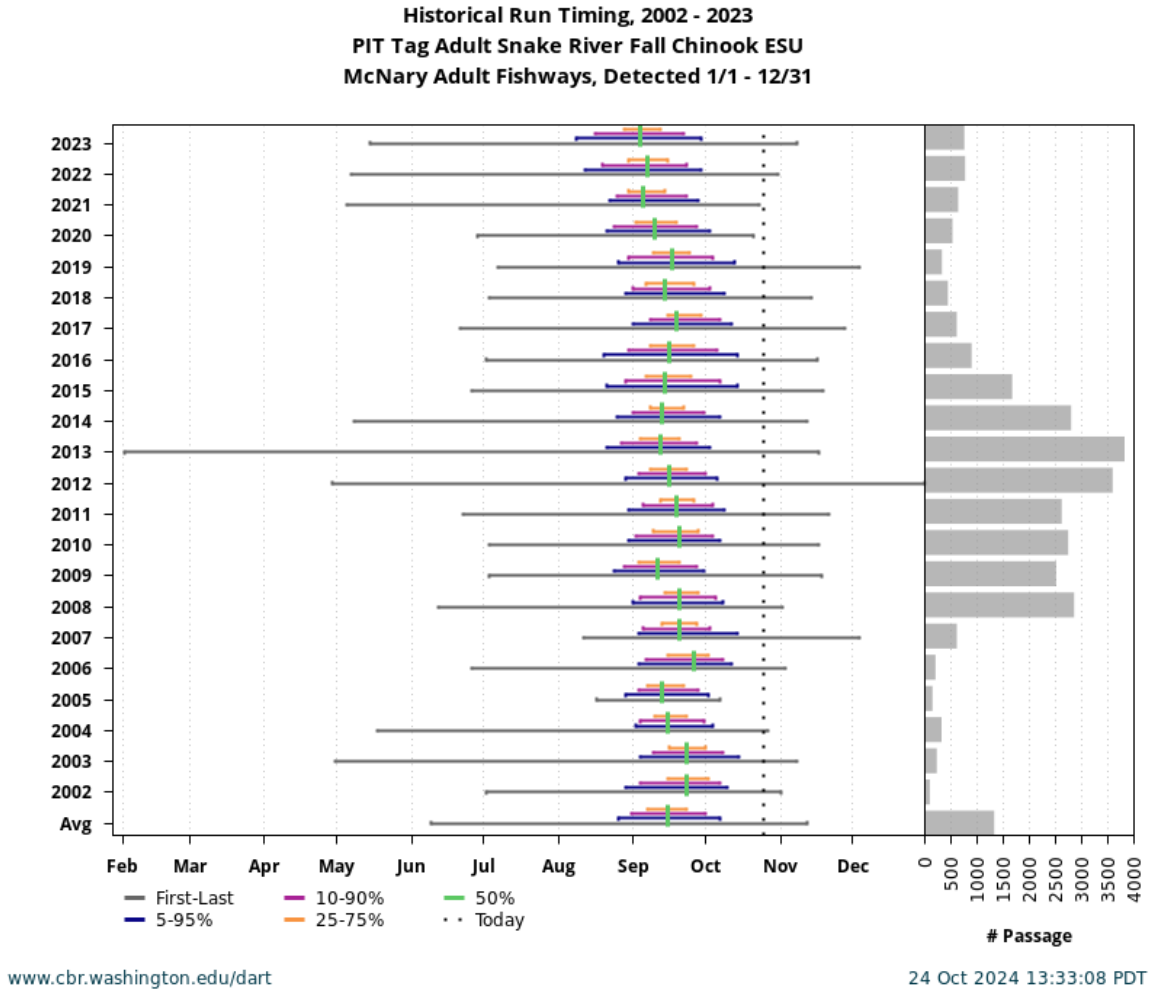

Figure 2-10 Historical run timing for PIT-tagged adult SR fall Chinook at McNary Dam, 1999-2023 (Columbia River DART 2024a).

Juvenile SR fall Chinook salmon migrate downstream through the Snake River and Lake Wallula before reaching McNary Dam. Annual detections of juvenile PIT-tagged SR fall Chinook at McNary Dam between 1999 and 2023 is shown in Figure 2-11 (Columbia River DART 2024a). These data indicate the median start and end date of the juvenile downstream migration at McNary Dam is March 30 and November 22 (annual $\tilde{x}$ = 6,391 juvenile fish). However, the migration timing at McNary Dam appears to be bi-modal with peak detections occurring in April and May and again June and early-July (Figure 2-12).

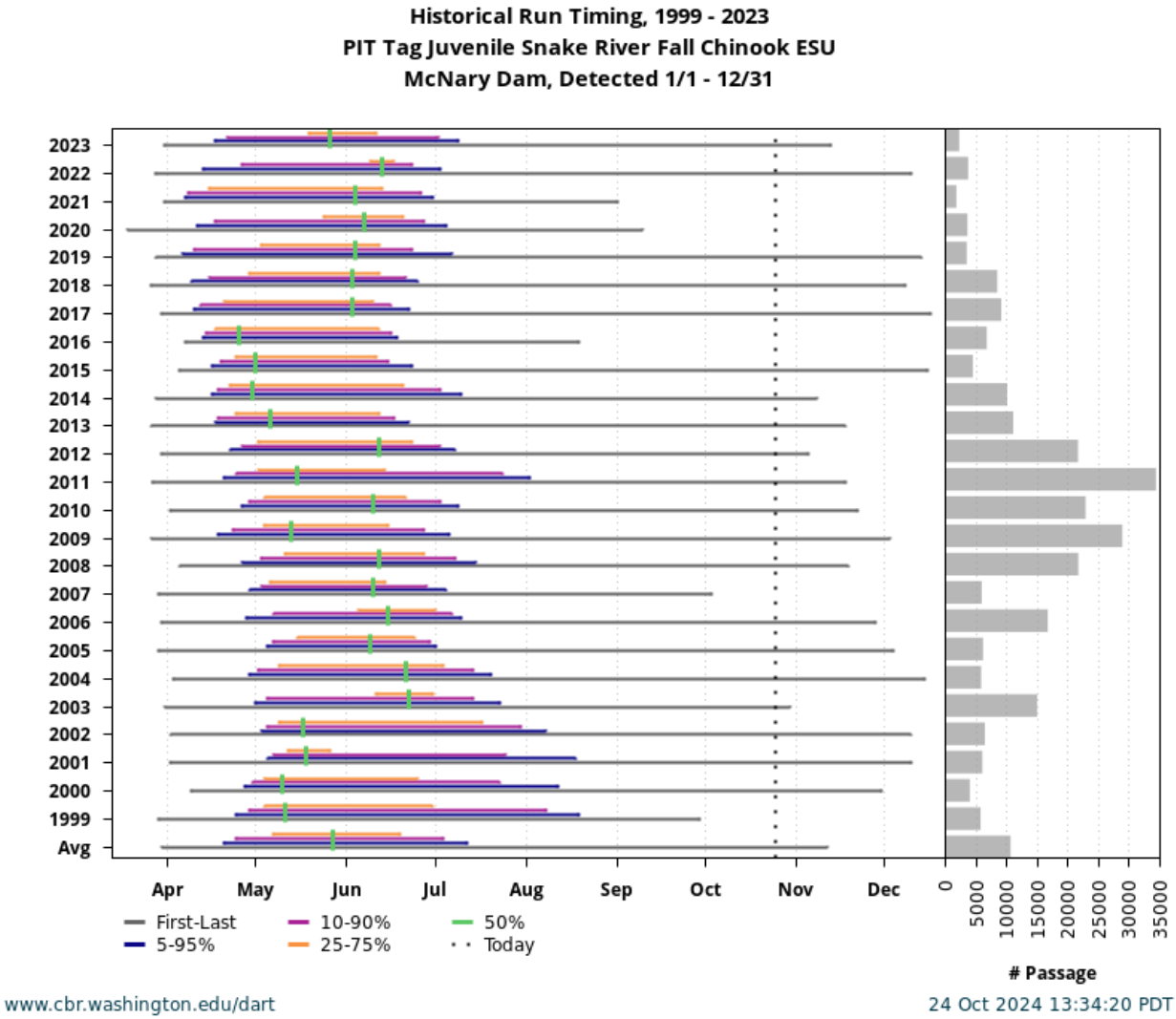

Figure 2-11 Historical run timing for PIT-tagged juvenile SR fall Chinook at McNary Dam, 1999-2023 (Columbia River DART 2024a).

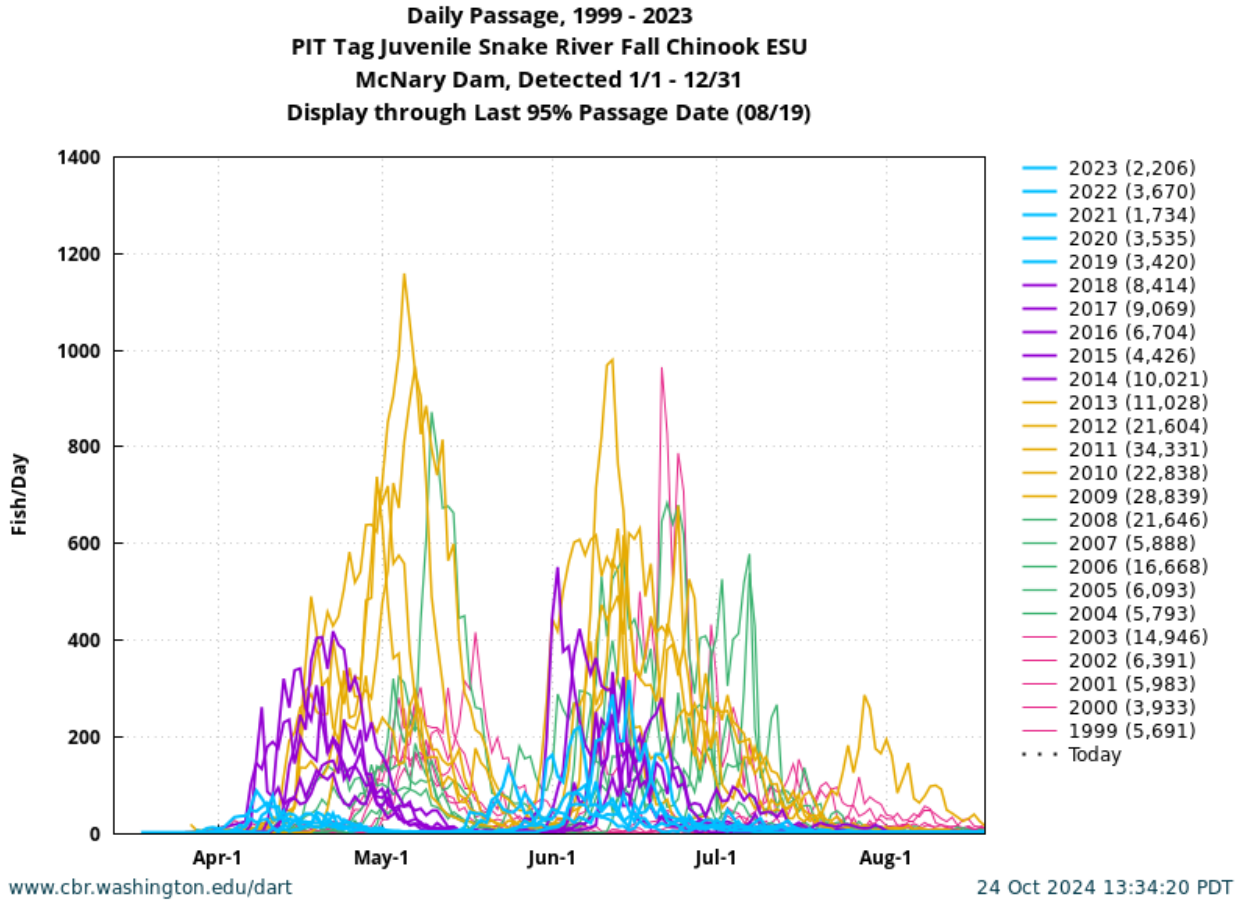

Figure 2-12 Historical run timing showing the bi-modal migration for PIT-tagged juvenile SR fall Chinook at McNary Dam, 1999-2023 (Columbia River DART 2024a).

During the last 25 years, there were few occurrences of PIT-tagged SR fall-run Chinook salmon at McNary Dam during the proposed in-water work window of December 1 through March 31 (Columbia River DART 2024a). In-water construction will occur outside the median migration window for adult (June 25 through November 13) and juvenile (March 30 through November 22) SR fall-run Chinook salmon (Figure 2-10 and Figure 2-11, respectively). Adult fish have been recorded moving upstream at McNary Dam in 1 of 22 years (early February 2013) and in 3 of 22 years in December. Juvenile fish were documented moving downstream at McNary Dam in 17 of 25 years in late March and 10 of 25 years in December. The potential for SR fall Chinook to pass through or by the Project construction area during the in-water work window is limited to February and March for adults and December, February, and March for juveniles based on known migration timing (Columbia River DART 2024a).

Columbia and Snake River dams implement monitoring programs for adult and juvenile passage. In addition, there are several other federal, state, and tribal organizations throughout the watershed that implement monitoring programs.

2.2.1.4 Snake River Sockeye Salmon

2.2.1.4.1 Listing History

The SR sockeye Salmon ESU was listed as endangered on November 20, 1991 (56 FR 58619). The listing was reaffirmed on June 28, 2005 (70 FR 37159) and on April 14, 2014 (79 FR 20802).

2.2.1.4.2 Distribution

The ESU includes all naturally spawned anadromous and residual sockeye salmon originating from the Snake River basin (Figure 2-13), including two artificial propagation programs: Redfish Lake Captive Broodstock Program and Snake River Sockeye Salmon Hatchery Program (NOAA 2024d, NMFS WCR 2022d, NOAA 2020).

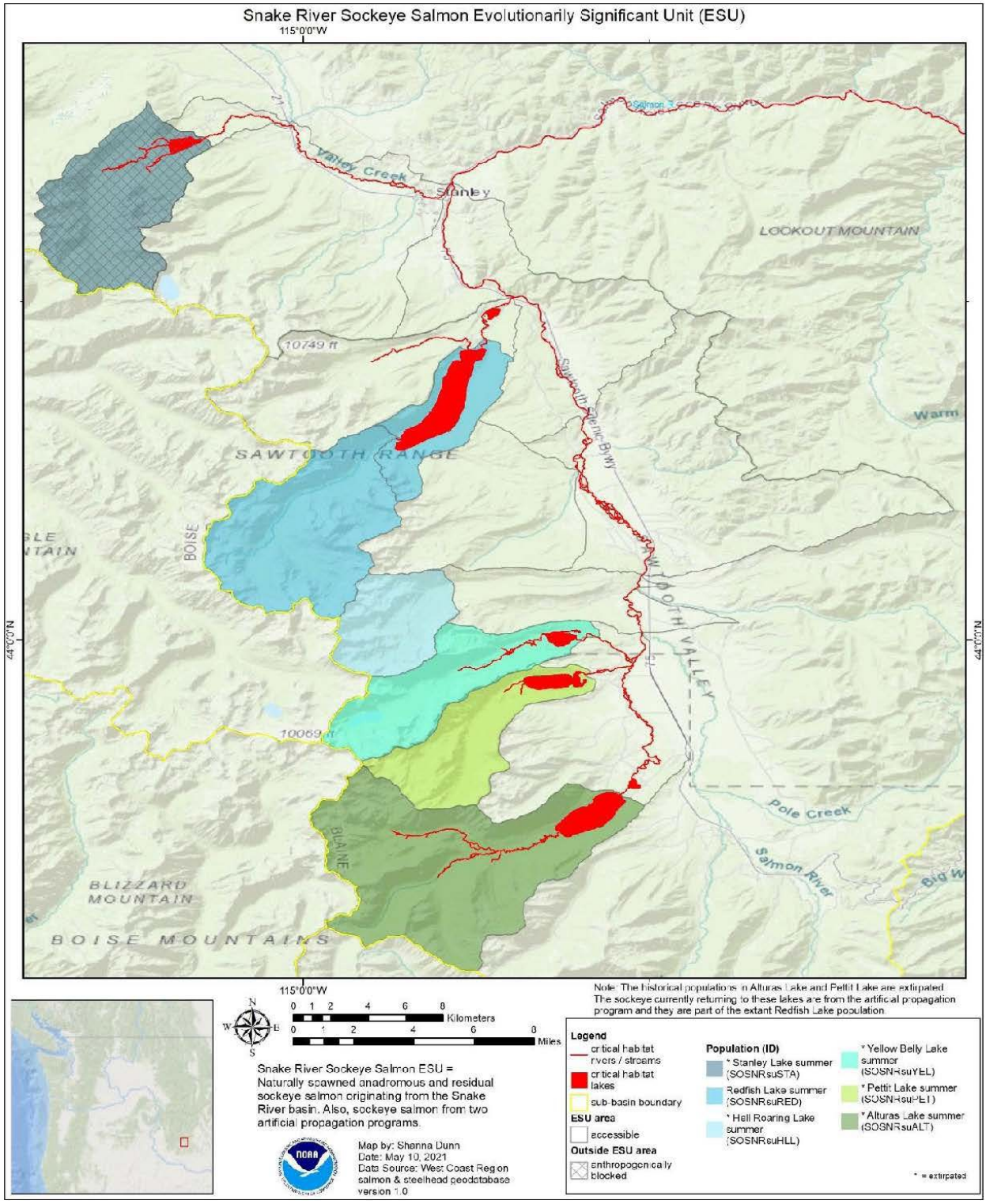

Figure 2-13 Snake River Sockeye Salmon ESU (taken from NMFS WCR 2022d).

2.2.1.4.3 Life History and Biological Requirements

Adult sockeye salmon return to the Columbia River after 1 to 3 years in the ocean migrating over 900 river miles and ascending more than 6,500 feet in elevation to reach spawning grounds. SR sockeye travel up the Columbia River, and into the Snake and Salmon rivers. Upstream migration occurs in the summer months when water temperatures are warmest, and flows are lower (NOAA 2020).

SR sockeye enter the Columbia River, arriving at Bonneville Dam in mid-June and McNary Dam (RM 292) in early July (DART 2024a). They then continue migrating into the Snake River passing the four lower dams and enter the Salmon River to reach spawning grounds in the Sawtooth Valley by August and September (Bjornn et al. 1968, NOAA 2024d). Spawning occurs in October. Juvenile SR sockeye salmon require lake habitat (e.g., Redfish Lake near Stanley, Idaho), live and grow for 1 to 2 years after emergence, and migrate downstream to the ocean in May.

SR sockeye salmon have a complex life history that includes rearing in natal freshwater tributary streams, extensive river migrations, growing in the ocean, and returning to freshwater, natal streams to spawn. Healthy freshwater ecosystems, habitat connectivity and complexity, water quality, water temperature, and ocean conditions are important components to completing their life history.

2.2.1.4.4 Factors for Decline

Several factors have contributed to the decline of SR sockeye salmon, including habitat degradation, water quality and quantity, lack of thermal refugia, harvest, predation, and barriers (NMFS WCR 2022d). Increases in temperature in freshwater migratory corridors and spawning areas are also contributing to the species decline (NOAA 2020, NMFS WCR 2022d). As an example, warm summer water temperature exceeding 71.6°F (22°C) appears to contribute to increased fallback events at Bonneville and The Dalles dams on the Columbia River and Lower Granite Dam on the Snake River (NOAA 2020).

2.2.1.4.5 Current Status

The Sawtooth Valley in Idaho supports the only remaining run of SR sockeye salmon (NOAA 2024d). The SR sockeye salmon ESU is supported by hatchery broodstock and smolt production from one population and retains a “high risk” classification for spatial structure and diversity (NMFS WCR 2022d). Survival estimates based on PIT-tag data

indicate substantial losses of adult sockeye salmon are occurring between Bonneville and McNary dams (NMFS WCR 2022d).

Counts of adult and juvenile SR sockeye salmon are recorded annually at McNary Dam. The peak upstream migration of adult SR sockeye salmon at McNary Dam is July. Annual run timing between 2002 and 2023 for SR sockeye salmon detected via PIT-tagged fish at the McNary Dam fishways is shown in Figure 2-14 (Columbia River DART 2024a). These data show the median start and end time of the adult SR sockeye salmon run at the McNary Dam fishways (via PIT-tag detection) is June 27 and July 17 (annual $\tilde{x}$ = 32 adult fish).

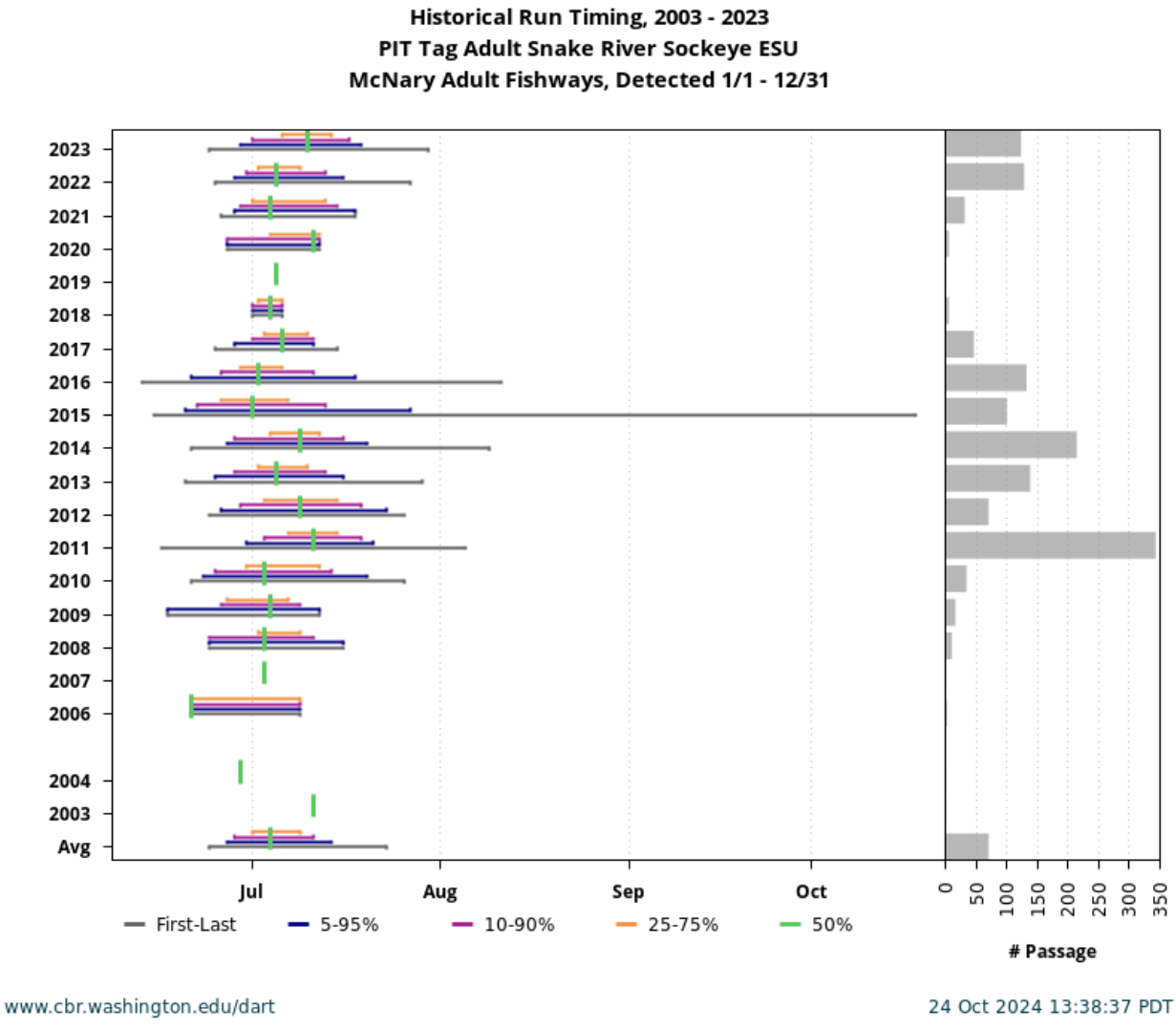

Figure 2-14 Historical run timing for PIT-tagged adult SR sockeye salmon at McNary Dam, 1999-2023 (Columbia River DART 2024a)

Juvenile SR sockeye salmon migrate downstream through the Salmon and Snake rivers, and Lake Wallula before reaching McNary Dam. Annual migration detections at McNary Dam for juvenile PIT-tagged SR sockeye between 1999 and 2023 is shown in Figure 2-15 (Columbia River DART 2024a). These data indicate the median start and end date of the juvenile downstream migration at McNary Dam is May 13 and July 2 (annual $\tilde{x}$ = 433 juvenile fish).

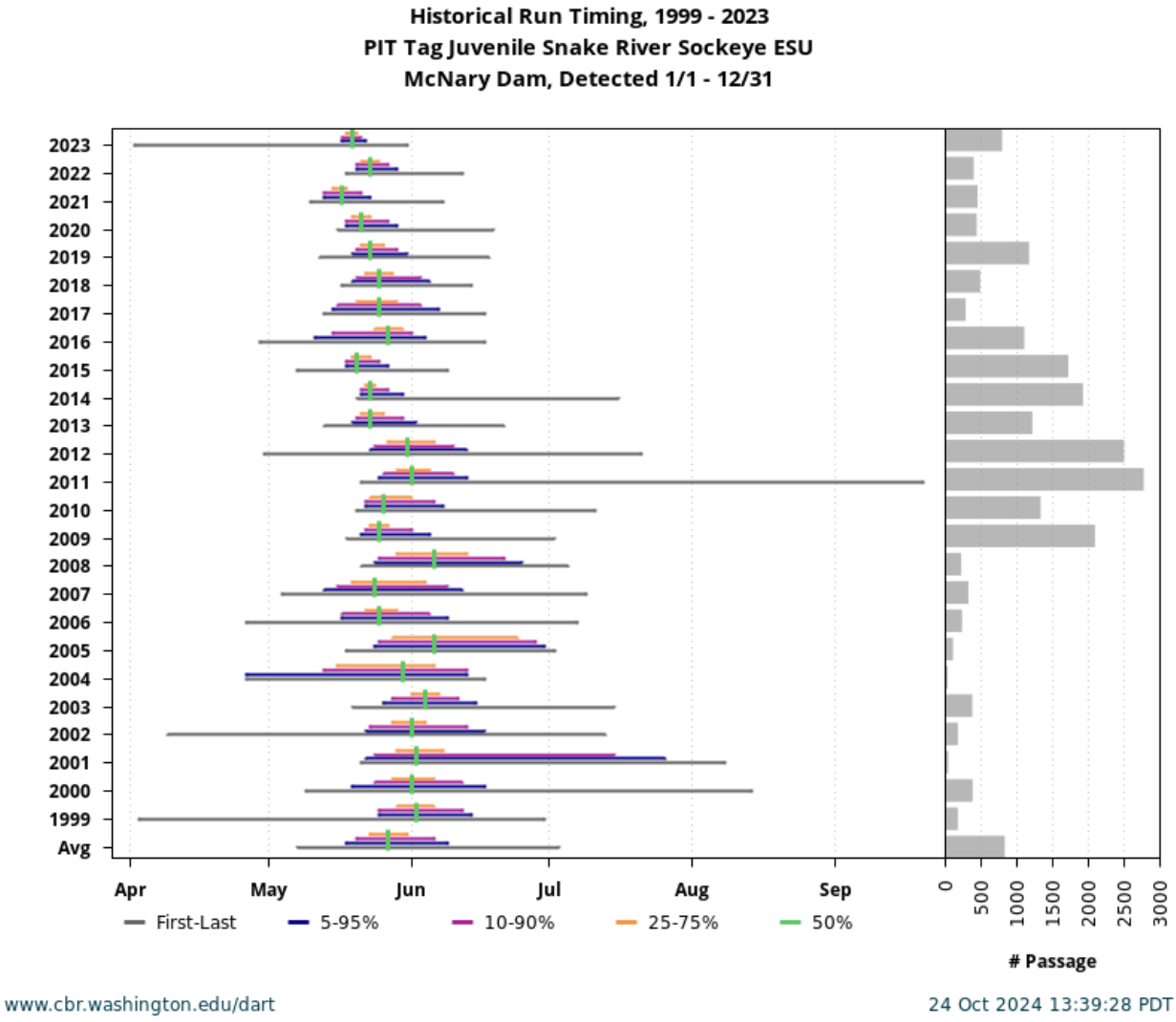

Figure 2-15 Historical run timing for PIT-tagged juvenile SR sockeye salmon at McNary Dam, 1999-2023 (Columbia River DART 2024a).

During the last 25 years, no PIT-tagged SR sockeye salmon have been detected at McNary Dam during the proposed in-water work window of December 1 through March 31 (Columbia River DART 2024a). In-water construction will occur outside the median

migration window for adult (June 27 through July 17) and juvenile (May 13 through July 2) SR sockeye salmon (Figure 2-14 and Figure 2-15, respectively). Presence of SR sockeye salmon passing through or by the Project area during in-water work window is unlikely based on the migration timing presented (Columbia River DART 2024a).

Columbia and Snake River dams implement monitoring programs for adult and juvenile passage. In addition, there are several other federal, state, and tribal organizations throughout the watershed that implement monitoring programs.

2.2.1.5 Snake River Steelhead

2.2.1.5.1 Listing History

The SR steelhead ESU was listed as threatened under the ESA on August 18, 1997 (62 FR 43937), with a revised listing as a distinct population segment (DPS) on January 5, 2006 (71 FR 833) that was reaffirmed on April 14, 2014 (79 FR 20802).

2.2.1.5.2 Distribution

The SR steelhead DPS includes all naturally spawned populations of anadromous steelhead originating from the Snake River basin (NMFS WCR 2022e). The Snake River basin expands into southeast Washington, northeast Oregon, and Idaho. The Snake River Steelhead DPS is divided into six major population groups (MPGs): 1) Grande Ronde River, 2) Imnaha River, 3) Hells Canyon, 4) Salmon River, 5) Clearwater River, and 6) Lower Snake River (Figure 2-16). The DPS includes populations from six hatchery programs: Tucannon River Program, Dworshak National Fish Hatchery Program, East Fork Salmon River Natural Program, Little Sheep Creek/Imnaha River Hatchery Program, Salmon River B-run Program, and South Fork Clearwater B-run Program (Clearwater Hatchery) (NOAA 2024f).

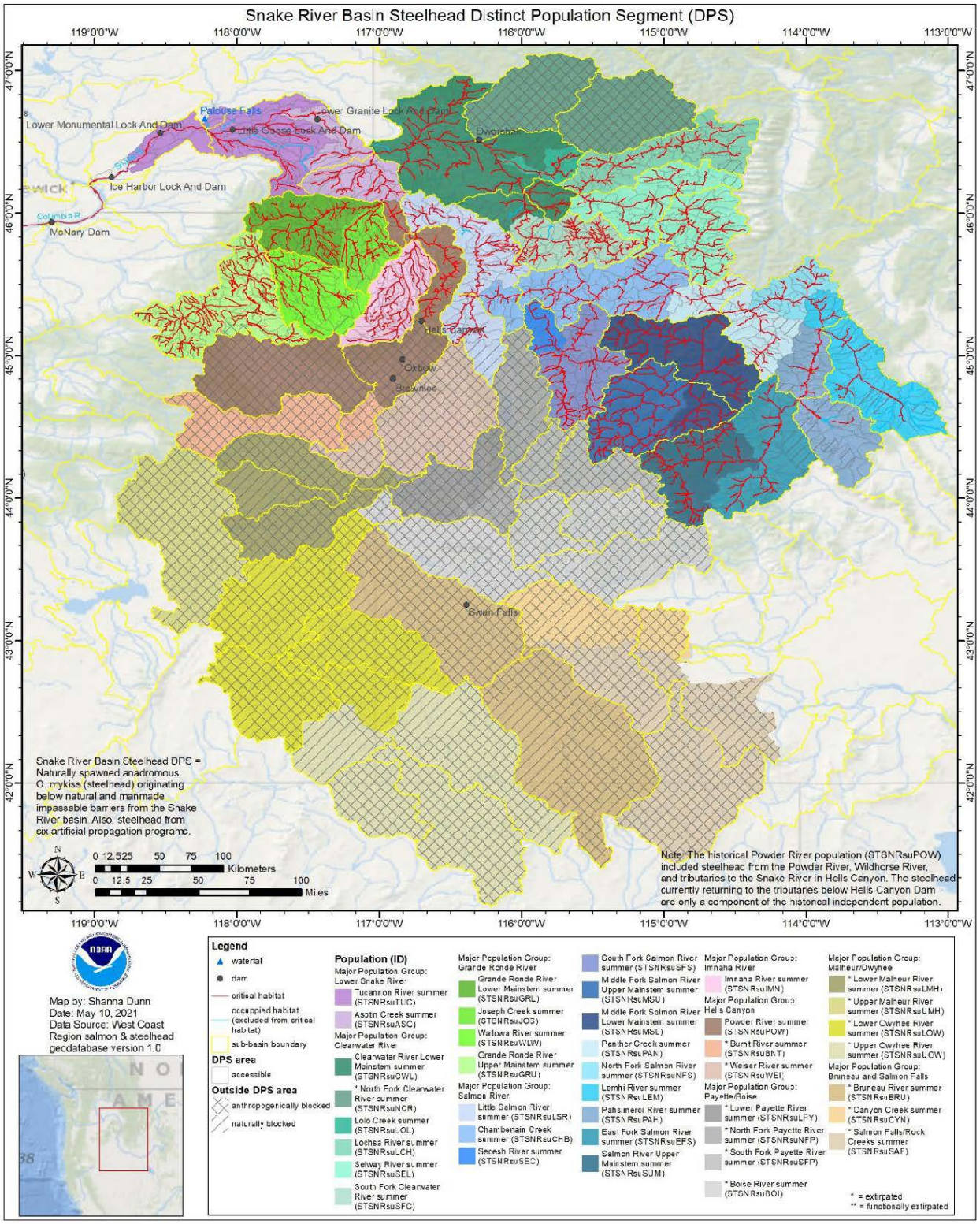

Figure 2-16 Snake River Steelhead Distinct Population Segment (NMFS WCR 2022e).

2.2.1.5.3 Life History and Biological Requirements

Steelhead exhibit complex migration behaviors (Keefer et al. 2011, Fuchs et al. 2021) and they may spawn more than once (iteroparous) unlike other anadromous salmon. Thus, steelhead display more robust upstream and downstream migration behaviors throughout the Snake and Columbia rivers and associated dams.

Adult SR steelhead enter the Columbia River from late June through October and migrate a substantial distance from the ocean (up to 940 river miles), passing up to eight dams to access high elevation (up to 6,562 feet above sea level), freshwater tributaries to spawn in the Snake River basin. In the Snake River system, fish passage is blocked at Dworshak Dam (on the North Fork Clearwater River) and at Hells Canyon Dam (on the Snake River). SR steelhead spawn from March through May. SR steelhead spawning habitat is typically confined, steep terrain with cool year-round water temperatures (e.g., Lochsa, Selway, South Fork Clearwater, South Fork Salmon, and Middle Fork Salmon rivers). Steelhead growth is slower in these cold, less productive environments as compared to the Columbia River basin populations (Dobos 2020). Juveniles typically spend 1 to 3 years in freshwater prior to migrating to the ocean between March and mid-June. SR steelhead remain in the ocean for 1 to 2 years before returning to their natal freshwater stream.

Adult steelhead enter freshwater for spawning at various maturity levels. Sexual maturity varies at the onset of the migration from completely immature to completely mature (Myers 2021). Winter steelhead enter the Columbia River between November and April and spawn that same spring. Summer steelhead enter the Columbia River between May and October and spend several months in freshwater to mature before spawning. Summer steelhead typically migrate further upstream to spawn than winter steelhead (NMFS 2023b).

Historically, there were three peaks in the annual adult steelhead migration (i.e., one winter run and two summer runs). The winter run generally spawned in the tributaries to the lower Columbia River. The summer run was classified based on the timing of passage at Bonneville Dam (i.e., prior to or after August 25). Steelhead passing after August 25 were generally larger in size, bound for Idaho, and expected to pass Lower Granite Dam on the Snake River. In the early 1970s, the summer run was referred to as group "A" and group "B." Group "A" were steelhead passing Bonneville Dam between July 1 and August 25 and group "B" were steelhead headed to Idaho passing Bonneville Dam between August 26 and October 31 (Dobos 2020).

In 1999, the two groups were further defined. Group A steelhead are now considered as wild and hatchery origin fish passing Bonneville Dam between July 1 and October 31 that are less than 78 centimeters (cm) in fork length. Group B are wild and hatchery origin fish passing Bonneville Dam between July 1 and October 31 that are greater than or equal to 78 cm fork length. Once steelhead enter the Snake River, the fish are managed by MPGs (Clearwater, Salmon, and Snake rivers).

The Columbia River serves as a migratory pathway for adult upstream migration (and downstream migration for repeat spawners) and for smolts rapidly moving through the estuary during periods of peak river flows in the spring (Myers 2021). SR steelhead smolts are often older than Columbia River steelhead when migrating out to the ocean and they stay in the ocean longer (Dobos 2020).

SR steelhead have a complex life history that includes rearing in natal freshwater tributary streams, extensive river migrations, growing in the ocean, and returning to freshwater, natal streams to spawn. Healthy freshwater ecosystems, habitat connectivity and complexity, water quality, water temperature, and ocean conditions are important components to completing their life history.

2.2.1.5.4 Factors for Decline

Several factors have contributed to the decline of SR steelhead, including habitat degradation, water quality and quantity, lack of thermal refugia, harvest, predation, and barriers (NMFS WCR 2022e, NOAA 2024f). Specific habitat limitations include low summer stream-flows, altered hydrographs, floodplain disconnection, and elevated water temperatures (NMFS WCR 2022e).

2.2.1.5.5 Current Status

SR steelhead remain at moderate risk for extinction over the next 100 years due to these threats.

Counts of adult and juvenile SR steelhead are recorded at McNary Dam annually. The peak upstream migration for adult SR steelhead at McNary Dam is in September. Annual run timing between 2002 and 2023 for SR steelhead detected via PIT-tagged fish at the McNary Dam fishways is shown in Figure 2-17 (Columbia River DART 2024a). These data show the median start and end of the adult SR steelhead run at McNary Dam (via PIT-tag detection) is January 6 and December 26 (annual $\tilde{x}$ = 861 adult fish).

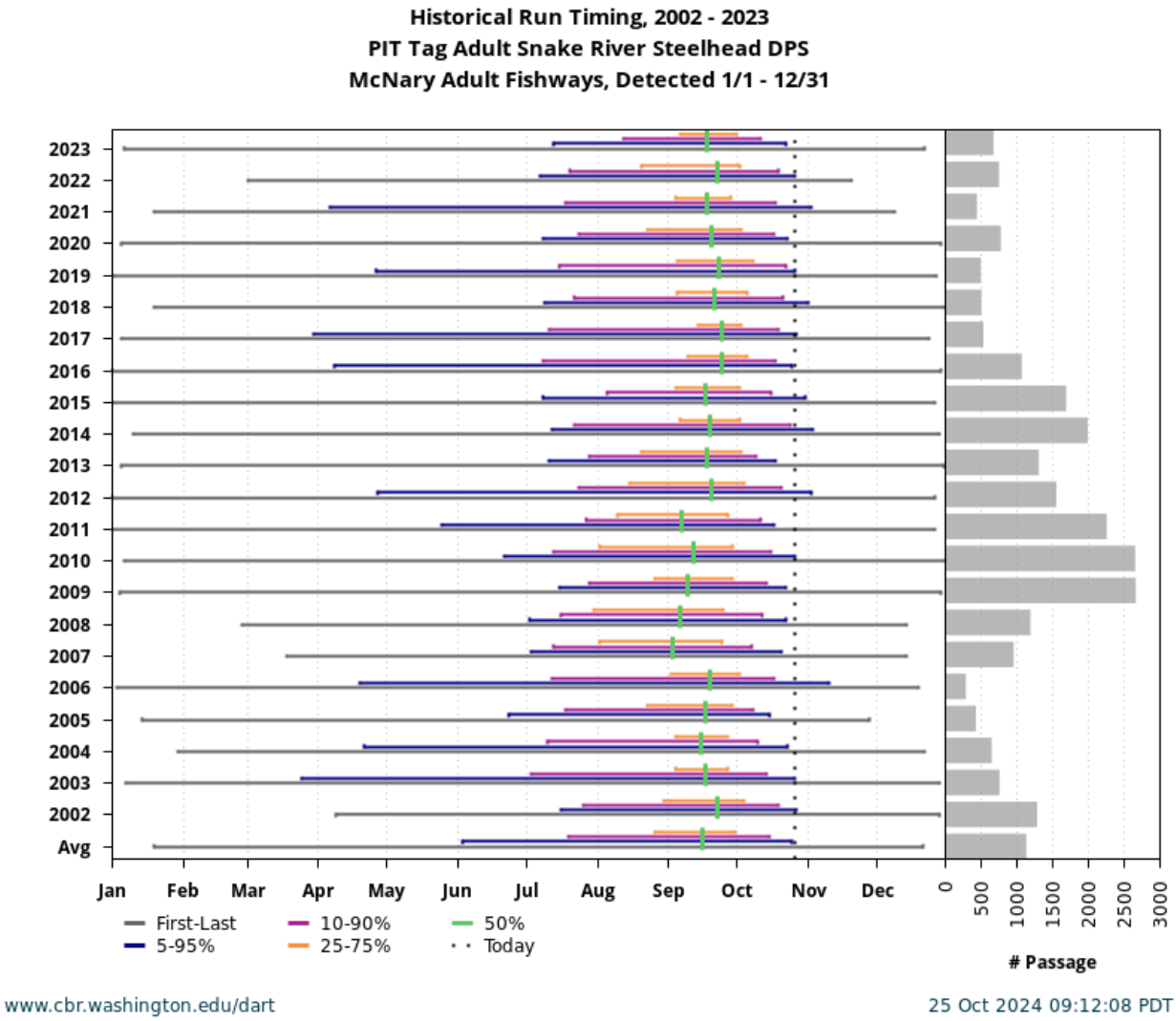

Figure 2-17 Historical run timing for PIT-tagged adult SR steelhead at McNary Dam, 2002-2023 (Columbia River DART 2024a).

Juvenile SR steelhead migrate through Lake Wallula before reaching McNary Dam. Annual detections at McNary Dam for juvenile PIT-tagged SR steelhead between 1999 and 2023 are shown in Figure 2-18 (Columbia River DART 2024a). These data indicate the median start and end date of the juvenile downstream migration at McNary Dam is April 3 July 15 (annual $\tilde{x}$ = 4,647 juvenile fish).

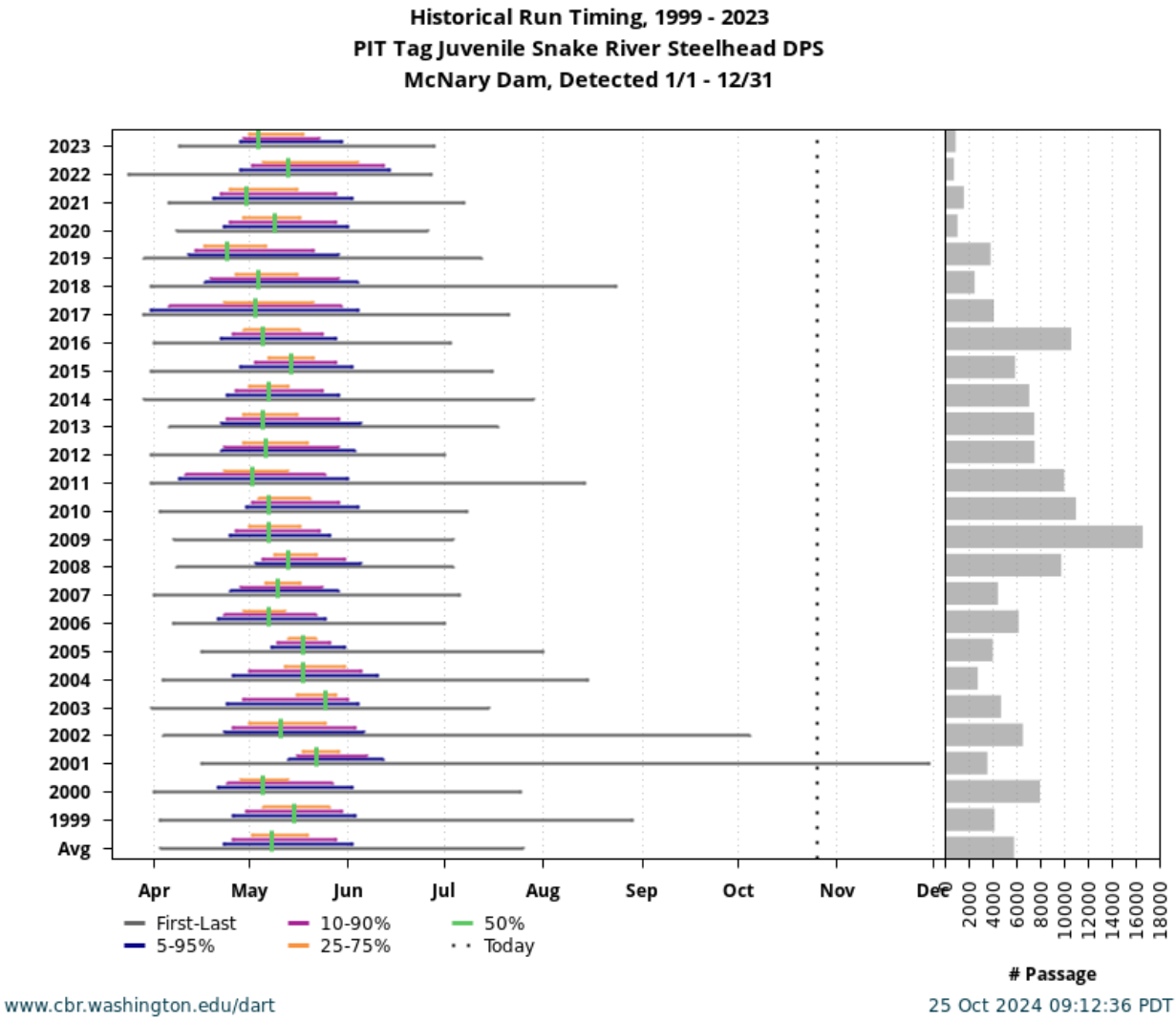

Figure 2-18 Historic run timing for juvenile SR steelhead at McNary Dam, 1999-2023 (Columbia River DART 2024a)

During the last 25 years, there has been a limited occurrence of PIT-tagged SR steelhead recorded at McNary Dam during the proposed in-water work window (Columbia River DART 2024a). In-water construction coincides with the median migration window for adult (January 6 through December 26) SR steelhead and is outside the median migration window for juvenile (April 3 through July 15) SR steelhead (Figure 2-17 and Figure 2-18Figure 2-5, respectively). Although adult SR steelhead are present year-round, 90 percent of upstream passage occurs between June and the end of October, which is outside of the in-water construction window (Columbia River DART 2024a). Adult fish were detected moving upstream at McNary Dam 21 of 22 years from January through March and 20 of 22 years in December. Juvenile fish were recorded moving downstream

at McNary Dam in 11 of 25 years in late March. The potential exists for SR steelhead to pass near the Project construction area during the in-water work window in January through December (adults) and in late March (juveniles) based on known migration timing (Columbia River DART 2024a).

Columbia and Snake river dams implement monitoring programs for adult and juvenile passage. In addition, there are several other federal, state, and tribal organizations throughout the watershed that implement monitoring programs.

2.2.1.6 Middle Columbia River Steelhead

2.2.1.6.1 Listing History

The Middle Columbia River (MCR) steelhead DPS was listed as a threatened species under the ESA on March 25, 1999 (64 FR 14517). This listing was reaffirmed on January 5, 2006 (71 FR 833) and April 14, 2014 (79 FR 20802).

2.2.1.6.2 Distribution

The MCR steelhead DPS includes all naturally spawned anadromous steelhead originating below natural and manmade barriers on the Columbia River mainstem and its tributaries upstream of the Wind and Hood rivers and includes the Yakima River (Figure 2-19). The MCR steelhead DPS excludes fish originating from the Snake River basin and fish designated as part of an experimental population (71 FR 834). The MCR steelhead DPS is grouped into four MPGs: Cascades Eastern Slope Tributaries, John Day River, Yakima River, and Umatilla/Walla-Walla (NMFS 2023b). There are also four artificial propagation programs including Touchet River Endemic Program, Yakima River Kelt Recondition Program, Umatilla River Program, and Deschutes River Program (NMFS WCR 2022f).

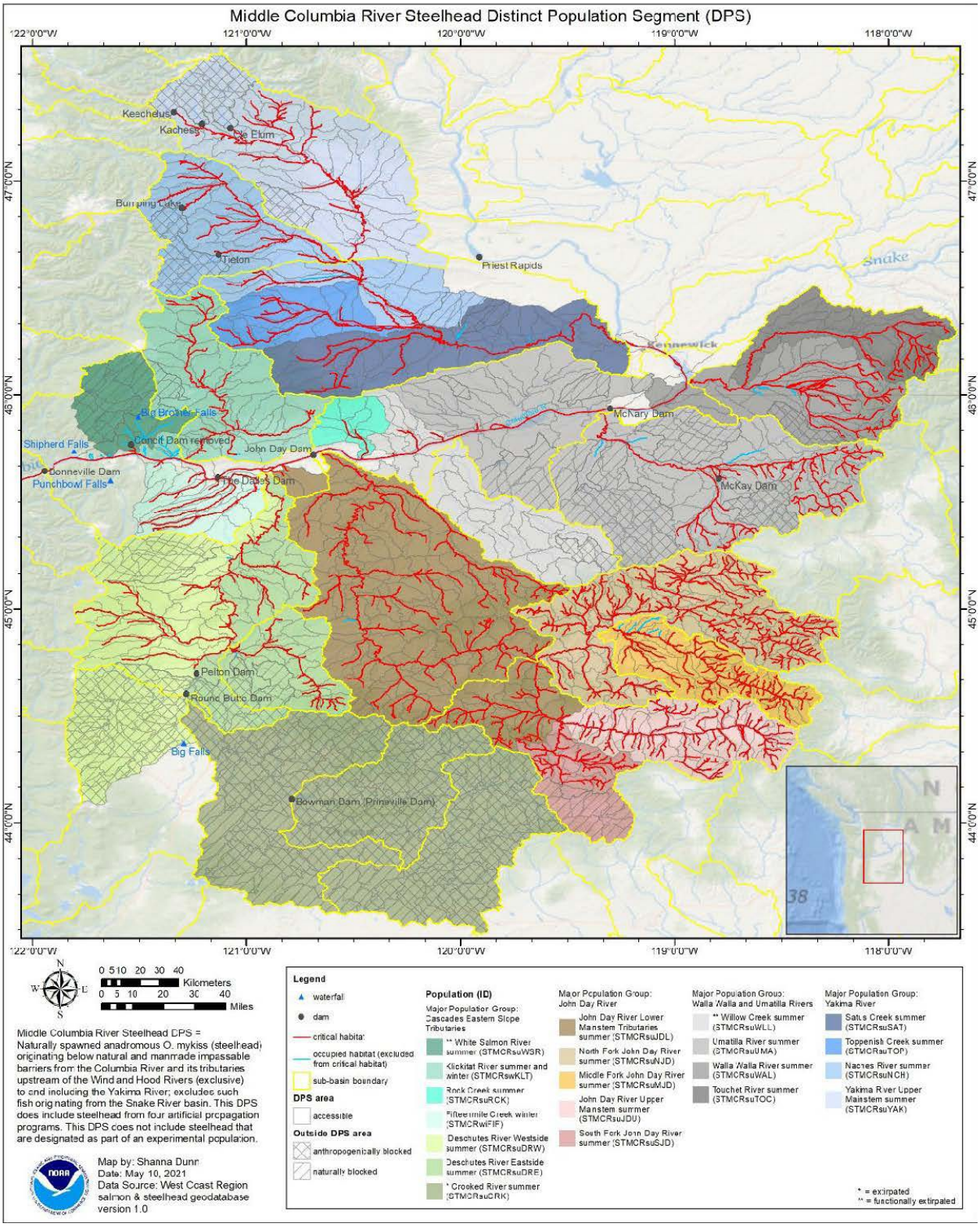

Figure 2-19 Middle Columbia River steelhead DPS (taken from NMFS WCR 2022f).

2.2.1.6.3 Life History and Biological Requirements

The general life history for steelhead is described above in the preceding sections. Details specific to MCR steelhead are summarized below.

MCR steelhead spend 1 to 2 years in the ocean before returning to freshwater to migrate to spawning streams (NOAA 2023b). Adult MCR steelhead from the Walla Walla (not Umatilla) and Yakima River MPGs must pass McNary Dam (and all four lower Columbia River dams) to access tributary spawning habitat. Juveniles generally rear in streams for 1 to 3 years or longer before migrating to the ocean. It is estimated that 2 to 4 percent of MCR steelhead above McNary Dam are repeat spawners (NOAA 2024g). Repeat spawning is limited by the need for fish to pass multiple mainstem dams multiple times (NMFS WCR 2022f).

MCR steelhead have a complex life history that includes rearing in natal freshwater tributary streams, extensive river migrations, growing in the ocean, and returning to freshwater, natal streams to spawn. Healthy freshwater ecosystems, habitat connectivity and complexity, water quality, water temperature, and ocean conditions are important components to completing their life history.

2.2.1.6.4 Factors for Decline

Several factors have contributed to the decline of MCR steelhead, including habitat degradation, water quality and quantity, lack of thermal refugia, harvest, predation, and barriers (NMFS WCR 2022f, NMFS 2023b). Specific habitat limitations include low summer stream-flows, altered hydrographs, floodplain disconnection, loss of riparian function, and elevated water temperatures (NMFS WCR 2022f).

2.2.1.6.5 Current Status

Overall, the MCR steelhead DPS is at moderate risk of extinction (NMFS 2023b, NMFS WCR 2022f).

Counts of adult and juvenile MCR steelhead are made annually at McNary Dam. The peak of the adult MCR steelhead passing McNary Dam is in September. Annual run timing between 2002 and 2023 for MCR steelhead detected via PIT-tagged fish at the McNary Dam fishways is shown in Figure 2-20. These data show the median start and end of the run at McNary Dam is February 24 and December 8 (annual $\tilde{x}$ = 202 adult fish).

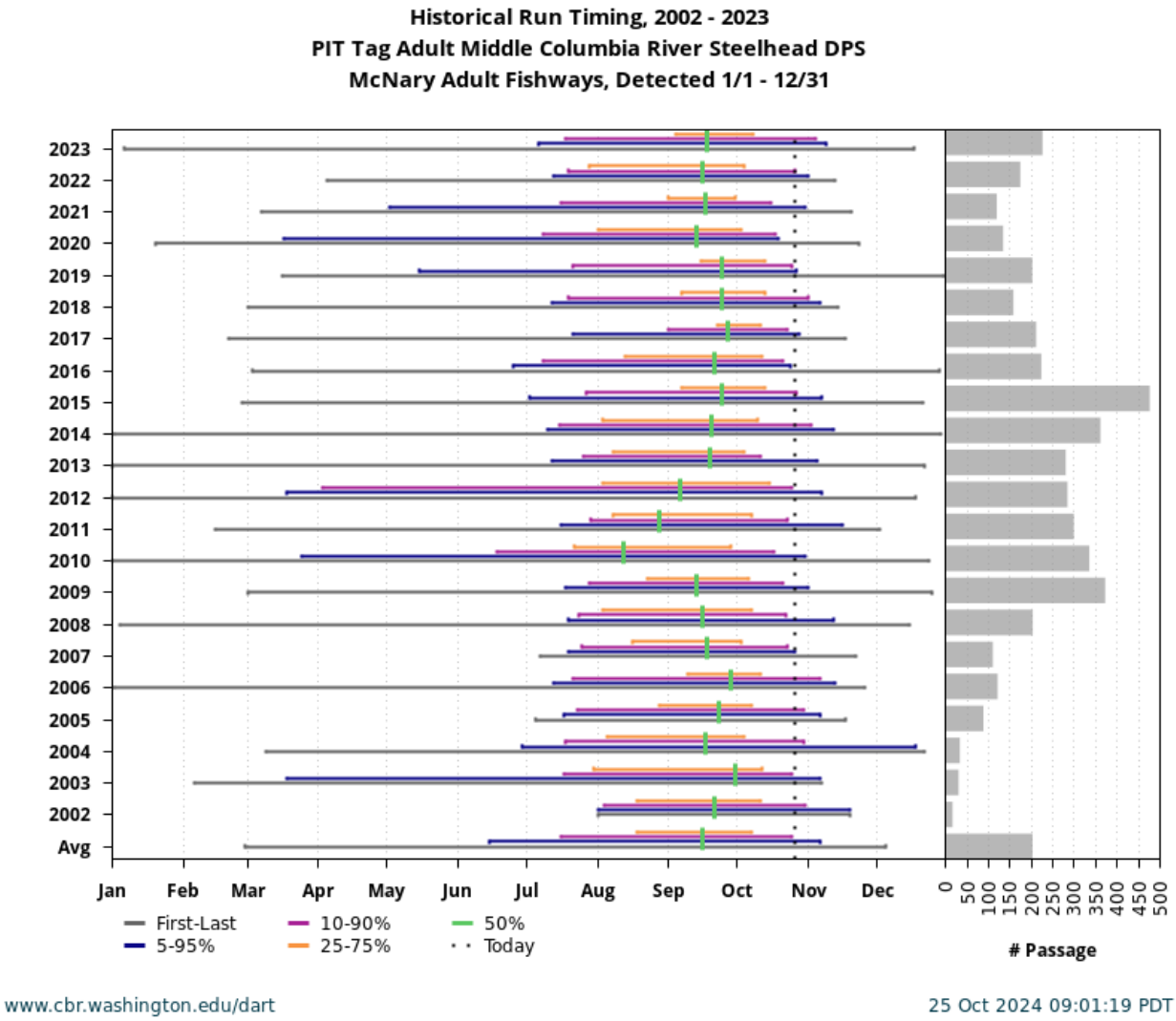

Figure 2-20 Historical run timing for PIT-tagged adult MCR steelhead at McNary Dam, 2002-2023 (Columbia River DART 2024a).

Juvenile MCR steelhead migrate through Lake Wallula before reaching McNary Dam. Annual detections at McNary Dam for juvenile PIT-tagged MCR steelhead between 1999 and 2023 are shown in Figure 2-21. These data indicate the median start and end date of the juvenile downstream migration at McNary Dam is March 31 and June 17 (annual $\tilde{x}$ = 302 juvenile fish).

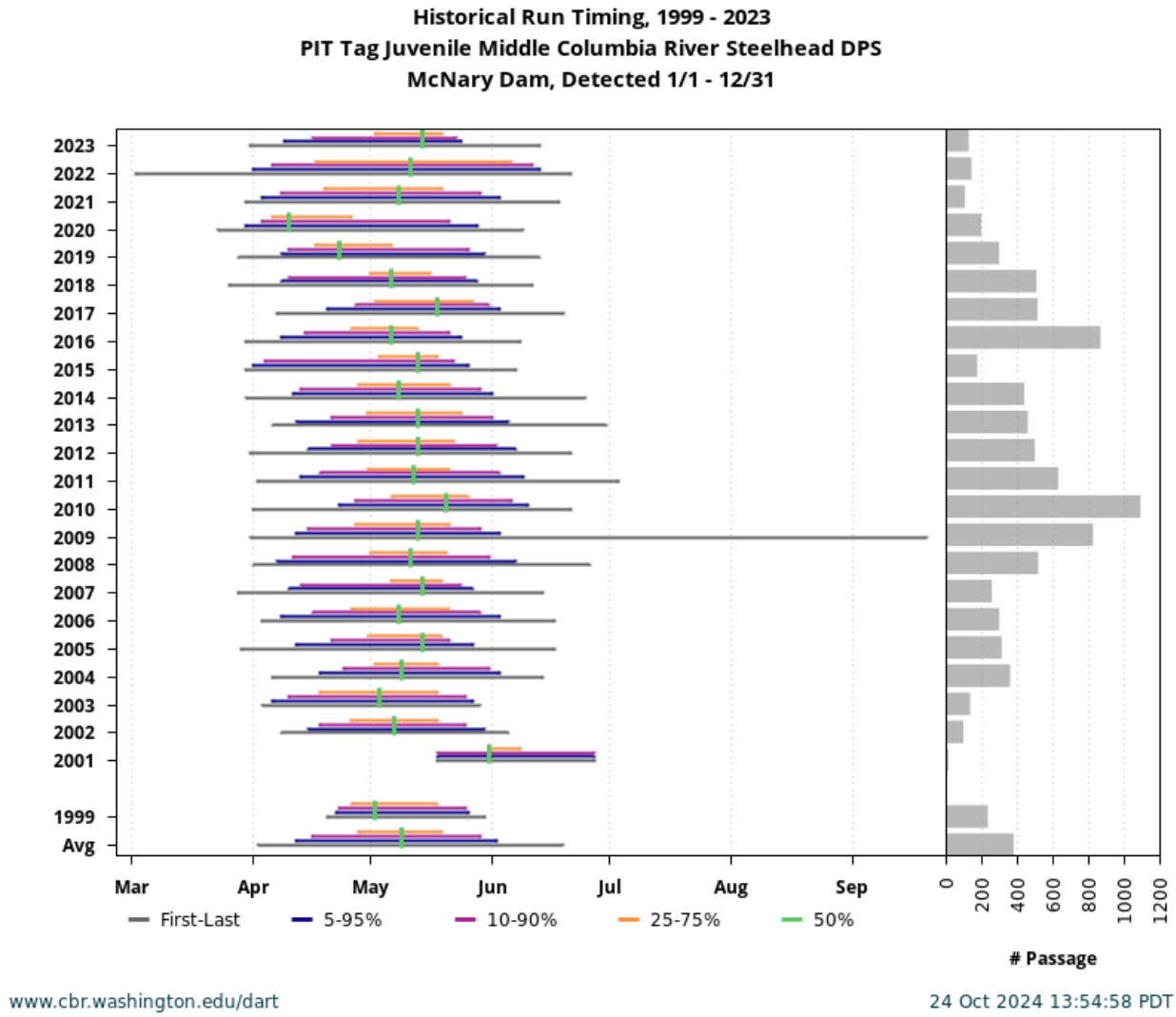

Figure 2-21 Historical run timing for PIT-tagged juvenile MCR steelhead at McNary Dam, 1999-2023 (Columbia River DART 2024a).

During the last 25 years, there have been few occurrences of PIT-tagged MCR steelhead at McNary Dam during the proposed in-water work window (Columbia River DART 2024a). In-water construction coincides with the median migration window for adult (February 8 through December 8) MCR steelhead and is nearly completely outside the median migration window for juvenile (March 31 through June 17) MCR steelhead (Figure 2-20 and Figure 2-21, respectively). Ninety percent of the adult MCR steelhead occurs between June and early November (Columbia River DART 2024a). Adult fish were documented passing upstream at McNary Dam from January through March in 18 of 22 years and 12 of 22 years in December. Juvenile fish were recorded moving downstream at McNary Dam in 10 of 24 years in late March. MCR steelhead may pass through or near the Project

construction area during the in-water work window in January through December (adults) for adults and in late March (juveniles) based on known migration timing (Columbia River DART 2024a).

Columbia and Snake River dams implement monitoring programs for adult and juvenile passage. In addition, there are several other federal, state, and tribal organizations throughout the watershed that implement monitoring programs.

2.2.1.7 Upper Columbia River Steelhead

2.2.1.7.1 Listing History

The UCR steelhead DPS was listed as endangered under the ESA on August 18, 1997 (62 FR 43937). The UCR steelhead DPS was listed as endangered under the ESA on August 18, 1997 (62 FR 43937). The species was reclassified to threatened on January 5, 2006 (71 FR 833), with reaffirmed listings on August 24, 2009 (74 FR 42605) and April 14, 2014 (79 FR 20802).

2.2.1.7.2 Distribution

The UCR steelhead DPS includes naturally spawning anadromous populations within Upper Columbia River mainstem and tributaries upstream of the Yakima River confluence to the U.S.-Canada border. There is one MPG (the North Cascades) for the UCR steelhead DPS. The North Cascades MPG includes four populations: the Wenatchee, Entiat, Methow, and Okanogan (Figure 2-22). The UCR steelhead DPS also includes artificial propagation programs: Wenatchee River Program, Wells Hatchery Program, Winthrop National Fish Hatchery Program, Omak Creek Program, and Ringold Hatchery Program (NMFS WCR 2022a).

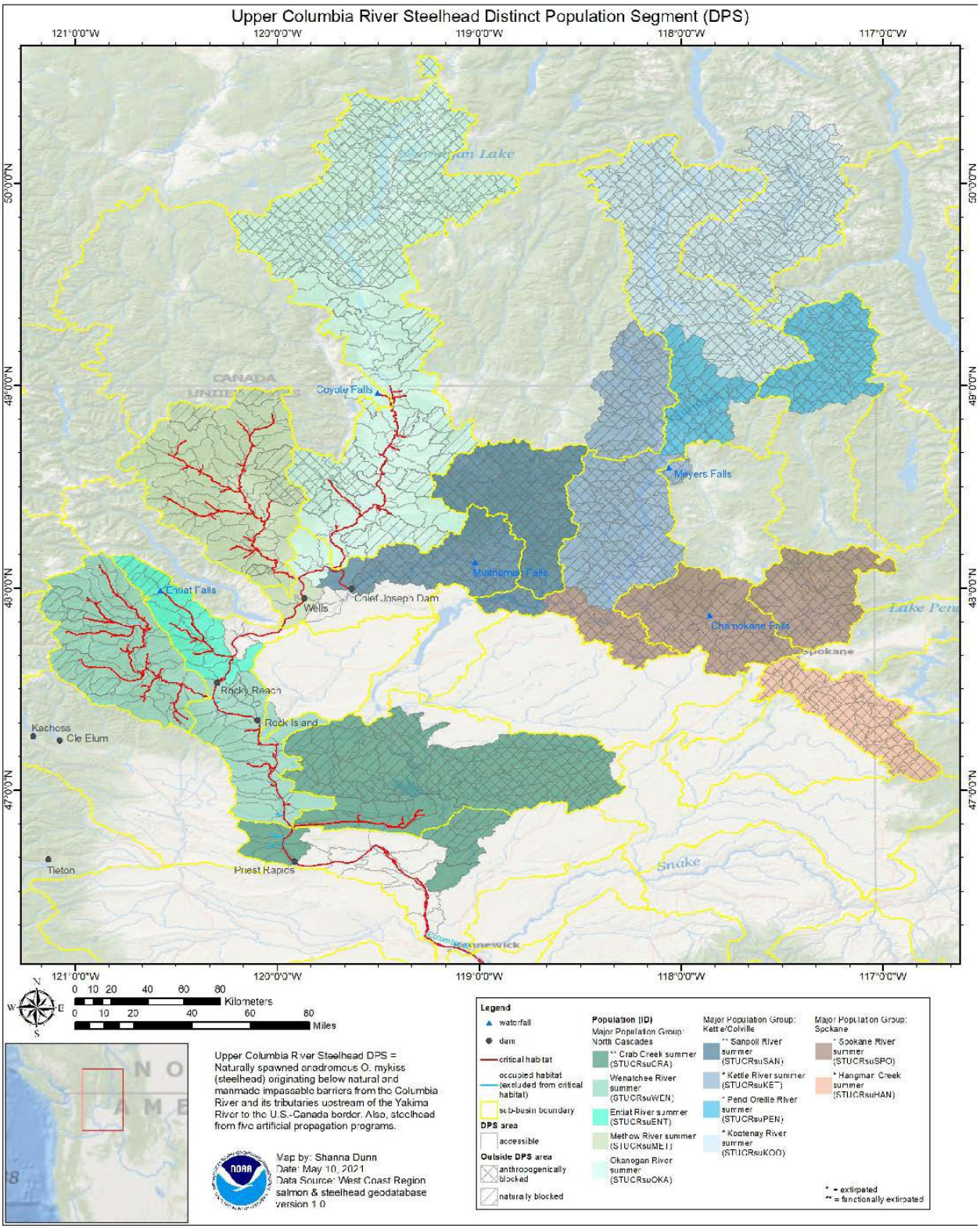

Figure 2-22 Upper Columbia River Steelhead DPS (NMFS WCR 2022a).

2.2.1.7.3 Life History and Biological Requirements

The general life history for steelhead is described in preceding sections. Details specific to UCR steelhead are summarized below.

Adult UCR steelhead return to freshwater after spending 1 to 2 years in the ocean. Adult UCR steelhead enter the Columbia River between late summer and early fall. Sexual maturity varies from completely immature to completely mature for fish entering the river (Myers 2021). Many UCR steelhead overwinter in mainstem Columbia River reservoirs prior to moving upstream in April and May to spawning tributaries (NOAA 2024h). Although some juveniles spend up to 7 years in freshwater, most rear for 1 to 3 years prior to migrating to the ocean (NOAA 2024h).

UCR steelhead have a complex life history that includes rearing in natal freshwater tributary streams, extensive river migrations, growing in the ocean, and returning to freshwater, natal streams to spawn. Healthy freshwater ecosystems, habitat connectivity and complexity, water quality, water temperature, and ocean conditions are important components to completing their life history.

2.2.1.7.4 Factors for Decline

Several factors have contributed to the decline of UCR steelhead, including habitat degradation, water quality and quantity, lack of thermal refugia, harvest, predation, and barriers (NMFS WCR 2022g). Habitat degradation includes, but is not limited to, poor riparian condition and function and poor floodplain connectivity and function (NOAA 2024h).

2.2.1.7.5 Current Status

Abundance for the DPS shows a downward trend in the last 5 years (NOAA 2024h, Ford 2022). Ocean survival was a factor in recent years and all four MPGs remain at high risk (NOAA 2024h).

Counts of adult and juvenile UCR steelhead are recorded annually at McNary Dam. The peak of the upstream migration at McNary Dam for adult UCR steelhead is in August. Annual run timing between 2002 and 2023 for UCR steelhead detected via PIT-tagged fish at the McNary Dam fishways is shown in Figure 2-23. These data show the median start and end timing of the adult UCR steelhead run at McNary Dam is April 5 and November 11 (annual $\tilde{x}$ = 416 adult fish).

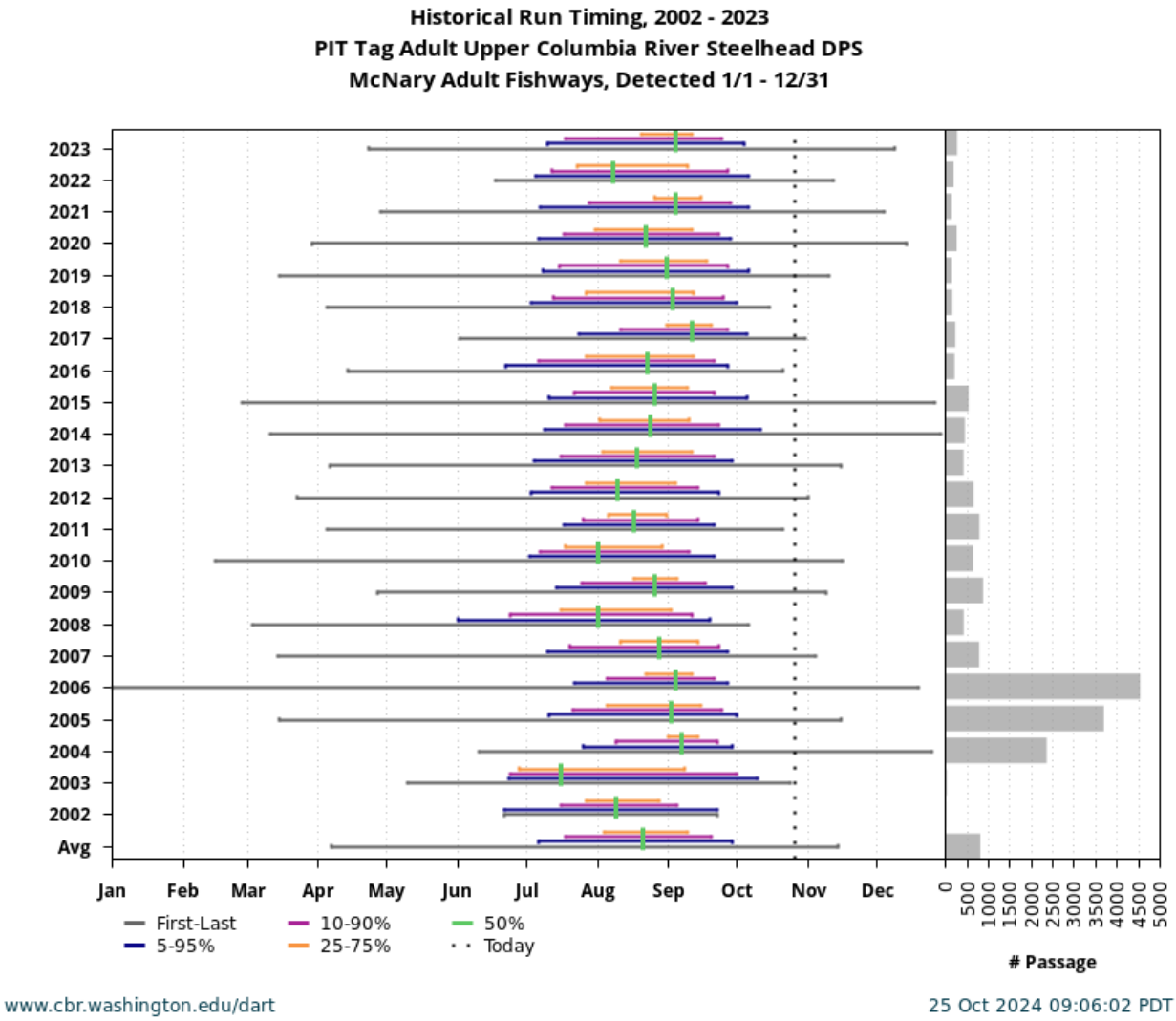

Figure 2-23 Historical run timing for PIT-tagged adult UCR steelhead at McNary Dam, 2002-2023 (Columbia River DART 2024a).

Juvenile UCR steelhead migrate down Lake Wallula before reaching McNary Dam. Annual detections at McNary Dam for juvenile PIT-tagged UCR steelhead between 1999 and 2023 is shown in Figure 2-24. These data indicate the median start and end date of the juvenile downstream migration at McNary Dam is April 10 and July 6 (annual $\tilde{x}$ = 2,213 juvenile fish).

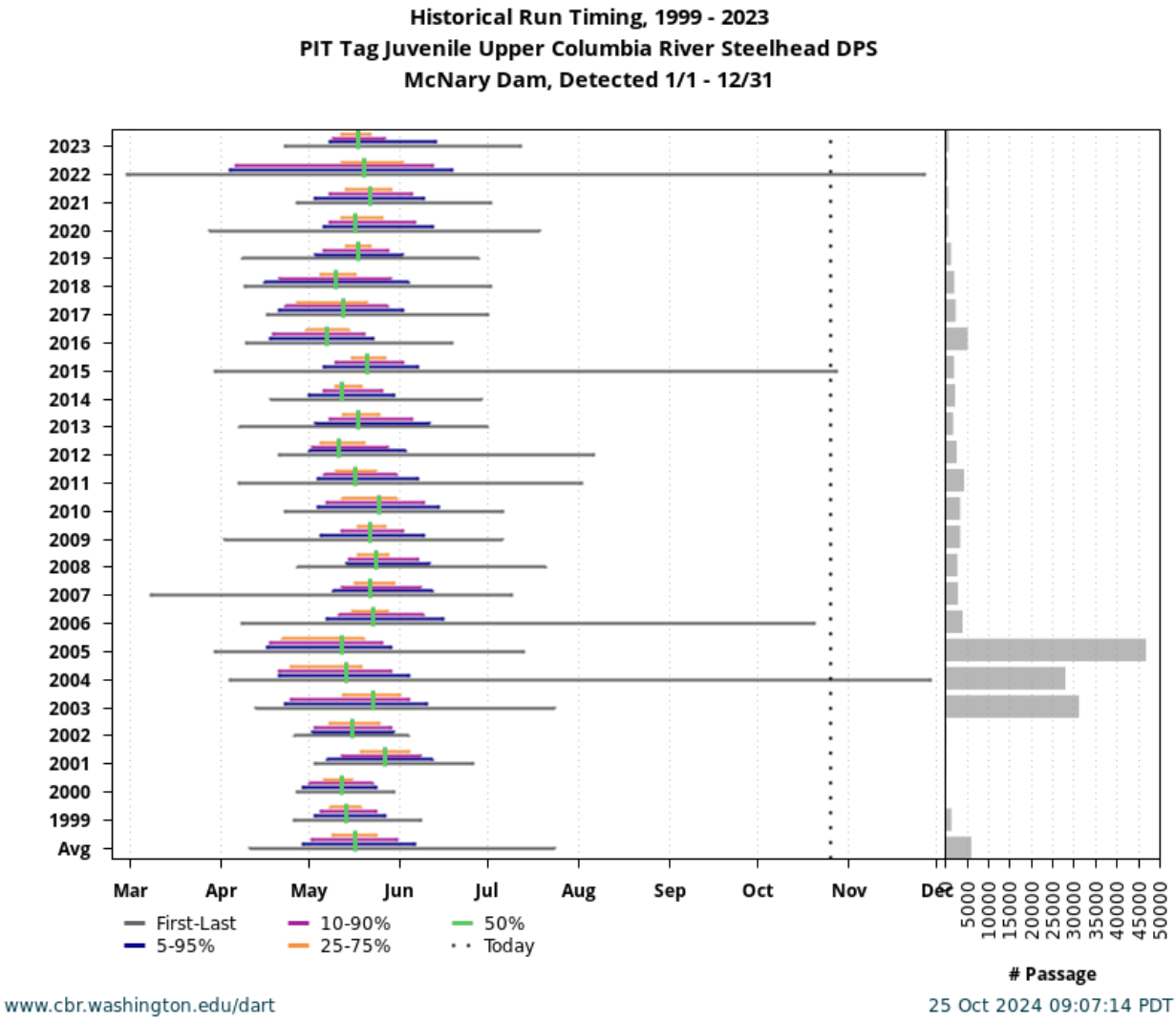

Figure 2-24 Historical run timing for PIT-tagged juvenile UCR steelhead at McNary Dam, 1999-2023 (Columbia River DART 2024a).

During the last 25 years, there have been few occurrences of PIT-tagged UCR steelhead at McNary Dam during the proposed in-water work window (Columbia River DART 2024a). In-water construction is outside the median migration window for adult (April 5 through November 11) and juvenile (April 10 through July 6) UCR steelhead (Figure 2-23 and Figure 2-24, respectively). Adult fish were recorded moving upstream at McNary Dam from January through March in 10 of 22 years and 7 of 22 years in December. Juvenile fish were recorded moving downstream at McNary Dam in 5 of 25 years in late February and March. UCR steelhead may pass through or by the Project construction area during in-water work in January through December (adults) and late February and March (juveniles) based on known migration timing (Columbia River DART 2024a).

Columbia and Snake River dams implement monitoring programs for adult and juvenile passage. In addition, there are several other federal, state, and tribal organizations throughout the watershed that implement monitoring programs.

2.2.2 Bull Trout

2.2.2.1 Listing History

Columbia River bull trout were listed as threated under the ESA by USFWS on June 10, 1998 (63 FR 31647). All populations of bull trout within the coterminous United States were listed as threatened and as a single DPS pursuant to the ESA on November 1, 1999, (64 FR 58910). In 2024, USFWS completed a 5-year status review (USFWS 2024b) and recommended that bull trout remain listed as threatened (USFWS 2024d).

2.2.2.2 Distribution

Historically, bull trout occurred in major river basins from Northern California and Nevada north to the headwaters of the Yukon River in the Northwest Territories, Canada and extending east across the continental divide to the headwaters of the Saskatchewan and McKenzie River systems in Montana, Alberta, and British Columbia (Cavender 1978, Bond 1992).

USFWS published a final recovery plan in 2015 for the coterminous U.S. population of bull trout that identified six recovery units (RU): Coastal RU, Klamath RU, Mid-Columbia RU, Upper Snake RU, Columbia Headwaters RU, and Saint Mary RU. The proposed Project is within the Mid-Columbia RU (Figure 2-25).

The six RUs encompassed 110 core areas that were occupied at the time of listing, seven historical core areas, and one Research Needs Area (RNA), comprising over 600 local populations (USFWS 2015, 2024d). A core area is a biological functioning unit for bull trout. A core area requires habitat and a bull trout population to function (USFWS 2024c). A local population is a group of bull trout represent a reproductive unit; a group of fish that spawn within a particular stream or drainage (USFWS 2024c).

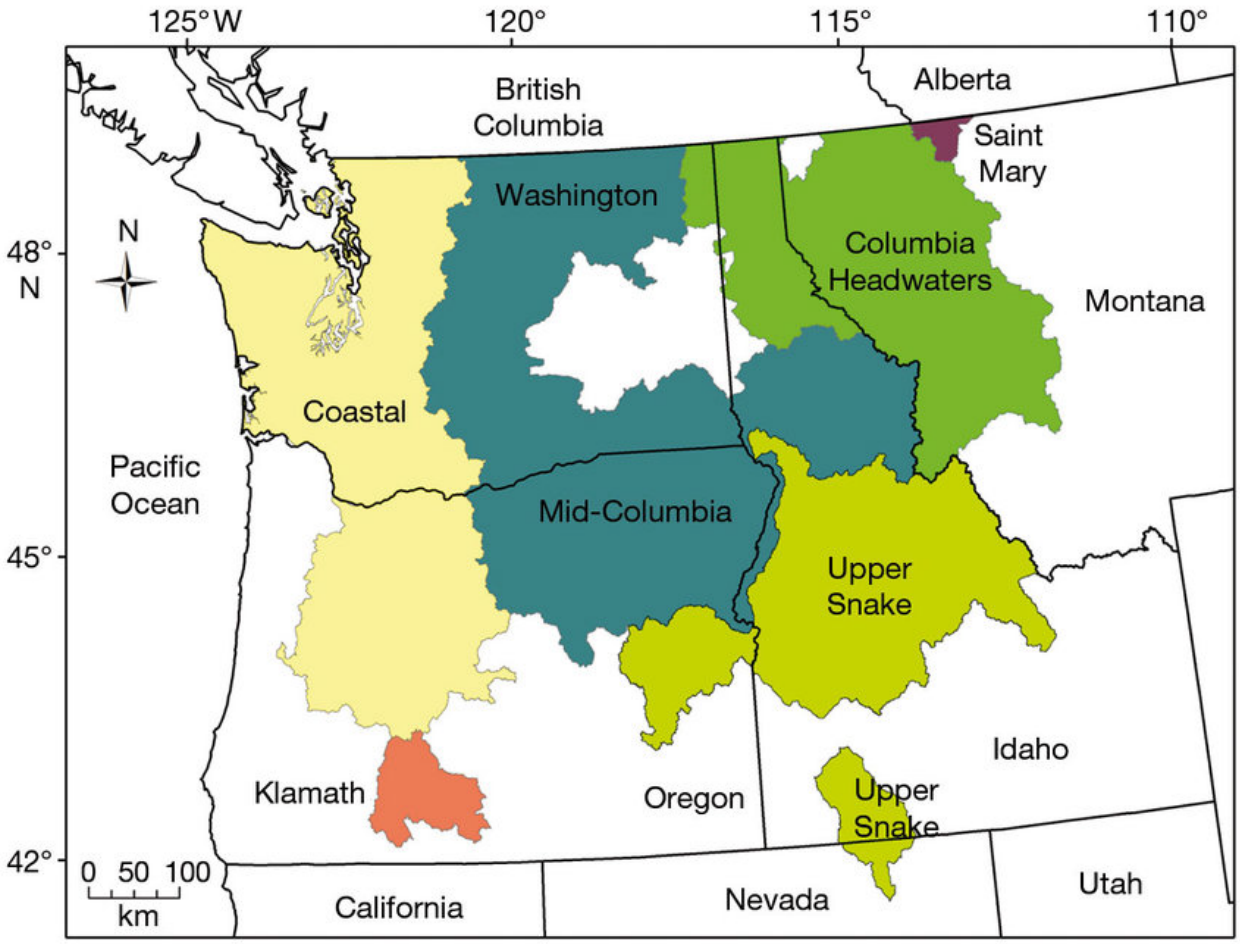

Figure 2-25 Bull Trout Recovery Units (Hayes and Banish 2017, USFWS 2015).

The Project is located within the Mid-Columbia RU which has 27 designated bull trout core areas and six foraging, migrating, and overwintering (FMO) habitats. The unit encompasses eastern Washington, eastern Oregon, and portions of Idaho. The core areas include two unoccupied core habitat areas that have the potential to support reestablished bull trout populations, and one unoccupied RNA, Northeastern Washington, above Chief Joseph Dam (USFWS 2015).

2.2.2.3 Life History and Biological Requirements

Bull trout are a char species native to North American. Prior to 1978, bull trout and Dolly Varden (*Salvelinus malma*) were considered a single species. Genetic studies have subsequently confirmed the species distinction between bull trout and Dolly Varden. The geographic range of the two species overlaps in the Puget Sound area and along the British Columbia coast (USFWS 2024c).

Bull trout occur in resident and migratory forms (i.e., fluvial and adfluvial). Adult resident and migratory fish spawn in headwater streams and the juveniles (for both resident and migratory) rear in the natal tributaries for 1 to 4 years (Fraley and Shepard 1989, Reiman and McIntyre 1993). Stream-resident bull trout complete their entire life history in the tributary streams where they spawn and rear. Migratory bull trout rear in natal streams for 1 to 4 years before migrating in the spring or fall (Downs et al. 2006) to downstream rivers (fluvial) or lakes (adfluvial) where they spend their adult life. Adult migratory bull trout return to natal tributaries to spawn at 4 to 7 years old (Fraley and Shepard 1989, Rieman and McIntyre 1993, Mogen and Kaeding 2005). Bull trout may spawn in multiple years during their life span.

Bull trout typically spawn between August and November. Migratory forms occur in areas where conditions allow for adult movement from upper watershed spawning streams to larger downstream waters that contain greater foraging opportunities (Dunham and Rieman 1999). Resident and migratory forms may be found together, and either form can produce resident or migratory offspring (Rieman and McIntyre 1993). Adult resident bull trout are often much smaller (5.9 to 15.7 inches or 150 to 399 mm) than migratory bull trout, which often exceed 23.6 inches (600 mm) in length because resident fish spend their entire life history in small, high elevation streams that are less productive (Rieman and McIntyre 1993, Fraley and Shepard 1989). Bull trout are slow to reach sexual maturity (4 to 7 years) and typically live for 10 years and occasionally for 20 years or more (USFWS 2015).

Migratory and stream-resident bull trout move in response to physiological and seasonal habitat requirements. Migratory individuals can move great distances (>150 miles) among lakes, rivers, and tributary streams in response to spawning, rearing, and adult habitat needs. Resident bull trout migrate within tributary stream networks to spawn and in response to changes in seasonal habitat requirements and conditions. Open migratory corridors, both within and among tributary streams, larger rivers, and lake systems are critical for maintaining bull trout populations.

Bull trout have specific habitat conditions and require clean, cold, complex, and connected habitat (USFWS 2015). Bull trout also require complex habitat to accommodate various life history stages for egg development, fry emergence, juvenile rearing, and adult spawning and overwintering. Rieman and McIntyre (1993) identify five important habitat characteristics for bull trout: channel stability, substrate composition, cover, water temperature, and connected habitat/migratory corridors. Forms of cover may include

large woody material, undercut banks, boulders, and pools. Bull trout are thermally sensitive and require cooler water temperature than most salmonids (Selong et al. 2001). They are also sensitive to increased sedimentation, alteration of streamflow, and water quality degradation (Fraley and Shepard 1989).

Water temperature is critical at various life stages and, in general, bull trout are rarely present when stream temperatures exceed 59°F (15°C) (Fraley and Shepard 1989). There are various temperature thresholds that are important for throughout the life history of bull trout:

- spawning occurs between 41-48.2°F (5-9°C) (Fraley and Shepard 1989; McPhail and Baxter 1996),
- egg incubation occurs between 35.6-39.2°F (2-4°C) (McPhail and Murray 1979),
- rearing occurs between 44.6-46.4°F (7-8°C) (Rieman and McIntyre 1993), and
- optimal growth and foraging of juveniles occur between 53.6-55.4°F (12-13°C) (McPhail and Baxter 1996, Selong et al. 2001).

Successful incubation of bull trout embryos requires cold water temperatures (below 46°F or 8°C), a gravel/cobble substrate with high permeability to allow water to flow over incubating eggs, and low levels of fine sediment (smaller than ¼ of an inch in diameter) (MTNHP 2024).

2.2.2.4 Factors for Decline

The primary limiting factors for bull trout are habitat loss, disconnected habitat (e.g., large dams, diversion structures), elevated stream temperatures, impaired and channelized stream channels (reduced habitat complexity and stability), and competition and negative interactions with nonnative species (USFWS 2015).

2.2.2.5 Current Status

Currently, bull trout are known to occur in the Columbia and Snake river basins, the Puget Sound and Olympic Peninsula coastal basins, and the Saint Mary and Upper Klamath river basins (USFWS 2024c).

Little is known about migratory bull trout life history in the Columbia and Snake rivers (Barrows et al. 2014). Data describing bull trout movement, mainstem habitat use, or presence and passage at mainstem dams are limited. The few remaining bull trout strongholds in the Columbia River Basin tend to be found in large areas of contiguous

habitats in the Snake River basin of the central Idaho mountains, upper Clark Fork and Flathead rivers in Montana, and several streams in the Blue Mountains in Washington and Oregon. Populations also exist in the Yakima and Methow river watersheds.

The Project site is upstream of McNary Dam, over 292 upstream from the mouth of the Columbia River. The primary tributaries to the mainstem Columbia River near the Project site are a minimum of 23 river miles upstream to confluence of the Walla Walla River subbasin (RM 315) and 27 river miles upstream to the confluence of the Snake River subbasin (RM 325). Recent studies have shown Walla Walla River subbasin bull trout migration to, from, and through Lake Wallula above McNary Dam (Barrows et al. 2014 and 2016, Anglin et al. 2010), but very little is known about how many bull trout may migrate into or through the mainstem Columbia and Snake rivers throughout the year.

The use of the Columbia River mainstem by bull trout from the Walla Walla River subbasin was monitored between 2007 and 2012 (Barrows et al. 2016). In general, migratory bull trout that emigrate from the Walla Walla River subbasin to the mainstem Columbia River are sub-adult and adult fish measuring between 200- and 300-mm fork length (Barrows et al. 2016). In the fall and winter subadult bull trout resume downstream movement into the lower reaches of the Walla Walla River and continue to the mainstem Columbia River through February. Barrow et al. (2016) detected juvenile bull trout at McNary Dam (moving downstream) in April 2009 and June 2014. After spawning in the Walla Walla River subbasin, adult bull trout move downstream to overwintering areas, including the mainstem Columbia River, from September through February. After overwintering, adult bull trout start migrating upstream between March and June, peaking in May. Barrows et al. (2016) detected PIT-tagged adult bull trout (moving upstream) at the McNary Dam fishway in May and June 2009 and 2012.

Upstream migration to the subbasin reaches and spawning tributaries continues into the summer and early fall. The Columbia River DART upstream adult passage daily count data has recorded one adult bull trout (May 2024) at McNary Dam since 2013 (Columbia River DART 2024b). Anglin et al. (2010) reported that bull trout emigrate to the mainstem Columbia River from the Walla Walla River with some migrations extending 80 miles upstream to Priest Rapids Dam and another extending 100 miles downstream to John Day Dam (Anglin et al. 2009). The data suggests that migratory bull trout from the Walla Walla River subbasin may also use the lower Snake River as bull trout of unknown origin are occasionally documented in the Ice Harbor Dam south shore fishway (Barrows et al. 2016). While there is clear evidence that migratory bull trout use the Middle Columbia River and

interact with Federal Columbia River Power System (FCRPS dams) (Anglin et al. 2009 and 2010, Barrows et al. 2014 and 2016), little is known about the number of bull trout within the project area at any given time.

Columbia and Snake River dams implement monitoring programs for adult and juvenile passage, including bull trout. Bull trout observations at McNary Dam are few if any, in any given year.

2.2.3 Monarch Butterfly

2.2.3.1 Listing History

USFWS proposed listing the monarch butterfly as a threatened species under the ESA on December 12, 2024, and requested public comment be provided by March 12, 2025 (Federal Register 2024a). The Service is also proposing 4,395 acres of critical habitat for the western migratory monarch population across several counties in California.

2.2.3.2 Life History and Biological Requirements

The monarch butterfly relies on specific habitats for breeding, foraging, and migration. Their primary habitat requirements include open areas with abundant milkweed species (*Asclepias* spp.) for larval development, as milkweed is the sole host plant for monarch caterpillars. Adult monarchs require diverse nectar sources from native flowering plants to sustain energy, particularly during their fall migration south to overwintering sites. Key nectar plants include species like showy milkweed (*Asclepias speciosa*), goldenrod (*Solidago* spp.), and asters (*Symphyotrichum* spp.). A detailed overview of the ecology of the monarch butterfly, including the life cycle, diet, breeding and migration, and overwintering are available in Jepsen et al. 2015.

The availability of milkweed is essential to monarch reproduction and survival. The reduction in the presence of milkweed plants is a critical factor in the decline of the species (USFWS 2020, 2024e). The Klamath-Siskiyou and Willamette Valley eco-regions in Oregon provide important pathway for western monarch migration northward from California in the spring as well as during their return southward each fall (Landis 2025, Craft et al.). Monarch butterflies observed in central Oregon are migrating through enroute to California to overwinter and can be seen from early June through early October, with peak presence between July and August (Hemphill 2019).

2.2.3.3 Factors for Decline

Population declines in monarch butterflies have been attributed to long-term declines in overwintering populations, primarily due to habitat loss and degradation, insecticides exposure, and climate change (USFWS 2020 and 2024, Federal Register 2020 and 2024a). The western migratory population overwintering in coastal California has declined over 95 percent since the 1980s (Xerces Society 2025). Monarch butterflies living east of the Rocky Mountains that migrate from Canada to central Mexico where they overwinter have also experienced severe declines around 80 percent (Xerces Society 2025).

2.2.3.4 Current Status

The information provided on milkweed, monarch, and monarch breeding observations by the Western Monarch Milkweed Mapper (2025), indicate monarch butterflies are not commonly observed near the Project area and suitable habitat (presence of milkweed) is limited. Individual milkweed plants were reported in 2016 south of the Project near U.S. Route 730 and downstream of McNary Dam in 2018. The largest number of milkweed plants reported (most recently in 2015 and 2016) was at the Umatilla National Wildlife Refuge, downstream of the Project. The reported sightings of monarch butterflies closest to the Project included sightings downstream of McNary Dam in 1981 and 1996 and upstream of the Project around Hat Rock State Park in 1961. Larvae (caterpillars) were observed in 2016 downstream of the Project near the Umatilla National Wildlife Refuge, which likely coincides with presence of milkweed.

In summary, the western monarch milkweed mapper (2025) indicates there is limited milkweed vegetation near the Project and presence of milkweed is limited to non-existent in the immediate area. It is possible monarch butterflies may pass through the Project area between June and October during seasonal migrations, however, the Project area does not provide suitable vegetation/habitat. The Project is not anticipated to affect monarch butterfly. There was no milkweed identified in the proposed construction area and designated areas for ground disturbance.

2.2.4 Suckley's Cuckoo Bumble Bee

2.2.4.1 Listing History

USFWS proposed listing the Suckley's cuckoo bumble bee as an endangered species under the ESA on December 17, 2024 (Federal Register 2024b). The designation of critical

habitat for the species was not determinable at the time of FWS's proposal to list the species.

2.2.4.2 Life History and Biological Requirements

The Suckley's cuckoo bumble bee relies on healthy populations of host bumble bee species for its survival, particularly *Bombus occidentalis* (the western bumble bee). As an obligate social parasite, the Suckley's cuckoo bumble bee does not establish its own colonies but infiltrates the nests of host species to lay its eggs. Habitat requirements include forest, shrubland and grassland (Hatfield et al. 2015). Suitable habitat for nesting and overwintering includes flower-rich environments that support both the Suckley's cuckoo bumble bee and its hosts, with access to abundant nectar and pollen sources from native flowering plants and undisturbed areas.

2.2.4.3 Factors for Decline

The Suckley's cuckoo bumble bee depends on other bumble bee hosts for its survival and raising of young. It has been found in various habitat types including prairies, grasslands, meadows, woodlands, agricultural, and urban areas. The steep decline in population numbers coincides with declines of host species (Gaines and Nelson 2023). Major threats to bumble bees include pesticides, other pollution from agricultural and forestry effluents, habitat fragmentation and conversion, and climate change (Hatfield et al. 2015).

2.2.4.4 Current Status

Historical distribution of the Suckley's cuckoo bumble bee was across North America, in mountainous areas of western North America spanning 15 states (Arizona, California, Colorado, Idaho, Minnesota, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oregon, South Dakota, Utah, Washington, Wyoming) and 11 Canadian territories and provinces (Liebich 2024). The species has experienced a rapid population decline (Hatfield et al. 2015). The last confirmed sighting of an individual in the United States was in 2016 in Oregon (Gaines and Nelson 2023). There is also a report of an individual from 2017 in northeastern Oregon in the Wallowa Whitman National Forest (Tyler 2020).

The Project area does not provide suitable habitat and therefore the Project is not anticipated to have an effect on the Suckley's cuckoo bumble bee.

2.3 Status of Critical Habitat

Under the ESA, critical habitat is defined as: (1) specific areas within the geographical area occupied by the species at the time of listing, that contain physical or biological features essential to conservation, that may require special management considerations or protection; and (2) specific areas outside the geographical area occupied by the species at the time of listing that are essential for the conservation of the species. NMFS and USFWS are required to designate critical habitat, to the maximum extent prudent and determinable, for species each agency lists under the ESA.

2.3.1 Designated Critical Habitat for Anadromous Fish

The Columbia River provides critical migratory corridor for juvenile and adult salmon and steelhead between the Pacific Ocean and the Snake River. Critical features of migration corridors include adequate substrate, water quality, water quantity, water temperature, water velocity, cover/shelter, food (juveniles only), riparian vegetation, space, and safe passage. Critical Snake River salmon habitat consists of 4 components: 1) spawning and juveniles rearing areas; 2) juvenile migration corridors; 3) areas for growth and development to adulthood; and 4) adult migration corridors. Physical and biological features (PBFs) of critical habitats designated for salmon and steelhead species are summarized in Table 2-2.

Table 2-2 Physical and biological features of critical habitats designated for Pacific salmon and steelhead species and corresponding life stages.

Site	Essential Physical and Biological Features	ESU/DPS Life Stage
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 Quality Water Quantity	Adult sexual maturation Smolt/adult transition
Offshore marine Areas	Forage	Adult growth and development

2.3.1.1 Upper Columbia River Spring Chinook Salmon

NMFS designated critical habitat for the UCR spring-run Chinook salmon ESU on September 2, 2005 (70 FR 52629). The critical habitat designation includes 31 watersheds and 1,002 occupied stream miles within the range of this ESU (NMFS 2005, Figure 2-26). Designated critical habitat includes the rearing/migration corridor extending from the

estuarine areas and river reaches of the mainstem Columbia River from its mouth at the Pacific Ocean upstream to the confluence with the Methow River and the Chief Joseph, Methow, Wenatchee, and Entiat subbasins (50 CFR 226.212(j)). Essential PBFs of the critical habitat identified for UCR spring-run Chinook are listed in Table 2-2.

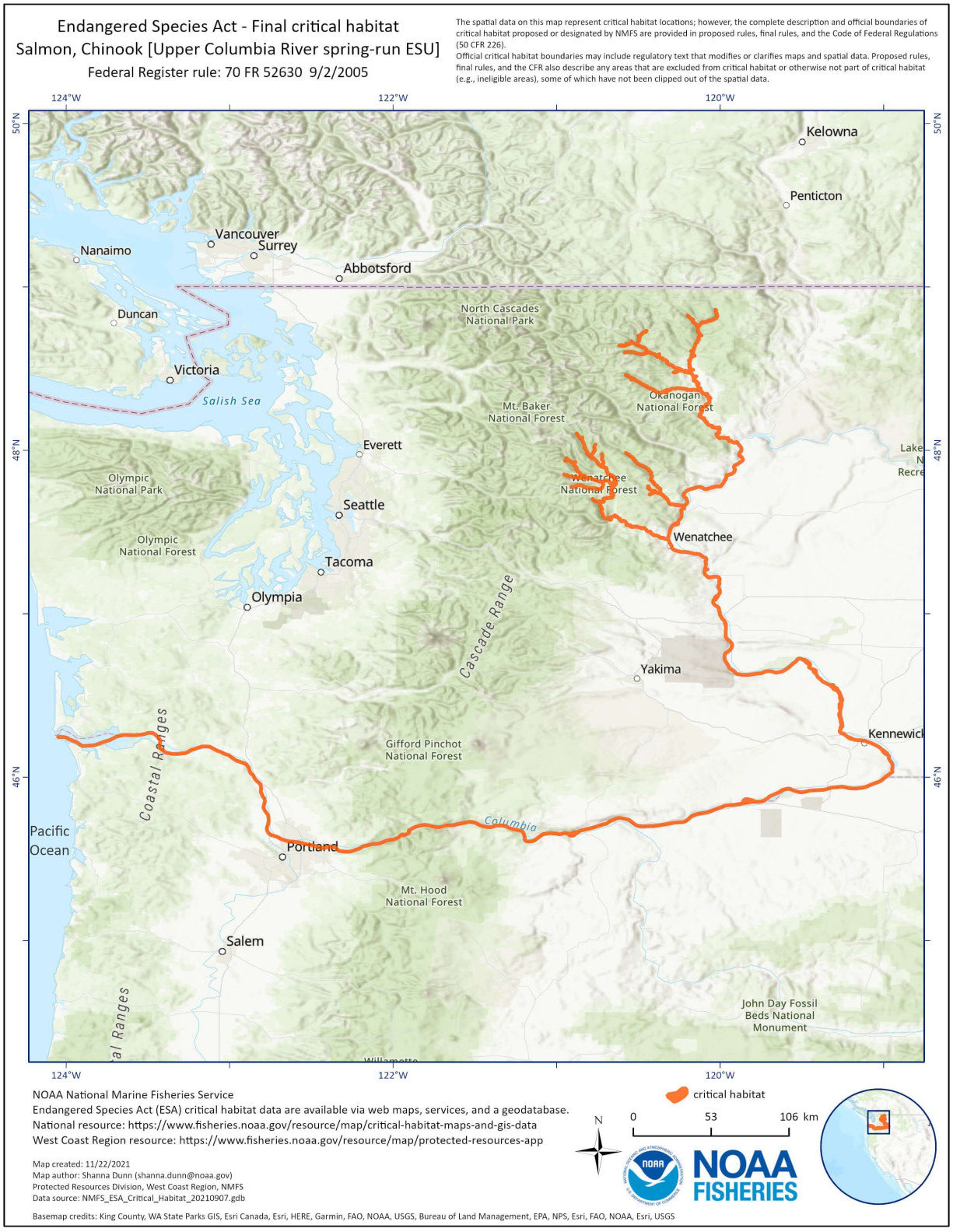

Figure 2-26 Designated critical habtitat for Upper Columbia spring-run Chinook ESU (NOAA West Coast Regional Office 2024).

2.3.1.2 Snake River Spring/Summer Chinook Salmon

NMFS designated critical habitat for the SR spring/summer-run Chinook Salmon ESU on December 28, 1993 (58 FR 68543) and updated the designation on October 25, 1999 (64 FR 57399). Designated critical habitat for SR spring/summer Chinook salmon includes all estuarine areas and reaches of the mainstem Columbia River from the Pacific Ocean to its confluence with the Snake River, all river reaches of the Snake River upstream to Hells Canyon Dam, and river reaches presently or historically passable except reaches above impassable natural falls (Napias Creek Falls) and Dworshak and Hells Canyon dams (Figure 2-27). Essential PBFs of the critical habitat identified for SR spring/summer Chinook are listed in Table 2-2.

Figure 2-27 Designated critical habitat for Snake River spring/summer-run Chinook salmon ESU (NOAA West Coast Regional Office 2024).

2.3.1.3 Snake River Sockeye Salmon

NMFS designated critical habitat for SR sockeye salmon on December 28, 1993 (58 FR 68543). Designated critical habitat for SR sockeye salmon includes all estuarine areas and reaches of the mainstem Columbia River from the Pacific Ocean to its confluence with the Snake River, all river reaches of the mainstem Snake River upstream to its confluence with the Salmon River, and all reaches of the Salmon River upstream to Alturas Lake Creek. The designation also includes Stanley, Redfish, Yellow Belly, Pettit, and Alturas lakes (including inlets and outlets) and the portion of Valley Creek between Staley Lake Creek and the Salmon River (Figure 2-28, 50 CFR 226.205). Critical habitat includes presently, and historically accessible river reaches, except reaches above impassable natural falls, and Dworshak and Hells Canyon dams, in the following watersheds: Lower Salmon, Lower Snake, Lower Snake-Asotin, Lower Snake-Tucannon, Middle Salmon-Chamberlain, Middle Salmon-Panther, and Upper Salmon (50 CFR 226.205(a)). Essential PBFs of the critical habitat identified for SR sockeye are listed in Table 2-2.

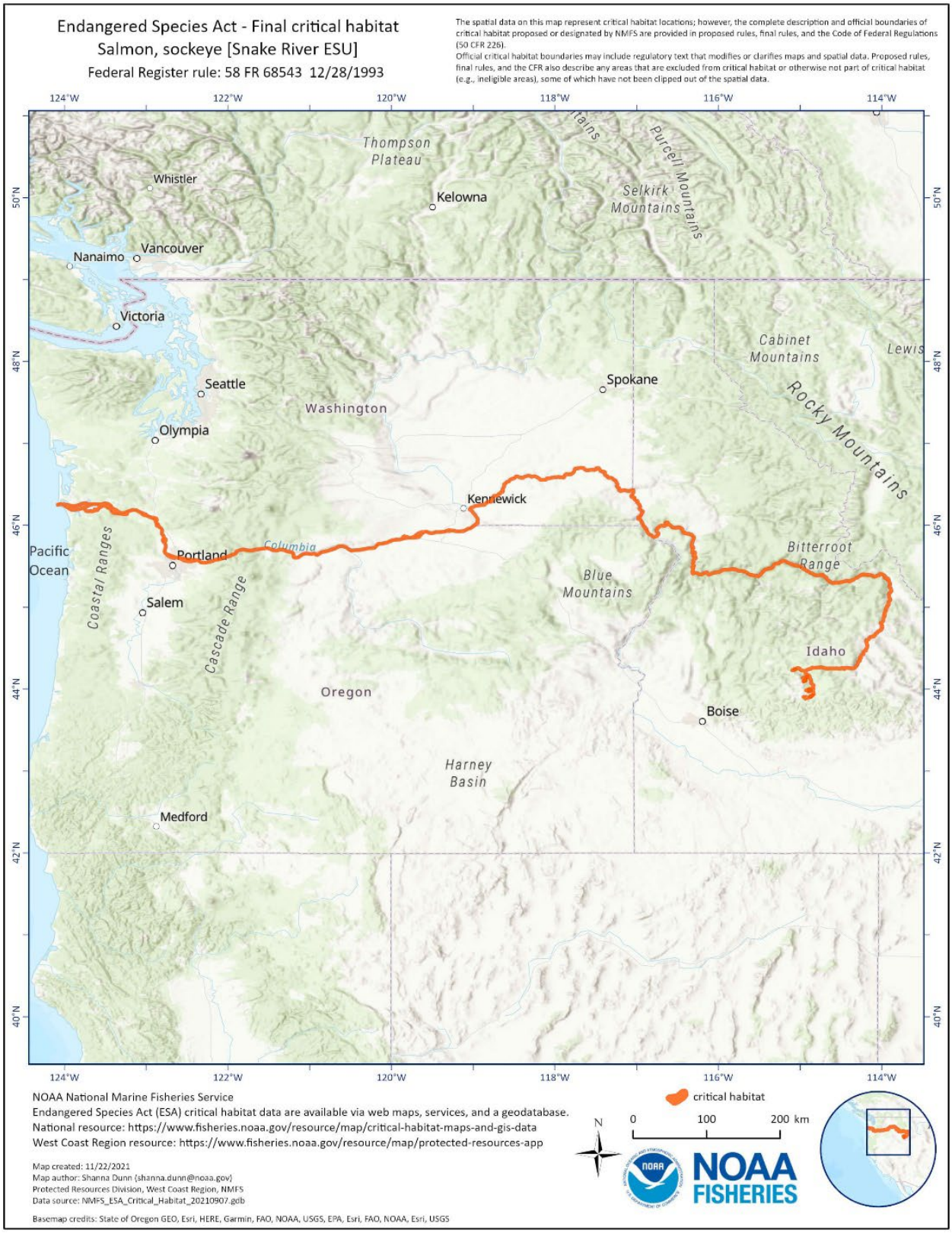

Figure 2-28 Designated critical habitat for Snake River sockeye salmon ESU (NOAA West Coast Regional Office 2024).

2.3.1.4 Snake River Steelhead

NMFS designated critical habitat for the SR steelhead ESU on September 2, 2005 (70 FR 52630). Designated critical habitat for SR steelhead includes 8,049 stream miles (NMFS 2017) and all estuarine areas and reaches of the mainstem Columbia River from the Pacific Ocean to its confluence with the Snake River, all river reaches of the Snake River upstream to Hells Canyon Dam, and river reaches presently or historically passable except reaches above impassable natural and manmade barriers in the Snake River Basin (Figure 2-29). Essential PBFs of the critical habitat identified for SR steelhead are listed in Table 2-2.

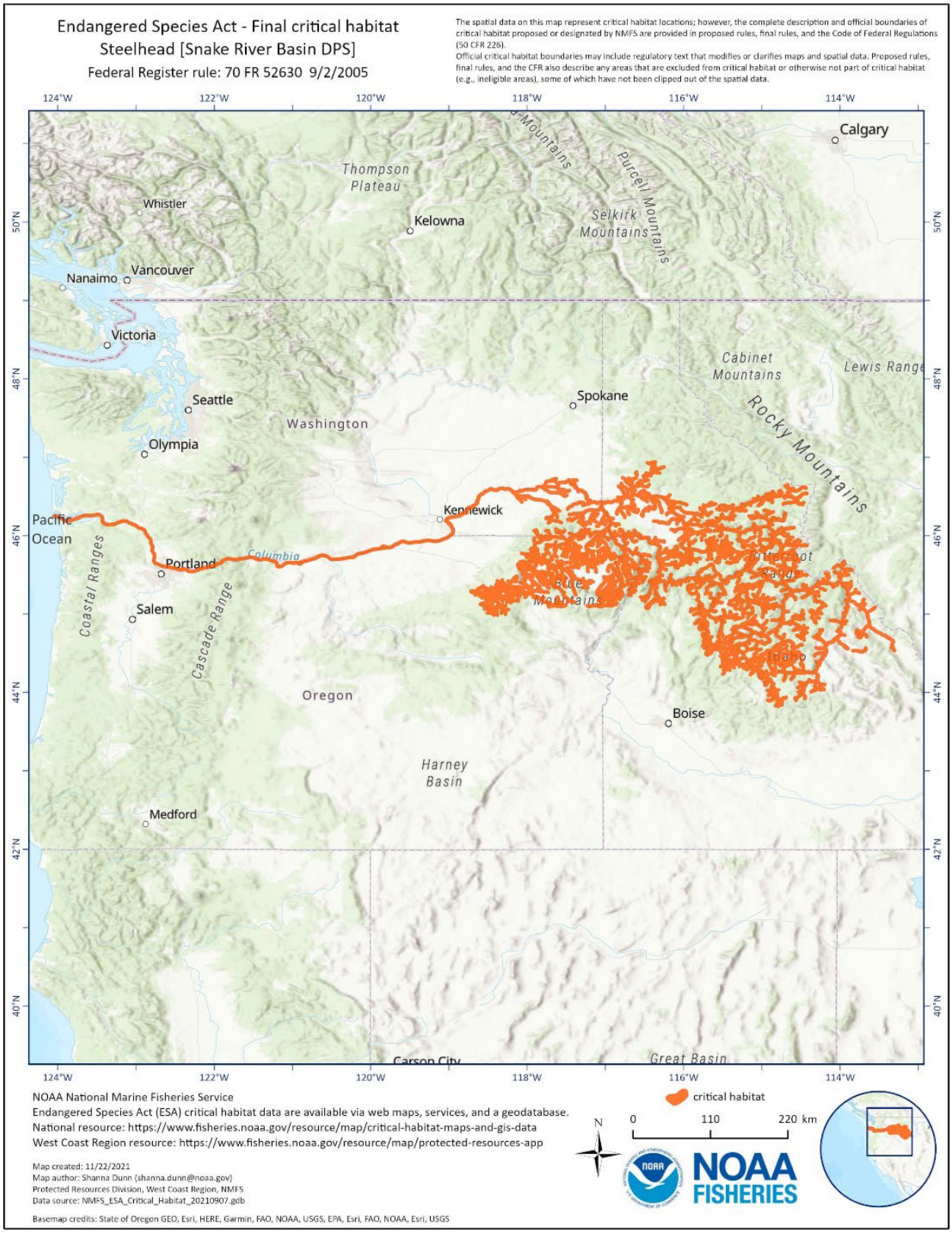

Figure 2-29 Designated critical habitat for Snake River steelhead (NOAA West Coast Regional Office 2024).

2.3.1.5 Upper Columbia River Steelhead

NMFS designated critical habitat for UCR steelhead on September 2, 2005 (70 FR 52630, Figure 2-30). The critical habitat designation includes all estuarine areas and reaches of the mainstem Columbia River and its tributaries upstream of Rock Island Dam and downstream of Chief Joseph Dam, excluding the Okanogan River subbasin (NOAA 2020). Essential PBFs of the critical habitat identified for UCR steelhead DPS are listed in Table 2-2.

Figure 2-30 Designated critical habitat for Upper Columbia River steelhead DPS (NOAA West Coast Regional Office 2024).

2.3.1.6 Middle Columbia Steelhead

NMFS designated critical habitat for MCR steelhead on September 2, 2005 (70 FR 52630, Figure 2-31). The critical habitat includes all estuarine areas and reaches of the mainstem Columbia River and its tributaries upstream of the Wind and Hood rivers (exclusive) to and including the Yakima River (NOAA 2020). Essential PBFs of the critical habitat identified for MCR steelhead DPS are listed in Table 2-2.

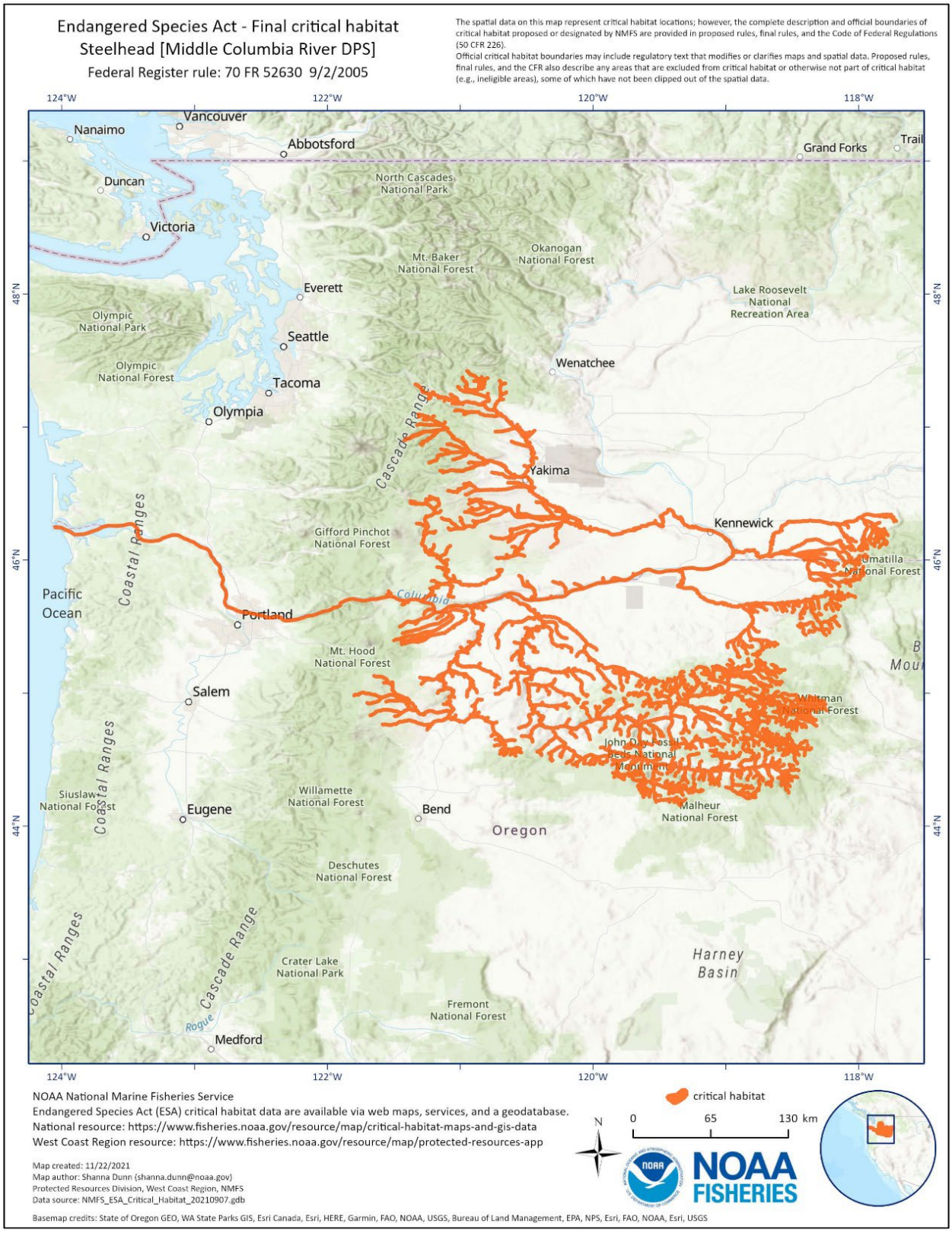

Figure 2-31 Designated critical habitat for Middle Columbia River Steelhead (NOAA West Coast Regional Office 2024).

2.3.2 Designated Critical Habitat for Bull Trout

In determining which areas to designate as critical habitat for bull trout, USFWS considered physical and biological attributes that are essential to species conservation (i.e., primary constituent elements [PCEs]). The USFWS (75 FR 63898) has listed nine PCEs including physical and biological features essential to bull trout conservation adapted from NMFS (USFWS 1998) and associated habitat indicators (Table 2-3).

Table 2-3 List of PCEs 1-9, their description, and habitat indicators.

PCE #	PC Description	Habitat Indicators
PCE-1	Springs, seeps, groundwater sources, and subsurface water connectivity (hyporheic flows) to contribute to water quality and quantity and provide thermal refugia	floodplain connectivity, change in peak/base flows, temperature, increase in drainage network, riparian area condition, chemical contamination/nutrients
PCE-2	Migratory 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	temperature, chemical contamination/nutrients, physical barriers, average wetted width/maximum depth ratio in scour pools in a reach, change in peak/base flows, refugia
PCE-3	An abundant food base, including terrestrial organisms of riparian origin, aquatic macroinvertebrates, and forage fish	riparian area condition, floodplain connectivity
PCE-4	Complex river, stream, lake, reservoir, and marine shoreline aquatic environments, and processes that establish and maintain these aquatic environments, with features such as large wood, side channels, pools, undercut banks, and substrates, to provide a variety of depths, gradients, velocities, and structure	large woody debris, pool frequency and quality, large pools, off channel habitat, refugia, average wetted width/maximum depth ratio in scour pools in a reach, streambank condition, floodplain connectivity, riparian area condition

PCE #	PC Description	Habitat Indicators
PCE-5	Water temperatures ranging from 2-15 °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; shade, such as that provided by riparian habitat; stream flow; and local groundwater influence	Temperature, refugia, average wetted width/maximum depth ratio in scour pools in a reach, streambank condition, change in peak/base flows, riparian area condition, floodplain connectivity
PCE-6	In spawning and rearing areas, substrates of sufficient amount, size, and composition to ensure the success of egg and embryo overwinter survival, fry emergence, and young-of-the-year and juvenile survival. A minimal amount of fine sediment, generally ranging in size from silt to coarse sand, embedded in larger substrate, is characteristic of these conditions. The size and amounts of fine sediment suitable to bull trout will likely vary from system to system	Sediment, substrate embeddedness, large woody debris, pool frequency and quality
PCE-7	A natural hydrograph, including peak, high, low, and base flows within historical and seasonal ranges or, if flows are controlled, minimal flow departure from a natural hydrograph	Change in peak/base flows, increase in drainage network, disturbance history, disturbance regime
PCE-8	Sufficient water quality and quantity such that normal reproduction, growth, and survival are not inhibited	Sediment, chemical contamination/nutrients, change in peak/base flows
PCE-9	Sufficiently low levels of occurrence of nonnative predatory (e.g., lake trout, walleye, northern pike, smallmouth bass; interbreeding [e.g., brook trout]; or competitive [e.g., brown trout] species) that, if present, are adequately, temporally, and spatially isolated from bull trout	Subpopulation size, growth and survival, life history diversity and isolation, persistence and genetic integrity

Critical habitat for bull trout was designated in 2005 (70 FR 56212) and revised on October 18, 2010 (75 FR 63898). Critical habitat for bull trout has been defined as a habitat unit that can maintain and support viable bull trout core areas (70 FR 56212). The Columbia and Snake rivers provide FMO habitat for bull trout. Headwater tributaries provide spawning and rearing habitat. USFWS (75 FR 63898) identified six recovery units including 32 critical habitat units representing 19,729 river miles and 488,252 surface acres (Figure 2-32). Critical habitat types (spawning and rearing and FMO), habitat indicators associated with PCEs (Table 2-3), and life history stage(s) for bull trout are summarized in Table 2-4.

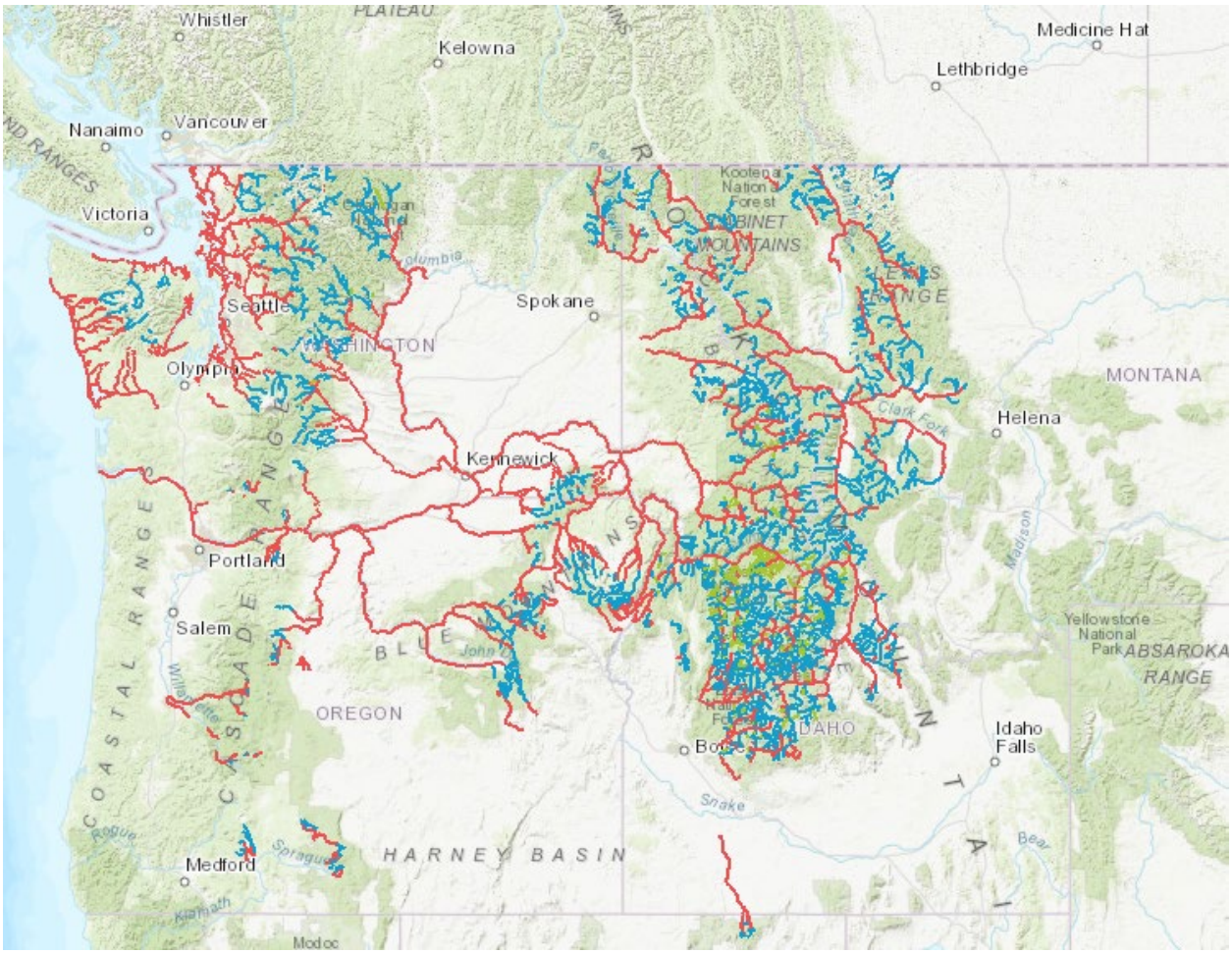

Figure 2-32 Designated critical habitat for bull trout (2010) including foraging, migration, overwintering (red), spawning and rearing in (blue), and unknown (green) (Upper Columbia Salmon Recovery Board Mapping Library 2024).

Table 2-4 Bull trout critical habitat – spawning and rearing and FMO habitats, and corresponding habitat indicators and life history events.

Critical Habitat Type	Habitat Indicators	Bull Trout Life Stage
Freshwater spawning and rearing	water quality and quantity, substrate, temperature, floodplain connectivity, groundwater sources, peak/base flows, drainage network, chemical contamination/nutrients, large woody debris, pool frequency and quality, large pools, off channel habitat, refugia, average wetted width/maximum depth ratio in scour pools in a reach, riparian area and streambank condition	Adult spawning, embryo incubation, fry emergence, juvenile rearing
Freshwater foraging, migration, and overwintering (FMO)	Water quality and quantity, temperature, floodplain connectivity, peak/base flows, chemical contamination/nutrients, physical barriers, large woody debris, pool frequency and quality, large pools, off channel habitat, refugia, average wetted width/maximum depth ratio in scour pools in a reach, riparian area and streambank condition	Juvenile growth and development to sexual maturity, juvenile outmigration, adult spawning migration, adult overwintering

2.3.3 Proposed Critical Habitat for Monarch Butterfly

The Service is also proposing 4,395 acres of critical habitat for the western migratory monarch butterfly population across several counties in California (Federal Register 2024). There is no critical habitat proposed in Oregon. The Project will have no effect on proposed critical habitat for the monarch butterfly.

2.3.1 No Critical Habitat for Suckley"s Cuckoo Bumble Bee

At the time of this document, there is currently no proposed or designated critical habitat for the suckley's cuckoo bumble bee. Therefore, a determination for impacts to the critical habitat of this species cannot be made.

3.0 ENVIRONMENTAL BASELINE

This section provides an analysis of the effects of past and ongoing human and natural factors leading to the status of listed species and habitat (including designated critical habitat) 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 this BA.

The baseline includes state, tribal, local, and private actions already affecting the species or that actions will occur contemporaneously with the ESA consultation process associated with the proposed action. 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 Historical conditions

The proposed Project historically may have been at the margins of the Columbia River, or may have been in a riparian area, as the construction of McNary Dam deepened and widened the river upstream. The river may have had a larger riparian area, likely with a small floodplain.

3.2 Current Conditions

The action area is located along the southern shoreline of the Columbia River at RM 296, a few miles upstream of McNary Dam within Lake Wallula. The new intake and pump station will replace the existing pump station along the Columbia River. The southern shoreline is not heavily developed and immediately downstream (west) of the Project, the Lewis and Clark trail connects to the McNary Beach Recreation Area. The area surroundings the action area is generally rural with some industrial use, a wildlife area (Wanaket Wildlife Area), and low levels of residential development. The nearest occupied structure is more than 1 mile from the proposed Project site.

3.3 Matrix of Pathways and Indicators

The analysis of habitat indicators and effects of the proposed action is based on the Matrices of Pathways and Indicators (MPI) developed by NMFS in 1996 and by USFWS in 1998. The action area and potential effects on anadromous steelhead and salmon, and bull trout is limited to the mid-Columbia River and Lake Wallula. The following sections

assess the existing conditions (i.e., properly functioning, functioning at risk, or not properly functioning) by habitat indicator and the predicted effects of the Project on each indicator (i.e., restore, maintain, or degrade).

3.3.1 Baseline Environmental Conditions

The MPI analysis is presented in Table 3-1. The MPI reviews six pathways (water quality, channel condition and dynamics; habitat access; flow/hydrology; habitat elements; and watershed conditions) and associated habitat indicators. The MPI identifies indicators for each pathway by which actions can potentially affect anadromous steelhead and salmon and their habitats or bull trout and their habitat.

In summary, the environmental baseline for habitat indicators is either functioning at risk or not properly functioning. The proposed action is anticipated to maintain the environmental baseline for all habitat indicators.

Table 3-1 Matrix of Pathways and Indicators summarizing environmental baseline and effects of the proposed action on anadromous salmonids and bull trout habitat indicators.

	Environmental Baseline			Effects of the Action		
Habitat 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 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	

Note: Overall substrate of the middle Columbia River reach will be maintained by the action except for minor degradation isolated to the footprint of New Pump Station below the OHWM.

3.3.2 Water Quality

The *Temperature* parameter is "not properly functioning." The Middle Columbia River within Lake Wallula is 303(d) is listed for year-round temperature exceedance (ODEQ 2022). Water temperature in the middle Columbia River is affected by Grand Coulee Dam (NOAA 2020). The proposed Project will have no effect on river temperatures.

The *Sediment* parameter is "at risk." The series of dams and reservoirs on the Columbia River has impeded the natural transport of sediment via natural hydrologic processes. The reduction in sediment, combined with channelization the channel to focus flow to support navigation has reduced availability and formation of shallow water habitat along the margins of the mainstem (NOAA 2020). The proposed Project will have no effect on sediment transport. During installation of the cofferdam, there may be a short-term increase in localized turbidity.

The *Chemical Contaminants/Nutrients* parameter is "not properly functioning." The Middle Columbia River within Lake Wallula is listed by the ODEQ (last assessed in 2018) as impaired for fecal coliform, methylmercury, polychlorinated byphenyls (PCBs), dioxin (2,3,7,8-TCDD), and total dissolved gas (ODEQ 2022). The proposed Project will have no effect on contaminant/nutrient parameter.

In summary, the *Water Quality* pathway and associated indicators are considered "not properly functioning" under baseline conditions and the proposed Project will maintain these indicators.

3.3.3 Habitat Access

The *Physical Barriers* parameter is "not properly functioning" within the Middle Columbia River. The Columbia River is a regulated system with 14 hydroelectric dams on the mainstem, most of which provide fish passage. There are four dams on the lower Columbia River, all downstream of the proposed Project and action area (in descending order): McNary, John Day, The Dalles and Bonneville dams, all of which provide upstream and downstream fish passage. The Columbia River dams provide fish passage, but some migrating fish are delayed or are killed. The proposed Project will have no effect on physical barriers for either migrating adults or juvenile salmonids.

In summary, the *Habitat Access* pathway and associated indicators are considered "not properly functioning" under baseline conditions and the proposed Project will maintain these indicators.

3.3.4 Habitat Elements

The *Substrate* parameter is "not properly functioning." Substrate in the action area is bedrock with silt/mud layer on top. There is no substrate of variable sizes (e.g., gravel, cobble, boulder) to provide cover or habitat along the river shoreline. The area serves as a migratory corridor and does not provide spawning habitat. The proposed Project will permanently affect a small section of substrate along the southern shoreline resulting from the construction of the new pump house. The proposed action will remove 0.027 acres of substrate (36 linear feet of shoreline by 33 feet perpendicular to the shoreline) from below the OHWM. The removal of substrate will be limited to the footprint for the New Pump Station and will not affect substrate in the surrounding area or affect the habitat function in the area as a migratory corridor for fish species. The proposed Project will have no effect on substrate in the middle Columbia River reach.

The *Large Woody Debris* parameter is "not properly functioning." The Snake and Columbia River dams prevent the transport and deposition of large woody debris. The proposed Project will have no effect of deposition of large woody debris in the river.

The *Pool Frequency* parameter is "not properly functioning." The Columbia River is dominated by glide habitat where the streamflow is smooth and steady. Although the Columbia River dams are run-of-river facilities that generally pass the incoming river flows, the forebay pools act much like one large pool/glide habitat instead of riverine habitat (i.e., multiple smaller pools with riffles or runs in between). In addition, large wood recruitment is minimal, thus pool creation and maintenance are minimal. These altered characteristics (e.g., dams, large wood recruitment, overhanging banks, riparian corridor) to the river affect pool frequency. The proposed project will have no effect on pool frequency in the river.

The *Pool Quality* parameter is "not properly functioning." Pool characteristics have been greatly altered by the Columbia River dams. The reduction of large wood, overhanging banks, and habitat complexity have limited the formation of pools. The proposed Project will have no effect on the pool quality of the river.

The *Off-Channel Habitat* parameter is "not properly functioning." The Columbia River contains few or no low-energy off-channel areas, oxbows, ponds or backwaters. Historical off-channel areas have been filled, rechanneled, diverted, and otherwise developed for urban use and to focus flow for navigation over the past 150 years. The proposed Project will 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, pools, boulders, and overhanging riparian vegetation are limited in the Columbia River. The proposed Project will have no effect on the available refugia in the river.

In summary, the *Habitat Elements* pathway and associated indicators are considered "not properly functioning" under baseline conditions and the proposed Project will maintain these indicators with a minor degradation of substrate isolated to the footprint of the New Pump Station.

3.3.5 Channel Condition and Dynamics

The *Width to Depth Ratio* parameter is "not properly functioning." Mainstem channel width to depth ratio parameters were modified with the construction of dams on the Columbia and Snake rivers. In addition, since the late 1800s sections of the mainstem Columbia River have been dredged to maintain navigation channels and access to docks and ports. The proposed Project will have no effect on the river's width to depth ratio.

The *Streambank Condition* parameter is "at risk." There is minimal vegetation along the bank and the streambank does not provide overhang, cover, or functional habitat for fish. The proposed Project will have no effect on streambank condition.

The *Floodplain Connectivity* parameter is "not properly functioning." The dams on the mainstem Columbia and Snake rivers provide floodplain control and reduce connectivity between river and floodplain. McNary Dam provides flood control upstream for the middle Columbia River. The proposed Project will have no effect on the river's floodplain connectivity.

In summary, the *Channel Condition and Dynamics* pathway and associated indicators are considered "at risk" or "not properly functioning" under baseline conditions and the proposed Project will maintain these indicators.

3.3.6 Flow and Hydrology

The *Peak/Base Flows* parameter is "not properly functioning." Flow on the Columbia River are greatly affected by the dams on the mainstem Columbia and Snake rivers. The proposed Project will have no effect on river flows.

The *Drainage Network Increase* parameter is "at risk." The land near the action area is relatively undeveloped and includes the WWA. The proposed action will have no effect on the drainage network.

In summary, the *flow and hydrology* pathway and associated indicators are considered "at risk" or "not properly functioning" under baseline conditions and the proposed Project will maintain these indicators.

3.3.7 Watershed Conditions

The *Road Density and Location* parameter is "at risk." The road network increases as population centers grow and increase. Road density in the action area is minimal and will remain following the completion of the proposed action. The proposed Project will have no effect on the road density of the watershed.

The *Disturbance History* parameter is "not properly functioning." The development of hydroelectric facilities along the Columbia and Snake rivers, Umatilla Chemical Depot, wind farms, and agriculture (dryland and cropland) has significantly altered the historic landscape. The proposed action will result in approximately 15.7 acres of earth disturbance in upland areas. The existing Lewis and Clark Commemorative Trail will be upgraded for construction vehicles. Permanent impervious impacts are anticipated to be 0.97 acre, from the pump station footprint, the access road, the parking area, and the gravel pipeline access road. Temporarily disturbed upland will be restored/rehabilitated with treatment(s) following general guidelines in the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Ecological site R007XY012OR near the Columbia River and below the bluff, and USDA NRCS Ecological site R007XY015OR above the bluff and the remainder of the transmission line construction area.

The *Riparian Reserves* parameter is "not properly functioning." Riparian vegetation is lacking in the action area and in general is limited along the Columbia River. The proposed Project will have no effect on the riparian condition reserves.

In summary, the *Watershed Conditions* pathway and associated indicators are considered "not properly functioning" under baseline conditions and the proposed Project will maintain these indicators.

4.0 EFFECTS OF THE ACTION ON LISTED SPECIES

This section analyzes the potential effects of the proposed action on federally protected species and critical habitat in the action area. The USACE is not addressing potential effects associated with water withdrawals, or the larger private irrigation project, as neither is a direct or indirect effect or an interrelated/interdependent activity of the proposed action.

The evaluation conducted for this analysis was based on the effects determination described in the USFWS's Endangered Species Act Handbook for Section 7 consultations (USFWS 1998). The five effects categories used in this BA are defined below:

- *May affect, is likely to adversely affect* - The project is likely to adversely affect a species if: 1) the species is known to occur in the action area; and 2) project activities will disturb areas or habitat elements known to be used by the species or will directly affect an individual.
- *May affect, is not likely to adversely affect* - The project is not likely to adversely affect a species if: 1) the species may occur, but its presence has not been documented; and 2) project activities will not result in disturbance to areas or habitat elements known to be used by the species.
- *No effect* - The project will have no effect on a species if: 1) the species is considered unlikely to occur (range, vegetation, etc., are inappropriate); and 2) the species or its sign was not observed during surveys of the action area.
- *Not likely to jeopardize the continued existence of* – The project is not likely to jeopardize the continued existence of a listed species or to result in the destruction or adverse modification of critical habitat.
- *Likely to jeopardize the continued existence of* – The project will be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species.

4.1 Direct and Indirect Effects

Direct effects include all immediate conditions (adverse and beneficial) resulting from project related actions. Indirect effects of a proposed action are those that are reasonably certain to occur later in time (after construction of the project is complete). The following section summarizes the direct and indirect effects expected to result from the proposed

Project, including their duration, frequency, and severity. In addition, conservation measures to mitigate the effects are described.

The action area provides a critical migratory corridor for anadromous steelhead and salmon and critical FMO habitat for bull trout. The action area does not provide suitable spawning or rearing habitat for these listed species (Table 2-1).

During the in-water work period, it is anticipated that few individual listed fish will be in the action area (Table 4-1). Data collected at McNary Dam for the last 20 to 25 years show anadromous steelhead and salmon movement at McNary Dam peaks from May through September for adults and from April through July for juveniles (Columbia River DART 2024, Table 4-1). Limited data are available for upstream and downstream movements of adult and juvenile bull trout. Migratory bull trout are present in and use the mainstem Columbia River, but little is known about the number of fish and the timing of their movements. Few individual adult and juvenile bull trout have been observed at McNary Dam fishways from April through June (Barrows et al. 2016, Columbia River DART 2024b).

Table 4-1 Summary of the median first and last passage date and median 50 percent passage timing (adults and juveniles) for PIT-tagged ESA listed anadromous salmon and steelhead at McNary Dam (Columbia River DART 2024a).

Species	Median First and Last Passage		Median 50% Passage	
	Adults	Juveniles	Adults	Juveniles
UCR Spring Chinook	April 22 – August 19	April 15 – November 12	May 22	May 15
SR Spring/Summer Chinook	April 16 – September 24	April 11 – July 27	June 6	May 13
SR Fall Chinook	June 24 - November 13	March 30 – November 22	September 15	June 3
SR Sockeye	June 24 – July 17	May 13 – July 2	July 4	May 25
SR Steelhead	January 6 – December 26	April 3 – July 15	September 18	May 7
MDCR Steelhead	February 24 – December 8	March 31 – June 17	September 18	May 11
UCR Steelhead	April 5 – November 11	April 10 – July 6	August 25	May 18

*Note: Not enough bull trout enumerated at McNary Dam to develop median and peak passage timelines like anadromous salmon and steelhead.

Potential direct effects of the proposed action include construction activities that may result in short-term water quality degradation, juvenile salmon or steelhead fish entrainment behind the cofferdam during installation, disturbance of fish moving through the action area, and minor substrate habitat modifications from installation of the temporary cofferdam. Indirect effects will result from habitat modifications caused by the location of the New Pump Station and potential fish impingement during operation of the New Pump Station.

Proposed construction activities include installation of the temporary cofferdam concurrent with implementation of a fish salvage plan, construction in dry conditions for approximately 18 months, and removal of the temporary cofferdam. In-river work and installation and removal of the cofferdam will occur between December 1 and March 31, per ODFW guidelines. Once the cofferdam is installed, and the fish salvage program implemented, all construction work will be completed in the dry. The temporary cofferdam will be removed upon completion of the construction activities. The existing CTUIR pump station will be decommissioned and removed completely after testing and establishment of the New Pump Station is complete. This process allows for water diversion to the WWA to be maintained during the construction period.

The risk of harm to a listed species during construction is low because of the low number of anadromous salmonids and bull trout present in the Middle Columbia River near the action area during the work window. If a fish were present near the Project, they would likely leave the area as work commenced.

A summary of proposed conservation mitigation measures is provided in Table 4-2, with more detailed descriptions for each potential effect category following. The timing of any in-river work will be completed when fish are least likely to be in the area, the work zone will be isolated and in the dry, and conservation measures will be implemented to mitigate the potential effects of the proposed project. Although the proposed action will likely have negligible effects on ESA listed species due to the implementation of conservation mitigation measures, the potential for individual take remains possible. Therefore, implementation of the Project would result in a ***may affect, likely to adversely affect*** determination to ESA listed salmonid species.

Table 4-2 Summary of expected direct and indirect effects of the proposed action and proposed conservation mitigation measures.

Direct/Indirect Effect	Project Activity	Conservation Mitigation Measure
Water quality - short-term turbidity, fish entrainment, habitat modification (to substrate)	Construction of temporary cofferdam	Drilling holes and backfilling with concrete will cause less blunt impact to the substrate and is more precise than pile driving. Implement Fish Salvage Plan per ODFW requirements under Rescue/Salvage Authorization (RSA)
Water quality - short-term turbidity,	Temporary cofferdam water displacement	Construction and removal will occur during the in-water work window (December 1 to March 31).
Potential impacts to fish passage during construction (e.g., movement and/or behavior)	Noise and vibrations from drilling	In-water work window from December 1 – March 31. Use vibratory hammers, produce sounds of lower intensity than impact hammers.
Water quality - chemical contamination	Equipment operating and fuel storage near waterbody	Development of Pollution Prevention Control Plan that identifies containment and storage measures and spill response for project. Spill response kit onsite.
Water quality - short-term turbidity, habitat modification (temporary cover)	Anchors holding the barge in place	Silt/turbidity curtain. If the barge leaves the area temporarily, the anchors will be secured in place with buoys to avoid repeated pulling up and dropping upon return. The barge may provide temporary cover for fish species in area.
Water quality - Reduce potential source of sediment to waterbody	Barge and crane	Barges and cranes have less environmental impact than using shoreline construction equipment.

Direct/Indirect Effect	Project Activity	Conservation Mitigation Measure
Water quality – short-term turbidity, habitat modification (re-establish fish access to waterbody)	Removal of temporary cofferdam	Removal will occur during the in-water work window (December 1 to March 31). To reduce additional drilling, turbidity, noise, and vibrations, pilings from the cofferdam will be cut off level with the substrate.
Water quality - upland disturbance and sediment-laden runoff to waterbody	Land disturbance associated with construction activities	Stormwater Pollution Prevention Plan and implementation of best management practices to protect sediment-laden runoff from reaching waterways
Water quality – short-term turbidity and improve shoreline infiltration with vegetation	Decommission of the existing pump station and pipeline	Silt/turbidity curtain, in-water work window, restoration of shoreline with grass vegetation.
Fish impingement	New Pump Station	Fish screens on intakes designed to prevent impingement (NMFS design criteria)
Permanent impact to shoreline habitat and substrate	Footprint of the New Pump Station	Design chosen minimizes impact below OHWM to 0.027 acre.

4.1.1 Water Quality

4.1.1.1 Turbidity

Construction activities could affect water quality in or near the Project construction area by causing a short-term increase in turbidity. A silt sock, a turbidity curtain at the cofferdam, and other erosion control methods for on-site stormwater containment will be installed along the shoreline side of the Project area to avoid runoff and soil loss along the shoreline.

The contractor will limit disturbance to the riverbank to minimize sources of sedimentation and run-off to the river. Removal of vegetation will be kept to the minimum required for construction activities. Once construction is complete, disturbed shoreline areas will be restored to their original slopes and planted and seeded with native species.

Surplus construction material and debris will be removed and disposed of off-site at appropriate facilities.

To reduce the potential effects on aquatic life, initial water displacement at the cofferdam will occur during the in-water work window, December 1 – March 31. In-river work will occur within the bounds of the cofferdam and in the dry over 18 months. Following the 18-month construction period, the cofferdam will be removed, between December 1 and March 31, and pilings will be cut level with the substrate to minimize turbidity and disturbance. Prior to the start of construction, an NPDES permit with an SWPPP will be prepared and approved by EPA and ODEQ.

A barge with a crane will be anchored near the site to support construction activities such as drilling into the substrate, placing pilings, and pouring concrete. The barge may be on-site for up to 18 months. If the barge needs to be relocated, temporary buoys will be placed on the anchors and left in place. Excavators located landward of the OHWM will work above and below the OHWM. The contractor will implement the SWPPP and BMPs to minimize potential for sediment-laden runoff from reaching any waterway. Fill below the OHWM will be excavated and moved to an off-site location for proper disposal.

Once construction of the New Water Facilities is complete and it is functional, the demolition of the existing CTUIR pump station and intake screens will begin. The timing of the demolition will depend on testing the New Water Facilities and the in-water work window. Erosion and sediment controls will be placed on the bank with a turbidity curtain in the Columbia River during demolition. All work will be accomplished using a medium-sized excavator and a hydraulic demolition hammer. Once the existing pump station is demolished, the overhead electrical wires, power poles, and transformer will be removed and hauled off-site to a landfill or recycling center. The existing water pipeline will be removed, and the entire area will be graded and seeded with a native grass seed mix.

Short-term, localized increases in background turbidity levels will likely occur as a result of proposed coffer dam installation activities below the OHWM and during the removal of the intake screens associated with the existing CTUIR pump station. On short time scales, increases in turbidity can trigger avoidance behaviors, disrupt visual feeding and alter predator avoidance behaviors (Bash 2001). 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. Given the timing and short duration of in-water work activities; it is anticipated the any project-related increases in turbidity will be very limited and highly localized. Short-term increases in turbidity resulting from temporary work below the OHWM 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.

4.1.1.2 Chemical Contamination

Operation of heavy equipment is a potential source for chemical contamination to the waterbody or soil. Accidental spills of construction materials or petroleum products would adversely affect water quality and potentially affect ESA-listed species. A Pollution Prevention Control Plan will be prepared prior to the start of construction to identify containment measures and spill response for the project. A spill kit will also be on the project site.

4.1.1.3 Sedimentation from Land Disturbance

Disturbances to soil will primarily be from excavation and construction equipment access. Sedimentation during precipitation events could occur during construction before vegetation is reestablished.

Vegetation will be removed from approximately 1 acre near the west side of the existing pump station, followed by excavation and grading. This area will be used as a staging area and will be within approximately 125 feet of the shoreline, landward of the existing Lewis and Clark Commemorative Trail.

Contractors will use 1.5 miles of the existing Lewis and Clark Commemorative Trail to access the site. Most construction traffic will occur between the two laydown areas, a distance of 0.3 miles. A new, gradual access road to the New Pump Station site will be created, the existing access road will be removed and restored, and the existing pump station parking area will be expanded to 0.3 acres. The Project will require the temporary closure of the existing Lewis and Clark Commemorative Trail from the McNary Beach Recreation Area to the existing pump station for public safety purposes. Signage will be posted, and access will be provided for construction-related vehicles only.

Prior to the start of construction, a Blasting Plan will be prepared and approved by EPA and ODEQ. The Blasting Plan will outline blasting-related operations, including obtaining, transporting, storing, handling, loading, detonating, and disposing of blasting material;

drilling; and ground-motion monitoring, which shall comply with applicable federal, state, and local regulations. Blasting will occur in the dry.

A Post-Construction Stormwater Management Plan has been developed to minimize indirect Project effects on the water quality or volume of stormwater runoff. Stormwater from the access road to the New Pump Station and parking area will be routed to a bioretention basin for treatment before discharge to the Columbia River.

4.1.2 Fish Entrainment

The proposed project has the potential to entrain fish during the placement of temporary cofferdam. Entrainment may occur if fish are trapped within the work area isolated by the coffer dam as the coffer dam is constructed. The potential for entrainment is largely dependent on the likelihood of fish occurring, the scale of the cofferdam area, and the life stage of the fish. Adult salmonids (if present) will likely avoid the work area. Given the proposed timing of in-water work (December 1 – March 31), location of proposed activities near the shoreline, and relatively slow speed of installation; it is reasonably certain that the risk of entrainment of juvenile ESA-listed fish species within the temporary coffer dam will be minimal, although not discountable.

A Fish Salvage Plan will be prepared and submitted to ODFW in compliance with Rescue/Salvage Authorization (RSA) requirements. The Fish Salvage Plan will be prepared prior to the start of construction. The Fish Salvage Plan will describe work area isolation for all work below the OHWM, including the sequencing and schedule of any dewatering and re-watering activities; and fish protection measures, including pump screens, capture, handling, transport; and reporting. The dewatering pump is designed to meet NMFS standards, including a fish exclusion screen to protect fish.

Cofferdam construction and removal will occur during the approved in-water work window (December 1 through March 31). Work area isolation will follow best management practices for fish protection. The cofferdam will stay in place for approximately 18 months.

4.1.3 Fish Passage/Movement

The proposed action is confined to the southern shoreline and in-river activities will be confined to the footprint of the temporary cofferdam, which extends up to 50 feet from the shoreline. Installation of the cofferdam will occur between December 1 and March 31 to minimize the effects on listed fish species. Any pilings for the cofferdam will be installed

using a vibratory hammer to mitigate the effects of sounds on fish and to produce lower intensity sound than an impact hammer. The cofferdam will be removed and cut at the base flush with the substrate, minimizing hydroacoustic effects on fish. The in-river work area is isolated and is unlikely to affect fish movement and will not affect passage at McNary Dam.

4.1.4 Fish Impingement

The New Pump Station will include installing fish screens meeting NMFS criteria to minimize the potential for fish impingement. The New Pump Station fish screens will reduce the effects the Project could have on juvenile fish moving through the area. Given the design and location of the New Pump Station within reach of the Columbia River, approximately 1 mile wide, the Project is unlikely to affect the movement of fish or fish passage in the mainstem Columbia River. The McNary Dam fishways and downstream bypass will remain intact and unaltered by the proposed Project.

4.1.5 Habitat Modification

The proposed action includes work in the Columbia River. The installation of the temporary cofferdam will include driving pilings into the substrate and backfilling with concrete. The temporary cofferdam structure will be used to isolate the immediate area around the New Pump Station to facilitate construction. Additionally, the cofferdam will be removed and cut at the base flush with the substrate to minimize any future substrate disturbance. The proposed work within the Columbia River will include construction of a New Pump Station. The New Pump Station will encompass approximately 1,188 square feet (0.027 acre) below the OHWM, with a permanent footprint affecting approximately 33 linear feet of shoreline, extending 36 feet perpendicular to the shoreline, and approximately 5 feet below OHWM. The modification to the shoreline habitat is unlikely to affect fish movement and migration pathways in the mainstem Columbia River.

4.2 Effects on Critical Habitat

4.2.1 Anadromous Salmonids

Freshwater rearing and migration habitat occurs in the action area. The action area does not include freshwater spawning, estuarine, nearshore marine, or offshore marine habitats. The PBFs essential for freshwater rearing and migration include floodplain connectivity, forage, natural cover, no artificial obstructions, water quantity and quality.

The proposed action may temporarily affect water quality but is not expected to affect other PBFs (Table 4-3).

Table 4-3 Effects determination of the proposed action on 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	**May affect**
	Water Quantity	No effect
Freshwater Migration	Free of artificial obstructions	No effect
	Natural Cover	No effect
	Water Quality	**May 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 Quality	No effect
	Water Quantity	No effect
Offshore Marine Areas	Forage	No effect

Water Quality – The proposed action may result in short-term, localized increases in background turbidity because of installation and removal of the temporary cofferdam and movement of the barge. The existing substrate is primarily bedrock, which limits mobilization of sediments in the area. The in-river work window for installation and removal of the temporary cofferdam (December 1 through March 31), installation of turbidity curtain, and the installation and removal techniques (vibratory hammer for piling

installation, concrete base, and structure cut at base for removal) are anticipated to mitigate, minimize, and isolate construction-related increases in turbidity. Although, the proposed action is anticipated to have negligible and insignificant effects to baseline water quality conditions, the project would result in temporary impacts to water quality during construction and ***may affect*** anadromous salmonid critical habitat.

4.2.2 Bull Trout

The proposed action is expected to result in some short-term, limited effects on bull trout FMO critical habitat (same as freshwater migration for anadromous salmonids). FMO habitat includes the mainstem Columbia River. The habitat indicators for FMO critical habitat include water quality and quantity, temperature, floodplain connectivity, peak/base flows, chemical contamination/nutrients, physical barriers, large woody debris, pool frequency and quality, large pools, off channel habitat, refugia, average wetted width/maximum depth ratio in scour pools in a reach, riparian area and streambank condition (Table 2-4). The proposed action may temporarily affect water quality during construction but is not expected to affect other habitat indicators (Table 3-1).

Water Quality – The proposed action may result in short-term, localized increases in background turbidity because of installation and removal of the temporary cofferdam and movement of the barge. The existing substrate is primarily bedrock, which limits mobilization of sediments in the area. The in-river work window for installation and removal of the temporary cofferdam (December 1 through March 31), installation of turbidity curtain, and the installation and removal techniques (vibratory hammer for piling installation, concrete base, and structure cut at base for removal) are anticipated to mitigate, minimize, and isolate construction-related increases in turbidity. The proposed action is anticipated to result in negligible and insignificant effects to bull trout critical habitat baseline conditions in the mainstem Columbia River (Table 4-4). However, the proposed action would result in temporary impacts to water quality during construction and ***may affect*** bull trout critical habitat.

Table 4-4 Effects determination for proposed action to PCEs and PBFs of spawning and rearing (S&R) and FMO critical habitat designated for ESA listed bull trout.

PCE #	PCE Description	Essential PBFs	Life History (S&R, FMO)	Effect Determination
PCE-1	Springs, seeps, groundwater sources, and subsurface water connectivity (hyporheic flows) to contribute to water quality and quantity and provide thermal refugia	floodplain connectivity, change in peak/base flows, increase in drainage network, riparian area condition, chemical contamination/nutrients	S&R, FMO	No effect
PCE-2	Migratory 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	temperature, chemical contamination/ nutrients, physical barriers, average wetted width/maximum depth ratio in scour pools in a reach, change in peak/base flows, refugia	S&R, FMO	May Affect
PCE-3	An abundant food base, including terrestrial organisms of riparian origin, aquatic macroinvertebrates, and forage fish	riparian area condition, floodplain connectivity	S&R, FMO	No effect
PCE-4	Complex river, stream, lake, reservoir, and aquatic environments, and processes that establish and maintain these aquatic environments.	large woody debris, pool frequency and quality, large pools, off channel habitat, refugia, average wetted width/maximum depth ratio in scour pools in a reach, streambank condition, floodplain connectivity, riparian area condition	S&R, FMO	No effect

PCE #	PCE Description	Essential PBFs	Life History (S&R, FMO)	Effect Determination
PCE-5	Water temperatures ranging from 2-15 °C (36˚ to 59˚ F), with adequate thermal refugia available for temperatures that exceed the upper end of this range.	temperature, refugia, average wetted width/maximum depth ratio in scour pools in a reach, streambank condition, change in peak/base flows, riparian area condition, floodplain connectivity	S&R, FMO	No effect
PCE-6	In spawning and rearing areas, substrates of sufficient amount, size, and composition to ensure the success of egg and embryo overwinter survival, fry emergence, and young-of-the-year and juvenile survival.	sediment, substrate embeddedness, large woody debris, pool frequency and quality	S&R	No effect
PCE-7	A natural hydrograph, including peak, high, low, and base flows within historical and seasonal ranges or, if flows are controlled, minimal flow departure from a natural hydrograph	change in peak/base flows, increase in drainage network, disturbance history, disturbance regime	S&R, FMO	No effect
PCE-8	Sufficient water quality and quantity such that normal reproduction, growth, and survival are not inhibited	sediment, chemical contamination/nutrients, change in peak/base flows	S&R, FMO	No effect
PCE-9	Sufficiently low levels of occurrence of nonnative predatory (e.g., lake trout, walleye, northern pike, smallmouth bass; interbreeding [e.g., brook trout]; or competitive [e.g., brown trout] species) that, if present, are adequately, temporally, and spatially isolated from bull trout	Complex habitat, temperature, large wood debris, disturbance regime, barriers, sediment, change in peak/base flow, chemical contamination/nutrients, water quality and quantity	S&R, FMO	No effect

4.3 Cumulative Effects

Cumulative effects include those which result from the incremental effect of the proposed action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions.

The construction of the FCRPS, agriculture and the associated water diversion and water control activities, the Umatilla Chemical Depot, and urban development have shaped the landscape and affected resources near the action area. Other effects in the Middle Columbia River include recreation and commercial use of the area supporting fishing, hunting, boating, bird watching, swimming, and barge traffic. These past and present activities have developed the current environmental baseline.

Foreseeable future actions in the area includes continued operations of the FCRPS reservoirs for generation and fish passage management and continued urban development.

The past, present, and reasonably foreseeable future actions are not expected to result in any measurable cumulative effect on ESA-listed species or their critical habitats when considered with the proposed action.

4.4 Summary of Effects Determinations

4.4.1 Listed Species

The proposed action ***may affect, and is likely to adversely affect*** bull trout.

The proposed action ***may affect, and is likely to adversely affect*** UCR spring Chinook salmon, SR spring/summer Chinook salmon, SR fall Chinook salmon, SR sockeye salmon, UCR steelhead, MCR steelhead, and SR steelhead. Effects determinations for listed species are summarized in Table 9-1 below.

4.4.2 Critical Habitat

The proposed construction activities and mitigation measures limit the intensity, extent, and duration of the potential adverse effects on the environment. As such, the PBFs and PCEs of critical habitat for ESA listed species in the action area are likely to retain their current functional status and serve the intended conservation role for the species. Therefore, the proposed action ***may affect*** for ESA anadromous listed species and ESA

listed bull trout. Therefore, consultation is required. Effects determinations for critical habitat are summarized in Section 9.0.

5.0 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), which is shown in Figure 5-1. 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.

This BA provides an analysis of effects to the habitat elements that make up EFH for anadromous salmonids. The conservation measures described in this BA (see Section 1.7) are considered adequate to prevent and avoid potential adverse effects on EFH for Pacific salmon (EFH area shown in Figure 5-1). Thus, the proposed action will not adversely affect EFH for Pacific salmon.

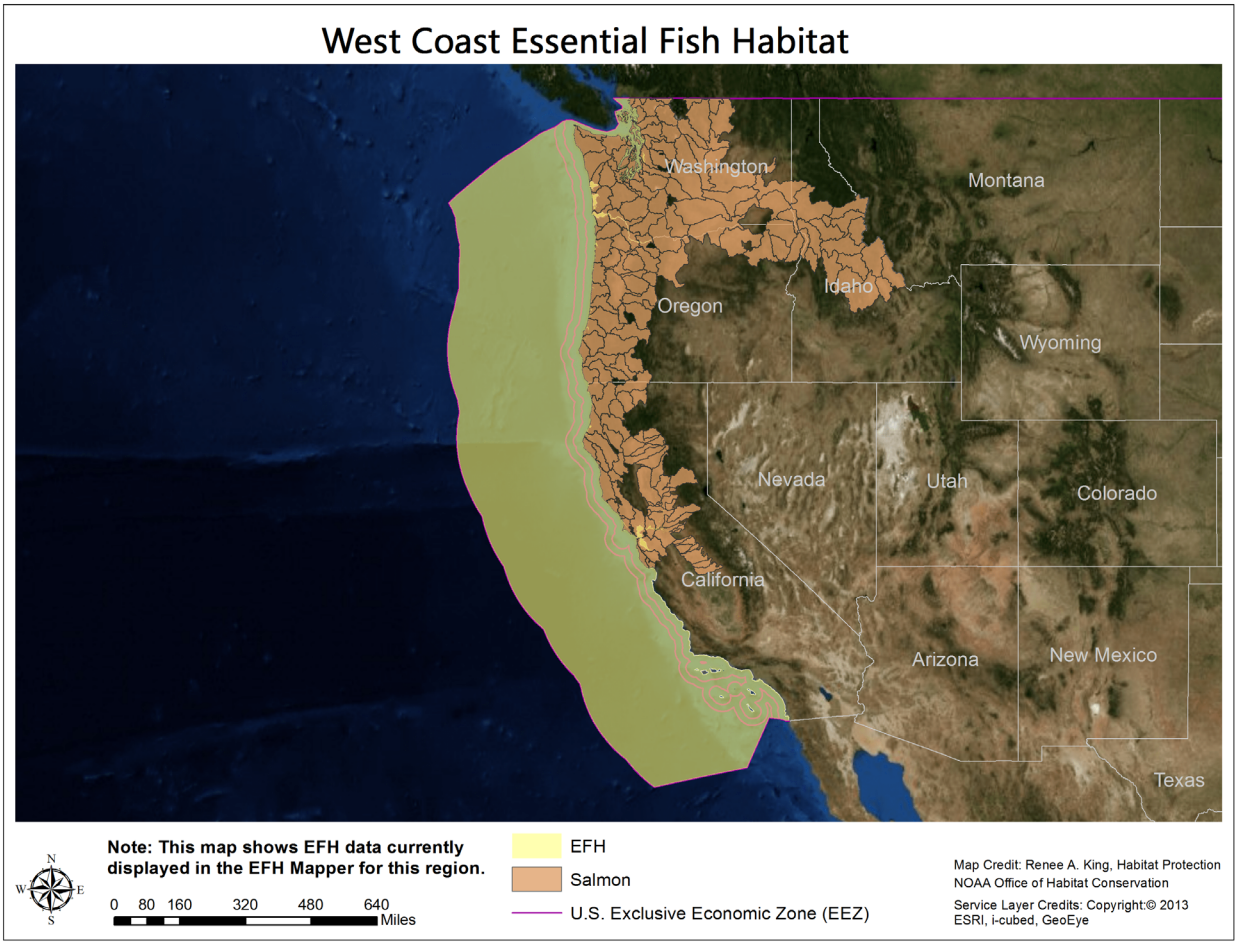

Figure 5-1 Essential Fish Habitat for west coast Pacific salmon (NOAA West Coast Fisheries Office 2024).

6.0 FISH AND WILDLIFE COORDINATION ACT

The Fish and Wildlife Coordination Act (FWCA) directs the USFWS to evaluate proposed federal actions that may affect any stream or body of water and to provide recommendations to minimize the effects of proposed action on fish and wildlife resources. The purpose of the FWCA is to ensure fish and wildlife conservation receives equal consideration when developing water resource project. The proposed action would modify the hydrological characteristics of the Columbia River and therefore would be subject to the FWCA. FWCA correspondence would take place during ESA consultation with the USFWS, to ensure the proposed action would not result in any substantial affects to fish and wildlife resources.

7.0 MIGRATORY BIRD TREATY ACT

The Migratory Bird Treaty Act (MBTA) (16 U.S.C. §§ 703-712, as amended in 2023) provides protection for native migratory birds and prohibits the take of migratory species without prior authorization by the USFWS. MBTA prohibits take via killing, capturing, selling, trading, and transport of migratory birds, dead or live, and their parts, feathers or nests.

The proposed action includes measures to relocate existing overhead powerline to underground, which will reduce bird-collision hazard in the area. The proposed action will not result in the take of migratory birds.

8.0 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.

There are no known eagle nests in the proposed Project area. The proposed action includes measures to relocate existing overhead powerline to underground, which will reduce bird-collision hazard in the area. The proposed action will not result in the take of bald or golden eagles.

9.0 EFFECT SUMMARY

The effects determinations made for the ESA listed species and critical habitat analyzed in this BA are summarized in Table 9-1.

Table 9-1 Effects determination for the listed species within the area potentially affected by this action.

Common Name (ESA Status)	Species Determination	Critical Habitat Determination
Upper Columbia River Spring Chinook Salmon (E)	May affect, Is likely to Adversely Affect	May affect
Snake River spring/Summer Chinook Salmon (T)	May affect, Is likely to Adversely Affect	May affect
Snake River Fall Chinook salmon (T)	May affect, Is likely to Adversely Affect	May affect
Snake River Sockeye Salmon (E)	May affect, Is likely to Adversely Affect	May affect
Upper Columbia River Steelhead (T)	May affect, Is likely to Adversely Affect	May affect
Middle Columbia River steelhead (T)	May affect, Is likely to Adversely Affect	May affect
Snake River Steelhead (T)	May affect, Is likely to Adversely Affect	May affect
Gray Wolf (E)	No Effect	No Effect
Bull Trout (T)	May affect, Is likely to Adversely Affect	May affect
Monarch Butterfly (PT)	No Effect	No Effect
Suckley's Cuckoo Bumble Bee (PE)	No Effect	None Proposed or Designated
MSA	No Adverse Effects	
FWCA	Is Applicable	
MBTA	No Take	
BGEPA	No Take	

10.0 REFERENCES

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56 FR 58619. 1991. Endangered and threatened species: Endangered status for Snake River sockeye salmon. Federal Register 56(224): 58619-58624, 11/20/1991.

57 FR 14653. 1992. Endangered and threatened species: Threatened status for Snake River spring/summer chinook salmon, threatened status for Snake River fall chinook salmon. Federal Register 57(78): 14653-14663, 4/22/1992.

57 FR 23458. 1992. Endangered and threatened species: Threatened status for Snake River spring/summer chinook salmon, threatened status for Snake River fall chinook salmon. Correction. Federal Register 57(107):23458, 6/3/1992.

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APPENDIX A

PROJECT DESIGN DRAWINGS

APPENDIX B

USFWS IPAC

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Oregon Fish And Wildlife Office
2600 Southeast 98th Avenue, Suite 100
Portland, OR 97266-1398
Phone: (503) 231-6179 Fax: (503) 231-6195

In Reply Refer To: 01/30/2025 17:15:42 UTC
Project Code: 2025-0023116
Project Name: City of Umatilla New Pump Station

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). This is not a consultation.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Bald & Golden Eagles
- Migratory Birds
- Wetlands

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Oregon Fish And Wildlife Office
2600 Southeast 98th Avenue, Suite 100
Portland, OR 97266-1398
(503) 231-6179

PROJECT SUMMARY

Project Code: 2025-0023116
Project Name: City of Umatilla New Pump Station
Project Type: Water Supply Facility - New Constr
Project Description: Demo of existing pump plant and construction of new pump station that would supply water to wildlife area.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@45.92146015,-119.2415406268506,14z

Counties: Umatilla County, Oregon

ENDANGERED SPECIES ACT SPECIES

There is a total of 4 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

BIRDS

NAME	STATUS
California Condor *Gymnogyps californianus* Population: Pacific Northwest NEP No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8193	Experimental Population, Non-Essential

FISHES

NAME	STATUS
Bull Trout *Salvelinus confluentus* Population: U.S.A., coterminous, lower 48 states There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8212	Threatened

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened
Suckley"s Cuckoo Bumble Bee *Bombus suckleyi* Population: No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10885	Proposed Endangered

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

BALD & GOLDEN EAGLES

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act [2] and the Migratory Bird Treaty Act (MBTA) [1]. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate avoidance and minimization measures, as described in the various links on this page.

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1. The Bald and Golden Eagle Protection Act of 1940.
2. The Migratory Birds Treaty Act of 1918.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

There are Bald Eagles and/or Golden Eagles in your project area.

Measures for Proactively Minimizing Eagle Impacts
For information on how to best avoid and minimize disturbance to nesting bald eagles, please review the National Bald Eagle Management Guidelines. You may employ the timing and activity-specific distance recommendations in this document when designing your project/ activity to avoid and minimize eagle impacts. For bald eagle information specific to Alaska, please refer to Bald Eagle Nesting and Sensitivity to Human Activity.

The FWS does not currently have guidelines for avoiding and minimizing disturbance to nesting Golden Eagles. For site-specific recommendations regarding nesting Golden Eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

If disturbance or take of eagles cannot be avoided, an incidental take permit may be available to authorize any take that results from, but is not the purpose of, an otherwise lawful activity. For assistance making this determination for Bald Eagles, visit the Do I Need A Permit Tool. For assistance making this determination for golden eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

Ensure Your Eagle List is Accurate and Complete
If your project area is in a poorly surveyed area in IPaC, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the Supplemental Information on Migratory Birds and Eagles, to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to bald or golden eagles on your list, see the "Probability of Presence Summary" below to see when these bald or golden eagles are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Dec 1 to Aug 31
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

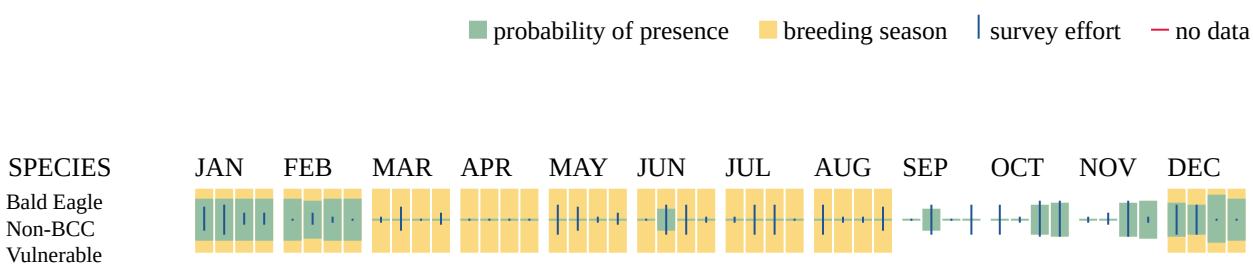
Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

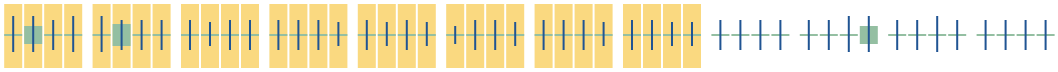
Breeding Season (■)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.



Golden Eagle
Non-BCC
Vulnerable



Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

MIGRATORY BIRDS

The Migratory Bird Treaty Act (MBTA) [1] prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service). The incidental take of migratory birds is the injury or death of birds that results from, but is not the purpose, of an activity. The Service interprets the MBTA to prohibit incidental take.

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1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the "Probability of Presence Summary" below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
American Avocet *Recurvirostra americana* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/11927	Breeds Apr 21 to Aug 10
American White Pelican *pelecanus erythrorhynchos* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/6886	Breeds Apr 1 to Aug 31

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Dec 1 to Aug 31
California Gull *Larus californicus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10955	Breeds Mar 1 to Jul 31
Cassin's Finch *Haemorhous cassinii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9462	Breeds May 15 to Jul 15
Clark's Grebe *Aechmophorus clarkii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10575	Breeds Jun 1 to Aug 31
Evening Grosbeak *Coccothraustes vespertinus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9465	Breeds May 15 to Aug 10
Forster's Tern *Sterna forsteri* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/11953	Breeds Mar 1 to Aug 15
Franklin's Gull *Leucophaeus pipixcan* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10567	Breeds May 1 to Jul 31
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31
Lesser Yellowlegs *Tringa flavipes* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Lewis's Woodpecker *Melanerpes lewis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9408	Breeds Apr 20 to Sep 30

NAME	BREEDING SEASON
Marbled Godwit *Limosa fedoa* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9481	Breeds elsewhere
Northern Harrier *Circus hudsonius* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8350	Breeds Apr 1 to Sep 15
Olive-sided Flycatcher *Contopus cooperi* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3914	Breeds May 20 to Aug 31
Pectoral Sandpiper *Calidris melanotos* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9561	Breeds elsewhere
Rufous Hummingbird *Selasphorus rufus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8002	Breeds Apr 15 to Jul 15
Western Grebe *aechmophorus occidentalis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/6743	Breeds Jun 1 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

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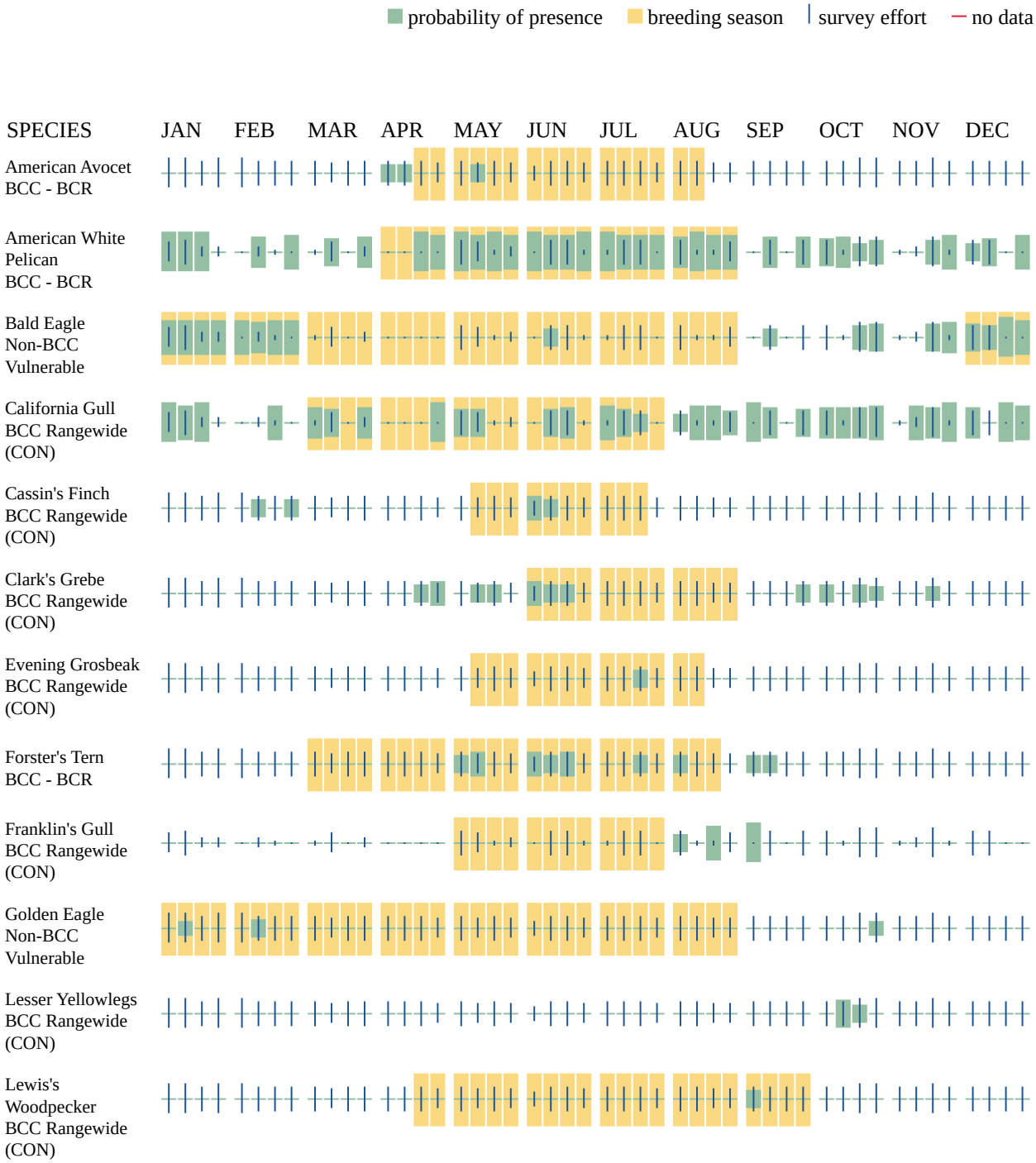

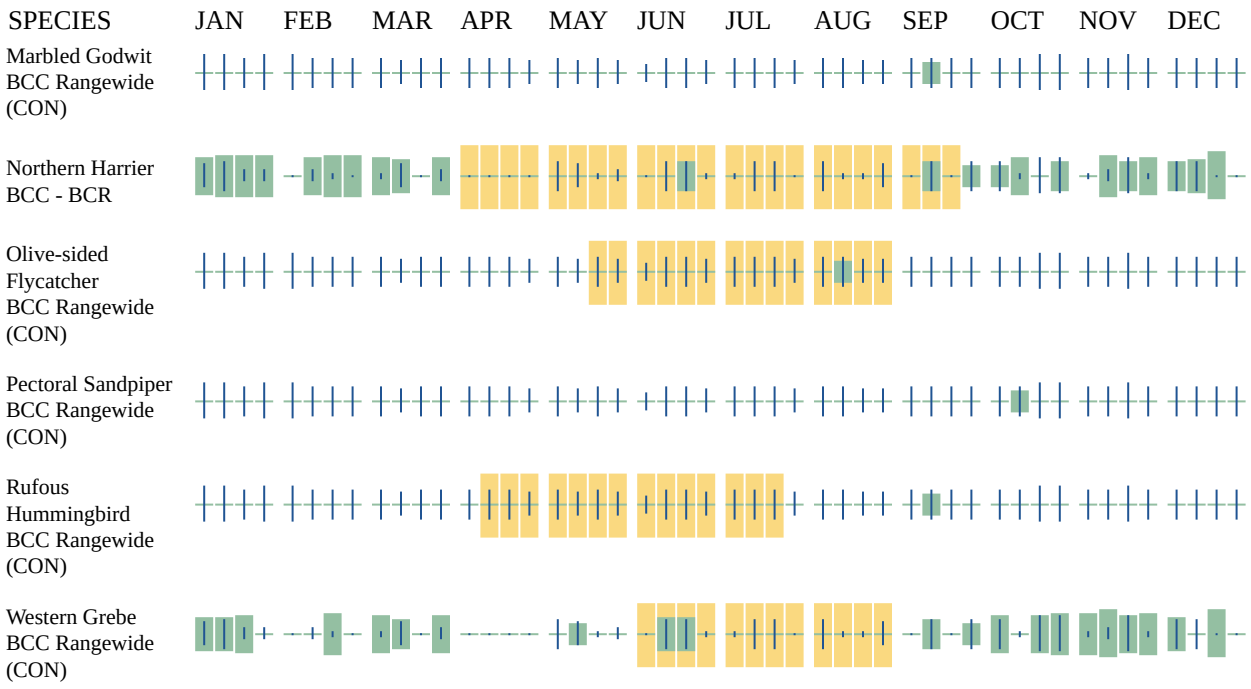

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WETLANDS

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

FRESHWATER EMERGENT WETLAND

- PEM1/UBF
- PEM1C

- PEM1F

LAKE
- L1UBHh

RIVERINE
- R4SBC

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