FINDING OF NO SIGNIFICANT IMPACT (FONSI)

10-Year Program to Control Invasive Aquatic Weeds and Continue Studies in Aquatic Weed Control

Bonner County, Idaho

The U.S. Army Corps of Engineers, Seattle District (USACE) has conducted an environmental analysis in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended. The Albeni Falls Dam 2018 Master Plan Environmental Assessment and Finding of No Significant Impacts (FONSI; signed June 12, 2018) identified the need to control aquatic weeds and briefly summarized treatments that would be conducted for five years, but did not provide further details. This Supplemental Environmental Assessment (SEA) dated May 2023. for a 10-Year Program to Control Invasive Aquatic Weeds and Continue Studies in Aquatic Weed Control, provides detailed treatment information and evaluates the treatment methods to control and progressively eradicate flowering rush and Eurasian watermilfoil infestations on USACE lands within the Pend Oreille Basin, Bonner County, Idaho.

The SEA, incorporated herein by reference, evaluated various alternatives to control and progressively eradicate invasive aquatic weeds on USACE lands within Lake Pend Oreille and the Pend Oreille River. There is one major Federal action, requiring NEPA compliance and analyzed in the SEA summarized below.

a. Proposed Action: The preferred alternative is Aquatic Weed Control and Studies 2023-2032. The proposed action consists of four separate treatment elements designed to manage and control invasive plant species in Albeni Falls Dam reservoir over a period of 10 years (Section 3.2). The weed program will also determine the efficacy of each of the proposed treatment elements through a monitoring program. The combined action would treat no more than 1,000 acres per year (ac/yr). The four separate elements are the following:

(1) A 10-year treatment program of Eurasian watermilfoil involving chemical, mechanical, and manual methods. The chemical treatment proposal is to use three herbicides (triclopyr, fluridone, and diquat) for application onto USACE properties. In addition to chemical control, the USACE would use mechanical methods (diver assisted suction harvesting), and one manual method (bottom barriers) for watermilfoil control.

(2) A 10-year bare-ground treatment program of flowering rush, Bare ground application of herbicides would occur directly on the dry lakebed while it is exposed during winter low pool before the reservoir is raised for summer pool, potentially as early as March through mid-May.

(3) A 10-year treatment program for the use of glyphosate on the Clark Fork boom system. Work would be conducted in the summer months when the lake is

at high pool (2,062 feet above mean sea level). Treatments would occur no earlier than July 15 and end by August 31.

(4) Two demonstration projects for up to 300 of the 1,000 acres. Each demonstration project would be for 10 years, pending review of results.

- ProcellaCOR™– In-water demonstration project on up to 100 ac/yr. Treatment on Eurasian watermilfoil.
- AquaStrike™ – In-water demonstration project on up to 200 ac/yr. Treatment on Eurasian watermilfoil and flowering rush.

Any in-water herbicide treatment is proposed to occur after July 15 when water temperatures are greater than 68 degrees Fahrenheit (°F; 20 degrees Celsius) to avoid impacts to bull trout.

Alternatives: Two alternatives were evaluated in the SEA. The No Action Alternative and Alternative 2 – Aquatic Weed Control and Studies 2023-2032 (the Preferred Alternative). The No Action Alternative does not satisfy the project's purpose and need, but the National Environmental Policy Act (NEPA) requires analysis of the No Action Alternative to set the baseline from which to compare other alternatives.

A summary assessment of the potential effects of the recommended plan are listed in Table 1.

Table 1: Summary of Potential Effects of the Proposed Action

	Insignificant effects	Insignificant effects as a result of mitigation*	Resource unaffected by action
Aesthetics	☒	☐	☐
Air quality	☐	☐	☒
Aquatic resources/wetlands	☒	☐	☐
Fish and wildlife habitat	☒	☐	☐
Threatened/Endangered species/critical habitat	☐	☐	☒
Historic properties	☐	☐	☒
Other cultural resources	☐	☐	☒
Noise levels	☒	☐	☐
Recreation	☒	☐	☐
Socioeconomics	☒	☐	☐
Environmental justice	☒	☐	☐
Tribal trust resources	☒	☐	☐
Water quality	☒	☐	☐
Climate change	☐	☐	☒

Impact Minimization: All practicable and appropriate means to avoid or minimize adverse environmental effects were analyzed and incorporated into the recommended plan. Best management practices (BMPs) as detailed in the SEA (Section 3.3) will be implemented, if appropriate, to minimize impacts.

No compensatory mitigation is required as part of the proposed action.

Public Review: The USACE invited submission of comments on the proposed action as outlined in the Draft SEA between 14 April and 14 May 2023. No comments were received during the public review period

Treaty Tribes: Treaties that apply to the project area include Kalispel Tribe of Indians, Confederated Salish and Kootenai Tribes, Kootenai Tribe of Idaho, and Coeur d'Alene Tribe. Each Tribe was notified of the Albeni Falls Dam 2018 Master Plan EA, as well as the ongoing aquatic weeds management program. The USACE did not receive any objections to the aquatic weeds control program and associated studies at that time. For this supplemental, notification and consultation letters were sent to the Tribes 3 April 2023. The Kalispel Tribe provided comment on 31 May 2023, raising concern over repeated in-water treatments, and requesting meetings to discuss the evaluation of in-water pesticide application practices. No other Tribes provided comment. The USACE has arranged to meet with the Kalispel Tribe to discuss the in-water treatment aspects of the Federal action and will also schedule regularly occurring meetings to keep the Tribe appraised of the project's activities prior to and during pesticide applications. Thus, the USACE has completed consultation with the Tribes.

Compliance:

a. Endangered Species Act (ESA):

The National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NMFS), and the U.S. Fish and Wildlife Service (USFWS) are responsible for the ESA. No native anadromous fish species or any other listed species under the jurisdiction of the National Marine Fisheries Service are found in the rivers and streams of Idaho. The USACE evaluated potential effects to endangered species in a Biological Assessment (BA) and determined that the proposed action may affect but is not likely to adversely affect bull trout or bull trout critical habitat. Coordination with the USFWS was initiated through the submission of the BA on 13 June 2022. The USFWS concurred with these findings on 14 November 2022, sent a letter of concurrence for the current proposal.

b. Clean Air Act (CAA):

The proposed project complies with the CAA. The project is not located within a non-attainment zone. Emissions from the proposed action would not exceed EPA's *de minimis* threshold levels (100 tons per year for carbon monoxide and 50 tons per year for ozone) or affect implementation of Idaho's Clean Air Act implementation plan. The project would not have any pathway to change air quality.

c. Clean Water Act (CWA):

The USACE has determined that the proposed project substantively conforms to the provisions of Section 402 of the Act, the National Pollutant Discharge Elimination System (NPDES) program. Aquatic herbicide application in Idaho requires approval for use under an NPDES permit such as the Environmental Protection Agency (EPA) 2016 Pesticide General Permit (PGP). In EPA's 2016 NPDES PGP (under Section 402), additional conditions specific to Idaho must be met for projects to comply with IDEQ's Section 401 certification process. When IDEQ promulgates a PGP, the USACE will follow IDEQ procedures to obtain permit coverage.

d. National Historic Preservation Act (NHPA):

The USACE reviewed the undertaking for the purposes of Section 106 of the NHPA and determined that the proposed project meets Category #7 (treatment of weed infestations) of the specific routine activities listed in Attachment 6 of the Systemwide Programmatic Agreement for the Management of Historic Properties Affected by the Multipurpose Operations of Fourteen Projects of the Federal Columbia River Power System for Compliance with Section 106 of the National Historic Preservation Act (SWPA). The USACE has documented the analysis and findings in a memorandum for the project files, available upon request. The memorandum documents the USACE's determinations pursuant to Section 106 of the NHPA as required at 36 CFR 800.11(a) and implemented in Attachment 6 of the SWPA. Pursuant to SWPA Attachment 6, the USACE has satisfied its responsibilities to take into account the effect of this undertaking on historic properties and has no further obligations under Section 106 of the NHPA.

e. Other Significant Environmental Compliance:

The following applicable environmental laws and regulations have also been considered and coordination with appropriate agencies and officials has been completed.

- Bald and Golden Eagle Protection Act
- Fish and Wildlife Coordination
- Migratory Bird Treaty Act
- Safe Drinking Water Act, along with the Reduction of Lead in Drinking Water Act and 40 CFR Part 141 - National Primary Drinking Water Regulations
- Executive Order 13175, Consultation and Coordination with Indian Tribal Governments
- Executive Order 11990, Protection of Wetlands
- Executive Order 11988, Floodplain Management
- Executive Order 13751, Safeguarding the Nation from the Impacts of Invasive Species
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations and Executive Order 14008,Tackling the Climate Crisis at Home and Abroad
- Executive Order 13985, Advancing Racial Equity and Support for Underserved Communities Through the Federal Government and Executive Order 14091,

Furthering Advancing Racial Equity and Support for Underserved Communities Through the Federal Government

Finding: The proposed Federal action is to continue the on-going effort to control and progressively eradicate two introduced noxious and invasive aquatic plant species in Lake Pend Oreille and the Pend Oreille River: flowering rush and Eurasian watermilfoil, as well as efficacy studies on the methods of treatment of aquatic weeds. All applicable laws, executive orders, regulations, and local government plans were considered in evaluation of alternatives. Based on the analysis presented in the SEA, which has incorporated or referenced the best information available; the reviews by other Federal, State and local agencies; Tribes; input of the public; and the review by my staff, it is my determination that the recommended plan would not contribute an additional increment of effects on the environment such that it would be projected to result in significant effects to the quality of the human environment. Therefore, preparation of an Environmental Impact Statement is not required.

22 Jun 23
Date

ALEXANDER "XANDER" L. BULLOCK
COL, Corps of Engineers
Commanding

ALBENI FALLS DAM AND LAKE PEND OREILLE

10-YEAR PROGRAM TO CONTROL INVASIVE AQUATIC WEEDS AND CONTINUE STUDIES IN AQUATIC WEED CONTROL

SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT
BONNER COUNTY, IDAHO

June 2023

Seattle District
Corps of Engineers

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ACRONYMS AND ABBREVIATIONS

(°F)	degrees Fahrenheit
AFD	Albeni Falls Dam
ATV	all-terrain vehicle
ac/yr	acres per year
BA	Biological Assessment
BMPs	Best Management Practices
CFR	Code of Federal Regulations
CWA	Clean Water Act
DASH	Diver assisted suction harvesting
DO	dissolved oxygen
DOD	Department of Defense
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
ERDC	U.S. Army Engineering Research and Development Center
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FONSI	Finding of No Significant Impact
(°F)	Degrees Fahrenheit
HTRW	Hazardous, Toxic, and Radiological Waste
IDEQ	Idaho Department of Environmental Quality
IPDES PGP	Idaho Pollutant Discharge Elimination System
ISDA	Idaho State Department of Agriculture
lbs/ac	pounds per acre
mph	miles per hour
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
PGP	Pesticide General Permit
ppb	parts per billion
PVC	polyvinyl chloride
SDWA	Safe Drinking Water Act
SEA	Supplemental Environmental Assessment
SWPA	Systemwide Programmatic Agreement
TMDL	total maximum daily load
U.S.	United States
USACE	U.S. Army Corps of Engineers
U.S.C.	United States Code
USEPA	U.S. Environmental Protection Agency
USFWS	United States Fish and Wildlife Service

1 PROPOSAL FOR FEDERAL ACTION

The United States (U.S.) Army Corps of Engineers, Seattle District (USACE), has prepared this Supplemental Environmental Assessment (SEA) in accordance with (1) the National Environmental Policy Act of 1969 (NEPA), as amended (42 United States Code [U.S.C.] § 4321 et seq.), (2) regulations of the Council on Environmental Quality for implementing the procedural provisions of NEPA (40 Code of Federal Regulations [CFR] parts 1500-1508), and (3) USACE procedures for implementing NEPA (33 CFR 230). Pursuant to Section 102(C) of the NEPA, this SEA supplements the Albeni Falls Project Master Plan Final Environmental Assessment (EA; USACE 2018a). This document evaluates environmental consequences of continuing the program to control and/or eradicate two introduced noxious and invasive aquatic plant species, flowering rush (*Butomus umbellatus*) and Eurasian watermilfoil (*Myriophyllum spicatum*), as well as two efficacy studies on the methods of treatment of aquatic weeds. The aquatic weed treatment program was discussed as one of several land management strategies in the 2018 AFD Master Plan Final EA. The 2018 AFD Master Plan anticipated treating 1,000 acres per year over a period of 5 years (USACE 2018a); however, the proposed control treatments were not described in detail and the period for treatments and monitoring was limited to five years. Therefore, this supplement more fully evaluates environmental effects of the Federal action to occur over a period of 10 years, beginning in 2023 through 2032.

1.1 BACKGROUND

For over 20 years, multiple locations in and around Lake Pend Oreille and the Pend Oreille River have been study sites for aquatic weed control treatment methods, as well as sites for active treatment and eradication of aquatic weeds. These locations include seasonally submerged USACE lands and cooperative use of USACE property with the Idaho State Department of Agriculture (ISDA). The primary focus has been treatment of flowering rush and Eurasian watermilfoil. Treatment areas have ranged from only 12 acres in 1998 up to as much as over 1,000 acres in 2006. Several different chemicals have been applied with their efficacy analyzed. In 2010 and 2011, the U.S. Army Engineering Research and Development Center (ERDC) oversaw bare ground trials performed by the ISDA at the Clark Fork Drift Yard and performed a tank study in 2011 to determine in-water treatment efficacy of several chemicals. Bare ground and in-water treatments using triclopyr and fluridone only showed marginal success to control flowering rush and Eurasian watermilfoil. However, a second research trial in 2015 using three replicate bare-ground treatments proved to be effective. The control treatments consisted of applying Imazapyr with a combination of 2,4-D. The application of Diquat was conducted in 2016 and 2017 at Oden Bay and this treatment also showed some promise to control the flowering rush and watermilfoil. Because of these promising results from the ERDC investigative control treatments, the 2018 Master Plan EA and Finding of No Significant Impact (FONSI; signed June 12, 2018) identified application of weed control treatments for 5 years but did not provide further details on these treatments.

1.2 AUTHORITY

AFD was authorized for construction in the Flood Control Act of 1950, Public Law 516, 81st Congress, Chapter 188, 2nd Session. Section 4 of the Flood Control Act of 1944 (Public Law 78-534), as amended, authorized the USACE to construct, maintain, and operate public parks and recreational facilities in reservoir areas under USACE control, and to permit the construction, maintenance, and operation of such facilities. The Flood Control Act of 1962 amended the 1944 authority to include all water resources projects.

1.3 PROJECT LOCATION

Albeni Falls Dam (AFD) is located at River Mile 90 on the Pend Oreille River, just east of the Washington-Idaho border, in Bonner County, Idaho, 50 miles northeast of Spokane, Washington (Figure 1). The Pend Oreille River at AFD has a watershed of about 24,200 square miles, which supplies an average stream flow of about 25,930 cubic feet per second. The Clark Fork River is the Lake Pend Oreille's largest tributary and contributes about 86 percent of the total flow. Lake Pend Oreille is one of the deepest and largest lakes in the western U.S. The lake is over 1,150 feet deep and has a surface area of 148 square miles (94,720 aces). Lake Pend Oreille is a natural lake, but lake level controlled via the AFD fluctuates water surface elevation between 2,062.5 and 2,051 feet relative to mean sea level (MSL). In April, May, and June, lake elevations are maintained at or below the 2,056-foot elevation until flood runoff forces the lake level to rise. In the fall, the lake is drawn down to reach its minimum control elevation of 2,051 feet usually by mid-November. This provides flood risk management for property around the lake. Water may be temporarily stored as high as the 2,056-foot elevation in winter for power generation, and this elevation remains within the range of necessary flood risk management elevations. Refill from mountain runoff begins with the spring snow melt, usually in April. Conditions in Lake Pend Oreille, such as the stage of the lake and timing of the inflow, are influenced not only by the AFD operation, but also by the operation of upstream projects, such as Cabinet Gorge Dam, and basin hydrologic factors.

For this SEA, the project area is the same as what was described in the 2018 AFD Master Plan - USACE properties along Lake Pend Oreille and the Pend Oreille River (Figure 2). Likewise, the aerial scope of treatments would be the same as described in the 2018 AFD Master Plan – up to 1,000 acres annually. The project area for the flowering rush and watermilfoil treatment includes a 600-foot buffer around the application area for both in-water and dry land spraying. The buffer is the area where chemicals dissipate due to wind, currents, and chemical dilution or breakdown. The project area for invasive plant treatment on the Clark Fork Drift Facility boom system (which floats on the water surface) includes a 50-foot buffer around the application area. The proposed treatments will be on both in-water and seasonally exposed (winter-draw down) areas of the reservoir. The mud flats in the Clark Fork Drift Yard area are exposed during drawdown in the reservoir and inundated when reservoir elevation rises during the summer. Finally, log boom treatments will also occur in the Clark Fork Drift Yard.

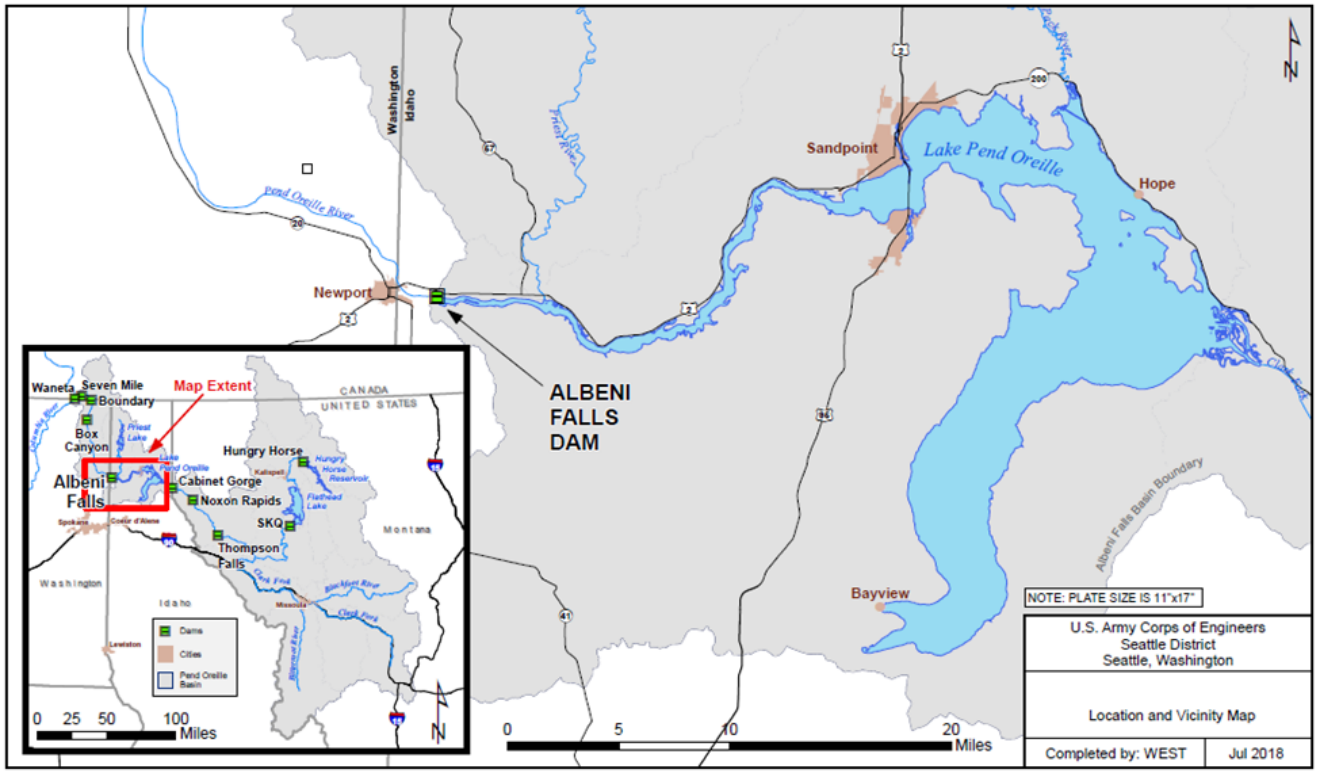

Figure 1. Location of AFD, Lake Pend Oreille, and the Pend Oreille River in northern Idaho.

Figure 2. Project area for aquatic weeds control program.

2 PURPOSE AND NEED

The purpose of the project is to continue the on-going effort to control and progressively eradicate invasive and noxious aquatic weeds on USACE lands within Lake Pend Oreille and the Pend Oreille River. The 2018 Albeni Falls Dam Master Plan EA identified the invasion of flowering rush and watermilfoil as a concern to the nearshore and wetland fish and wildlife resources on USACE lands (USACE 2018a). Weed growth has increased since 2018 as no treatments were performed on USACE lands in 2019 due to a lack of funding, and then no treatments occurred in 2020 through 2022, due to the COVID pandemic. The need for action arises due to the negative effects of these non-native invasive species to local and regional natural resources.

Flowering rush and Eurasian watermilfoil can form extensive and dense monoculture stands that shade native vegetation, reduce dissolved oxygen (DO) levels during natural decomposition processes and at night during respiratory periods, and limit species diversity, resulting in substantial deleterious effects to aquatic and riparian ecosystems. Infestations of noxious weeds have proven to negatively impact native fisheries including bull trout (*Salvelinus confluentus*), and native aquatic plant communities, and to impair water control structures, power generation, and irrigation by clogging infrastructure. In addition, increased non-native aquatic plant biomass negatively impacts water quality (nutrient loading) and recreational resources, such as swimming and boating.

As discussed in the 2018 Master Plan (Section 2.8.2.1), Eurasian and hybrid watermilfoil is a deleterious persistent species that aggressively dominates or eliminates natural vegetation leading to less plant diversity. It forms dense mats that reduce light, lower DO, and slow water, which affects the spawning potential for resident fish, such as bull trout, as well as other organisms (Netherland et al. 2005). Canopy formation and light reduction are significant factors in the decline of native plant abundances and diversity observed when watermilfoil invades healthy plant communities. At high densities, watermilfoil foliage supports a lower abundance and diversity of invertebrates that serve as food for fish (Netherland et al. 2005).

3 PROPOSED ACTION AND ALTERNATIVES

According to the identified need for invasive aquatic weed control, USACE formulated, evaluated, and screened alternatives for determining the action that qualifies as the Federal Standard or preferred alternative. The Federal Standard is defined in USACE regulations as the least costly alternative that is consistent with sound engineering practices and meets all Federal environmental requirements. This chapter describes the range of alternatives that were evaluated and screened for selection of the preferred alternative and identifies the preferred alternative that was selected.

3.1 ALTERNATIVE 1: NO ACTION ALTERNATIVE

The No-Action Alternative is analyzed as the future without-project conditions for comparison with the action alternatives. For this analysis, taking no action would mean discontinuation of the USACE aquatic weeds treatment program and no further investment by the USACE for investigation into efficacy of various treatment programs. Other entities such as the County

would likely continue their efforts to control invasive species, but efforts would be at a smaller scale than that provided by the Federal Government, would not likely be studied for effectiveness, and would not result in the reduction of the aquatic weed presence or achieve eradication.

3.2 Alternative 2: Proposed Action (Aquatic Weed Control and Studies 2023-2032)

The proposed action consists of four separate elements designed to manage and control invasive plant species in Albeni Falls Dam reservoir, Lake Pend Oreille, and the Pend Oreille River. The action includes herbicide and mechanical treatments in-water, on bare ground, and on the boom system in the Clark Fork Drift Yard. In accordance with the 2018 Master Plan, no more than three chemicals would be used in a specific treatment area (USACE 2018a, Section 6.2). Cumulatively, the combined action would treat no more than 1,000 acres per year (ac/yr). The four separate elements are the following:

(1) A 10-year treatment program of Eurasian watermilfoil involving chemical, mechanical, and manual methods
(2) A 10-year bare-ground treatment program of flowering rush
(3) A 10-year treatment program for the use of glyphosate on the Clark Fork boom system
(4) Two demonstration projects for up to 300 of the 1,000 acres. Each demonstration project would be for 10 years, pending review of results.
    1. ProcellaCOR™– In-water demonstration project on up to 100 ac/yr. Treatment on Eurasian watermilfoil.
    2. AquaStrike™ – In-water demonstration project on up to 200 ac/yr. Treatment on Eurasian watermilfoil and flowering rush.

Timing: Bare ground application of herbicides would occur directly on the dry lakebed while it is exposed during winter low pool before the reservoir is raised for summer pool, potentially as early as March through mid-May. In-water herbicide treatment is proposed to occur after July 15 when water temperatures are greater than 68 degrees Fahrenheit (°F; 20 degrees Celsius) to avoid impacts to bull trout.

Passive Chemical Distribution and Breakdown: Once applied, the distribution and breakdown of chemicals in the application area is dependent on air and water temperature, wind, waves, and subsurface currents. Chemicals are not expected to be measurable beyond the buffer area. Appendix A provides detailed information on each chemical proposed for use in this aquatic weed control and studies program.

3.2.1 Element 1 – 10-Year Program to Treat Eurasian Watermilfoil (2023-2032)

For this 10-year (2023 through 2032) Treatment Program, the USACE is proposing three different methods for milfoil control including chemical, mechanical, and manual treatments. This is a continuation of the USACE's 2018-2022 Program Biological Assessment (BA; USACE 2018b). The chemical treatment proposal is to use three herbicides (triclopyr, fluridone, and diquat bromide) for application onto USACE properties. In addition to chemical control, the USACE would use mechanical methods (diver assisted suction harvesting), and one manual method (bottom barriers) for watermilfoil control.

Chemical Treatment

Chemical treatments would be consistent with the previous 2018-2022 program (USACE 2018b). During the last 19 years, the area of treatment for watermilfoil has averaged about 316 acres on Federal property. The greatest amount of application occurred in 2006 with over 1,046 acres treated. There were several years where no chemical treatment occurred.

- Triclopyr (Renovate™) both granular and liquid forms would be used. The liquid form is most commonly used at a rate of approximately 8.0 quarts per acre for maximum effect to achieve a concentration of 0.75 to 2.5 milligrams (mg) per acid equivalent per liter target concentration. In areas where there is rapid exchange of water, the granular version of triclopyr would be used to achieve long residence times.
- Fluridone (Sonar PR™) is applied through a controlled release of granular material. Initial application rates are 20 parts per billion (ppb) of Sonar PR at most sites. Three to four treatments per site would be used with the targeted concentration of 1.0 to 3.0 ppb over 8 weeks. Fluridone is usually only used around water intake areas that have heavy infestations of watermilfoil.
- Diquat bromide (Reward™) would be used in selected areas for treatment of hybridized watermilfoil, a genetic cross between native northern watermilfoil and Eurasian watermilfoil. Neither triclopyr nor fluridone has the efficacy that diquat does on the hybridized plants. Diquat may be used at application rates of up to 4.0 pounds per acre (lbs/ac) in water that is more than 2 feet deep. If the water body is less than 2 feet deep, the maximum use rate indicated on the label is 2.0 lbs/ac. Diquat is effective in controlling many aquatic macrophytes, although some of the species specified on the label may not be controlled with one application for the entire treatment season (Ecology 2002).

Mechanical (Diver Assisted Suction Harvesting)

Diver assisted suction harvesting (DASH) of targeted aquatic weeds would only occur occasionally when river and/or lake conditions are safe for diving. This form of control is focused on areas of high public use impacted by small areas of watermilfoil such as boat and swimming areas as in Priest River Recreation Area. Bonner County conducts the DASH activities and collects the extracted plants for disposal at a county facility.

Divers would operate a portable hose with a suction head that removes plants and roots from the diver's hands after the diver pulls a weed from the sediment– essentially vacuuming the pulled weed and roots to the surface for collection. The suction hose draws the plants and plant bits in a slurry up to a small barge or boat where the material is collected. On the barge, plant parts are separated from the sediment slurry and retained for off-site disposal. The sediment slurry can be returned to the water column. DASH would not be conducted in areas known or suspected to contain contaminated sediments and is used to minimize turbidity impacts.

Manual Treatment of Small Areas Using Benthic Barriers

The bottom barriers (benthic screens) cover the sediment like a blanket, compressing aquatic plants while reducing or blocking light penetration. Common screen materials are geotextile ground cover cloth or erosion control materials. Several commercial bottom barriers have been

marketed over the years. Various geotextile materials such as perforated black Mylar and woven synthetics are commonly used as benthic screens. The duration of watermilfoil control depends on the rate that weeds can grow through or on top of the benthic screen, the rates of sediment deposition on the screen, and the durability of the screen.

The method of barrier placement is part of the adaptively managed 5-year plan developed by Bonner County and the Bonner County Work Group. Local noxious weed experts would supervise construction, placement, and potential movement of benthic screens (10 feet by 10 feet). In this action, barriers would be placed prior to lake levels coming up in the springtime, or divers would place the screens onto the densest populations of watermilfoil at selected sites at depths ranging from 3 to 15 feet below Ordinary High Water. Each screen would be constructed from a polyvinyl chloride (PVC) pipe frame filled with sand to aid with sinking and remaining in place. A gas-permeable fabric would be attached and suspended from the frame, then the frame would be placed down on the vegetation and attached to the bottom by pins or sandbags.

Each set of bottom barriers would be mapped indicating the proposed locations each season. Barriers would normally be installed in spring, most likely on bare ground prior to lake levels rising in May or June but may also be installed in the summer. Installation is easier in winter or early spring when plants have died back, but weather and river conditions would normally preclude placement during the winter season. In summer, cutting or hand-pulling the plants by diver would need to be accomplished to facilitate bottom barrier installation. The less plant material that is present before screen installation, the more successful the screen would be in staying in place.

Regular maintenance is essential and can extend the life of the benthic screens. As part of the ongoing maintenance program, divers would check the screens periodically to ensure that the screens remain on the bottom and watermilfoil plants remain covered, and that no new fragments have taken root nearby. Maintenance would include regular diver inspection of the screens to observe their durability and their effectiveness in controlling plant growth (including observations as to whether any plants are growing up through the barrier). Divers would remove, to the extent practical, sediment that accumulates on the screen to discourage watermilfoil lateral surface shoots from forming a canopy over the screen and eventually colonizing its surface. Divers would remove screens no later than November 30 each year. Local aquatic weed control professionals would determine timing of removal or replacement of screens in coordination with the USACE.

3.2.2 Element 2 – 10-Year Program for the Bare-ground Treatment of Flowering Rush (2023-2032)

Flowering rush treatment would be conducted on bare ground (due to seasonal drawdowns) up to 100 acres on USACE properties. The continued treatment consisting of maximum labeled rates for bare ground application of imazapyr would be applied a minimum of 1 week prior to inundation as lake level rises in the spring (approximately April 1). Licensed contractors would conduct the herbicide application.

Air temperature, wind direction, and wind speed would be recorded immediately prior to herbicide applications. Treatment would only occur under calm or light wind conditions and not during a rainfall event. Herbicide would be applied with suitable equipment that would not leave ruts in the lakebed (e.g., all-terrain vehicle [ATV] or Marsh-Master®[1]) mounted with tank boom spray unit and snow tracks, with all applications calibrated at 25 gallons per acre tank mix of water+herbicides+surfactant (1.0 quart per acre Agri-Dex™). The boom spray unit with large droplet nozzles would be set at 3-feet in height to minimize aerial drift to off-target areas. The ATV speed would be 3 to 4 miles per hour (mph), with a 20-foot total spray width.

3.2.3 Element 3 – Use of Aquatic Glyphosate (Rodeo) on Clark Fork Boom System (2023-2032)

The Clark Fork Drift Facility operates passively by directing drift floating with the current in the main stem of the Clark Fork River through a series of boom systems and eventually into a drift holding facility (Figure 3). The weight of vegetation growing on the structure causes the sheer booms to ride lower in the water reducing their effectiveness. Additionally, plants growing on the structure deteriorate the wood. To keep Lake Pend Oreille and the lower Clark Fork River safe for navigation, this facility requires yearly maintenance and repair. Necessary maintenance of the boom system includes removal of vegetation and debris from the top of the shear boom surfaces. If not maintained, vegetation would continue to colonize the structure of the drift facility, making it unsafe and increasing the likelihood of failure. The invasive flowering rush, reed canarygrass (*Phalaris arundinacea*), and yellow-flag iris (*Iris pseudacorus*) as well as other weeds are found growing on the boom system. In recent years as boom lengths are damaged to the point of needing replacement, non-woody components have been used with some success.

Objective: To continue annual treatment of emergent vegetation growing on the boom system to keep the system intact and Lake Pend Oreille and the Lower Clark Fork River safe for navigation.

Scope of work: Access to the drift facility structure is by boat only; therefore, work would be conducted in the summer months when the lake is at high pool (2,062 feet above MSL). Treatments would occur no earlier than July 15 and end by August 31. Glyphosate, an herbicide approved for use in and around water, would be applied as needed to control emergent vegetation growth on the boom system. Herbicide would be applied to unwanted vegetation following label directions. Application methods outlined in the U.S. Fish and Wildlife Service's biological opinion (USFWS 2013) would be followed. Methods include spot spraying or hand application only and at wind speeds less than 5 mph. Maintenance work on the structure is expected to take approximately 30 days (1 month) each summer to complete all maintenance tasks.

[1] "Marsh-Master" is a brand name of an amphibious tracked vehicle with flotation so that it is less damaging to wetland habitats. https://www.marshmaster.com/

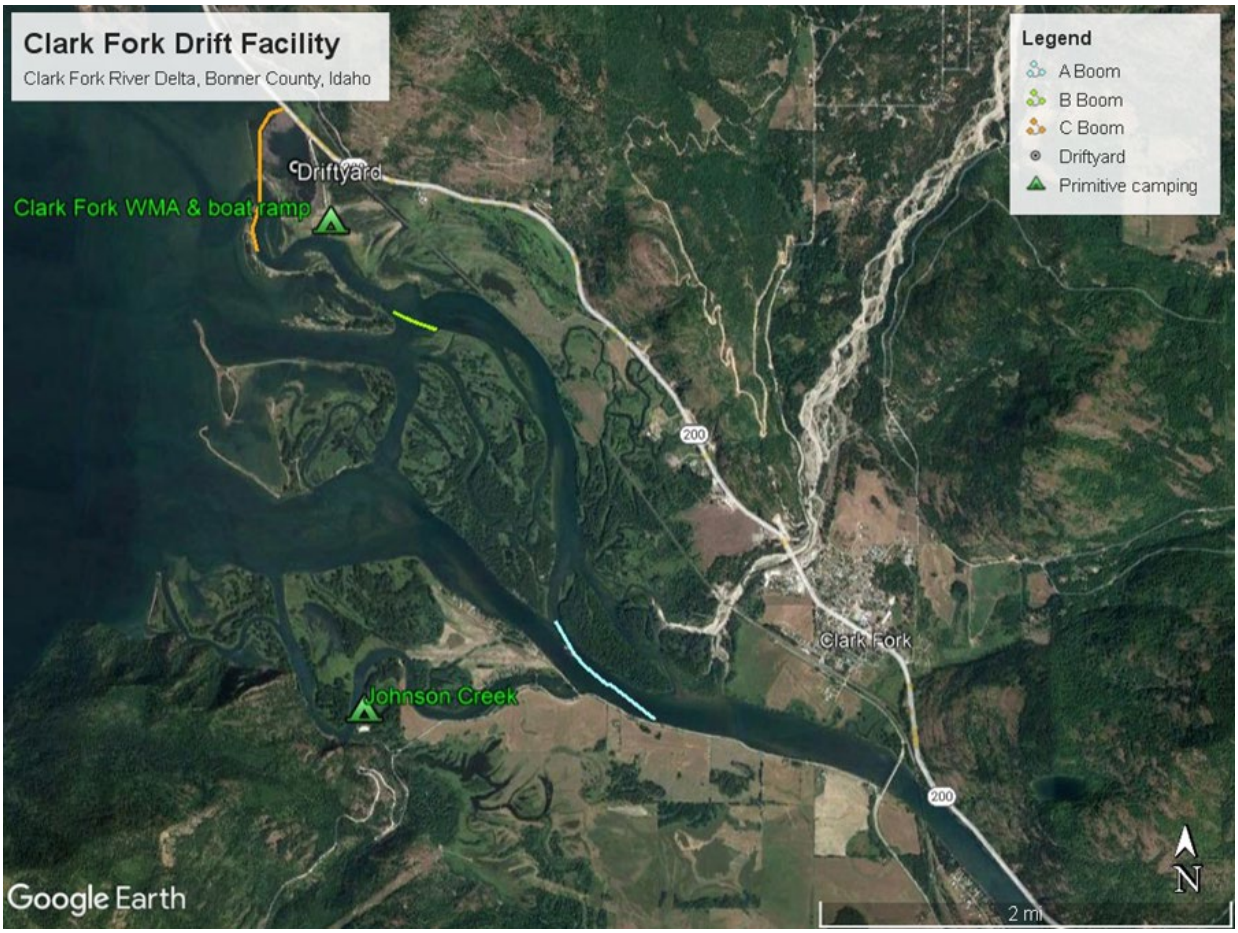

Figure 3. Clark Fork Drift Facility in the Clark Fork River Delta.

3.2.4 Element 4 – Demonstration / Field Research

The fourth element of the program is to conduct two demonstration/field research projects on up to 300 ac/yr of the annual 1,000-ac/yr treatment area using two chemicals. The total acreage was selected to achieve robust scientific data to measure the efficacy and selectivity of using the two herbicides, ProcellaCOR and AquaStrike. Each study would be for 10 years, pending review of the results each year.

The first test is to treat up to 100 ac/yr of Eurasian watermilfoil and invasive hybrid watermilfoil with ProcellaCOR. The second is to test the use of AquaStrike, a newer chemical combination of diquat and endothall, on submerged populations of flowering rush and Eurasian and hybrid watermilfoil on up to 200 ac/yr. Applications of AquaStrike would occur for 1/3 to 1/2 of the water body area at any one time and require a 14 day pause between treatments. Invasive hybrid watermilfoil is a cross between invasive Eurasian watermilfoil and native Northern watermilfoil. Demonstration sites would be selected in consultation with staff from AFD and ERDC. Herbicide treatments would be conducted between July 15 and August 31 when water temperature is warmer than 68°F. These temporal and temperature conditions are selected to reduce potential for impacts on bull trout since they are unlikely to occur in such warm water

conditions. Applications would be conducted by boat using industry standard submersed injection techniques by a certified aquatic applicator. Herbicides would be applied in accordance with label directions and restrictions. Research personnel from ERDC would be on site during all applications and monitoring events, with oversight from AFD personnel. Results of the work would be provided to AFD and the Seattle District biologist at the conclusion of the demonstrations. This work would provide guidance for providing environmentally compatible strategies for species-selective control of submersed flowering rush and Eurasian and hybrid watermilfoils in Lake Pend Oreille. Results would contribute to a better understanding of invasive species management and to measure the efficacy and selectivity of using these herbicides on USACE reservoirs and other public waterbodies in the Pacific Northwest.

3.3 BEST MANAGEMENT PRACTICES

The USACE would incorporate the following best management practices (BMPs) as part of the proposed action to reduce potential adverse effects. The BMPs are considered conservation measures designed to minimize any effects to ESA-listed species and critical habitats.

1) General Practices:
   a) Licensing/Certification: All applicators shall be State licensed or certified, or under the direct visual supervision of a State licensed or certified applicator.
   b) All applicators shall comply with all applicable Federal, State, and herbicide manufacturer's directions and requirements for handling pesticides, including storage, transportation, application, container disposal, and spill cleanup.
   c) Herbicide application, including spraying distance, shall be according to the chemical manufacturer's label recommendations for best results. Applicators shall use caution to minimize the application of herbicides to non-target species and structures within the application areas.
   d) Multiple chemicals will not be applied as a mixture.
   e) To minimize herbicide concentration in the water, bare ground treatment areas will be treated no later than one week prior to normal expected spring reservoir rise (approximately April 1).
2) Calibration/Maintenance:
   a) All application equipment (e.g., booms, back packs, etc.) shall be properly calibrated according to the chemical manufacturer's suggested application rates printed on the chemical label prior to use. Equipment and settings shall be properly maintained for the duration of the contract performance period.
   b) Dyes shall be used to reduce the potential for over-application.
   c) Appropriately sized nozzles shall be used to minimize the potential for drift.
   d) Application equipment will be maintained to ensure proper application rates, minimize leakage, reduce drift, and ensure applicator safety. Equipment will be maintained, and visually inspected prior to each application.
3) Record Keeping:
   a) Grantees, contractors, and USACE employees shall submit their anticipated use on the "District Pest Control Application Record" forms, as provided by the Seattle District.

b) All pesticide applications shall be recorded and submitted on the "District Pest Control Application Record" forms, as provided by the Seattle District.
c) The Seattle District shall provide annual reporting using anticipated use and actual use of "District Pest Control Application Record" forms and associated Geographic Information System data.
d) An annual report will be produced for the U.S. Fish and Wildlife Service (USFWS) by February 1 of the following year. This report will summarize the area of treatment by species, chemical used, and amount used (concentrate). This summary report will be forwarded to the USFWS by the Seattle District's Environmental Compliance staff.

4) Spill Management:
a) All applicators shall carry a Spill Prevention and Control Plan. The Plan shall provide detailed descriptions on how to prevent a spill or ensure effective and timely containment of any chemical spill. The Spill Prevention and Control Plan shall include spill control, containment, clean up, and reporting procedures.
b) A spill kit will be available to all applicators and shall be within 150 feet of the application site.
c) Equipment refueling will not occur within 100 feet of open water. This includes all-terrain vehicles, trucks, tractors, etc.
d) All pesticides shall be placed in locked storage in closed containers with watertight lids and placed in secondary containment vessels of 100 percent plus freeboard (worst annual rain event, which for this area is 1 inch over a square yard, which equals 2.4 gallons). A good rule of thumb is 110 percent of capacity.
e) All mixing for spray bottles and backpack sprayers shall be done within secondary containment of 110 percent capacity of the liquid.

5) Disposal: Disposal of waste materials shall occur in accordance with the label and in accordance with all applicable Federal, State, and county laws regulations, as well as label restrictions and instructions.

6) Water Quality: Only aquatic approved herbicides and surfactants will be authorized for use within 15 feet of "live" waters or areas with shallow water tables.

7) Monitoring:
In over two decades of using the proposed chemical products on Lake Pend Oreille for watermilfoil and flowering rush control, there have been no reports of distressed fish during or following herbicide applications. None of the products directly impact fish when applied at U.S. Environmental Protection Agency (EPA) recommended label rates. However, if during treatment distressed fish are seen, herbicide application or mechanical methods will cease to avoid further injury to fish. The treatment method will be evaluated to determine what corrective action must be taken.
a) After application of chemicals and mechanical methods, treatment areas will be monitored daily for 3 days to evaluate if there is a fish kill resulting from the treatment. After bare ground treatments, there will at least be a 1-week period before the site is inundated.
b) Conduct monitoring on a site-specific level.
i) Monitoring will occur at the treatment site outwards to include the 600-foot buffer around the treatment site.

ii) Treatment sites are marked using a Global Positioning System if noxious weed monocultures are in great enough abundance that a backpack tank of herbicide (i.e., 4 gallons) could be efficiently applied in the area. This serves as a minimum level of infestation for treatment prioritization.
iii) Monocultures are defined as any noxious weed population covering greater than 2,500 square feet.

c) Use appropriate monitoring options, including the use of photographic points, vegetation sampling, soil assessments, water quality, and quantity analyses and assessments of watershed, riparian and stream condition.
d) If distressed fish are seen during treatment, herbicide application or mechanical methods will cease. The treatment method will be evaluated to determine what corrective action must be taken before continuing treatment at the site.

8) Timing: In-water work will occur between July 15 and August 31 when reservoir water temperature will likely be greater than 68°F.
9) Treatment Area Limitations:
   a) The USACE would not treat more than 1,000 acres annually. Treatments may be in-water, bare ground, or a combination of both.
   b) Bare ground treatment areas:
      i) All entry to humans will be stopped for at least 24 hours after application.
      ii) All bare-ground herbicide applications will occur in the dry while reservoir water levels are below the treatment area.

4 RESOURCES ANALYZED FOR EFFECTS OF ALTERNATIVES

This section provides information on the existing conditions of resources within the project area and issues relevant to the decision process for selecting the preferred alternative. Existing conditions are the physical, chemical, biological, and socioeconomic characteristics of the project area. Factors for selecting the preferred alternative include considering which of the alternatives would be the least costly, environmentally acceptable, consistent with engineering practices, and meets the purpose and need of the project. The 2018 Albeni Falls Dam Master Plan EA identified several land management strategies, including aquatic weed management, and their effect on resources within the project area. A FONSI was signed on June 12, 2018. Below are detailed analyses of resources which may be affected by the continuation of weed treatment programs at the project site for a period of 10 years. Resources were excluded from detailed analysis if they are not potentially affected by the alternatives or have no material bearing on the decision-making process for this action.

4.1 GROUNDWATER

In the Pend Oreille and Sandpoint region of Idaho, groundwater occurs everywhere in the lowlands that are underlain by lakebeds as well as the locations of sand and gravel; the sand and gravel bodies yield substantially greater quantities to area wells than do the lake beds due to the low permeability of lakebed sediments (Walker 1964). Recharge of groundwater happens primarily in spring and fall as rainwater seeps through sediment layers to groundwater

resources. Walker (1964) found adequate water supply for domestic and stock needs, but not enough quantity for irrigation of agriculture crops.

4.1.1 Alternative 1: No Action

The no action alternative would have no potential to affect any groundwater resources.

4.1.2 Alternative 2: Aquatic Weed Control and Studies 2023-2032

Information for each chemical proposed for use appears in Appendix A. Based on a general assessment of the mobility, solubility, and persistence characteristics of each of the herbicides, none are anticipated to have the ability to contaminate groundwater in the project area. More specifically, according to a detailed assessment by Ecology (2017), ProcellaCOR is not expected to be associated with potential environmental impacts to groundwater based on its known properties. Because the applications would occur in summer months and chemical degradation occurs quickly, there is low likelihood for the spring and fall rainwaters to transport chemicals into groundwater resources.

4.2 WATER AND SEDIMENT QUALITY

Lake Pend Oreille is an oligotrophic or nutrient-poor body of water (Falter et al. 1992). Assessment of nearshore water quality data collected between 1989 and 2003 (Falter 2004) and from 2003 through 2007 (TSWQC 2009) indicated no significant trend in nearshore nutrients, chlorophyll a, or transparency, as measured during the summer months. Falter (2004) concluded that nearshore littoral zones maintained a meso-oligotrophic classification between 1989 and 2003.

Lake Pend Oreille was placed on the State of Idaho 303(d) list in 1994, primarily in response to public concern over the presence of nuisance algae and remained on the 303(d) list in 1996 and 1998. No specific pollutant was identified. Several likely sources of nutrients to the lake contributing to the algae grow were identified including residential development, septic tanks, and urban runoff (TSWQC 2002). In addition, elevated total dissolved gas saturation levels found in Lake Pend Oreille and at AFD is influenced by the operation of Cabinet Gorge Dam, which is about 50 miles upstream on the Clark Fork River (IDEQ 2008). Since 2002, the Pend Oreille River has been included in the Section 303(d) list as impaired for temperature, and total phosphorus.

Implementation of the 2018 AFD Master Plan is designed to maintain current water quality of the project area, protect water quality on USACE-managed properties, and enhance water quality by protecting forest, wetland, and aquatic resources as fish and wildlife habitats as well as for human recreational purposes. The same is true for sediment quality as none of the proposed actions in the 2018 AFD Master Plan would have any effect to sediment quality (USACE 2018a).

4.2.1 Alternative 1: No Action

Under the No Action Alternative, no effort would be made to control or study aquatic weeds in the project area. The nuisance species infestations would be expected to grow larger and have negative effects to fish and wildlife in the area as well as impact recreational usage of public lands. When excessive quantities of aquatic plants die, this reduces water quality due to the

biological oxygen demand of decomposing plant material. This lowers the DO within the water column, which can have severe negative effects including death to fish and other aquatic species. The No Action Alternative would not meet the purpose and need for Federal action.

4.2.2 Alternative 2: Aquatic Weed Control and Studies 2023-2032

Information for each chemical proposed for use appears in Appendix A. Based on the specific characteristics of each of the herbicides, none are anticipated to have the ability to contaminate water or sediment quality in the project area. Further, none of the herbicides proposed for use would react with other known pollutants originating from urban and/or agricultural runoff to produce a metabolic project that would negatively affect water quality. Application rates as listed in Appendix A are protective of water quality and are within recommended dosage. The herbicides proposed for use for Eurasian watermilfoil are soluble, dissipate quickly, and are not persistent. The herbicides proposed for use on flowering rush will be applied on dry land at least one week or longer prior to the site being inundated as the lake level rises.

Operators applying herbicides will not be directly disturbing sediments in application processes other than traversing across the lakebed when the reservoir is drawn down in the winter months. Chemical herbicides being used have a short half-life and do not remain in the soil; therefore, they will have dissipated by the time lake levels rise in the spring months. Mechanical or manual methods to remove weeds (DASH or manually pulling) would have a short-term and highly localized effect to sediments as the weeds are dug out and the sediments are pushed aside. Manual treatment using benthic screens would have no lasting effect on the lakebed sediments.

Some positive benefits to water quality may be realized by implementing Alternative 2, such that the control treatments would reduce dense stands of invasive flowering rush and watermilfoil resulting in water flowing more freely and light reaching deeper waters to promote the growth of native vegetation.

4.3 VEGETATION AND WETLANDS

Wetlands and aquatic vegetation are described in Section 3.6.1 of the 2018 Master Plan EA. Resources have not changed since that document was finalized.

4.3.1 Alternative 1: No Action

Under the no action alternative, the effort to control aquatic weeds would be executed by local entities only with no Federal involvement bringing resources and expertise to study and work toward eradication. Eurasian watermilfoil is a very aggressive plant and often dominates or eliminates natural vegetation leading to overall less diversity in vegetative communities, thereby reducing the diversity of the overall ecology where it inhabits spaces. The no action alternative would lead to an inability to control and reduce the presence or eradicate the invasive plant species, thereby inhibiting the ability for native plant species to thrive and provide the appropriate level of biodiversity to the project area.

4.3.2 Alternative 2: Aquatic Weed Control and Studies 2023-2032

The goal of the proposed alternative is to control and reduce the presence or eradicate the invasive vegetation as well as to continue studying methods to find the least cost and most effective methods to work toward eradication. The intent is to reduce as much as possible the invasive species while improving conditions for the native aquatic vegetation. The USACE expects that the species composition, richness, and frequency will change toward more native vegetation with greater biodiversity in the supported ecosystem, and that the native communities can delay the re-establishment of problematic levels of the invasive plants such as watermilfoil for up to three growing seasons (Getsinger et al. 1997).

4.4 FISH

Fish species and recreational fisheries resources are described in Section 3.4 of the 2018 Master Plan EA. Resources have not changed since that document was finalized.

4.4.1 Alternative 1: No Action

Under the no action alternative, aquatic weeds would be expected to expand their areas of infestation and cause a reduction in overall habitat quality for fish in the area. Eurasian watermilfoil forms dense mats that reduce light, reduce dissolved oxygen, and reduce water velocities, which affects the spawning potential for resident fish as well as other organisms. At high densities, Eurasian watermilfoil's foliage supports a lower abundance and diversity of invertebrates that serve as food for fish (Getsinger 2005). Native fish species of the lake like bull trout and cutthroat trout (*Oncorhynchus clarkii*) are open water species while the introduced species (e.g., walleye [*Sander vitreus*] and northern pike [*Esox lucius*]), some of which are predators of salmonids, thrive in vegetated aquatic habitats. Allowing growth of the invasive weed species would benefit the less desirable fish species to the detriment of the native salmonids.

4.4.2 Alternative 2: Aquatic Weed Control and Studies 2023-2032

Potential impacts to fish were considered during the planning of this proposed action. The herbicides selected for these treatments and studies have been shown to have low or no toxicity to fish if applied according to permitted concentrations (Ecology 2017). Potential impacts to some fish and aquatic life are further reduced when considering the timing of applications. The proposed project is scheduled to occur in July and August. By this time, water temperatures are relatively warm (with exceedances of over 68°F being common), which will facilitate microbial degradation. It is also expected that the coldwater associated fish such as rainbow, cutthroat, and bull trout will not be found in the treatment areas due to high water temperatures.

Alternative 2 is expected to provide a benefit to aquatic species like juvenile salmonids and bull trout (USFWS 2015) by restoring native vegetation, maintaining suitable rearing habitat, and thereby restoring ecosystem and riparian function.

4.5 TERRESTRIAL INSECTS AND AQUATIC BENTHIC INVERTEBRATES

Benthic macroinvertebrate communities are important parts of aquatic systems and have historically served as good indicators of a variety of environmental conditions (Rosenberg and

Resh 1993). Terrestrial insects such as spiders benefit from energy transfers gained from aquatic insects emerged from waterways (Nakano and Murakami 2001). Water-level fluctuation can affect benthic macroinvertebrates directly where organisms become stranded when drawdown produces lower water levels. Lower water levels can also reduce macrophyte populations indirectly leading to reductions in plant-dependent organisms. Fluctuating water levels enhance mechanical mixing of shoreline sediments, changing the properties of the sediments and presumably the types of organisms that inhabit those mixed sediments (McEwen and Butler 2010). The resulting biodiversity and abundance of invertebrates around the varial zone of Lake Pend Oreille are adapted to the seasonal fluctuations in water levels as controlled by AFD.

4.5.1 Alternative 1: No Action

The no action alternative would have no potential to affect any terrestrial insects or aquatic benthic invertebrates.

4.5.2 Alternative 2: Aquatic Weed Control and Studies 2023-2032

Smothering, disturbing, or destroying benthic habitat may occur in localized treatment areas within the water (such as benthic barriers). It is unlikely that small-scale chemical and manual treatments would result in measurable effects on benthic habitat or on the macroinvertebrate communities. However, the more aggressive mechanical treatments have the potential to temporarily affect fish food resources in localized treatment areas. Aquatic macrophytes are a significant producer of macroinvertebrates, but treatments would not target native plant species or remove a proportion of vegetation great enough to adversely affect the overall habitat value. Removing dense stands of invasive flowering rush and watermilfoil would allow native vegetation the opportunity to become re-established, which in turn enhances the benthic and aquatic invertebrates.

4.6 THREATENED AND ENDANGERED SPECIES

Species listed as threatened or endangered under the Federal Endangered Species Act (ESA) are described in Section 3.7 of the 2018 Master Plan EA. Resources have not changed since that document was finalized. The USACE has provided an ESA Section 7 consultation document to the USFWS specifically for the continuation of Aquatic Weeds Control and Studies for a period of 10 years (USACE 2018b).

4.6.1 Alternative 1: No Action

The no action alternative may have a negative effect to bull trout because the vegetated shallow water areas that would not be treated support fish species such as walleye and northern pike that are predators of bull trout. Areas with monocultures of invasive weeds would continue to expand, providing more habitat for walleye and northern pike and thereby increasing the threat to bull trout.

4.6.2 Alternative 2: Aquatic Weed Control and Studies 2023-2032

Bull trout are present in the project area but are not likely to be present in the specific treatment areas at the time treatments would occur. Proposed herbicide applications are scheduled to occur between July 15 and August 31, depending on lake conditions. Bull trout

present in deep waters of Lake Pend Oreille are unlikely to be present in the shallower areas during the summer when in-water treatments would occur. Following inundation of the bare-ground treatment areas around the lake fringes, bull trout presence will likely be minimal because the specific treatment sites are expected to have shallow water for as long as 6 weeks post-treatment based on prior lake level history. During the summer, Lake Pend Oreille and the Pend Oreille River surface water temperatures are relatively warm with exceedances of 68°F common in the application areas or areas where mechanical methods are used. Because of these warmer temperatures and shallow habitats, the USACE does not expect bull trout to be present in the treatment areas area when herbicides are applied, or mechanical methods are used, thus avoiding a potential for direct injury. Further, treating areas to reduce monocultures of invasive weeds would clear areas making it less hospitable for bull trout predators thereby providing some benefit to bull trout.

4.7 INVASIVE SPECIES

Invasive aquatic vegetation is described in Section 3.6 of the 2018 Master Plan EA. Resources have not changed since that document was finalized.

4.7.1 Alternative 1: No Action

Under the no action alternative, the USACE would not conduct aquatic weed control efforts. Aquatic weeds would be expected to expand their areas of infestation and cause a reduction in overall habitat quality for fish and other aquatic species in the area. Flowering rush and Eurasian watermilfoil form dense mats that reduce light, reduce dissolved oxygen, and reduce water velocities, which affects the spawning potential for resident fish as well as other organisms. At high densities, the invasive weed's foliage supports a lower abundance and diversity of invertebrates that serve as food for fish (Getsinger 2005).

4.7.2 Alternative 2: Aquatic Weed Control and Studies 2023-2032

Implementation of the aquatic weed control program would be expected to manage the invasive plant infestations and potentially eradicate the weeds. The USACE would use the studies and treatment analysis to make changes for improved efficiency in control of aquatic weeds. This alternative would meet the purpose and need for invasive vegetation control to protect fish and wildlife resources.

4.8 SOCIOECONOMIC AND ENVIRONMENTAL JUSTICE

The project area is in Bonner County, Idaho. The incorporated communities of Sandpoint, Ponderay, Hope, and Clark Fork are located adjacent to Lake Pend Oreille. Priest River is located along the Pend Oreille River upstream of AFD. Sandpoint is the largest city in Bonner County with a 2020 population of 9,003 growing at about 1.4 percent annually (U.S. Census Bureau 2023a). Bonner County's population is estimated at about 48,979 individuals, having increased by about 6.8 percent from 2018 (U.S. Census Bureau 2021). The County grew by about 6.8 percent from 2018 to 2020 (48,979) (U.S. Census Bureau 2021). The other incorporated communities' populations for 2020 were Ponderay with 1,470 residents, Priest River with 1,880 residents, Hope with 100 residents, and Clark Fork with 540 residents.

According to the 2020 U.S. Census, the gender distribution is about equal for men and women (U.S. Census Bureau 2023a). In 2020, about 0.9 percent of residents were American Indian and Alaska Native, 0.16 percent were black or African American, 95.4 percent Caucasian and the remainder percentage peoples of another race. Less than four percent of residents identified as Hispanic or Latino (U.S. Census Bureau 2023b). A small percentage of residents (1.9 percent) were foreign-born. The median age in Bonner County in 2020 was 47.9 years, higher than the national median age of 38.1 years (U.S. Census Bureau 2023b). Of the population age 18 years and over, 91.9 percent had graduated from high school or continued to higher education and 26.6 percent had received a bachelor's degree or higher (U.S. Census Bureau 2023b). The Census reports that in 2020, the income of 11.8 percent of the population was below the poverty level (U.S. Census Bureau 2023b).

From 2019 to 2020, employment in Bonner County grew at a rate of 1.65 percent, from 18,300 employees to 18,600 employees (U.S. Census Bureau 2023b). The most common employment sectors for those who live in Bonner County are retail trade (2,662 people), health care and social assistance (2,403 people), and manufacturing (2,244 people) (Data USA 2023). The major economic contributors in the County include forest products, manufacturing, tourism, recreation, and government services. Schweitzer Mountain Resort is one of the largest employers in the County highlighting the importance of tourism and recreation to the people in the area.

4.8.1 Alternative 1: No Action

Under the no-action alternative with no control treatments, aquatic weeds would be expected to expand their areas of infestation, especially in nearshore areas where the public tend to recreate. Flowering rush and Eurasian watermilfoil would decrease the quantity and quality of recreational activities such as angling, boating, swimming, water skiing, and nearshore recreation. Flowering rush and watermilfoil can interfere with boat propellers, and can also be unpleasant to swim through as the weeds can entangle a swimmer's arms and legs. Ultimately, this could result in economic impacts affecting the tourism and recreational industries. The no-action alternative would not alter the new wages or alter the characteristics of the population in the project area.

4.8.2 Alternative 2: Aquatic Weed Control and Studies 2023-2032

Under Alternative 2, the proposed weed control treatment program would be expected to manage the invasive plant infestations and potentially eradicate the weeds. Reducing or eliminating aquatic weeds would reduce the potential of fouling propellers, affecting the water quality at swimming areas, and impacting fishery resources, thus the recreating public would benefit from having relatively weed-free nearshore waters. And although recreational opportunities may be temporarily inconvenienced during herbicide application or mechanical operations, invasive weed control would not adversely affect long-term public access. Proper signage and notices would be posted in treatment areas to warn swimmers, boaters, and fishers about potential chemical exposure. There are no fishing restrictions for any of the chemicals identified in this proposed action. Adverse impacts on recreation due to weed

control treatments would be minor to moderate, depending on location and number of people present.

There is no evidence that suggests protected environmental justice classes are disproportionate users of areas likely to be chemically treated. No weed control treatments are proposed to occur on Tribal lands. However, even if this was the case, control of flowering rush and watermilfoil would benefit users of the proposed action areas. The invasive aquatic weeds interfere with beneficial uses of waters and shorelines.

5 COMPENSATORY MITIGATION

The USACE is not proposing to conduct any compensatory mitigation for the proposed Federal action of aquatic weeds control and studies. Negative effects to the environment would be avoided through implementation of BMPs as described in Section 3.3.

6 CUMULATIVE EFFECTS

While water quality in Lake Pend Oreille and the Pend Oreille River is generally considered excellent, cumulative human-caused disturbances can affect water quality. Urban, industrial, and agricultural development have in the past and would continue to create sediment, nutrient, and chemical loading in the Pend Oreille basin. A variety of contaminants enter rivers from point and non-point sources such as industrial discharges and runoff from urban, agricultural, and de-forested areas. Runoff of irrigation water polluted with pesticides and fertilizers can contribute excessive nutrients, elevated levels of chemicals, and substantial amounts of sediment to natural waterways further degrading the water quality of the system. Recreational activities like boating can also contribute pollutants and increase sediments in surface waters. Watercraft using docks or boat ramps could adversely affect water quality along the shoreline as many vessels leak small amounts of fuel and oil.

Regarding flowering rush control, Bonner County Noxious Weed Control Department would likely continue their aquatic noxious weed treatments using either imazapyr or imazamox at various boat launch locations annually for several years (pers. comm., C. Youngdahl, Bonner County Noxious Weed Manager, April 2023). Further, contractors hired by private landowners fronting the waterfront would likely also apply herbicide treatments to control flowering rush and watermilfoil around private docks and swim areas. Even with multiple applications, the USACE expects that triclopyr, fluridone and imazapyr would not persist (they degrade rapidly) in the environment, and with the dilution provided by the receiving waters, would be below any toxicity level. triclopyr and fluridone have low toxicity and do not bioconcentrate; therefore, the cumulative and secondary effects would be the same as the individual project effects described in Section 4 of this SEA. Although triclopyr and fluridone are proposed to dissipate rapidly, under a few conditions, they may be adsorbed to the sediments or released through decomposing vegetation. However, past treatments in Lake Pend Oreille have not demonstrated this to be a problem.

Long-term benefits of invasive weed control treatments include improved habitat, reduced predatory fish habitat, and increased ambient light. Promotion of native habitats would help reduce available spawning and rearing habitat for predatory fishes, and improve access for foraging, rearing, refugia, and migration of native fishes. Monocultures of invasive flowering rush and watermilfoil can affect water flow and alter ambient light in treatment areas. Controlling infestations would help avoid and reduce the negative effects of reduced flows and altered ambient light regimes from pest species. Changes to the ambient light regime and riparian and benthic habitat resulting from flowering rush control would benefit fish behaviors and juvenile survivability.

Applied indiscriminately, aquatic weed control methods could have moderately adverse effects on water quality, especially if treatments are repeated in each location over several years, but the proposed treatment plan (Section 3.2) and required BMPs (Section 3.3) would likely eliminate these effects. Given the vastness of the action area, the generally excellent water quality conditions in the basin, and the expected impacts of aquatic weed treatments discussed above, cumulative impacts on water quality are expected to be minor to moderate in the short-term. Overall, Eurasian watermilfoil and flowering rush control treatments would have a positive cumulative benefit to water quality in the long-term by allowing native plant communities and natural habitats to reestablish in areas previously infested.

7 COORDINATION

The USACE coordinated with Tribal, Federal, state, and local interests, as well as environmental groups and the regulated public during the development of the 2018 AFD Master Plan (USACE 2018a; Section 6). Coordination regarding controlling invasive aquatic weeds has been an on-going effort since the publication of the 2018 Master Plan. The following agencies and entities have been involved or will be involved with the environmental coordination for the proposed project:

- ISDA
- Bonner County
- USFWS
- U.S. Forest Service
- ERDC
- Idaho Department of Fish and Game
- Lakes Commission
- Kalispel Tribe of Indians
- Confederated Salish and Kootenai Tribes
- Kootenai Tribe of Idaho
- Coeur d'Alene Tribe

8 ENVIRONMENTAL COMPLIANCE

This SEA is being prepared pursuant to Section 102(C) of NEPA, and includes compliance with other laws, regulations, and Executive Orders as discussed below.

8.1 BALD AND GOLDEN EAGLE PROTECTION ACT

The Bald and Golden Eagle Protection Act (16 U.S.C. § 668-668d) prohibits the taking, possession or commerce of bald and golden eagles, except under certain circumstances.

Bald eagles are common throughout much of the action area. Nesting, roosting, or foraging eagles may be present near a treatment site during implementation. In some locations, eagles that may occupy treatment sites frequently are likely accustomed to the daily human activities and related noise levels such as vehicles, equipment, and watercraft and foot traffic, while in other areas, eagles may rarely have human interaction. In the case of a treatment site occurring where eagles have relatively little human interaction, eagles are likely to avoid the immediate treatment site. In addition, suitable roosting and foraging habitat is expected to be available adjacent to the treatment site outside of a range of disturbance.

None of the aquatic weed treatments or studies are anticipated to have any effect on eagles, and no nests are located within the 660-foot zone of disturbance. Additionally, the activities would occur after nesting season is over each year. In general, herbicides most commonly used for vegetation management in aquatic environments (such as triclopyr, imazapyr, and glyphosate) degrade quickly once they enter the environment and thus are neither persistent nor bioaccumulative. Because modern herbicides have been designed to target biochemical processes unique to plants, they show a low level of direct toxicity to animals. When used according to label instructions, herbicides for aquatic weed control pose little risk to wildlife (Michael 2002; Tatum 2004).

8.2 CLEAN AIR ACT OF 1972

The Clean Air Act as Amended (42 U.S.C. § 7401 et seq.) prohibits Federal agencies from approving any action that does not conform to an approved State or Federal implementation plan.

Emissions from the proposed action would not exceed EPA's *de minimis* threshold levels (100 tons per year for carbon monoxide and 50 tons per year for ozone) or affect implementation of Idaho's Clean Air Act implementation plan. The project would not have any pathway to change air quality.

8.3 CLEAN WATER ACT

The Federal Water Pollution Control Act (33 U.S.C. § 1251 et seq.) is more commonly referred to as the Clean Water Act (CWA). This act is the primary legislative vehicle for Federal water pollution control programs and the basic structure for regulating discharges of pollutants into waters of the U.S. The CWA was established to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." The CWA sets goals to eliminate discharges of pollutants into waters of the U.S., protect fish and wildlife, and prohibit the discharge of toxic pollutants in quantities that could adversely affect the environment.

Section 402 of the Act, the National Pollutant Discharge Elimination System (NPDES) program, pertains to discharge of pollutants. Aquatic herbicide application in Idaho would require approval for use under an NPDES permit such as the EPA 2016 Pesticide General Permit (PGP).

In 2016, EPA issued a pesticide general permit that covered USACE's aquatic weeds control treatments on USACE properties fronting Lake Pend Oreille and the Pend Oreille River. The 2016 PGP provided coverage for a period of 5 years. However, in 2020, the State of Idaho became the NPDES permitting authority for pesticide permits, and all authorizations under the 2016 EPA PGP were transferred to the IDEQ. IDEQ informed applicators that the 2016 PGP expired at midnight on October 31, 2021, but the 2016 PGP would cover pesticide operations that discharge into Idaho waters until the IDEQ developed its own general permit approach to pesticide permitting (Appendix B). The USACE completed and submitted an electronic Notice of Intent (NOI) to EPA to obtain 2016 PGP coverage in 2020 (Appendix C). IDEQ has yet to develop their own permitting approach and so Alternative 2 is covered under the 2016 PGP until such time as IDEQ has developed a new Idaho Pollutant Discharge Elimination System (IPDES) PGP (Appendix B). At that time, USACE would submit a NOI to IDEQ to be covered by the new IPDES PGP.

If compliance with either Sections 402 or 404 of the CWA is needed for an action, Section 401 water quality certification is also needed. Section 401 of the CWA requires that any Federal activity that may result in a discharge of a pollutant or dredged or fill material to waters of the United States must receive a water quality certification from the certifying authority in the area in which the activity would occur.

IDEQ is the Section 401 certifying authority for non-Tribal lands in Idaho. In EPA's 2016 NPDES PGP (under Section 402), additional conditions specific to Idaho must be met for projects to comply with IDEQ's Section 401 certification process. For the proposed project, USACE would continue to comply with IDEQ's WQC conditions associated with the 2016 PGP.

8.4 ENDANGERED SPECIES ACT

In accordance with Section 7(a)(2) of the Endangered Species Act (ESA) of 1973, as amended, federally funded, constructed, permitted, or licensed projects must take into consideration impacts to federally listed or proposed threatened or endangered species and their critical habitats.

Pursuant to Section 7(a)(2) of the ESA, the USACE has prepared a BA to evaluate the effects of the proposed weed treatment on federally listed species and their critical habitat. The BA focuses on a 10-year programmatic treatment of Eurasian watermilfoil and bare-ground treatment of flowering rush and continued studies involving site specific treatment for flowering rush. In this Federal action, the USACE is proposing to continue two 5-year treatment programs for flowering rush and Eurasian watermilfoil, and the treatment program for vegetation control at Clark Fork Drift Facility boom system. In addition, the USACE is proposing two efficacy studies for in-water treatment of aquatic weeds. The 10-year BA document serves as an extension of the previous programmatic BA (2018-2022) and individual year Bas (2015, 2016, 2017). Like the previous BAs, the 2022 BA (USACE 2022) has a finding of "not likely to adversely affect" bull trout and their critical habitat. The USFWS concurred with these findings

in consultations for previous years, and on November 14, 2022, sent a letter of concurrence (Appendix D) for the current proposal.

8.5 Fish and Wildlife Coordination Act of 1958

The Fish and Wildlife Coordination Act of 1934, as amended (16 USC § 661 et seq.), requires consultation with USFWS when any water body is impounded, diverted, controlled, or modified for any purpose. The USFWS and state agencies charged with administering wildlife resources are to conduct surveys and investigations to determine the potential damage to wildlife and the mitigation measures that should be taken. The USFWS incorporates the concerns and findings of the state agencies and other Federal agencies, including the National Marine Fisheries Service, into a report that addresses fish and wildlife factors and provides recommendations for mitigating or enhancing impacts to fish and wildlife affected by a Federal project.

The proposed Federal action involves controlling invasive aquatic vegetation and would not impound, divert, control, or modify any body of water and would not involve activities subject to the Fish and Wildlife Coordination Act.

8.6 Migratory Bird Treaty Act of 1918 and Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds

The Migratory Bird Treaty Act (16 U.S.C. § 703-712) as amended protects over 800 bird species and their habitat and commits that the U.S. will take measures to protect identified ecosystems of special importance to migratory birds against pollution, detrimental alterations, and other environmental degradations. Executive Order (EO) 13186 directs Federal agencies to evaluate the effects of their actions on migratory birds, with emphasis on species of concern, and inform the USFWS of potential negative effects to migratory birds.

The Federal action would partially overlap with the regional nesting season for migratory birds (April 1 through July 15) as bare ground application of herbicides on the dry lakebed would occur as early as March through mid-May. However, these bare ground application efforts would not result in any tree or shrub removal and would occur removed from any terrestrial vegetation and so pose very little disturbance to nesting migratory birds. In-water herbicide treatment is proposed to occur after July 15 when water temperatures are greater than 68 degrees Fahrenheit (°F; 20 degrees Celsius) to avoid impacts to bull trout. The noise from watercraft and/or spray equipment may temporarily disturb birds loafing, or feeding in the treatment areas; however, BMPs for noise would minimize or negate these effects. As stated in Section 8.1, when used according to label instructions, herbicides for aquatic weed control pose little risk to wildlife (Michael 2002; Tatum 2004), and the proposed in-water work would occur after bird nesting season has ended each year. For these reasons, the USACE determined that there would be no effects to migratory birds.

8.7 National Environmental Policy Act

The NEPA (42 U.S.C. § 4321 et seq.) commits Federal agencies to considering, documenting, and publicly disclosing the environmental effects of their actions. This supplemental EA is intended to achieve NEPA compliance for the proposed project. As required by NEPA, this SEA describes new information relevant to environmental concerns (40 CFR § 1502.9(d)(1)) and tiers this

document to the previous 2018 Master Plan NEPA documentation (40 CFR § 1501.11). Major Federal actions determined not to have a significant adverse effect on the quality of the human environment may be evaluated through an EA.

Alternative 2, Aquatic Weed Control and Studies 2023-2032, is identified as the Agency Preferred Alternative and the Environmentally Preferred Alternative per NEPA implementing regulations. Effects to the quality of the human environment from the implementation of the 2018 Master Plan, including the need to control aquatic weeds, was previously evaluated in an EA and Finding of No Significant Impact (FONSI). A draft SEA and FONSI was made available for public review and comment for 30 days between April 14 and May 14, 2023. USACE invited submission of comments that focus on the incremental changes in environmental impact of the proposed action from that which was previously evaluated in prior NEPA documentation. No comments were received during the public comment period. No significant effects on the quality of the human environment are identified. No extraordinary or extenuating conditions exist that require an environmental impact statement.

8.8 SAFE DRINKING WATER ACT

The Safe Drinking Water Act (SDWA), along with the Reduction of Lead in Drinking Water Act and 40 CFR Part 141 - National Primary Drinking Water Regulations, are the Federal laws that protect public drinking water supplies throughout the Nation. SDWA authorizes the EPA to set national health-based standards for drinking water to protect against both naturally occurring and man-made contaminants that may be found in drinking water.

Alternative 2 would not involve public drinking water systems or groundwater injection and is therefore not subject to the Act.

8.9 NATIONAL HISTORIC PRESERVATION ACT OF 1966

Section 106 (54 U.S.C. § 306108) of the NHPA (54 U.S.C. § 300101) requires that Federal agencies evaluate the effects of Federal undertakings on historical, archeological, and cultural resources and afford the Advisory Council on Historic Preservation opportunities to comment on the proposed undertaking if there is an adverse effect to an eligible Historic Property. The lead agency must examine whether feasible alternatives exist that avoid eligible cultural resources. If an effect cannot reasonably be avoided, measures must be taken to minimize or mitigate potential adverse effects.

The USACE has reviewed the undertaking for the purposes of Section 106 of the National Historic Preservation Act (NHPA) and has determined that the project meets the following specific routine activities listed in Attachment 6 of the *Systemwide Programmatic Agreement for the Management of Historic Properties Affected by the Multipurpose Operations of Fourteen Projects of the Federal Columbia River Power System for Compliance with Section 106 of the National Historic Preservation Act* (SWPA).

> Category #7: Treatment of weed infestations that does not violate the chemical label, does not involve ground disturbance, where no features (such as pictographs or petroglyphs) that

might be damaged are present, and does not occur within landscaped areas where native plant communities might be harvested.

The USACE has documented the analysis and findings in a memorandum for the project files, available upon request. The memorandum documents the USACE's determinations pursuant to Section 106 of the NHPA as required at 36 CFR 800.11(a) and implemented in Attachment 6 of the SWPA. Pursuant to SWPA Attachment 6, the USACE has satisfied its responsibilities to take into account the effect of this undertaking on historic properties and has no further obligations under Section 106 of the NHPA.

8.10 Native American Tribal Treaty Rights

The USACE has a trust policy to consult with, and consider views of, federally recognized American Indian Tribes when proposing an action that may have the potential to significantly affect Tribal rights, resources, and lands; including, but not limited to the impact of the proposed activity on Tribal reserved treaty rights. See Department of Defense (DOD) Instruction 4710.02, Section 3, Subject: DOD Interactions with Federally Recognized Tribes (September 24, 2018). In addressing these important obligations, the USACE adheres to the principles articulated in the DOD Memorandum of Understanding Regarding Interagency Coordination and Collaboration for the Protection of Tribal Treaty and Reserved Rights (November 2021) ("Under the U.S. Constitution, treaties are part of the supreme law of the land, with the same legal force and effect as Federal statutes. Pursuant to this principle, and its trust relationship with federally recognized Tribes, the United States has an obligation to honor the rights reserved through treaties, including rights to both on and, where applicable, off-reservation resources, and to ensure that its actions are consistent with those rights and their attendant protections"). Consistent with these principles and this duty, the USACE is engaging in Tribal Consultation with the following Tribes to consider and evaluate the effect this proposed action may have to significantly affect tribal rights, resources and lands of the Kalispel Tribe of Indians, Confederated Salish and Kootenai Tribes, Kootenai Tribe of Idaho, and Coeur d'Alene Tribe. Each Tribe was notified of the 2018 AFD Master Plan as well as the ongoing aquatic weeds management program. The USACE did not receive any comments to the aquatic weeds control program and associated studies at that time. For this supplemental, notification and consultation letters were sent to the Tribes on April 3, 2023. The Kalispel Tribe provided comment on May 31, 2023 (Appendix E), raising concern over repeated in-water treatments, and requesting meetings to discuss the evaluation of in-water pesticide application practices. No other Tribes provided comment. The USACE has arranged to meet with the Kalispel Tribe to discuss the in-water treatment aspects of the Federal action and will also schedule regularly occurring meetings to keep the Tribe appraised of the project's activities prior to and during pesticide applications. Thus, the USACE has completed consultation with the Tribes.

8.11 Executive Order 13175, Consultation and Coordination with Indian Tribal Governments

EO 13175 reaffirmed the Federal government's commitment to a government-to-government relationship with Indian Tribes and directed Federal agencies to establish procedures to consult and collaborate with Tribal governments when new agency regulations would have Tribal implications. USACE has a government-to-government consultation policy to facilitate the

interchange between decision makers to obtain mutually acceptable decisions. In accordance with this EO, USACE has engaged in regular and meaningful consultation and collaboration with the federally recognized Tribes surrounding the project area regarding this proposed action.

8.12 Executive Order 11990, Protection of Wetlands

EO 11990 encourages Federal agencies to take actions to minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands when undertaking Federal activities and programs.

The proposed aquatic weeds control and studies program does not involve any construction or development in wetlands, and no destruction, loss, or degradation is anticipated. Control of aquatic weeds is expected to preserve and restore the natural wetlands conditions where treatment occurs in the project area. Control and eradication of aquatic weeds would also be expected to prevent new infestations or spreading of undesirable vegetation types in nearby wetland areas, therefore, Alternative 2 would provide some benefit to the project area wetlands.

8.13 Executive Order 11988, Floodplain Management

EO 11988, Floodplain Management, requires each Federal agency to evaluate the potential effects of any actions it may take in a floodplain; to ensure that its planning programs and budget requests reflect consideration of flood hazards and floodplain management; and to prescribe procedures to implement the policies and requirements of this EO. Procedures under Engineering Regulation 1165-2-26, Implementation of Executive Order 11988 on Flood Plain Management, require a statement of findings, which is provided in the following paragraph.

Alternative 2 would be implemented in the 100-year flood plain and would affect the floodplain. Access to rivers and streams for invasive aquatic weed treatment can only occur in or adjacent to floodplains. The USACE evaluated treatment alternatives and suitable treatment procedures. The shoreline and associated nearshore habitat inherently must be within and part of a floodplain, and therefore conforms to the state and local flood protection standards. The planning for and development of Alternative 2 was in cooperation with numerous state and regional resource and management agencies, including the ERDC. Alternative 2 would inherently have beneficial effects to the natural environment and would ensure floodplain functions and values are restored and maintained.

8.14 Executive Order 13751, Safeguarding the Nation from the Impacts of Invasive Species

EO 13751, Safeguarding the Nation from the Impacts of Invasive Species, states that it is the policy of the United States to prevent the introduction, establishment, and spread of invasive species, as well as to eradicate and control populations of invasive species that are established. The order directs Federal agencies to refrain from authorizing, funding, or implementing actions that are likely to cause or promote the introduction, establishment, or spread of invasive species in the United States unless, pursuant to guidelines that it has prescribed, the agency has determined and made public its determination that the benefits of such actions clearly outweigh the potential harm caused by invasive species; and that all feasible and prudent

measures to minimize risk of harm will be taken in conjunction with the actions. The use of targeted weed control measures as discussed in this SEA (Section 3.2) and the implementation of BMPs (Section 3.3) would ensure that the Federal action complies with EO 13751.

8.15 Executive Order 12898, Environmental Justice in Minority Populations and Low-Income Populations, and Executive Order 14008, Tackling the Climate Crisis

EO 12898 directs Federal agencies to take the appropriate steps to identify and address any disproportionately high and adverse human health or environmental effects of Federal programs, policies, and activities on minority and low-income populations. Minority populations are those persons who identify themselves as Black, Hispanic, Asian American, American Indian/Alaskan Native, and Pacific Islander. A minority population exists where the percentage of minorities in an affected area either exceeds 50 percent or is meaningfully greater than in the general population. EO 14008 updates EO 12898 and has expanded Federal agencies' responsibilities for assessing environmental justice consequences of their actions.

The proposed action would not disproportionately affect minority or low-income populations nor have any adverse human health impacts. No interaction with other projects would result in any such disproportionate impacts. The project does not involve siting of a facility that would discharge pollutants that could affect human or environmental health. Application of a registered herbicide under the proposed action will not negatively affect property values in the area or socially stigmatize local residents or businesses in any way.

No significant impacts on the human environment are expected. Some benefit may be realized for all members of the recreating public if the monocultures of invasive aquatic weeds were to be reduced or eliminated (Section 4.8). Populations of minority, juvenile, elderly, and low-income families would not experience disproportionately high and adverse effects from Alternative 2. Schools/childcare facilities and hospitals are dispersed throughout the area and are not disproportionately located near the project area. Thus, no disproportionately high and adverse impacts on children are expected. Overall, based on the absence of adverse impacts to human health and safety risk, this project would not have disproportionately high and adverse impacts on any communities, including environmental justice communities or children.

Further, Tribal governments that are also environmental justice communities in the project area have been engaged and informed about the proposed action. Project activities are not expected to interfere with local Native American treaty rights, fishing, or fishery resources. Because no adverse health or environmental effects are anticipated to result from the project, the USACE has determined that no disproportional impacts to minority or low-income populations will occur.

8.16 Executive Order 13985, Advancing Racial Equity and Support for Underserved Communities Through the Federal Government and Executive Order 14091, Furthering Advancing Racial Equity and Support for Underserved Communities Through The Federal Government

EO 13985 commits the Federal government to deliver equity and build an America in which all can participate, prosper, and reach their full potential. EO 13985 directs agencies to produce an annual public Equity Action Plan that assesses and includes actions to address the barriers underserved communities may face in accessing and benefitting from the agency's policies, programs, and activities. Federal agencies are to improve the quality, frequency, and accessibility of their community engagement, and to consult with impacted communities as each agency develops its Equity Action Plan, funding opportunities, budget proposals, and regulations. EO 14091 builds upon EO 13985 by extending and strengthening equity-advancing requirements for agencies, and it positions agencies to deliver better outcomes for the American people.

Alternative 2 would result in the reduction or elimination of invasive aquatic weeds which would provide some improvement to water quality and conditions for the recreating public. This in turn would provide some socioeconomic benefits for the local area and continue supporting the indirect jobs associated with tourism, recreation, and local business expenditures associated with these ventures. The USACE has determined that the proposed action would not result in any community being denied a full opportunity to participate in all aspects of economic, social, or civic life.

9 SUMMARY OF ASSESSMENT

As described, the proposed Federal action of continuing aquatic weed treatments for control and effectiveness studies in the years 2023-2032 at Albeni Falls Dam and Lake Pend Oreille would not contribute an additional increment of effects on the environment such that it would be projected to result in significant impacts to the quality of the human environment.

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APPENDIX A – CHEMICAL INFORMATION

1 INTRODUCTION

Impact analyses on the herbicides that are being proposed for invasive plant treatment are summarized in the following sections. Table A-1 indicates the active ingredients of the various herbicides with differing application rates for the life stage of the target weeds. Emergent application is timed to kill weeds before they have a chance to grow. Submerged application occurs during the growing season and when the treatment area is under water. All herbicides and adjuvants will be aquatic-registered (approved by USEPA for use in an aquatic environment), and no copper, ester, or monopotassium formulations will be used. Material Safety Data Sheets for the chemicals can be found in Appendix A.

Table A-1. Proposed active ingredients for use in the Lake Pend Oreille and Pend Oreille River aquatic weed control program.

Active Ingredient	**Emergent Application Rate (pt/ac)**	**Submerged Application Rate (pt/ac ft of water)**
AquaStrike (diquat dibromide + endothall)	N/A	8 to 13
Diquat dibromide	2 to 4	4 to 16
Endothall (dipotassium only)	3.6 to 25.6	3.6 to 25.6
ProcellaCOR EC (florpyrauxifen-benzyl)	5	3 PDU* (5.8ppb)
Fluridone	0.4 to 3.84	0.4 to 3.84
Glyphosate	1.5 to 7	N/A
Imazapyr	2 to 6	N/A
Triclopyr	4 to 16	5.6 to 18.4
Colorants (dyes)	Varies	Varies
Adjuvants (no petroleum, non-metallic, aquatic registered, targeting lower toxicity)	May vary	Not for submerged application
Pints/acre = pt/ac; pounds/acre foot = lb/ac. ft. *PDU – prescription dose units per ac. ft.		

2 CHEMICALS IN THE AFD AQUATIC WEEDS CONTROL PROGRAM

2.1 AQUASTRIKE

AquaStrike is an aquatic herbicide that is a premix of dipotassium salt of 28.6 percent endothall and 10.6 percent diquat bromide. Each component is described more fully in Section 2.2 (diquat bromide) and Section 2.3 (endothall). Diquat plus endothall labeling allows for drip or metered applications in nonirrigation, flowing water sites (United Phosphorus Inc., 2017 in Sartain et al. 2021). Diquat use rates vary depending on specific labels, and maximum efficacy may not be achievable because some labels limit use, and application rates are calculated per surface acre only up to a specified water depth. This could increase difficulties when managing flowering rush in areas where the average water depth is greater than specified on those product labels (Sartain et al. 2021). The combination of diquat and endothall helped to control Eurasian watermilfoil in the short term, but only plant parts in direct contact with the herbicides were killed, and elimination of the entire plant is not possible using only this method (Idaho Invasive Species Council and ISDA 2007). This herbicide is toxic to mammals and aquatic invertebrates if incorrectly applied.

2.1.1 Environmental Fate and Transport

Environmental Fate and Transport is described for each separate chemical in Sections 2.2.1 (Diquat bromide) and 2.3.1 (Endothall).

2.1.2 Plant Uptake

Plant update is described for each separate chemical in Sections 2.2.2 (Diquat bromide) and 2.3.2 (Endothall).

2.2 DIQUAT BROMIDE (REWARD)

Diquat dibromide [6,7-dihydrodipyrido (1,2-a:2',1'-c) pyrazinediium dibromide] is a post-emergent, non-selective contact herbicide used primarily to control submerged and floating weeds. The mode of action for diquat is inhibition of photosynthesis. Diquat is not typically used for algae control and most species of algae are not affected strongly by diquat. Although the label claims no systemic action at the current labeled use rates (USEPA 2009), one study noted systemic action with Sago pondweed but not American pondweed (Washington State Department of Ecology 2002). There is little or no bioconcentration of diquat in fish (Cribb 2018). One investigation into the persistence of diquat in fish showed that 1/2 of the herbicide was lost in less than 3 weeks. Aquatic toxicity (Hartless and Lin 2010) to freshwater fish is as follows:

- walleye (Stizostedion vitreum) LC50[1]
    - 0.75 mg/L in 8-10 days
    - 1.5 mg/L in 41-43 days
    - 4.9 mg/L in 8-10 day in 84-86 days
- smallmouth bass (Micropterus dolomieu) 3.9 mg/L in 6-8 days

[1] LC50: Lethal Concentration 50 (concentration expected to cause 50% mortality of a test population), mg/L – milligrams per liter.

- largemouth bass (Micropterus salmoides) 4.9 mg/L in 9-13 days

2.2.1 Environmental Fate and Transport

The primary route of environmental dissipation of diquat is strong adsorption to soil particles and other negatively charged particles suspended in the water column. After diquat dibromide is disassociated to the diquat cation, it is then strongly adsorbed to soil particles (Hartless and Linn 2010). Diquat does not hydrolyze or undergo photodegradation in natural environments and is resistant to microbial degradation under aerobic and anaerobic conditions. When used as an aquatic herbicide, diquat is removed from the water column by adsorption to soil sediments, aquatic vegetation, and organic matter. The half-life (the time it takes for half of the active ingredient to degrade) of diquat is less than 48 hours in the water column. The persistence of diquat in sediment can be longer than 4 years with sediment concentrations remaining higher than 1.7 ppm after treatment with 0.27 lbs/ac (Emmett 2002). Adsorbed diquat is persistent and immobile and is not expected to be a groundwater contaminant (Hartless and Lin 2010). Although diquat can accumulate in some sediments over time, conservative estimates indicate that 10 to 50 applications will be necessary before the absorptive capacity of diquat will be overcome and diquat will be released back into the water column (Emmett 2002). Diquat adsorbs readily to most soil/sediments with adsorption coefficients (Kd) of 30 to 1,000 L/Kg for sand-gravel, 1,000 to 10,000 L/Kg for sand, and 10,000 to 60,000 L/Kg for silty clay loams (Ritter et al, 1995 in Emmett 2002). In general, a compound with a Kd value of less than five and particularly with Kd values less than 1.0 are considered highly mobile in soil. Therefore, under normal conditions, the ability of diquat to contaminate ground water is extremely unlikely (Emmett 2002).

2.2.2 Plant Uptake

Diquat is rapidly absorbed by plant tissues, which are destroyed on exposure to light. Diquat is absorbed through the cuticle of the leaf and acts by interfering with photosynthesis, creating rapid inactivation of cells and cellular functions through the release of strong oxidants. Rapid destruction of cell membranes prevents translocation of the herbicide to other regions of the plant (USEPA 1995).

2.3 ENDOTHALL (AQUATHALL K)

Endothall (3,6-endoxohexahydrophthalic acid) was reregistered for use as an aquatic herbicide by the USEPA in 2005 (USEPA 2005). It is a broad-spectrum selective contact herbicide that damages the cells of susceptible plants at the point of contact but does not affect areas untouched by the herbicide, such as roots or tubers. Endothall works by interfering with plant respiration, by affecting protein and lipid biosynthesis, and by disrupting plant cell membranes. Eurasian watermilfoil is particularly susceptible to this herbicide. Aquatic toxicity is as follows:

- rainbow trout (*Oncorhynchus mykiss*) (96-hours LC50) – 9.15 to 128.7 mg/L
- bluegill (*Lepomis macrochirus*) (96-hours LC50) – 1.2 mg/L

- fathead minnow (*Pimephales* spp.) (96-hours LC50) – 0.75 mg/L

- stonefly (*Pteronarcys spp*.) (48-hours EC50[2]) – 3.75 mg/L

2.3.1 Environmental Fate and Transport

Endothall disperses with water movement and is broken down by microorganisms into carbon, hydrogen, and oxygen. Field studies show that low concentrations of endothall persist in water for several days to several weeks depending on environmental conditions. The half-life of endothal averages 5 to 10 days. Complete degradation by microbial action is 30 to 60 days. The initial breakdown product of endothall is an amino acid, glutamic acid, which is rapidly consumed by bacteria.

2.3.2 Plant Uptake

Endothall is a contact herbicide that prevents certain plants from making the proteins they need. Factors such as density and size of the plants present, water movement, and water temperature determine how quickly endothall works. Under favorable conditions, plants begin to weaken and die within a few days after application. Endothall will kill several native species of aquatic plants (especially *Potamogeton spp*.) in addition to nuisance species. Careful identification of plants and application of endothall products is necessary to avoid unintended harm to valuable native species. For effective control, endothall should be applied when plants are actively growing.

2.4 FLORPYRAUXIFEN-BENZYL (PROCELLACOR)

Florpyrauxifen-benzyl (ProcellaCOR) was registered as an aquatic herbicide called ProcellaCOR in 2018 (USEPA 2018). The herbicide provides a new class of auxin-mimic herbicide chemistry for management of invasive watermilfoils. Initial research using Florpyrauxifen-benzyl has shown good selectivity with little to no impact to native aquatic plants such as aquatic grasses, bulrush (*Scirpus spp*.), cattail (*Typha spp*.), pondweeds (Potamogeton spp.), naiads (*Naiades spp*.), and tapegrass (*Vallisneria spp.*). The herbicide has shown to be practically non-toxic to birds in acute oral, dietary, and reproduction studies. Similar to the avian species, no toxicity was observed for mammals exposed to the herbicide in short- and long-term studies, with endpoints set at the highest concentration tested. The herbicide exhibits no toxicity to honeybees in either the acute oral or acute contact studies. Formulated testing on certain fish species (rainbow trout, fathead minnow, common carp (*Cyprinus carpio*), sheepshead minnow (*Cyprinodon variegatus*)) has also shown lack of toxicity. As expected for an herbicide, there is toxicity to certain sensitive terrestrial and aquatic plants.

2.4.1 Environmental Fate and Transport

In aerobic soil, the herbicide moderately degrades with half-lives ranging from 2.5 to 34 days. Anaerobic soil metabolism studies show rapid degradation with half-lives ranging from 7 to 15 days. In aerobic and anaerobic aquatic environments, the herbicide is short lived with half-lives ranging from 4 to 6 days and 2 days, respectively, in the total water sediment system. Chemical breakdown and passive distribution is dependent on temperature, wind, waves, and current. Degradation in surface water is accelerated when exposed to sunlight as the photolytic half-life is 0.07 days. With conditions similar to wetland and marsh habitat, results from a field

[2] EC50 – Median Effective Concentration (required to induce a 50% effect.

dissipation study in rice paddies that incorporated appropriate water management practices for both wet-seeded and dry-seeded rice resulted in aquatic phase half-lives ranging from 0.15 to 0.79 days and soil phase half-lives ranging from 0.0037 to 8.1 days (USEPA 2018). The herbicide can be classified as essentially immobile based on soil Koc values[3] ranging from 23,028 to 47,763. These properties indicate that the potential for off-site transport is minimal. These studies show florpyrauxifen-benzyl's active ingredient undergoes rapid degradation in the soil and aqueous environments.

2.4.2 Plant Uptake

Auxins are a group of plant-growth hormones that affect plant processes, such as root initiation, tropism, shoot growth, and development and apical dominance, among other essential plant-growth processes (Yamada 1954, Grossmann 2010). Florpyrauxifen-benzyl, an auxin-mimic herbicide, causes the same impacts, as will a natural auxin overdose. The action of synthetic auxin overdosing can be summarized in three phases: the stimulation phase, during which, the plants metabolic activity is heightened, and abnormal growth occurs, such as stem curling and leaf epinasty; the inhibition phase, during which, growth is stunted, and several growth reducing physiological responses, such as stomatal closure and reduced carbon fixation, occur; and finally, the decay phase, characterized by cell and plant tissue death (Grossmann 2010). Algae are not affected by florpyrauxifen-benzyl.

2.5 FLURIDONE (SONAR Q)

1-Methyl-3phenyl-5(3-(Trifluoro-methyl)phenyl)-4(1H)-Pyridione is the active ingredient. Fluridone is a selective systemic aquatic herbicide for management of aquatic vegetation in freshwater ponds, lakes, and reservoirs including dry or de-watered areas. Aquatic toxicity is as follows:

- Rainbow trout (96-hours LC50) – 7.7mg/L
- Sheepshead minnow (LC50) – 10.7-16.7 mg/L
- Daphnia (*Daphnia spp*.) (48-hours EC50) – 3.6 mg/L

2.5.1 Environmental Fate and Transport

Fluridone is soluble and degrades in water via photolysis and microbial processes. Aquatic organisms will have only limited exposure to fluridone in the water as a result of dispersion, dilution and microbial degradation of the chemical into carbon, hydrogen, oxygen and organic acids, even during an extended application period.

2.5.2 Plant Uptake

Fluridone is absorbed from water by plant shoots and from hydrosoil by the roots of aquatic vascular plants. Algae are not affected by fluridone.

2.6 GLYPHOSATE (RODEO)

Aquatic glyphosate is a low toxicity broad-spectrum, systemic, post-emergence glyphosate

[3] Koc (Soil Organic Carbon-Water Partitioning Coefficient), the ratio of the adsorbed organic analyte to the dissolved

herbicide formulated for use in and around aquatic sites and labeled for aquatic use. Glyphosate does not have a surfactant, consisting primarily of the isopropylamine salt of glyphosate and water, which contributes to its low toxicity. Toxicity of in various fish species is:

- rainbow trout (96 hours LC50) 120-170 mg/L
- fathead minnow (96 hours LC 50) 1.2-1.7 mg/L
- bluegill (96 hours LC50) 2.5-3.7 mg/L

2.6.1 Environmental Fate and Transport

Glyphosate is highly soluble in water with a hydrolysis half-life of >35 days (Kollman and Segawa 1995). For all aquatic systems, sediment appears to be the major sink for glyphosate residue. Glyphosate's primary route of decomposition in the environment is through microbial degradation in soil (Franz et al. 1997). The herbicide is inactivated and biodegraded by soil microbes at rates of degradation related to microbial activity in the soil and factors that affect this activity (Eriksson 1975).

2.6.2 Plant Uptake

From the leaf surface, glyphosate molecules are absorbed into the plant cells as they are translocated to meristematic tissues (Laerke 1995). Depending upon soil type and conditions, some root uptake may occur. Glyphosate's primary action is the inhibition of the enzyme 5-enolpyruvylshikimate-3-phosphate synthase, a chloroplast-localized enzyme in the shikimic acid pathway of plants (DellaCioppa et al. 1986). This prevents the production of amino acids used by plants in protein synthesis and to produce many secondary plant products such as growth promoters, growth inhibitors, phenolics, and lignin (Franz et al. 1997). Visible effects on most annual weeds occur within 2 to 4 days and may not occur for 7 days or more on most perennial weeds. Glyphosate is not effective on submersed vascular plants or on algae.

2.7 IMAZAPYR (HABITAT)

USEPA (2007a, b) summarized ecological toxicity information for freshwater fish, invertebrates, and amphibia. LC50s were generally high: aquatic plant LC50: greater than 100 mg/L; rainbow trout 96-hr LC50 > 100 mg/L; and daphnia (*Daphnia magna*) 48-hr LC50 >100 mg/L. The most sensitive aquatic invertebrate and fish chronic No Adverse Effects Concentrations were 97.1 mg/L for daphnia, and 43.1 mg/L for rainbow trout. Imazapyr has very low aquatic toxicity to fish and aquatic invertebrates. Turner (2003) concluded that there will be no direct effect on ESA-listed salmonids, or on their invertebrate food supply.

2.7.1 Environmental Fate and Transport

Imazapyr is an anionic, nonvolatile organic acid that is persistent and mobile in soil. It is stable to hydrolysis, aerobic and anaerobic soil degradation, as well as aerobic and anaerobic aquatic metabolism. Imazapyr is mainly in anionic form at normal environmental pH levels, and thus is not expected to bioaccumulate in aquatic organisms. Imazapyr was essentially stable to aerobic and anaerobic soil metabolism, and no major transformation products were identified during the course of laboratory studies. Field study observations are consistent with imazapyr's intrinsic ability to persist in soils and move via runoff in surface water and leach to groundwater. Imazapyr did not bioconcentrate in submitted laboratory studies. The relatively

high solubility in water and low n-octanol to water partitioning ratio of imazapyr is also consistent with little likelihood of bioconcentration (USEPA 2014b). The half-life of imazapyr is approximately 3 to 5 days in surface water through photolysis (USEPA 2006).

2.7.2 Plant uptake

Imazapyr acts as an acetolactate synthase inhibitor in plants, interrupting the biosynthesis of the branched amino acids valine, leucine, and isoleucine, thereby lowering protein synthesis and affecting growth. Imazapyr is not effective on submersed vascular plants, nor on algae.

2.8 TRICLOPYR (RENOVATE)

2-[(3,5,6-trichloro-2-pyridinyl)oxy] acetic acid, triethylamine salt (triclopyr) is the active ingredient in Renovate. Triclopyr is a systemic auxin-type compound used to control emersed, submersed and floating plants in aquatic sites such as ponds, lakes and reservoirs. Dicots are particularly susceptible to this synthetic auxin, while monocots (grasses) are generally tolerant to triclopyr. The maximum use rate is no more than 6.0 lbs/ac/yr on aquatic sites. Aquatic toxicity is:

- Rainbow trout (96-hours LC50) – 117 ppm)
- Bluegill (96 hours LC50) – 148 ppm
- Daphnia (LC 50) – 1,170 ppm

2.8.1 Environmental Fate and Transport

Photodegradation is the quickest and major route of triclopyr degradation in aquatic environments. Laboratory half-lives range from 0.5 to 1.2 days.

Aquatic Dissipation. The first order half-life for triclopyr is 0.5 to 3.0 days. No accumulation occurs in sediment. No bioconcentration occurs in sport fish or bottom feeding species.

2.8.2 Plant Uptake

Uptake occurs rapidly. Triclopyr readily penetrates foliage, with rain-free period of 4 hours required for maximum efficacy when applied to emergent or floating plants. Algae are not affected by triclopyr.

3 EXPERIMENTAL PROGRAM DETAILS

3.1 PROCELLACOR® EFFICACY STUDY FOR IN-WATER TREATMENT OF EURASIAN MILFOIL

The use of ProcellaCOR®-EC (Florpyrauxifen-benzyl) was successfully demonstrated by ERDC and other biologists in the 2018 Morton Slough project to control Eurasian and hybrid watermilfoil where they are found in high densities. Based on results of the initial demonstration, the USACE proposes to increase the demonstration study up to 100 ac/yr. The treatment area could be split into multiple smaller sites but will not exceed 100 ac/yr. The study sites will be treated according to manufacturer's recommendations (target rate of 9.7 µg a.i. L^{-1} [5 Prescription Dose Units {PDU} per acre-foot]). Prior to product applications, quantitative

vegetation surveys will be conducted in the selected treatment plots, then actively monitored the following year to determine effectiveness of the herbicide. Although previous field studies have shown that application of ProcellaCOR-EC has not negatively impacted water quality in treatment areas, aqueous environmental parameters to include temperature, DO, and pH, will be collected in-situ at pre-treatment and several post-treatment intervals.

3.2 AQUASTRIKE™ EFFICACY STUDY FOR IN-WATER TREATMENT OF EURASIAN MILFOIL AND FLOWERING RUSH

AquaStrike™ is a relatively new combination chemical composed of diquat and endothall that USEPA labeled for use as an aquatic herbicide (USEPA 2014a). The herbicide is intended for aquatic plant control in quiescent, slow moving, and flowing water aquatic sites. Users are cautioned to take care when using in dense weedy areas, as the decomposition of the weeds can create hypoxic areas and can potentially suffocate fish. Treatment recommendations are for 1/3 to 1/2 of the water body area at one time and to wait 14 days between treatments.

Diquat plus endothall was used experimentally on Wallula Lake (McNary Reservoir on the Columbia River) by Sartain et al. (2021) to control flowering rush. They found that a greater control of flowering rush shoot biomass occurred 12 weeks after treatment with diquat and diquat plus endothall compared to endothall alone (Sartain et al. 2021). In the Clark Fork River system, on the Noxon Rapids and Cabinet Gorge Reservoirs, DeBruyckere and Pennington (2017) found that the combination of diquat and endothall effectively helped to control Eurasian watermilfoil in the short-term, but only the plant parts in direct contact with the herbicides were killed.

The USACE proposes to use AquaStrike in an efficacy study for in-water treatment of Eurasian and hybrid watermilfoil and flowering rush on up to 200 acres per year with monitoring. The 200 acres per year treatment area will most likely be split into multiple smaller sites but will not exceed a total of 200 acres. Researchers will monitor for success of selectively eliminating weeds as well as potential harm to water quality parameters (temperature, pH, dissolved oxygen) to determine if any impacts might occur to sensitive species such as salmonids in the treated areas. Demonstration sites will be situated so that there will not be cross-contamination from other herbicides.

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Appendix B

STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

1410 N Hilton Street, Boise, ID 83706
(208) 373-0502

Brad Little, Governor
Jess Byrne, Director

MEMORANDUM

TO: Jess Byrne, Director, Department of Environmental Quality

THROUGH: Mary Anne Nelson, Administrator, Surface and Wastewater Division

FROM: Troy Smith, IPDES Bureau Chief

DATE: 10/13/2021

SUBJECT: Administrative Continuance and No Action Assurance for the Pesticide General Permit from the Application of Pesticides (IDG870000)

The current Idaho Pollutant Discharge Elimination System (IPDES) Pesticide General Permit (referred to as the "2016 PGP") that was issued by the U.S. Environmental Protection Agency will expire at midnight on October 31, 2021, where the Idaho Department of Environmental Quality (DEQ) is the permitting authority outside of Tribal boundaries in Idaho. The succeeding permit (referred to as the "New IPDES PGP") is still in progress and will likely be available for public comment in late 2021.

- Pesticide applicators with coverage under the 2016 PGP will automatically be granted administrative continuance of permit coverage and are required to continue to comply with the 2016 PGP after its expiration.
- New pesticide applicators beginning operations after October 31, 2021 that have not submitted a Notice of Intent (NOI) to be covered by the 2016 PGP prior to its expiration will not be able to obtain general permit coverage until the New IPDES PGP is issued.

In areas within Idaho where DEQ is the IPDES permitting authority, DEQ is providing a No Action Assurance for operators who have not submitted an NOI to be covered by the 2016 PGP and who intend to commence activities between October 31, 2021, and the effective date of the New IPDES PGP.

This No Action Assurance establishes that DEQ may exercise its enforcement discretion to not pursue a civil or administrative enforcement action against new applicators for violations of the Clean Water Act's prohibition against the discharge of pollutants except in conformance with an NPDES permit, 33 U.S.C. § 1311, if the operator satisfies the conditions of the 2016 PGP.

DEQ believes that a No Action Assurance would not have an adverse impact on public health and the environment because new facilities covered by the No Action Assurance are required to

meet all permit conditions under the 2016 PGP.

This exercise of enforcement discretion extends only to new operators that commence activities on or after November 1, 2021, but prior to the effective date of the New IPDES PGP, and that have not submitted an NOI for coverage under the 2016 PGP prior to its expiration.

Operators that commence activities after the effective date of the New IPDES PGP will not be covered by this No Action Assurance and must submit an NOI under the New IPDES PGP.

No Action Assurance Conditions

This exercise of enforcement discretion is subject to the following conditions:

1. *Eligibility*: Any new operator must meet the 2016 PGP eligibility criteria (Part 1 of the permit);
2. *Prior Notification to DEQ*: Prior to commencing activities, the new operator must provide DEQ 30-days advance notice of their status and their intention to operate in accordance with the 2016 PGP by submitting to DEQ a completed 2016 PGP NOI to:

   Troy Smith
   IPDES Bureau Chief
   Idaho Department of Environmental Quality
   1410 North Hilton
   Boise, Idaho 83706-1255

3. *Compliance*: Any new operator must satisfy all requirements of the 2016 PGP, except for submittal of an NOI before November 1, 2021.
4. *Obtain Coverage*: An operator covered by this No Action Assurance that intends to continue activities after the effective date of the new IPDES PGP must submit a NOI to be covered by the New IPDES PGP within 90 days of its effective date (which will provide permit coverage 30 days after submission of the NOI).

This No Action Assurance does not apply to criminal violations or situations where circumstances exist that may cause serious harm or that may present an imminent and substantial endangerment to public health or the environment. DEQ also reserves the right, at any time, to exercise its discretion to address a specific discharge should circumstances warrant. This No Action Assurance will terminate at 11:59 PM Mountain Time 120 days after the effective date of the new IPDES PGP.

APPROVAL: Jess Byrne 10/21/2021

Jess Byrne, Director — Date
Department of Environmental Quality

Appendix C

U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
(NPDES)
PESTICIDE GENERAL PERMIT (PGP) FOR DISCHARGES
REPORT

Electronic Submission Waiver (skip if submitting through EPA's eNOI system)

☐ I hereby acknowledge my waiver request from the use of EPA's electronic Notice of Intent system (eNOI) because my use of eNOI will incur undue burden or expense over my use of this paper NOI form.

- ○ The Decision-maker is physically located in a geographical area (i.e., ZIP code or census tract) that is identified as under-served for broadband Internet access in the most recent report from the Federal Communications Commission.
- ○ The Decision-maker has limitations regarding available computer access or computer capability

Name of EPA staff person who granted the waiver:

Date approval obtained:

A. Notice of Intent Status

Mark whether this is the first time you are requesting coverage under this General Permit or if this is a change of information for a discharge already covered under this General Permit. If this is a change of information, supply the NPDES permit tracking number for the discharge.

☐ Original NOI Submission ☐ NOI Change of Information

(NPDES Permit Tracking #): IDG87BM55

Status: Submitted to EPA

B. Operator Information

1. Operator Name: Amanda M Collins

3. Operator Type (check one):
   - ◉ Federal government
   - ○ State government
   - ○ Local government
   - ○ Mosquito control district (or similar)
   - ○ Irrigation control district (or similar)
   - ○ Weed control district (or similar)
   - ○ Other: If other, provide brief description of type of operator:

4. Are you a large entity as defined in Appendix A of the PGP? (check one):
   - ◉ Yes ○ No

   Please note: If you answer 'Yes' to question 4 you are required to develop a PDMP and submit an Annual Report reflecting all pesticide uses for which you are requesting permit coverage.

5. In what state are your pest management areas located? Please specify only one state per NOI: Idaho

6. Mailing Address:

a. Street:	2376 E Hwy 2				
b. City:	Oldtown	c. State:	Idaho	d. ZIP Code:	83822
e. Telephone:	2084373133	f. Fax:			
g. Contact Name:	Joshua Stearns				
h. E-mail:	joshua.j.stearns@usace.army.mil				

C. Operator Information: Complete Section C for each Pest Management Area for which coverage under EPA's Pesticide General Permit is desired. Copy this section for non-electronic submissions.

Pest Management Area # 1 #of ## 7

1. Pest Management Area Name: Vista Admin and Recreation Area

Provided a map of the location of the Pest Management Area for this use (attach map), or describe the location of the Pest Management Area in detail.

See attached map

2. Are any of your activities for which you are requesting coverage under this NOI occur on Indian Country?

( ) Yes (•) No

If yes, identify the reservation or otherwise describe those areas:

3. Are any of your activities (in this pest management area) for which you are requesting coverage under this NOI considered 'federal facilities' as defined by the PGP?

[x] Yes [ ] No

4. Mailing address and contact information (or check here 0 if same as provided in Section B):

a. Street: 2376 E Hwy 2

b. City: Oldtown c. State: Idaho d. ZIP Code: 83822

e. Telephone: 2084373133 f. Fax:

g. Contact Name: Joshua Stearns

h. E-mail: joshua.j.stearns@usace.army.mil

5. Pesticide Use Patterns to be included in this Pest Management Area (check all that apply):

[ ] Mosquitoes and Other Flying Insect Pests [ ] Animal Pest Control

[x] Weeds and Algae [ ] Forest Canopy Pests

6. Receiving Waters (check one):

( ) Coverage requested for all waters of the United States within the Pest Management Area identified above.

(•) Coverage requested specifically for the following waters of the United States within the Pest Management Area identified above.

( ) Coverage requested for all waters of the United States within the Pest Management Area identified above except for:

The proposed project is located at multiple in-water and seasonally exposed Corps-administered sites in Lake Pend Oreille, Pend Oreille River, and the Clark Fork River delta in Bonner County, Idaho elevations above 2051.

7. Tier 3 Waters

Is coverage requested for discharge to a Tier 3 (Outstanding National Resource Water) water of the United States?

(•) Yes ( ) No

If yes, answer 1) and 2):

1) Name of Tier 3 water(s): Lake Pend Oreille, Pend Oreille river and Clark Fork river delta.

2) Provide rationale for determination that pesticide discharge is necessary to protect water quality, the environment, and/or public health and that any such discharge will not degrade water quality or will degrade water quality only on a short-term or temporary basis:

Both flowering rush and non-native watermilfoils adversely affect native fish species by displacing native vegetation, colonizing previously open water habitats, depleting dissolved oxygen levels, reducing plant diversity, and creating suitable spawning habitat and ambush cover for predatory fish species such as largemouth bass andnorthern pike. Infestations can also severely impact water control structures, power generation, and irrigation by clogging critical infrastructure points.

8. Water Quality Impaired Waters

Operators are not eligible for coverage under this permit for any discharges from a pesticide application to Waters of the United States if the waters are identified as impaired by a substance which is either an active ingredient the pesticide designated for use or is a degradate of such an active ingredient. See Part 1.1.2.1 of the PGP.

[x] Waters are NOT impaired by any substance which is either an active ingredient of a pesticide to be discharged or a degradate of such an active ingredient

[ ] Waters are on a current state list as being impaired by a substance which is either an active ingredient of a pesticide to be discharged or a degradate of such an active ingredient; however, evidence is attached documenting that the waters are no longer impaired.

D. Endangered Species Protection: Complete Section D for each Pest Management Area for which coverage under EPA's Pesticide General Permit is desired. Copy this section for non-electronic submissions.

1. Federally Listed Threatened or Endangered Species (i.e., Species) and/or Federally Designated Critical Habitat

- [x] A. Pesticide application activities will not result in a point source discharge to any receiving water identified in Appendix XXX as containing NMFS-listed resources of concern for this permit.
- [ ] B. Pesticide application activities for which permit coverage is being requested will discharge to one or more receiving waters containing NMFS-listed resources of concern, but consultation with NMFS under section 7 of the ESA has been concluded for pesticide application activities covered under this permit. Consultations can be either formal or informal, and would have occurred only as a result of a separate federal action. The consultation addressed the effects of pesticide discharges and discharge-related activities on federally-listed threatened or endangered species and federally-designated critical habitat, and must have resulted in either:

  i. A biological opinion finding no jeopardy to federally-listed species or destruction/adverse modification of federally-designated critical habitat; or

  ii. Written concurrence from NMFS with a finding that the pesticide discharges and discharge-related activities are not likely to adversely affect federally-listed species or federally-designated critical habitat.
- [ ] C. Pesticide application activities for which permit coverage is being requested will discharge to one or more receiving waters containing NMFS-listed resources of concern, but pesticide application activities are authorized through the issuance of a permit under section 10 of the ESA, and authorization addresses the effects of the pesticide discharges and discharge-related activities on federally-listed species and federally-designated critical habitat.
- [ ] D. Pesticide application activities were, or will be, performed in areas with NMFS-listed resources but only in response to a declared pest emergency situation.
- [ ] E. Pesticide application activities for which permit coverage is being requested will discharge to one or more receiving waters containing NMFS-listed resources of concern. Eligible discharges include those from pesticide application activities performed consistent with appropriate measures to avoid or eliminate the likelihood of adverse effects as provided in writing from NMFS, and the Operator provides EPA with the required relevant supporting information from NMFS.
- [ ] F. Pesticide application activities for which permit coverage is being requested will discharge to one or more receiving waters containing NMFS-listed resources of concern. Eligible discharges include those from pesticide application activities that are demonstrated not likely to adversely affect federally-listed species or their designated critical habitat.

C. Operator Information: Complete Section C for each Pest Management Area for which coverage under EPA's Pesticide General Permit is desired. Copy this section for non-electronic submissions.

Pest Management Area # 2 #of ## 7

1. Pest Management Area Name: Albeni Cove Recreation Area

Provided a map of the location of the Pest Management Area for this use (attach map), or describe the location of the Pest Management Area in detail.

See Attached Map

2. Are any of your activities for which you are requesting coverage under this NOI occur on Indian Country?

( ) Yes (•) No

If yes, identify the reservation or otherwise describe those areas:

3. Are any of your activities (in this pest management area) for which you are requesting coverage under this NOI considered 'federal facilities' as defined by the PGP?

[x] Yes [ ] No

4. Mailing address and contact information (or check here 0 if same as provided in Section B):

a. Street: 2376 E Hwy 2

b. City: Oldtown c. State: Idaho d. ZIP Code: 83822

e. Telephone: 2084373133 f. Fax:

g. Contact Name: Joshua Stearns

h. E-mail: joshua.j.stearns@usace.army.mil

5. Pesticide Use Patterns to be included in this Pest Management Area (check all that apply):

[ ] Mosquitoes and Other Flying Insect Pests
[ ] Animal Pest Control
[x] Weeds and Algae
[ ] Forest Canopy Pests

6. Receiving Waters (check one):

( ) Coverage requested for all waters of the United States within the Pest Management Area identified above.
(•) Coverage requested specifically for the following waters of the United States within the Pest Management Area identified above.
( ) Coverage requested for all waters of the United States within the Pest Management Area identified above except for:

Pend Oreille River

7. Tier 3 Waters

Is coverage requested for discharge to a Tier 3 (Outstanding National Resource Water) water of the United States?

(•) Yes ( ) No

If yes, answer 1) and 2):

1) Name of Tier 3 water(s): Pend Oreille River

2) Provide rationale for determination that pesticide discharge is necessary to protect water quality, the environment, and/or public health and that any such discharge will not degrade water quality or will degrade water quality only on a short-term or temporary basis:

Same rationale for all Pesticide Management Areas.

8. Water Quality Impaired Waters

Operators are not eligible for coverage under this permit for any discharges from a pesticide application to Waters of the United States if the waters are identified as impaired by a substance which is either an active ingredient the pesticide designated for use or is a degradate of such an active ingredient. See Part 1.1.2.1 of the PGP.

[x] Waters are NOT impaired by any substance which is either an active ingredient of a pesticide to be discharged or a degradate of such an active ingredient

[ ] Waters are on a current state list as being impaired by a substance which is either an active ingredient of a pesticide to be discharged or a degradate of such an active ingredient; however, evidence is attached documenting that the waters are no longer impaired.

D. Endangered Species Protection: Complete Section D for each Pest Management Area for which coverage under EPA's Pesticide General Permit is desired. Copy this section for non-electronic submissions.

1. Federally Listed Threatened or Endangered Species (i.e., Species) and/or Federally Designated Critical Habitat

- [x] A. Pesticide application activities will not result in a point source discharge to any receiving water identified in Appendix XXX as containing NMFS-listed resources of concern for this permit.
- [ ] B. Pesticide application activities for which permit coverage is being requested will discharge to one or more receiving waters containing NMFS-listed resources of concern, but consultation with NMFS under section 7 of the ESA has been concluded for pesticide application activities covered under this permit. Consultations can be either formal or informal, and would have occurred only as a result of a separate federal action. The consultation addressed the effects of pesticide discharges and discharge-related activities on federally-listed threatened or endangered species and federally-designated critical habitat, and must have resulted in either:

  i. A biological opinion finding no jeopardy to federally-listed species or destruction/adverse modification of federally-designated critical habitat; or

  ii. Written concurrence from NMFS with a finding that the pesticide discharges and discharge-related activities are not likely to adversely affect federally-listed species or federally-designated critical habitat.
- [ ] C. Pesticide application activities for which permit coverage is being requested will discharge to one or more receiving waters containing NMFS-listed resources of concern, but pesticide application activities are authorized through the issuance of a permit under section 10 of the ESA, and authorization addresses the effects of the pesticide discharges and discharge-related activities on federally-listed species and federally-designated critical habitat.
- [ ] D. Pesticide application activities were, or will be, performed in areas with NMFS-listed resources but only in response to a declared pest emergency situation.
- [ ] E. Pesticide application activities for which permit coverage is being requested will discharge to one or more receiving waters containing NMFS-listed resources of concern. Eligible discharges include those from pesticide application activities performed consistent with appropriate measures to avoid or eliminate the likelihood of adverse effects as provided in writing from NMFS, and the Operator provides EPA with the required relevant supporting information from NMFS.
- [ ] F. Pesticide application activities for which permit coverage is being requested will discharge to one or more receiving waters containing NMFS-listed resources of concern. Eligible discharges include those from pesticide application activities that are demonstrated not likely to adversely affect federally-listed species or their designated critical habitat.

C. Operator Information: Complete Section C for each Pest Management Area for which coverage under EPA's Pesticide General Permit is desired. Copy this section for non-electronic submissions.

Pest Management Area # 3 #of ## 7

1. Pest Management Area Name: Pend Oreille Wildlife Management Area

Provided a map of the location of the Pest Management Area for this use (attach map), or describe the location of the Pest Management Area in detail.

See Attached Map

2. Are any of your activities for which you are requesting coverage under this NOI occur on Indian Country?

( ) Yes (•) No

If yes, identify the reservation or otherwise describe those areas:

3. Are any of your activities (in this pest management area) for which you are requesting coverage under this NOI considered 'federal facilities' as defined by the PGP?

[x] Yes [ ] No

4. Mailing address and contact information (or check here 0 if same as provided in Section B):

a. Street: 2376 E Hwy 2

b. City: Oldtown c. State: Idaho d. ZIP Code: 83822

e. Telephone: 2084373133 f. Fax:

g. Contact Name: Joshua Stearns

h. E-mail: joshua.j.stearns@usace.army.mil

5. Pesticide Use Patterns to be included in this Pest Management Area (check all that apply):

[ ] Mosquitoes and Other Flying Insect Pests
[ ] Animal Pest Control
[x] Weeds and Algae
[ ] Forest Canopy Pests

6. Receiving Waters (check one):

( ) Coverage requested for all waters of the United States within the Pest Management Area identified above.
(•) Coverage requested specifically for the following waters of the United States within the Pest Management Area identified above.
( ) Coverage requested for all waters of the United States within the Pest Management Area identified above except for:

Lake Pend Oreille, Pend Oreille River, and the Clark Fork River delta in Bonner County, Idaho.

7. Tier 3 Waters

Is coverage requested for discharge to a Tier 3 (Outstanding National Resource Water) water of the United States?

(•) Yes ( ) No

If yes, answer 1) and 2):

1) Name of Tier 3 water(s): Lake Pend Oreille, Pend Oreille River, and the Clark Fork River delta in Bonner County, Idaho.

2) Provide rationale for determination that pesticide discharge is necessary to protect water quality, the environment, and/or public health and that any such discharge will not degrade water quality or will degrade water quality only on a short-term or temporary basis:

Same rationale for all Pesticide management areas

8. Water Quality Impaired Waters

Operators are not eligible for coverage under this permit for any discharges from a pesticide application to Waters of the United States if the waters are identified as impaired by a substance which is either an active ingredient the pesticide designated for use or is a degradate of such an active ingredient. See Part 1.1.2.1 of the PGP.

[x] Waters are NOT impaired by any substance which is either an active ingredient of a pesticide to be discharged or a degradate of such an active ingredient

[ ] Waters are on a current state list as being impaired by a substance which is either an active ingredient of a pesticide to be discharged or a degradate of such an active ingredient; however, evidence is attached documenting that the waters are no longer impaired.

D. Endangered Species Protection: Complete Section D for each Pest Management Area for which coverage under EPA's Pesticide General Permit is desired. Copy this section for non-electronic submissions.

1. Federally Listed Threatened or Endangered Species (i.e., Species) and/or Federally Designated Critical Habitat

- [x] A. Pesticide application activities will not result in a point source discharge to any receiving water identified in Appendix XXX as containing NMFS-listed resources of concern for this permit.
- [ ] B. Pesticide application activities for which permit coverage is being requested will discharge to one or more receiving waters containing NMFS-listed resources of concern, but consultation with NMFS under section 7 of the ESA has been concluded for pesticide application activities covered under this permit. Consultations can be either formal or informal, and would have occurred only as a result of a separate federal action. The consultation addressed the effects of pesticide discharges and discharge-related activities on federally-listed threatened or endangered species and federally-designated critical habitat, and must have resulted in either:

  i. A biological opinion finding no jeopardy to federally-listed species or destruction/adverse modification of federally-designated critical habitat; or

  ii. Written concurrence from NMFS with a finding that the pesticide discharges and discharge-related activities are not likely to adversely affect federally-listed species or federally-designated critical habitat.
- [ ] C. Pesticide application activities for which permit coverage is being requested will discharge to one or more receiving waters containing NMFS-listed resources of concern, but pesticide application activities are authorized through the issuance of a permit under section 10 of the ESA, and authorization addresses the effects of the pesticide discharges and discharge-related activities on federally-listed species and federally-designated critical habitat.
- [ ] D. Pesticide application activities were, or will be, performed in areas with NMFS-listed resources but only in response to a declared pest emergency situation.
- [ ] E. Pesticide application activities for which permit coverage is being requested will discharge to one or more receiving waters containing NMFS-listed resources of concern. Eligible discharges include those from pesticide application activities performed consistent with appropriate measures to avoid or eliminate the likelihood of adverse effects as provided in writing from NMFS, and the Operator provides EPA with the required relevant supporting information from NMFS.
- [ ] F. Pesticide application activities for which permit coverage is being requested will discharge to one or more receiving waters containing NMFS-listed resources of concern. Eligible discharges include those from pesticide application activities that are demonstrated not likely to adversely affect federally-listed species or their designated critical habitat.

C. Operator Information: Complete Section C for each Pest Management Area for which coverage under EPA's Pesticide General Permit is desired. Copy this section for non-electronic submissions.

Pest Management Area # 4 #of ## 7

1. Pest Management Area Name: Priest River Recreation Area

Provided a map of the location of the Pest Management Area for this use (attach map), or describe the location of the Pest Management Area in detail.

See Attached Map

2. Are any of your activities for which you are requesting coverage under this NOI occur on Indian Country?

( ) Yes (•) No

If yes, identify the reservation or otherwise describe those areas:

3. Are any of your activities (in this pest management area) for which you are requesting coverage under this NOI considered 'federal facilities' as defined by the PGP?

[x] Yes [ ] No

4. Mailing address and contact information (or check here 0 if same as provided in Section B):

a. Street: 2376 E Hwy 2

b. City: Oldtown c. State: Idaho d. ZIP Code: 83822

e. Telephone: 2084373133 f. Fax:

g. Contact Name: Joshua Stearns

h. E-mail: joshua.j.stearns@usace.army.mil

5. Pesticide Use Patterns to be included in this Pest Management Area (check all that apply):

[ ] Mosquitoes and Other Flying Insect Pests
[ ] Animal Pest Control
[x] Weeds and Algae
[ ] Forest Canopy Pests

6. Receiving Waters (check one):

( ) Coverage requested for all waters of the United States within the Pest Management Area identified above.
(•) Coverage requested specifically for the following waters of the United States within the Pest Management Area identified above.
( ) Coverage requested for all waters of the United States within the Pest Management Area identified above except for:

Lake Pend Oreille, Pend Oreille River, and the Clark Fork River delta in Bonner County, Idaho.

7. Tier 3 Waters

Is coverage requested for discharge to a Tier 3 (Outstanding National Resource Water) water of the United States?

(•) Yes ( ) No

If yes, answer 1) and 2):

1) Name of Tier 3 water(s): Lake Pend Oreille, Pend Oreille River, and the Clark Fork River delta in Bonner County, Idaho.

2) Provide rationale for determination that pesticide discharge is necessary to protect water quality, the environment, and/or public health and that any such discharge will not degrade water quality or will degrade water quality only on a short-term or temporary basis:

Same rationale for all PMA.

8. Water Quality Impaired Waters

Operators are not eligible for coverage under this permit for any discharges from a pesticide application to Waters of the United States if the waters are identified as impaired by a substance which is either an active ingredient the pesticide designated for use or is a degradate of such an active ingredient. See Part 1.1.2.1 of the PGP.

[x] Waters are NOT impaired by any substance which is either an active ingredient of a pesticide to be discharged or a degradate of such an active ingredient

[ ] Waters are on a current state list as being impaired by a substance which is either an active ingredient of a pesticide to be discharged or a degradate of such an active ingredient; however, evidence is attached documenting that the waters are no longer impaired.

D. Endangered Species Protection: Complete Section D for each Pest Management Area for which coverage under EPA's Pesticide General Permit is desired. Copy this section for non-electronic submissions.

1. Federally Listed Threatened or Endangered Species (i.e., Species) and/or Federally Designated Critical Habitat

- [x] A. Pesticide application activities will not result in a point source discharge to any receiving water identified in Appendix XXX as containing NMFS-listed resources of concern for this permit.
- [ ] B. Pesticide application activities for which permit coverage is being requested will discharge to one or more receiving waters containing NMFS-listed resources of concern, but consultation with NMFS under section 7 of the ESA has been concluded for pesticide application activities covered under this permit. Consultations can be either formal or informal, and would have occurred only as a result of a separate federal action. The consultation addressed the effects of pesticide discharges and discharge-related activities on federally-listed threatened or endangered species and federally-designated critical habitat, and must have resulted in either:

  i. A biological opinion finding no jeopardy to federally-listed species or destruction/adverse modification of federally-designated critical habitat; or

  ii. Written concurrence from NMFS with a finding that the pesticide discharges and discharge-related activities are not likely to adversely affect federally-listed species or federally-designated critical habitat.
- [ ] C. Pesticide application activities for which permit coverage is being requested will discharge to one or more receiving waters containing NMFS-listed resources of concern, but pesticide application activities are authorized through the issuance of a permit under section 10 of the ESA, and authorization addresses the effects of the pesticide discharges and discharge-related activities on federally-listed species and federally-designated critical habitat.
- [ ] D. Pesticide application activities were, or will be, performed in areas with NMFS-listed resources but only in response to a declared pest emergency situation.
- [ ] E. Pesticide application activities for which permit coverage is being requested will discharge to one or more receiving waters containing NMFS-listed resources of concern. Eligible discharges include those from pesticide application activities performed consistent with appropriate measures to avoid or eliminate the likelihood of adverse effects as provided in writing from NMFS, and the Operator provides EPA with the required relevant supporting information from NMFS.
- [ ] F. Pesticide application activities for which permit coverage is being requested will discharge to one or more receiving waters containing NMFS-listed resources of concern. Eligible discharges include those from pesticide application activities that are demonstrated not likely to adversely affect federally-listed species or their designated critical habitat.

C. Operator Information: Complete Section C for each Pest Management Area for which coverage under EPA's Pesticide General Permit is desired. Copy this section for non-electronic submissions.

Pest Management Area # 5 #of ## 7

1. Pest Management Area Name: Riley Creek Recreation Area

Provided a map of the location of the Pest Management Area for this use (attach map), or describe the location of the Pest Management Area in detail.

See Attached Map

2. Are any of your activities for which you are requesting coverage under this NOI occur on Indian Country?

( ) Yes (•) No

If yes, identify the reservation or otherwise describe those areas:

3. Are any of your activities (in this pest management area) for which you are requesting coverage under this NOI considered 'federal facilities' as defined by the PGP?

[x] Yes [ ] No

4. Mailing address and contact information (or check here 0 if same as provided in Section B):

a. Street:	2376 E Hwy 2				
b. City:	Oldtown	c. State:	Idaho	d. ZIP Code:	83822
e. Telephone:	2084373133	f. Fax:			
g. Contact Name:	Joshua Stearns				
h. E-mail:	joshua.j.stearns@usace.army.mil				

5. Pesticide Use Patterns to be included in this Pest Management Area (check all that apply):

[ ] Mosquitoes and Other Flying Insect Pests
[ ] Animal Pest Control
[x] Weeds and Algae
[ ] Forest Canopy Pests

6. Receiving Waters (check one):

( ) Coverage requested for all waters of the United States within the Pest Management Area identified above.
(•) Coverage requested specifically for the following waters of the United States within the Pest Management Area identified above.
( ) Coverage requested for all waters of the United States within the Pest Management Area identified above except for:

Lake Pend Oreille, Pend Oreille River, and the Clark Fork River delta in Bonner County, Idaho.

7. Tier 3 Waters

Is coverage requested for discharge to a Tier 3 (Outstanding National Resource Water) water of the United States?

(•) Yes ( ) No

If yes, answer 1) and 2):

1) Name of Tier 3 water(s): Lake Pend Oreille, Pend Oreille River, and the Clark Fork River delta in Bonner County, Idaho.

2) Provide rationale for determination that pesticide discharge is necessary to protect water quality, the environment, and/or public health and that any such discharge will not degrade water quality or will degrade water quality only on a short-term or temporary basis:

Same rationale for all PMAs.

8. Water Quality Impaired Waters

Operators are not eligible for coverage under this permit for any discharges from a pesticide application to Waters of the United States if the waters are identified as impaired by a substance which is either an active ingredient the pesticide designated for use or is a degradate of such an active ingredient. See Part 1.1.2.1 of the PGP.

[x] Waters are NOT impaired by any substance which is either an active ingredient of a pesticide to be discharged or a degradate of such an active ingredient

[ ] Waters are on a current state list as being impaired by a substance which is either an active ingredient of a pesticide to be discharged or a degradate of such an active ingredient; however, evidence is attached documenting that the waters are no longer impaired.

D. Endangered Species Protection: Complete Section D for each Pest Management Area for which coverage under EPA's Pesticide General Permit is desired. Copy this section for non-electronic submissions.

1. Federally Listed Threatened or Endangered Species (i.e., Species) and/or Federally Designated Critical Habitat

- [x] A. Pesticide application activities will not result in a point source discharge to any receiving water identified in Appendix XXX as containing NMFS-listed resources of concern for this permit.
- [ ] B. Pesticide application activities for which permit coverage is being requested will discharge to one or more receiving waters containing NMFS-listed resources of concern, but consultation with NMFS under section 7 of the ESA has been concluded for pesticide application activities covered under this permit. Consultations can be either formal or informal, and would have occurred only as a result of a separate federal action. The consultation addressed the effects of pesticide discharges and discharge-related activities on federally-listed threatened or endangered species and federally-designated critical habitat, and must have resulted in either:

  i. A biological opinion finding no jeopardy to federally-listed species or destruction/adverse modification of federally-designated critical habitat; or

  ii. Written concurrence from NMFS with a finding that the pesticide discharges and discharge-related activities are not likely to adversely affect federally-listed species or federally-designated critical habitat.
- [ ] C. Pesticide application activities for which permit coverage is being requested will discharge to one or more receiving waters containing NMFS-listed resources of concern, but pesticide application activities are authorized through the issuance of a permit under section 10 of the ESA, and authorization addresses the effects of the pesticide discharges and discharge-related activities on federally-listed species and federally-designated critical habitat.
- [ ] D. Pesticide application activities were, or will be, performed in areas with NMFS-listed resources but only in response to a declared pest emergency situation.
- [ ] E. Pesticide application activities for which permit coverage is being requested will discharge to one or more receiving waters containing NMFS-listed resources of concern. Eligible discharges include those from pesticide application activities performed consistent with appropriate measures to avoid or eliminate the likelihood of adverse effects as provided in writing from NMFS, and the Operator provides EPA with the required relevant supporting information from NMFS.
- [ ] F. Pesticide application activities for which permit coverage is being requested will discharge to one or more receiving waters containing NMFS-listed resources of concern. Eligible discharges include those from pesticide application activities that are demonstrated not likely to adversely affect federally-listed species or their designated critical habitat.

C. Operator Information: Complete Section C for each Pest Management Area for which coverage under EPA's Pesticide General Permit is desired. Copy this section for non-electronic submissions.

Pest Management Area # 6 #of ## 7

1. Pest Management Area Name: Springy Point Recreation Area

Provided a map of the location of the Pest Management Area for this use (attach map), or describe the location of the Pest Management Area in detail.

See attached map

2. Are any of your activities for which you are requesting coverage under this NOI occur on Indian Country?

( ) Yes (•) No

If yes, identify the reservation or otherwise describe those areas:

3. Are any of your activities (in this pest management area) for which you are requesting coverage under this NOI considered 'federal facilities' as defined by the PGP?

[x] Yes [ ] No

4. Mailing address and contact information (or check here 0 if same as provided in Section B):

a. Street: 2376 E Hwy 2

b. City: Oldtown c. State: Idaho d. ZIP Code: 83822

e. Telephone: 2084373133 f. Fax:

g. Contact Name: Joshua Stearns

h. E-mail: joshua.j.stearns@usace.army.mil

5. Pesticide Use Patterns to be included in this Pest Management Area (check all that apply):

[ ] Mosquitoes and Other Flying Insect Pests
[ ] Animal Pest Control
[x] Weeds and Algae
[ ] Forest Canopy Pests

6. Receiving Waters (check one):

( ) Coverage requested for all waters of the United States within the Pest Management Area identified above.
(•) Coverage requested specifically for the following waters of the United States within the Pest Management Area identified above.
( ) Coverage requested for all waters of the United States within the Pest Management Area identified above except for:

Lake Pend Oreille, Pend Oreille River, and the Clark Fork River delta in Bonner County, Idaho.

7. Tier 3 Waters

Is coverage requested for discharge to a Tier 3 (Outstanding National Resource Water) water of the United States?

(•) Yes ( ) No

If yes, answer 1) and 2):

1) Name of Tier 3 water(s): Lake Pend Oreille, Pend Oreille River, and the Clark Fork River delta in Bonner County, Idaho.

2) Provide rationale for determination that pesticide discharge is necessary to protect water quality, the environment, and/or public health and that any such discharge will not degrade water quality or will degrade water quality only on a short-term or temporary basis:

Same rationale for all PMAs.

8. Water Quality Impaired Waters

Operators are not eligible for coverage under this permit for any discharges from a pesticide application to Waters of the United States if the waters are identified as impaired by a substance which is either an active ingredient the pesticide designated for use or is a degradate of such an active ingredient. See Part 1.1.2.1 of the PGP.

[x] Waters are NOT impaired by any substance which is either an active ingredient of a pesticide to be discharged or a degradate of such an active ingredient

[ ] Waters are on a current state list as being impaired by a substance which is either an active ingredient of a pesticide to be discharged or a degradate of such an active ingredient; however, evidence is attached documenting that the waters are no longer impaired.

D. Endangered Species Protection: Complete Section D for each Pest Management Area for which coverage under EPA's Pesticide General Permit is desired. Copy this section for non-electronic submissions.

1. Federally Listed Threatened or Endangered Species (i.e., Species) and/or Federally Designated Critical Habitat

- [x] A. Pesticide application activities will not result in a point source discharge to any receiving water identified in Appendix XXX as containing NMFS-listed resources of concern for this permit.
- [ ] B. Pesticide application activities for which permit coverage is being requested will discharge to one or more receiving waters containing NMFS-listed resources of concern, but consultation with NMFS under section 7 of the ESA has been concluded for pesticide application activities covered under this permit. Consultations can be either formal or informal, and would have occurred only as a result of a separate federal action. The consultation addressed the effects of pesticide discharges and discharge-related activities on federally-listed threatened or endangered species and federally-designated critical habitat, and must have resulted in either:

  i. A biological opinion finding no jeopardy to federally-listed species or destruction/adverse modification of federally-designated critical habitat; or

  ii. Written concurrence from NMFS with a finding that the pesticide discharges and discharge-related activities are not likely to adversely affect federally-listed species or federally-designated critical habitat.
- [ ] C. Pesticide application activities for which permit coverage is being requested will discharge to one or more receiving waters containing NMFS-listed resources of concern, but pesticide application activities are authorized through the issuance of a permit under section 10 of the ESA, and authorization addresses the effects of the pesticide discharges and discharge-related activities on federally-listed species and federally-designated critical habitat.
- [ ] D. Pesticide application activities were, or will be, performed in areas with NMFS-listed resources but only in response to a declared pest emergency situation.
- [ ] E. Pesticide application activities for which permit coverage is being requested will discharge to one or more receiving waters containing NMFS-listed resources of concern. Eligible discharges include those from pesticide application activities performed consistent with appropriate measures to avoid or eliminate the likelihood of adverse effects as provided in writing from NMFS, and the Operator provides EPA with the required relevant supporting information from NMFS.
- [ ] F. Pesticide application activities for which permit coverage is being requested will discharge to one or more receiving waters containing NMFS-listed resources of concern. Eligible discharges include those from pesticide application activities that are demonstrated not likely to adversely affect federally-listed species or their designated critical habitat.

C. Operator Information: Complete Section C for each Pest Management Area for which coverage under EPA's Pesticide General Permit is desired. Copy this section for non-electronic submissions.

Pest Management Area # 7 #of ## 7

1. Pest Management Area Name: Trestle Creek Recreation Area

Provided a map of the location of the Pest Management Area for this use (attach map), or describe the location of the Pest Management Area in detail.

See attached map

2. Are any of your activities for which you are requesting coverage under this NOI occur on Indian Country?

( ) Yes (•) No

If yes, identify the reservation or otherwise describe those areas:

3. Are any of your activities (in this pest management area) for which you are requesting coverage under this NOI considered 'federal facilities' as defined by the PGP?

[x] Yes [ ] No

4. Mailing address and contact information (or check here 0 if same as provided in Section B):

a. Street: 2376 E Hwy 2

b. City: Oldtown c. State: Idaho d. ZIP Code: 83822

e. Telephone: 2084373133 f. Fax:

g. Contact Name: Joshua Stearns

h. E-mail: joshua.j.stearns@usace.army.mil

5. Pesticide Use Patterns to be included in this Pest Management Area (check all that apply):

[ ] Mosquitoes and Other Flying Insect Pests [ ] Animal Pest Control

[x] Weeds and Algae [ ] Forest Canopy Pests

6. Receiving Waters (check one):

( ) Coverage requested for all waters of the United States within the Pest Management Area identified above.

(•) Coverage requested specifically for the following waters of the United States within the Pest Management Area identified above.

( ) Coverage requested for all waters of the United States within the Pest Management Area identified above except for:

Lake Pend Oreille, Pend Oreille River, and the Clark Fork River delta in Bonner County, Idaho.

7. Tier 3 Waters

Is coverage requested for discharge to a Tier 3 (Outstanding National Resource Water) water of the United States?

(•) Yes ( ) No

If yes, answer 1) and 2):

1) Name of Tier 3 water(s): Lake Pend Oreille, Pend Oreille River, and the Clark Fork River delta in Bonner County, Idaho.

2) Provide rationale for determination that pesticide discharge is necessary to protect water quality, the environment, and/or public health and that any such discharge will not degrade water quality or will degrade water quality only on a short-term or temporary basis:

Same rationale for all PMA's

8. Water Quality Impaired Waters

Operators are not eligible for coverage under this permit for any discharges from a pesticide application to Waters of the United States if the waters are identified as impaired by a substance which is either an active ingredient the pesticide designated for use or is a degradate of such an active ingredient. See Part 1.1.2.1 of the PGP.

[x] Waters are NOT impaired by any substance which is either an active ingredient of a pesticide to be discharged or a degradate of such an active ingredient

[ ] Waters are on a current state list as being impaired by a substance which is either an active ingredient of a pesticide to be discharged or a degradate of such an active ingredient; however, evidence is attached documenting that the waters are no longer impaired.

D. Endangered Species Protection: Complete Section D for each Pest Management Area for which coverage under EPA's Pesticide General Permit is desired. Copy this section for non-electronic submissions.

1. Federally Listed Threatened or Endangered Species (i.e., Species) and/or Federally Designated Critical Habitat

- [x] A. Pesticide application activities will not result in a point source discharge to any receiving water identified in Appendix XXX as containing NMFS-listed resources of concern for this permit.
- [ ] B. Pesticide application activities for which permit coverage is being requested will discharge to one or more receiving waters containing NMFS-listed resources of concern, but consultation with NMFS under section 7 of the ESA has been concluded for pesticide application activities covered under this permit. Consultations can be either formal or informal, and would have occurred only as a result of a separate federal action. The consultation addressed the effects of pesticide discharges and discharge-related activities on federally-listed threatened or endangered species and federally-designated critical habitat, and must have resulted in either:

  i. A biological opinion finding no jeopardy to federally-listed species or destruction/adverse modification of federally-designated critical habitat; or

  ii. Written concurrence from NMFS with a finding that the pesticide discharges and discharge-related activities are not likely to adversely affect federally-listed species or federally-designated critical habitat.
- [ ] C. Pesticide application activities for which permit coverage is being requested will discharge to one or more receiving waters containing NMFS-listed resources of concern, but pesticide application activities are authorized through the issuance of a permit under section 10 of the ESA, and authorization addresses the effects of the pesticide discharges and discharge-related activities on federally-listed species and federally-designated critical habitat.
- [ ] D. Pesticide application activities were, or will be, performed in areas with NMFS-listed resources but only in response to a declared pest emergency situation.
- [ ] E. Pesticide application activities for which permit coverage is being requested will discharge to one or more receiving waters containing NMFS-listed resources of concern. Eligible discharges include those from pesticide application activities performed consistent with appropriate measures to avoid or eliminate the likelihood of adverse effects as provided in writing from NMFS, and the Operator provides EPA with the required relevant supporting information from NMFS.
- [ ] F. Pesticide application activities for which permit coverage is being requested will discharge to one or more receiving waters containing NMFS-listed resources of concern. Eligible discharges include those from pesticide application activities that are demonstrated not likely to adversely affect federally-listed species or their designated critical habitat.

E. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. On the basis of my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further certify that the applicant has sufficient title, right, or interest in the property where the proposed activity occurs.

Printed Name: Joshua J Stearns

Title: Environmental Compliance Coordinator

E-Mail: joshua.j.stearns@usace.army.mil

Signature/Responsible Official: Joshua J Stearns Date: 02/13/2020

NOI Preparer (Complete if NOI was prepared by someone other than the certifier)

Prepared by: Joshua J Stearns

Organization: US Army Corps of Engineers, Albeni Falls Dam

Phone: (208) 437-3133 Date: 02/05/2020

E-Mail: joshua.j.stearns@usace.army.mil

Appendix D

United States Department of the Interior
FISH AND WILDLIFE SERVICE

Idaho Fish and Wildlife Office
3232 W. Nursery Road
Coeur d'Alene, Idaho 83815
https://www.fws.gov/office/idaho-fish-and-wildlife

In Reply Refer To:
FWS/R1/ES/IFWO/2023-0009437

November 14, 2022

Laura Boerner
U.S. Army Corps of Engineers, Seattle District
Planning, Environmental, and Cultural Resources Branch
4735 East Marginal Way South, Building 1202
Seattle, Washington 98134-2388

Subject: 10-Year Treatment Program to Control Invasive Aquatic Weeds (2023-2032) and Continued Studies in Aquatic Weed Control in Lake Pend Oreille and the Pend Oreille River – Bonner County, Idaho – Concurrence

Dear Laura Boerner:

This letter responds to the U.S. Army Corps of Engineers, Seattle District's (USACE) request for the U.S. Fish and Wildlife Service's (Service) concurrence on effects of the subject action to species and habitats listed under the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.; [Act]). USACE's request dated June 13, 2022, and received by the Service on the same day, included a biological assessment entitled *Biological Assessment for the 10-year Program to Control Invasive Aquatic Weeds and Biological Assessment for Continued Studies in Aquatic Weed Control* (Assessment). An updated biological assessment was received by the Service on September 27, 2022. Information contained in the Assessment is incorporated here by reference.

Through the Assessment, the USACE determined that the proposed action may affect but is not likely to adversely affect bull trout (*Salvelinus confluentus*) or its critical habitat. The Service concurs with the USACE's determination for bull trout and its critical habitat and presents our rationale below. USACE also determined that the proposed action will have no effect on the Canada lynx (*Lynx canadensis*) and grizzly bear (*Ursus arctos horribilis*). The regulations implementing section 7 of the Act do not require the Service to review or concur with no effect determinations. However, the Service does appreciate being informed of your determination for these species.

On July 5, 2022, the U.S. District Court of the Northern District Court of California vacated the 2019 regulations implementing section 7 of the Act. On September 21, 2022, the Ninth Circuit Court of Appeals granted a request to stay the U.S. District Court of Northern California's July 5, 2022, order that vacated the 2019 regulations. As a result, the 2019 regulations are again in effect, and the Service has relied upon the 2019 regulations in issuing our written concurrence on the action agency's "may affect, not-likely-to-adversely-affect" determination. However, because the outcome of the legal challenges to the 2019 regulations is still unknown, we

considered whether our substantive analyses and conclusions would have been different if the pre-2019 regulations were applied in this informal consultation. Our analysis included the prior definitions of "effects of the action." We considered all the "direct and indirect effects" and the "interrelated and interdependent activities" when determining the "effects of the action." We then considered whether any "effects of the action" that overlap with applicable ranges of listed species and designated critical habitat would be wholly beneficial, insignificant, or discountable to the species and designated critical habitat. As a result, we determined the analysis and conclusions would have been the same, irrespective of which regulations applied.

Proposed Action

The proposed action contains four individual proposals that make up the 10-year comprehensive weed control program, to begin in 2023 and run through 2032. The program is designed to treat aquatic invasive species including Eurasian watermilfoil (*Myriophyllum spicatum*), hybridized milfoil (a genetic cross between Eurasian watermilfoil and native northern milfoil [*Myriphyllum sibericum*]), flowering rush (*Butomus umbellatus*), and other aquatic weeds on multiple in-water and seasonally exposed USACE-administered sites in Lake Pend Oreille, Pend Oreille River, and the Clark Fork River delta in Bonner County, Idaho. The weed program will also determine the efficacy of each of the proposed treatment methods through a monitoring program.

Proposed Action 1
The first proposed action is a ten-year treatment program for the control of Eurasian watermilfoil using chemical, mechanical, and manual treatment methods. This is a continuation of USACE's previous treatment plan (2018-2022; 01EIFW00-2018-I-0995). Total acres treated for invasive watermilfoil would vary annually during the project timeframe but would not exceed 1,000 combined acres per year including the other three proposed actions detailed in the Assessment.

Chemical treatments-Chemical treatments will include the application of the three active ingredients triclopyr (Renovate®), fluridone (Sonar® PR), and diquat dibromide (Reward™). Herbicide application methods will include hand application, boom systems, and submersed injection methods. Herbicides will be applied on dry land, lakebeds, shorelines, and in-water. Application of triclopyr will typically involve liquid formulations. The granular version will be used in areas with rapid water exchange to achieve longer residence time (i.e., effectiveness). Fluridone will be applied in granular form around water intake areas that have heavy watermilfoil infestations. Three to four follow up applications may occur over an eight-week period. Diquat dibromide will be applied in select areas infested with hybrid milfoil that have shown resistance to fluridone and triclopyr. Some weed species may require an additional application during the treatment season.

Manual treatments-The manual treatments will include diver or hand dredging. It will only occur when lake and river conditions are safe for diving and only in highly recreated areas that have small infestations of milfoil, including boat docks, swimming areas, and the Priest River Recreation Area. Divers operating portable dredging equipment will hand pull weeds from the lake bottom and place in the suction heads. The weeds will then be suctioned up to a small boat or barge where they are separated from the sediment slurry. The plant material will be taken to a

facility for disposal, and the slurry will be returned to the water column. All dredging operations will be conducted by Bonner County with plant materials disposed at their facility.

Mechanical treatments-The mechanical treatments will include the use of benthic screens. They will be used to prevent further infestation from weeds. The screens are constructed from 10 ft^2 pieces of geotextile material or gas permeable fabric fitted to a PVC frame that is filled with sand. The screens are then placed on the lakebed and secured by pins or sandbags. Installation will occur prior to lake levels rising in spring or placed by divers in areas of high watermilfoil infestations in water from 3 to 15 feet below Ordinary High Water Mark (OHWM). The screens will be removed no later than November 30 of each year.

Proposed Action 2
The second proposed action is a ten-year treatment plan for the control of flowering rush on up to 100 acres of bare ground (i.e., lakebeds) one week prior to inundation as the lake levels rise in the spring. These areas will be treated with the active ingredient imazapyr (Habitat®) with application from a boom mounted on an all-terrain vehicle or a Marsh Master®.

Proposed Action 3
The third proposed action is a ten-year treatment plan to use the aquatic formulation of glyphosate (Rodeo®) on the boom system of the Clark Fork Drift Facility. This facility directs drift through a series of booms and into a holding facility. It is located on the right bank of the Clark Fork River delta at the mouth of the river as it enters Lake Pend Oreille and is spread upstream for over three river miles. Invasive weeds growing on the boom system including flowering rush, reed canarygrass (*Phalaris arundinacea*), and yellow-flag iris (*Iris pseudacorus*) reduce the efficiency of the facility by causing the booms to ride lower in the water. Applications will be made by hand from a boat using backpack and boat mounted sprayers and will occur during the summer when the lake is at high pool. Treatments are expected to take 30 days to complete.

Proposed Action 4
The fourth proposed action includes two field research actions on up to 300 of the total 1,000 treatment acres per year. Each proposed action would be for ten-years pending results and will be designed to test the efficacy of one relatively new herbicide active ingredient (florpyrauxifen-benzyl) and one new herbicide formulation (AquaStrike™). Additional background information on these new herbicides can be found in the Assessment (pp. 23-24).

The first research action will test the use of florpyrauxifen-benzyl to control Eurasian watermilfoil and hybrid milfoil in high density infestation areas. Treatments will target flowering rush and Eurasian watermilfoil growing in waters 3-12 ft deep. Applications will be conducted by boat using weighted hoses to distribute herbicide to submerged plants. Prior to treatment, quantitative vegetation surveys will be conducted and study plots established. Water temperature, dissolved oxygen, and pH will be monitored before and after treatment.

The second research project will test the ability of AquaStrike™ to control Eurasian watermilfoil, hybrid milfoil, and flowering rush. The study will treat up to 200 acres per year,

generally across multiple small treatment areas. Treatments will be conducted from a boat using a submersed injection system.

The proposed action is fully described in the Assessment (pp. 18-24).

Proposed best management practices (Assessment pp. 31-34) that are intended to minimize effects to bull trout and its critical habitat include but are not limited to:

- All in-water work will occur from July 15 to August 31 when water temperatures are expected to be above 20°C. If treatments occur in designated spawning and rearing (SR) habitat, the work window will be July 15 to August 15.
- All applicators will be certified and carry a Spill Prevention and Control Plan and a spill kit. Equipment refueling will not occur within 100 feet of water.
- Only aquatic approved herbicides will be used within 15 feet of live water.
- All herbicide treatments will follow the chemical manufacturer's recommend application rates, safety precautions, and application guidelines outlined on the label.
- Methods for application of aquatic glyphosate (Rodeo®) will follow the 2013 Programmatic Biological Opinion for Aquatic Restoration Activities in the States of Oregon, Washington, and Portions of California, Idaho, and Nevada (01EOFW00-2013-F-0090, pp. 43-46).
- Monitoring will occur during and after treatments. If distressed fish are observed during monitoring, treatments will be stopped.
- Treatments with AquaStrike™ will be limited to up to half of the water body and have a minimum of 14 days between treatments.
- Treatments with imazapyr will only occur in the dry when reservoir water levels are below the treatment area and will occur no later than one week prior to inundation (approximately April 1).
- All dredging treatments will stop if divers operating equipment observe salmonid fish in the treatment area.
- Diver dredging will avoid the mouths of spawning streams by a minimum of 1,000 feet.
- Study sites for the new herbicide studies will be isolated from other treated areas of the program to prevent contamination from other herbicides.

Species and Habitat Presence

Bull Trout
The action area includes Lake Pend Oreille, which has 15 local populations of bull trout (i.e., Grouse Creek, Lightning Creek, Rattle Creek, Char Creek, East Fork Creek, Savage Creek, Morris Creek, Porcupine Creek, Wellington Creek, Strong Creek, Trestle Creek, Johnson Creek, Granite Creek, North Gold Creek, and Gold Creek). Sub-adult and adult bull trout may use Lake Pend Oreille and the Lake Pend Oreille River in the action area seasonally for foraging, migration, and overwintering.

While bull trout can be found throughout the waters in the action area year-round, they generally prefer the colder, deeper, and open waters within rivers, streams, and the pelagic zones of lakes, as their habitat requires cold water temperatures (Battin et al. 2007, pp. 6672-6673; Rieman et al. 2007, p. 1552). Because bull trout are primarily found in colder water, temperature plays an

important role in determining habitat quality with spawning habitats generally characterized by temperatures that drop below 9 °C in the fall (Fraley and Shepard 1989, p. 137; Pratt 1992, p. 5; Rieman and McIntyre 1993, p. 2).

Bull Trout Critical Habitat
The action area includes the Lake Pend Oreille Core Area and the Clark Fork River Basin Critical Habitat Unit of the Columbia Headwaters Recovery Unit. Lake Pend Oreille and the Pend Oreille River are designated bull trout foraging, migration, and overwintering (FMO) critical habitat. The action area includes the USACE administered Trestle Creek Recreation Area, which is within the Trestle Creek spawning and rearing (SR) habitat. Additional SR habitats include Granite Creek, Gold Creek, Johnson Creek, North Gold Creek, and Strong Creek and all drain into Lake Pend Oreille. The action area is greater than 1,000 feet from these habitats.

Potential Impacts and Effects from the Proposed Action

Bull Trout

Proposed Action 1
This action has the potential to affect bull trout through chemical contamination, increased turbidity, and noise.

Chemical contamination - Three different herbicides (triclopyr, fluridone, and diquat dibromide) will be applied directly into the water on an annual basis for the next 10 years, potentially affecting bull trout that may be in or nearby the treatment areas as chemical contamination could distress or kill them. Bull trout are not expected to be in or near the treatment sites during or immediately after treatment because chemical treatments will only be conducted between July 15 and August 31 when water temperatures are likely to be at or above 20°C (the temperature that is considered to preclude bull trout presence, USFWS 2016, p. 9). If any bull trout are in or near the action area during the proposed action or if herbicides are still present shortly after the work window, bull trout would be able to readily avoid the activity by moving to other unaffected areas of the lake (USFWS 2016, pp. 8-9). Also, as bull trout tend to be more active at night (Downs *et al*. 2006), working during the day when the fish are in deeper parts of the lake will help limit these impacts. These herbicides are generally considered to have low to moderate toxicity to fish when applied at the labeled rates, according to the Assessment (pp. 43-44). The following information on the environmental fate of these herbicides is from the Assessment (pp. 25-30). Persistence of triclopyr is relatively short with a half-life of 0.5 to 3 days. Photodegradation typically occurs within the first 0.5 days and up to 1.2 days. Triclopyr does not bioaccumulate in sportfish or bottom feeding species and does not accumulate in the soil. Fluridone is soluble in water and degrades through photolysis and microbial processes, thus limiting exposure to aquatic organisms. Diquat dibromide does not degrade or hydrolyze and is resistant to microbial degradation in water. However, it is rapidly absorbed by plant tissue, adsorbed to soil, and is not expected to contaminate ground water. The half-life of diquat dibromide is 48 hours in water but may persist in sediment up to 160 days after application due to its limited bioavailability. While diquat dibromide may accumulate in sediments overtime, additional applications well beyond the scope of this proposed action would be needed to exceed

the soil's ability to bind the chemical (sorptive capacity) and cause it to release back into the water column. Any possible lethal toxic effects to bull trout are not expected to occur due to the rapid rates of herbicide degradation and dispersal. Finally, USACE biologists and researchers have never observed distressed fish or fish kills during past herbicide treatments since 2010 (Assessment, p. 28). Therefore, effects from chemical exposure to bull trout are expected to be insignificant.

Turbidity - Diver dredging, benthic barriers, and periodic maintenance will be employed in select high public-use areas between July 15 and August 31 when water temperatures are high enough to preclude bull trout presence. Periodic maintenance includes the inspection and removal of sediment from the screens during the treatment period to ensure they remain on the bottom of the lake. These mechanical and manual activities have the potential to affect bull trout through increased turbidity. While any sediment slurry returned to the water column from dredging activities may increase turbidity, it is expected to be minor and temporary settling out overnight due to both the small portable dredge size and small daily work areas. Therefore, the effects of turbidity to bull trout are expected to be insignificant because bull trout are unlikely to be in the action area during the work window, the activities will be brief and intermittent, and any bull trout present will likely move out of the treatment area.

Noise - Diver dredging, benthic barriers, and periodic maintenance will be employed in select high public-use areas between July 15 and August 31 when water temperatures are high enough to preclude bull trout presence. Periodic maintenance includes the inspection and removal of sediment from the screens during the treatment period to ensure they remain on the bottom of the lake. These mechanical and manual activities have the potential to affect bull trout through increased noise. A temporary increase in noise may be associated with the diver dredging and installation of the benthic barriers. Conducting work during daylight hours when bull trout are less likely to be near the action area will minimize the potential effects of sound. Any bull trout that are present in the action area are expected to either be unaffected by the relatively low decibel levels of noise or move away into nearby areas with similar habitat; therefore, bull trout growth and survival will not be affected. Therefore, the effects to bull trout are expected to be insignificant because noise will be minor, short-term, and any bull trout present will likely move out of the treatment area.

Finally, there should be no direct impacts to bull trout from these mechanical control treatments because: (1) the divers will hand pull weeds and place them in the suction hoses, (2) the water and material that will be suctioned will not pass through an impeller, and (3) all dredging activities will stop if bull trout are observed in the area.

Proposed Action 2
The application of imazapyr to bare ground has the potential to affect bull trout through chemical exposure if the herbicide contacts the species or the nearby waters it occupies. However, these applications will only occur on bare ground prior to the lake level rising. These treatment areas are also expected to remain dry for at least one week prior to inundation. Once inundated, the treatment areas will remain shallow habitat for up to six weeks. Based on previous lake level trends, these shallow habitats generally experience warmer water temperatures that preclude bull trout. If bull trout are nearby, they will likely avoid these treatment areas due to the warm,

unsuitable habitat. Furthermore, imazapyr has very low toxicity to fish and invertebrates and has a short half-life of three to five days in surface water (Assessment pp. 29-30). Thus, given the timing of the treatments, the herbicide's low toxicity and its short half-life, and that bull trout are unlikely to use these shallow and warm areas, the effects of chemical contamination to bull trout are expected to be discountable.

Proposed Action 3

The application of aquatic glyphosate (Rodeo®) has the potential to affect bull trout through chemical contamination. This herbicide will be applied annually using backpack and boat mounted hand sprayers to invasive vegetation growing on the above-water surfaces of the boom system in the Clark Fork Drift Facility. These applications will not be made directly to the water. Rodeo® is a low-toxicity, broad-spectrum herbicide formulated for use in and around aquatic sites. It does not require the use of a surfactant, which contributes to its low toxicity. It is highly soluble in water, has a half-life greater than 35 days, and is primarily degraded by microbes in the sediment. Although it is possible that some residual amounts of herbicide will make its way into the water, the treatments will be conducted when water temperatures are thought to preclude bull trout presence (temperature above 20°C and between July 15 and August 31). Thus, bull trout are not expected to be in or near the boom system areas during or immediately after treatment as the water will be shallow and warm. If any bull trout were to be in or near these areas during the treatment, and if Rodeo® were to enter the water column and/or still be present at the site beyond the work window, bull trout would be able to readily avoid the disturbance by moving to other unaffected areas of the lake or the Clark Fork River (USFWS 2016, pp. 8-9). In addition, this herbicide is considered to have low toxicity to fish when applied at the labeled rates (Neskovic et al. 1996, entire; Ecology 2017, p. 142). Any possible lethal toxic effects to bull trout are not expected to occur due to the rapid rates of herbicide degradation and dispersal, and likely absence of bull trout from the areas. USACE biologists and researchers have never observed distressed fish or fish kills during past herbicide treatments since 2010 (Assessment, p. 28). Therefore, effects from chemical contamination to bull trout are expected to be insignificant.

Proposed Action 4

Two research trials will involve in-water applications of two herbicides and have the potential to impact bull trout through exposure to chemicals. In-water applications for both herbicides will occur between July 15 and August 31 when water temperatures are likely to be at or above 20°C (considered to preclude bull trout presence). As such, bull trout are not expected to be in or near the study areas during or immediately after treatment. Further, if any bull trout are in or near the treatment sites during the proposed actions, or if the herbicides are still present at the site beyond the work window, bull trout would be able to readily avoid the disturbance by moving to other unaffected areas of the lake (USFWS 2016, pp. 8-9). Active monitoring of fish activity will occur during treatment and if distressed fish are observed, all treatment activities will stop. Post-treatment monitoring will include weed treatment response and effects to water quality to determine any potential impacts to sensitive fish species. Florpyrauxifen-benzyl (Ecology 2017, pp. 44-45, 51) and endothall (Ecology 2001, pp. 46-47), are considered to have very low toxicity to fish, and diquat dibromide (Pimentel 1971, pp. 104-105) is considered to have moderate toxicity to fish when applied at the labeled rates. Florpyrauxifen-benzyl also rapidly degrades in both soil and aqueous environments and has a half-life of two to six days in water and 2.5 to 34 days in aerobic soil. Any possible lethal toxic effects to bull trout are not expected to occur due

to the rapid rates of herbicide degradation, dispersal, and likely absence of bull trout from the site. As per the Assessment, USACE biologists and researchers have corroborated this assumption by observing no distressed fish or fish kills during past herbicide treatments since 2010. Although endothall has the potential to create anoxic (oxygen deficient) environments when used in densely infested areas, limiting treatments to one third to one half of the study area and a two-week waiting period between treatments will limit anoxic conditions and reduce any potential impacts to bull trout (USEPA 2014, p. 4). In addition, the proximity of treatment areas to flowing rivers and streams will replenish dissolved oxygen (Assessment, p. 41). Therefore, effects from chemical contamination to bull trout are expected to be insignificant.

Bull Trout Critical Habitat
The Service described the physical or biological features (PBF) of designated critical habitat that are essential to the conservation of bull trout (USFWS 2010, pp. 63928-63929). The proposed action may affect four of the nine bull trout PBFs including: PBF 3 (Abundant Food Base), PBF 4 (Complex Habitats), PBF 8 (Water Quality/Quantity), and PBF 9 (Nonnative Fish Species).

Proposed Acton 1
This action has the potential to affect bull trout critical habitat through chemical contamination and increased turbidity.

Chemical contamination - Chemical contamination has the potential to affect PBF 3, 8, and 9. The application of the three herbicides has the potential to impact PBF 8 by contaminating ground water and subsurface flow and degrading water quality that may impede reproductive, growth, and survival of bull trout. However, all three herbicides degrade quickly in the water column, and while diquat dibromide may accumulate in sediment, there is a very low risk of re-release into the water column within the scope of the proposed action due to its high sorptive capacity. Therefore, impacts to PBF 8 will be insignificant. Further, the proposed action will reduce undesirable habitat features by promoting increased native plant and aquatic organism biodiversity (PBF 3) and reducing cover available to nonnative predatory species (PBF 9). Impacts to bull trout prey species, particularly aquatic macroinvertebrates, may result from the proposed action, but the overall quantity and availability of forage should not experience an appreciable reduction due to the small relative impact of the action area in relation to the large size of the lake and abundance of forage found throughout (PBF3). Secondly, the proposed action has the potential to benefit bull trout habitat by improving water quality over the long-term (PBF 8). Finally, the proposed action has the potential to benefit bull trout habitat by reducing nonnative predator cover (PBF 9). Therefore, application of these three herbicides is expected to have insignificant effects to bull trout critical habitat PBF 3 and beneficial effects to PBF 8 and 9.

Turbidity - The manual and mechanical treatments have the potential to increase turbidity and affect bull trout food base (PBF 3) by reducing vegetation cover and composition and water quality (PBF 8). While the removal of invasive plants along the bottom of the lake may affect the food sources for bull trout by reducing potential habitat for invertebrates, these effects will be minor and temporary and highly localized within the treatment area. In addition, the removal of invasive plants will allow for the establishment and recolonization of native plants, thus benefiting PBF 3. Additionally, given the small footprint in relation to the size of the lake and

Pend Oreille River, bull trout would still have ample foraging habitat outside the treatment areas. The installation of the barriers and diver dredging activities will result in an increase in turbidity, but these effects will be minor and temporary as the sediment would settle overnight. The effects of disturbing lake sediments will be highly localized, and the sediment will then settle in the treatment areas, providing little impact to the lakebed. Therefore, any effects to critical habitat from diver dredging and benthic barriers will not permanently alter habitat and are expected to have insignificant effects to PBF 8 and beneficial effects to PBF 3.

Proposed Action 2
Chemical contamination from imazapyr application to bare ground has the potential to cause minor negative impacts to PBF 4 (complex habitats) and beneficial impacts to PBF 3 (abundant food base), 8 (water quality), and 9 (nonnative fish species). Imazapyr applications will reduce invasive vegetation and potentially change the shoreline complexity along the banks of the lake and river. The localized treatments will be small in comparison to the lake, Clark Fork, and Pend Oreille rivers. The proposed action will benefit native vegetation by reducing invasive weeds and will not alter other habitat elements (e.g., pools and gradients). Therefore, imazapyr applications are expected to have insignificant effects to PBF 4. Imazapyr will be applied in the dry, and it degrades relatively quickly in the water column. The application may have short-term impacts to PBF 8 as the half-life of imazapyr in water is three to five days and that the application will occur during lake draw down, so imazapyr is not expected to be present as the lake level rises. Therefore, bull trout are not expected to be exposed to imazapyr. If residual imazapyr is present as the lake level rises, bull trout will not be exposed to the temporary degraded water quality because the treatment areas will be too warm, shallow, and not suitable habitat. Finally, the application of imazapyr may have beneficial effects to PBF 3, 8, and 9 by: (1) reducing undesirable habitat features and promoting increased native plant and aquatic organism biodiversity, (2) improving water quality over the long-term, and (3) reducing nonnative predator cover. Therefore, the application of imazapyr is expected to have insignificant effects to PBF 4 and beneficial effects to PBF 3, 8, and 9.

Proposed Action 3
The application of aquatic glyphosate is not expected to impact bull trout critical habitat PBFs since the application will target plants growing on above-water structures and herbicide is not expected to enter the water column. If any bull trout prey species were to be in or near these areas during the treatment, and if the chemical were to enter the water column, the prey species would be able to readily avoid the disturbance by moving to other unaffected areas of the lake or the Clark Fork River. In addition, this herbicide is considered to have low toxicity to fish when applied at the labeled rates. The use of aquatic glyphosate will have minimal impacts to water quality due to the application on surfaces above water and the applicant will use best management practices BMPs (Assessment, pp. 31-33) designed to avoid getting the chemical in the water. Therefore, the application of aquatic glyphosate is expected to have insignificant effects to PBF 3 and 8.

Proposed Action 4
Two research trials will involve in-water application of two herbicides and have the potential to impact PBF 3, 8, and 9 through chemical contamination as discussed above in Proposed Action 1. Florpyrauxifen-benzyl has shown a high degree of selectivity with little to no impacts to native

plants nor toxic effects to aquatic, avian, and mammalian species (Ecology 2017, pp. 39, 43-46, 49-51) and likely will not impact bull trout food base (PBF 3). In addition, florpyrauxifen-benzyl is short-lived in water and degrades moderately quickly with a half-life of 15 days on average, and is, therefore, not expected to affect ground water (Ecology 2017, pp. 42, 48) or water quality (PBF 8). The proposed action has the potential to reduce invasive weed cover used by nonnative predatory fish (PBF 9), potentially benefiting bull trout in the long-term. Therefore, any effects of florpyrauxifen-benzyl on PBF 3 and 8 are expected to be insignificant with beneficial effects to PBF 9. While diquat dibromide may accumulate in sediment, there is a very low risk of re-release into the water column within the scope of the proposed action due to its high sorptive capacity.

Endothall exhibits little to no chemical contamination impacts on aquatic, avian, and mammalian species (Ecology 2001, pp. 129-130); therefore, it is not likely to impact bull trout forage (PBF 3). Because endothall has a half-life of 5 to 10 days, is broken down by microbial activity in 30 to 60 days, has low sorptive capabilities, and is rarely persistent in water (Ecology 2001, p. 75), application will have minor and limited impacts to water quality (PBF 8) by reducing dissolved oxygen. However, these effects will be temporary and localized to a relatively small area of the lake. Finally, both research trials will include post-treatment monitoring of water quality parameters that may impact bull trout habitat.

Given that the actions proposed will have minor chemical contamination impacts to water quality and forage (PBF 8 and PBF 3) and may in fact reduce undesirable habitat features by promoting increased native plant and aquatic organism biodiversity, improving water quality, and reducing ambush predator cover, this proposed action has the potential to improve bull trout habitat over the long-term. Therefore, application of florpyrauxifen-benzyl and endothall is expected to have insignificant effects to PBF 3 and 8, and beneficial effects to PBF 9.

Concurrence

Based on the Service's review of the Assessment, we concur with USACE's determination that the action outlined in the Assessment, may affect, but is not likely to adversely affect bull trout or its designated critical habitat. This concurrence is based on the proposed action's design and best management practices that reduce impacts of the proposed action to bull trout and its critical habitat to insignificant and discountable levels.

This concludes informal consultation. Further consultation pursuant to section 7(a)(2) of the Act is not required. Reinitiation of consultation on this action may be necessary if: (1) new information reveals effects of the action that may affect listed species or designated critical habitat in a manner or to an extent not considered in the assessment, (2) the action is subsequently modified in a manner that causes an effect to listed species or critical habitat that was not considered in the analysis, or (3) a new species is listed or critical habitat designated that may be affected by the proposed action.

Thank you for your continued interest in the conservation of threatened and endangered species. If you have any questions regarding this consultation, please contact Matt Lewis of this office at matthew_lewis@fws.gov.

Sincerely,

Patricia C. Johnson-Hughes

For Sandi Fisher
Acting State Supervisor

cc:
IDFG, Panhandle Region (Horsmon)

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Appendix E

May 31, 2023

Taylor Johnson
Chief, Natural Resources
U.S. Army Corps of Engineers – Seattle District
Albeni Falls Dam

Sent via email to: Taylor.M.Johnson@usace.army.mil

RE: Albeni Falls 10-year control plan for invasive aquatic plants

Dear Mr. Johnson,

The Kalispel Tribe depends on the Pend Oreille River and the resources it has provided our people throughout time. The water supply for the Kalispel Tribe comes from the river and it is especially important that cumulative impacts of intentional discharge of the pesticides into the lake and river be considered and eliminated to the greatest extent possible.

We are supportive of the dry-ground herbicide approach to Flowering Rush control, but the Corps should only apply pesticides in the water where it is absolutely necessary for project operations and essential shoreline access and not use aquatic pesticides for repeated chemical mowing of milfoil.

We would like to see an evaluation of the historical in-water applications with a determination of effectiveness of the lasting control achieved by the aquatic pesticide applications. Based on that evaluation there should be an update in the plan to the necessity and scope of continued in-water applications. We would also like to have a follow-up meeting to further to discuss the updated evaluation of in-water pesticide application practices.

Please feel to contact me or Ken Merrill of my staff at kmerrill@kalispeltribe.com if you have any questions and to coordinate the follow-up meeting to review the in-water pesticide use evaluation.

Regards,

Deane Osterman, Executive Director
Kalispel Natural Resources Department
dosterman@kalispetribe.com

cc via email: Kathy Cousins, katherine.l.cousins@usace.army.mil
Melissa Leslie, melissa.l.leslie@usace.army.mil