



**US Army Corps
of Engineers®**

Walla Walla District

DRAFT SUPPLEMENT TO THE PROGRAMMATIC ENVIRONMENTAL ASSESSMENT

Federal Participation in Watercraft Inspection Stations and Rapid Response Actions to Protect the Columbia River Basin

Prepared in response to Section 104 of the River and Harbor Act of 1958, as amended by Section 1039(d) of the Water Resources Reform and Development Act of 2014 and Section 1178 of the Water Infrastructure Improvements for the Nation Act of 2016 and the Water Resources and Development Act of 2018



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Table of Contents

1	Introduction:.....	1
1.1	Purpose And Need:.....	2
1.2	Reference Documents:	2
1.3	Authority And Guidance:	2
2	Alternatives.....	4
2.1	Alternative 1 - Continue Under The Current Cost Share Program With Idaho, Montana, Oregon, And Washington.....	5
2.2	Alternative 2 (Proposed Action): Geographically Expand The Cost-Share Program To Include Watercraft Inspections Rapid Response Efforts In Nevada And Wyoming.....	6
2.2.1	Action Area	6
2.2.2	Station Locations:.....	7
2.2.3	Magnitude Of Existing Watercraft Inspection Programs:	11
3	Affected Environment	11
3.1	Aesthetics And Visual Resources	11
3.2	Fisheries And Aquatic Resources	12
3.3	Water Quality	14
3.4	Wildlife Resources:	16
3.5	Threatened And Endangered Species:	17
3.6	Recreation:.....	22
3.7	Cultural Resources:.....	23
3.8	Socioeconomics And Environmental Justice:.....	24
4	Environmental Consequences:.....	26
4.1	Aesthetics And Visula Reosurces	26
4.1.1	Criteria	26
4.1.2	Proposed Geographic Expansion Of Watercraft Inspection Stations.....	26
4.1.3	Proposed Geographic Expansion Of Monitoring.....	26
4.1.4	Proposed Geographic Expansion Of Rapid Response.....	27
4.2	Fisheries/Aquatic Resources.....	27
4.2.1	Criteria	27
4.2.2	Proposed Geographic Expansion Of Watercraft Inspection Stations.....	27
4.2.3	Proposed Geographic Expansion Of Monitoring.....	28
4.2.4	Proposed Geographic Expansion Of Rapid Response.....	28

Supplemental Environmental Assessment Federal Participation in Watercraft Inspection Stations and Rapid Response Actions to protect the Columbia River Basin

4.3	Water Quality	29
4.3.1	Criteria	29
4.3.2	Proposed Geographic Expansion Of Watercraft Inspection Stations.....	29
4.3.3	Proposed Geographic Expansion Of Monitoring.....	29
4.3.4	Proposed Geographic Expansion Of Rapid Response	29
4.4	Wildlife	30
4.4.1	Criteria	30
4.4.2	Proposed Geographic Expansion Of Watercraft Inspection Stations.....	30
4.4.3	Proposed Geographic Expansion Of Monitoring.....	30
4.4.4	Proposed Geographic Expansion Of Rapid Response	30
4.5	Threatened And Endangered Species	31
4.5.1	Criteria	31
4.5.2	Proposed Geographic Expansion Of Watercraft Inspection Stations.....	31
4.5.3	Proposed Geographic Expansion Of Monitoring.....	31
4.5.4	Proposed Geographic Expansion Of Rapid Response	31
4.6	Recreation.....	32
4.6.1	Criteria	32
4.6.2	Proposed Geographic Expansion Of Watercraft Inspection Stations.....	32
4.6.3	Proposed Geographic Expansion Of Monitoring.....	33
4.6.4	Proposed Geographic Expansion Of Rapid Response	33
4.7	Cultural And Historical Resources.....	33
4.7.1	Criteria	33
4.7.2	Proposed Geographic Expansion Of Watercraft Inspection Stations, Monitoring, And Rapid Response	33
4.8	Socioeconomics And Environmental Justice.....	34
4.8.1	Criteria	34
4.8.2	Proposed Geographic Expansion Of Watercraft Inspection Stations, Monitoring, And Rapid Response	34
4.9	Cumulative Effects	34
4.10	Climate Change Analysis	35
4.10.1	Proposed Action Alternative.....	36
5	Compliance With Applicable Environmental Laws And Regulations	37
5.1	Federal Laws.....	37

Supplemental Environmental Assessment Federal Participation in Watercraft Inspection Stations and Rapid Response Actions to protect the Columbia River Basin

5.1.1	National Environmental Policy Act.....	37
5.1.2	Endangered Species Act	37
5.1.3	Migratory Bird Treaty Act.....	39
5.1.4	National Historic Preservation Act.....	39
5.1.5	Native American Graves Protection And Repatriation Act.....	40
5.1.6	Clean Water Act.....	40
5.2	Executive Orders.....	41
5.2.1	Executive Order 11988, Floodplain Management, May 24, 1977	41
5.2.2	Executive Order 11990, Protection Of Wetlands, May 24, 1996.....	42
5.2.3	Executive Order 12898, Environmental Justice, February 11, 1994	42
5.3	Additional Authority And Guidance.....	42
6	Coordination, Consultation, And Public Involvement.....	44
7	References.....	46

LIST OF FIGURES

Figure 1.	Temperature Impairments in the Columbia and Lower Snake Rivers.	15
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LIST OF TABLES

Table 1.	Measures included in Alternatives 1 and 2.....	6
Table 2.	2018 Watercraft Inspection Stations in Nevada.....	8
Table 3.	2018 Watercraft Inspection Stations in Wyoming.....	9
Table 4.	2018 Watercraft Inspection/Interception Program Data by Select States.....	11
Table 5.	Threatened and Endangered Species in the Action Area.....	18
Table 6.	Education and Income in the Six-State Area.....	25
Table 7.	Racial and Ethnic Identification in the Nevada and Wyoming.. ..	25
Table 8.	State Population Poverty Percent by Age Group.....	26

1 INTRODUCTION

The States of Wyoming and Nevada were recently authorized by the Water Resources and Development Act (WRDA) of 2018 to join the federal cost-share program for watercraft inspections and rapid response planning to further safeguard the Columbia River Basin (CRB) from the establishment of aquatic invasive species, especially zebra (*Dreissena polymorpha*) and quagga mussels (*D. bugensis*), or dreissenids.

The current federal cost-share program, which was implemented in 2017, includes the four state area (FSA) of Washington, Oregon, Idaho, and Montana, where watercraft transported along highways are inspected for the presence of dreissenids and other aquatic invasive species (AIS) and decontaminated when AIS are detected. The foundation for the program began in 2016 when the U.S. Army Corps of Engineers Headquarters (HQUSACE) provided guidance for Northwestern Division (NWD) to undertake an evaluation to determine the locations for establishing watercraft inspection stations in the CRB in the FSA that would provide the greatest likelihood of preventing the spread of AIS at reservoirs operated and maintained by the Corps of Engineers (Corps). The Corps' Walla Walla District prepared the "*Integrated Letter Report and Programmatic Environmental Assessment, Federal Participation in Watercraft Inspection Stations, Columbia River Basin (LR/EA)*" and on March 7, 2017, a Finding of No Significant Impact (FONSI) was signed by the Director of Civil Works. The recommended plan, also known as Alternative 2 in the LR/EA, was identified as the National Economic Development (NED) plan / National Environmental Restoration (NER) plan and was the environmentally preferred alternative. The recommended plan allowed for federal participation in the program and would be cost-shared (50 percent) with each of the four states and would employ a regional strategy to identify locations that would provide the greatest likelihood of preventing the spread of AIS to reservoirs operated and maintained by the Corps in the CRB.

To include Wyoming and Nevada in the federal cost-share program, and in compliance with the National Environmental Policy Act (NEPA), Engineer Regulation (ER) 200-2-2, *Procedures for Implementing NEPA* and the Council on Environmental Quality (CEQ) *Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act* (Title 40 of the CFR Parts 1500-1508), the Corps' Walla Walla District prepared this Supplemental Environmental Assessment (EA) to analyze the potential environmental effects of expanding the watercraft inspection station and rapid response program. If such effects are found to be relatively minor, a FONSI would be issued and the Corps would proceed with the federal action. If the environmental effects are significant according to the CEQ's criteria (40 CFR 1508.27), an Environmental Impact Statement (EIS) would be prepared before a decision is reached to expand the cost-share program.

The inclusion of Wyoming and Nevada would augment the existing program by increasing the number of inspection stations and increasing the likelihood dreissenids would be detected before entering the CRB, as well as providing a plan for rapid response measures in the event of new detections.

1.1 PURPOSE AND NEED:

The federal proposed action is to incorporate Wyoming and Nevada in the watercraft inspection cost-share program and assist with funding to establish more watercraft inspection stations and to establish and execute, if need be, a rapid response plan should dreissenids be detected. The purpose of the proposed action is to delay the spread of dreissenids to reservoirs operated and maintained by the Corps within the CRB and it would be conducted in collaboration with regional partners as part of a larger, comprehensive defense strategy to protect water bodies in the CRB, pursuant to Section 104 of the River and Harbor Act (RHA) of 1958 (33 U.S.C 610).

The effort would include Corps engagement in monitoring and contingency planning in accordance with Section 104(e) of the RHA which may include developing risk assessments, early detection and monitoring of AIS, and rapid response in the event of a detection.

The proposed action is needed because the risk of the spread of AIS to rivers and Corps reservoirs in the CRB is high, and the introduction and establishment of AIS (particularly dreissenids) has the potential to cause damage and increased operation and maintenance costs to water-related infrastructure, recreation, and the ecosystem. Dreissenids present a direct threat to Corps authorized purposes including hydropower, navigation, and fish and wildlife mitigation. Once a waterway is infected, dreissenids can reproduce rapidly and spread.

1.2 REFERENCE DOCUMENTS

- a. ER 200-2-2 (33 CFR 230) Environmental Quality Procedures for Implementing the National Environmental Policy Act
- b. 40 CFR 1500-1508 Regulations for the Procedural Provisions of the National Environmental Policy Act
- c. Final Integrated Letter Report and Programmatic Environmental Assessment, March 2017
- d. Dreissenid Mussel Rapid Response Action Plan and Programmatic Environmental Assessment, November 2019

1.3 AUTHORITY AND GUIDANCE

This document was prepared pursuant to Section 104 of the River and Harbor Act (RHA) of 1958 (33 United States Code [U.S.C.] 610), as amended by Section 1039(d) of the Water Resources Reform and Development Act (WRRDA) of 2014 (Public Law 113-121) and Section 1178 of the Water Infrastructure Improvements for the Nation Act (WIIN Act) of 2016 (Public Law 114-322). The Water Resources and Development Act (WRDA) of 2018 (Public Law 113-121) added the authority to include the States of Wyoming and Nevada. Section 104 of the RHA reads:

Control of aquatic plant growths.

(a) In general.

(1) In general. There is hereby authorized a comprehensive program to provide for prevention, control, and progressive eradication of noxious aquatic plant growths and aquatic invasive species from the navigable waters, tributary streams, connecting channels, and other allied waters of the United States, in the combined interest of navigation, flood control, drainage, agriculture, fish and wildlife conservation, public health, and related purposes, including continued research for development of the most effective and economic control measures, to be administered by the Chief of Engineers, under the direction of the Secretary of the Army, in cooperation with other Federal and State agencies.

(2) Local interests. Local interests shall agree to hold and save the United States free from claims that may occur from control operations and to participate to the extent of 30 per centum of the cost of such operations.

(3) Federal costs. Costs for research and planning undertaken pursuant to the authorities of this section shall be borne fully by the Federal Government.

(b) Authorizations and Appropriations. There is authorized to be appropriated to carry out this section \$110,000,000 for each fiscal year, of which

- (A) \$30,000,000 shall be made available to carry out subsection (d)(1)(A)(i).
- (B) \$30,000,000 shall be made available to carry out subsection (d)(1)(A)(ii); and
- (C) \$30,000,000 shall be made available to carry out subsection (d)(1)(A)(iii).

(2) Control operations.--Any funds made available under paragraph (1) to be used for control operations shall be allocated by the Chief of Engineers on a priority basis, based on the urgency and need of each area and the availability of local funds."; and

(c) Support. In carrying out the program under this section, the Secretary is encouraged to use contracts, cooperative agreements, and grants with colleges and universities and other non-Federal entities.

(d) Watercraft inspection stations. In general. In carrying out this section, the Secretary shall establish (as applicable), operate, and maintain new or existing watercraft inspection stations

- (i) to protect the Columbia River Basin
- (ii) to protect the Upper Missouri River Basin
- (iii) to protect the Upper Colorado River Basin and South Platte and Arizona River Basins.

(B) Locations.--The Secretary shall establish watercraft inspection stations under subparagraph (A) at locations with the highest likelihood of preventing the spread of aquatic invasive species at reservoirs operated and maintained by the Secretary, as determined

by the Secretary in consultation with States within the areas described in subparagraph (A).

(C) Rapid response.--The Secretary shall assist States within the areas described in subparagraph (A) with rapid response to any aquatic invasive species, including quagga or zebra mussel, infestation."

(2) Cost share. The non-Federal share of the cost of constructing, operating, and maintaining watercraft inspection stations described in paragraph (1) (including personnel costs) shall be—

(A) 50 percent; and

(B) provided by the State of local governmental entity in which such inspection station is located.

(3) Coordination. In carrying out this subsection, the Secretary shall consult and coordinate with—

(A) the Governors of the States within the areas described in each of clauses (i) through (iii) of paragraph (1)(A), as applicable;

(B) Indian tribes; and

(C) other Federal agencies, including—

(i) the Department of Agriculture;

(ii) the Department of Energy;

(iii) the Department of Homeland Security;

(iv) the Department of Commerce; and

(v) the Department of the Interior.

(e) Monitoring and contingency planning. In carrying out this section, the Secretary may—

(1) carry out risk assessments of water resources facilities;

(2) monitor for aquatic invasive species;

(3) assist States in early detection of aquatic invasive species, including quagga and zebra mussels; and

(4) monitor water quality, including sediment cores and fish tissue samples.

2 ALTERNATIVES

Section 104 of the RHA of 1958(33 U.S.C. 610), as amended, serves as a guide for determining the range of alternatives to be considered in this supplemental EA. The statutory objectives of the proposed action help to determine the reasonableness of objectives outlined in the NEPA document when an action is taken pursuant to a specific statute.

Two alternatives are evaluated in this EA; Alternative 1, the No Action Alternative (continue under the current cost share program with Idaho, Montana, Oregon, and Washington) and Alternative 2, the Proposed Action Alternative (geographically expand the cost-share program to include watercraft inspections and rapid response efforts in Nevada and Wyoming). The Corp's obligation to consider alternatives in an EA is a lesser one than under an Environmental Impact Statement. Alternatives considered under NEPA must include, at least, the No Action Alternative (which provides a baseline from which to compare other alternatives) and the Proposed Action Alternative. It is

acceptable to limit analysis to only these two alternatives when the federal action is a response to an authorization from Congress. Consequently, only the No Action and Proposed Action Alternative were analyzed further.

The Proposed Action Alternative would still be constrained by available funding, but provides more of a framework for an annual adaptive planning process with input provided by the Corps. The measures listed are ones that were developed and analyzed through prior experience by the states.

The No Action Alternative does not satisfy the purpose and need, but NEPA requires analysis of the No Action Alternative to set the baseline from which to compare the proposed action alternative.

2.1 Alternative 1 - Continue under the current cost share program with Idaho, Montana, Oregon, and Washington

The No Action Alternative is made up of all measures identified in Section 3.5 of the 2017 Final Integrated Letter Report and Programmatic Environmental Assessment is outlined in Table 4 (USACE 2017). Additional details regarding the specific of rapid response planning are found in the 2019 Dreissenid Mussel Rapid Response Action Plan and Programmatic Environmental Assessment (UACE 2019). The No Action Alternative assumes the Corps would partner with the States of Idaho, Montana, Oregon, and Washington and their agencies using Federal funding to expand and support existing state programs, resulting in increased effectiveness in the watercraft inspection and monitoring program to decrease the vulnerability of a dreissenid infestation. In coordination with their regional partners, the four states would use the data gathered during the inspection season to develop a strategy and make adjustments to the program to provide a more effective regional defense.

The Preferred Alternative of the 2017 report – the Comprehensive Adaptive Improvements alternative - also includes monitoring, contingency planning, and rapid response planning for Corps facilities and reservoirs. Table 1 outlines the measures included in the 2017 report, which compose the No Action Alternative.

Additionally, under the No Action Alternative the Corps would implement a cost share program for rapid response with the states according to the provisions of the Draft USACE Dreissenid Rapid Response Action Plan (Plan) (USACE 2019). The Plan provides specific types of treatment actions that may be implemented by the Corps or cooperating or adopting agencies/entities within the states of Idaho, Montana, Oregon, and Washington. The No Action Alternative also includes the federal cost share for treatment and the effects of rapid response actions under the Plan. Those actions include detection area isolation, sample collection, site monitoring, site preparation, fish and wildlife salvage, mussel control, equipment decontamination, any site restoration activities associated with the control action, and implementation of conservation and minimization measures and BMPs to avoid and minimize adverse environmental effects.

Table 1. Measures included in Alternatives 1 and 2.

Measures
Measure 1 – Federal Participation in Selection of Watercraft Inspection Station Locations
Measure 2 – Increase Watercraft Inspection Stations
Measure 3 – Extend Daylight Inspection Hours
Measure 4 – Increase Nighttime Inspections
Measure 5 – Construct Site Improvements
Measure 6 – Add Canine Detection
Measure 7 – Increase Public Awareness and Education
Measure 9 – Monitor to Identify Water Chemistry
Measure 10– Monitor for Early Detection
Measure 11 – Contingency Planning
Measure 12 – Rapid Response Planning

2.2 Alternative 2 (Proposed Action): Geographically expand the cost-share program to include watercraft inspections, monitoring, and rapid response efforts in Nevada and Wyoming

The Proposed Action Alternative is made up of the same measures identified in the No Action Alternative, but would use federal funding to expand the watercraft inspection, monitoring, and rapid response programs into the states of Wyoming and Nevada. The Proposed Action Alternative would result in increased effectiveness in the watercraft inspection and rapid response programs to decrease the vulnerability of a dreissenid infestation in the CRB.

2.2.1 Action Area

The proposed action area is located within the states of Nevada and Wyoming. In both states the action area for all measures except for rapid response planning and implementation is the entire state. Monitoring for dreissenids could occur in any navigable water body in either state, but would be focused on lakes, reservoirs, and rivers that receive boat traffic. Watercraft inspection would initially be conducted at existing inspection stations – expansion would be through greater and more frequent hours of operation. Ultimately, however, new inspection stations could be established.

For rapid response actions, the proposed action area is restricted to non-federal waters within the boundaries of the CRB. In Nevada the CRB consists primarily of Owyhee River and the Wild Horse Reservoir, and the South Fork Owyhee River. In Wyoming, the CRB consists primarily of Jackson Lake and the Snake River in Wyoming. Much of the Snake River in Wyoming is located within National Parks, Forests, and Refuges. Waters within federally managed lands are not included in the action area.

2.2.2 Station Locations

There were 16 watercraft inspection stations in Nevada in 2018, all outside the Columbia River Basin (Table 2). There were 33 watercraft inspection stations in Wyoming with all but three of the inspection stations outside of the Columbia River Basin (Table 3).

Table 2. 2018 Watercraft Inspection Stations in Nevada

Nevada Locations	Route	CRB	Proposed Opening Date	Proposed Closing Date	Total Days
Cave Rock	Hwy 50	Outside	29-Apr	1-Oct	155
Lahontan Reservoir - Old Marina	Boat Ramp	Outside	4-May	30-Sep	149
Lahontan Reservoir - Silver Springs	Boat Ramp	Outside	15-Apr	30-Sep	168
Lahontan Reservoir at Fallon Entrance	Boat Ramp	Outside	1-May	30-Sep	153
Rye Patch Reservoir at NV State Rec. Area (N. NV)	Boat Ramp	Outside	10-May	30-Sep	142
Colorado River at Big Bend	Roving	Outside	1-May	30-Sep	153
Southfork Reservoir - North Entrance	Boat Ramp	Outside	15-Apr	25-Oct	193
Topaz Lake (N. NV)	Boat Ramp	Outside	15-May	30-Sep	137
Cave Lake: Rover 2	Roving	Outside	1-May	30-Sep	153
Lake Mead NRA - Boulder	Hwy 93	Outside	1-Apr	31-Dec	275
Callville Bay, NV	Boat Ramp	Outside	1-Jan	31-Dec	365
Cottonwood Cove, NV	Boat Ramp	Outside	1-May	15-Sep	138
Lahontan Reservoir at Highway 50	Boat Ramp	Outside	15-Apr	30-Sep	168
Hemenway Harbor, NV	Boat Ramp	Outside	1-Jan	31-Dec	365
Lower Colorado	Roving	Outside	1-May	30-Sep	153
Sparks Marina & Truckee River	Roving	Outside	3-May	31-Jul	89

Table 3. 2018 Watercraft Inspection Stations in Wyoming

Wyoming Locations	Route	CRB	Proposed Opening Date	Proposed Closing Date	Total Days
Alpine	US 89 Port of Entry	Inside	April 1	November 30	244
Frannie	US 310 Port of Entry	Outside	April 1	November 30	244
North Cody	Highway 120	Outside	April 1	November 30	244
Salt Pass Check Station	US 89	Outside	May 25	September 21	120
Teton County Weed and Pest	Jackson, WY	Inside	Year	Round	365; except holidays
Rocky Mountain Sports	Cody, WY	Outside	Year	Round	365; except holidays
Gradient Mountain Sports	Cody, WY	Outside	May 1	October 30	183
Bighorn Canyon Visitor Center	Lovell, WY	Outside	June	August	92
WGFD Jackson Regional Office	Jackson, WY	Inside	Year	Round	365; except holidays
WGFD Pinedale Regional Office	Pinedale, WY	Outside	Year	Round	365; except holidays
WDFG Cody Regional Office	Highway 120	Outside	Year	Round	365; except holidays
WDFG Green River Regional Office	Green River, WY	Outside	Year	Round	365; except holidays
Southeast Wyoming Welcome Center - Cheyenne	Cheyenne, WY	Outside	April 1	November 30	244
Cheyenne	I-80 Port of Entry	Outside	April 1	November 30	244
Laramie	US 287 Port of Entry	Outside	April 1	November 30	244
Torrington	US 26 Port of Entry	Outside	April 1	November 30	244
Medicine Bow National Forest Brush Creek - Hayden Ranger District	Highway 130	Outside	Year	Round	365; except holidays
Seminole State Park	Sinclair, WY	Outside	Year	Round	365; except holidays
Albany County Weed and Pest	Laramie, WY	Outside	October 1	November 30	61

Programmatic Environmental Assessment Federal Participation in Watercraft Inspection Stations and Rapid Response Actions to protect the Columbia River Basin

Wyoming Locations	Route	CRB	Proposed Opening Date	Proposed Closing Date	Total Days
Hack's Tackle	Saratoga, WY	Outside	Year	Round	365; except holidays
Bureau of Land Management Office	Rawlins, WY	Outside	Year	Round	365; except holidays
WDFG Laramie Regional Office	Laramie, WY	Outside	Year	Round	365; except holidays
WGFD Cheyenne Headquarters	Cheyenne, WY	Outside	Year	Round	365; except holidays
Kemmerer Ranger Station	Highway 89	Outside	April 1	November 30	244
Anvil Draw Road at Flaming Gorge Reservoir	Highway 530	Outside	April 1	November 30	244
Evanston	I-80 Port of Entry	Outside	April 1	November 30	244
Glendo Reservoir	Glendo, WY	Outside	April 1	November 30	244
WDFG Lander Regional Office	Lander, WY	Outside	Year	Round	365; except holidays
WDFG Casper Regional Office	Casper, WY	Outside	Year	Round	365; except holidays
Sheridan I-90 Rest Area	I-90 Port of Entry	Outside	Year	Round	365; except holidays
Northeast Wyoming Welcome Center	I-90 - Beulah	Outside	April 1	November 30	244
Empire Guesthouse	Pine Haven, WY	Outside	Year	Round	365; except holidays
WDFG Sheridan Regional Office	Sheridan, WY	Outside	Year	Round	365; except holidays

2.2.3 MAGNITUDE OF EXISTING WATERCRAFT INSPECTION PROGRAMS:

Table 4 identifies the numbers of boats inspected in 2018 and the number of fouled dreissenid boats intercepted. Of the nearly 46,000 documented watercraft that passed through an inspection station, 15 were fouled.

Table 4. 2018 Watercraft Inspection/Interception Program Data by Select States

STATES/ PROVINCES	# BOATS INSPECTED	FOULED DREISSENID BOATS INTERCEPTED
Nevada (Nevada Department of Wildlife)	47,164	16
Wyoming (Wyoming Game and Fish Department)	46,399	15

3 AFFECTED ENVIRONMENT

This section describes the existing affected environment (existing condition of resources). The affected environment reflects the conditions expected during the period of analysis. The affected environment provides the basis for which impacts are assessed.

The affected environment of the proposed action includes both Wyoming and Nevada, where the proposed action would take place, and the CRB, which the proposed action would protect.

The following environmental resources are not listed here in the Affected Environment Section because the Corps determined there would be no environmental effects or consequences on these resources from implementation of either alternative: noise pollution, vegetation, air quality, geology and soils, or hazardous/toxic materials.

The Corps did not identify any conflicts to land-use plans as a result of coordination with the states. The process of selecting locations for watercraft inspection stations (see Section 2.2.3 Magnitude of Existing Watercraft Inspection Stations) accounted for existing land uses.

3.1 AESTHETICS AND VISUAL RESOURCES

Aesthetics or visual resources are the natural and cultural features of the landscape that can be seen and that contribute to people's appreciative enjoyment of the environment. The aesthetic quality of an area is a subjective measure of one's perception of how pleasing an area is.

3.1.1 Watercraft Inspection Stations

Watercraft inspection stations are generally located at boat ramps, highway rest areas, and the parking lots of large sporting goods stores. Current inspection stations operated by the two states and their locations can be found in Table 2 and Table 3. The

visual environment of these areas, while generally not objectionable, is also not noted for outstanding aesthetic features. These areas generally contain paved parking lots of sufficient size to set up an inspection and decontamination station and sufficient vehicular traffic to merit frequent inspection. Boat ramps, however, are necessarily located along waterbodies and may have much higher aesthetic value than other locations. Nevertheless, these areas would not be considered pristine natural areas, or areas that had not been modified for human use.

3.1.2 Monitoring

Monitoring would be conducted in large waterbodies throughout the two states. In Nevada and Wyoming these waterbodies could be reservoirs, terminal lakes, or rivers. These areas typically have a high aesthetic value as people have traditionally valued lakes and rivers for their viewsheds. Additionally, other services offered by lakes, reservoirs, and river, such as fishing, swimming, and boating, are enhanced by the water body's natural beauty (Corrigan, Egan, and Downing 2007).

3.1.3 Rapid Response

Rapid response locations would be primarily located at boat access points along waterbodies in the CRB in the two states – boat ramps, boat basins, marinas, and other similar access points in Wild Horse Reservoir and the Owyhee River in Nevada and Jackson Lake and the Snake River in Wyoming. The visual environment of these locations is generally considered very pleasant, especially by the more frequent users and members of the boating public. However, the majority of these locations would not be considered pristine natural areas, or areas that had not been modified for human use. Typically, these sites are a mix of natural elements (waterbodies, shoreline, riparian zones) and human elements (roads, parking lots, vehicles, boats, docks, etc.).

The Snake River in Wyoming in general however, is considered to have among the highest quality visual resources in the nation. The Snake River Headwaters, from its origins in Fox Park, flow downstream through the Yellowstone Plateau and the Teton Mountain Range. These landscapes provide spectacular settings that create a distinctive sense of place and draw visitors from all over the world to some of the most iconic parks in the US (NPS 2013). The proposed action area for rapid response would exclude these areas, though monitoring and watercraft inspection could be conducted, especially at boating access sites.

3.2 FISHERIES AND AQUATIC RESOURCES

The CRB provides habitat for hundreds of species of native and non-native aquatic organisms. The CRB has been significantly altered as a result of hydroelectric and agricultural development. Currently there is only a thin band of riparian vegetation along the Columbia River where the natural riparian and floodplain was inundated, although headwaters located in the proposed action area are likely some of the most

intact habitats in the CRB. Historically, the Columbia River may have had a larger riparian area and smaller floodplain.

The most well-known anadromous fish in the CRB are salmonids (salmon, trout, and char). Several agencies monitor salmonid populations due to the ecological and economic importance and declining numbers (warranting the listing of several species on the Endangered Species List). Known as a keystone species (Willson and Halupka 1995), Pacific salmon are a food source for many marine, freshwater, and land animals and provide marine nutrients to freshwater environments post-spawning (Cederholm et al. 1999).

3.2.1 Watercraft Inspection Stations

Watercraft inspection stations are generally located at boat ramps, highway rest stations, and the parking lots of large sporting goods stores. Current inspection stations operated by the two states and their locations can be found in Table 2 and Table 3. These locations are physically removed from fisheries and aquatic resources. Even when inspections take place at boat ramps, they are conducted in the parking lot, and not where aquatic resources could be affected.

3.2.2 Monitoring

Nevada contains over 200 lakes and reservoirs, more than 600 streams and rivers, and a wide variety of aquatic habitats ranging from high mountain streams to terminal desert lakes and man-made reservoirs. Fish species include sport fish such as cutthroat trout, redband trout, bull trout, and mountain whitefish, and many unique nongame species including tui chub, cui-ui, and several ESA-listed pupfish (Deacon and Williams 1984).

Wyoming is home to over 4,000 lakes and 27,000 miles of streams including tributaries of the Colorado and Snake Rivers. Habitats range from mountain streams and alpine lakes to large rivers and reservoirs. Fish species include popular warm and cold water sportfish including trout, walleye, catfish, bass, sunfish, yellow perch, salmon and whitefish, as well as rare nongame species such as Bonytail, Colorado Pikeminnow, Humpback Chub, and Razorback Sucker (Baxter 1995).

Monitoring would most frequently take place in lakes and reservoirs with boat access such as Lake Tahoe, Rye Patch Reservoir, Wild Horse Reservoir, Lake Mead, and Pyramid Lake in Nevada, and Jackson Lake, Yellowstone Lake, Flaming Gorge Reservoir, and Glendo Reservoir in Wyoming. Monitoring is not restricted to these locations and could take place in any state waterbody, but these types of waters are the most likely locations for monitoring for dreissenid mussels.

3.2.3 Rapid Response

Rapid response locations would be primarily located at boat access points along waterbodies in the CRB in the two states – boat ramps, boat basins, marinas, and other

similar access points in Wild Horse Reservoir and the Owyhee River in Nevada and Jackson Lake and the Snake River in Wyoming. Fisheries and aquatic resources in these sections of the CRB are similar to that seen in other upper reaches of the basin. The rivers are home to resident trout and whitefish, while the reservoirs host a mix of resident coldwater species as well as introduced game fish such as perch, bass, catfish, and non-native trout and salmon. Unique cutthroat trout types are found in the Snake River Headwaters, namely including Snake River finespot trout and Yellowstone cutthroat trout. The fish are not genetically distinct, and are not considered subspecies, but are of regional and national significance (Endicott et al. 2016).

3.3 WATER QUALITY

Water quality in the CRB is generally good. The Columbia River carries a large volume of relatively unpolluted surface water. Compared to many other rivers in the United States, there are fewer sources of industrial and municipal wastes. Nevertheless, past studies by federal and state agencies have shown increased levels of heavy metals such as arsenic, lead, cadmium, copper, mercury and zinc, and other contaminants like dioxins and furans in the rivers (Fuhrer 1996). Several factors could be contributing to the water quality issues in the basin, including: (1) nonpoint source additions, (2) water withdrawal for irrigation, (3) impoundments, and (4) point source effluents.

Nonpoint source pollution comes from a wide variety of sources; including irrigation return flows, forestry practices, malfunctioning septic systems, urban runoff, and mining leaches. Agricultural irrigation runoff is the dominant nonpoint source of pollutants in the CRB.

Impoundments (reservoirs) have interrupted the free-flowing river system and altered the seasonal variations in water discharge patterns. Some water quality conditions affected by reservoirs include water temperature, dissolved oxygen, nutrient availability, dispersion of hazardous chemicals, turbidity, and sanitary quality. Water temperatures can increase or decrease downstream of a dam. Compared to natural inflows, large reservoirs typically release cooler water in the spring and summer, and warmer water in the fall and winter.

Waste effluents from municipal and industrial plants can constitute a continuous source of water pollution. Municipal sewage treatment plant effluents primarily affect water bodies in urban areas, while mining wastes can seriously affect aquatic communities in rural areas.

Water temperatures in the Columbia and lower Snake Rivers sometimes approach the upper limits of tolerance for cold water fish, including salmon and steelhead. These warmer temperatures are higher than temperature water quality standards established for the Columbia and lower Snake Rivers by the state regulating agencies in Oregon, Washington, and Idaho; and the Colville and Spokane Tribes. Because of these temperature standard exceedances, both rivers are included on the Clean Water Act

§303(d) lists of impaired waters established by Oregon, Washington, and Idaho (US EPA 2015). The locations of these impaired waters are illustrated in Figure 1.

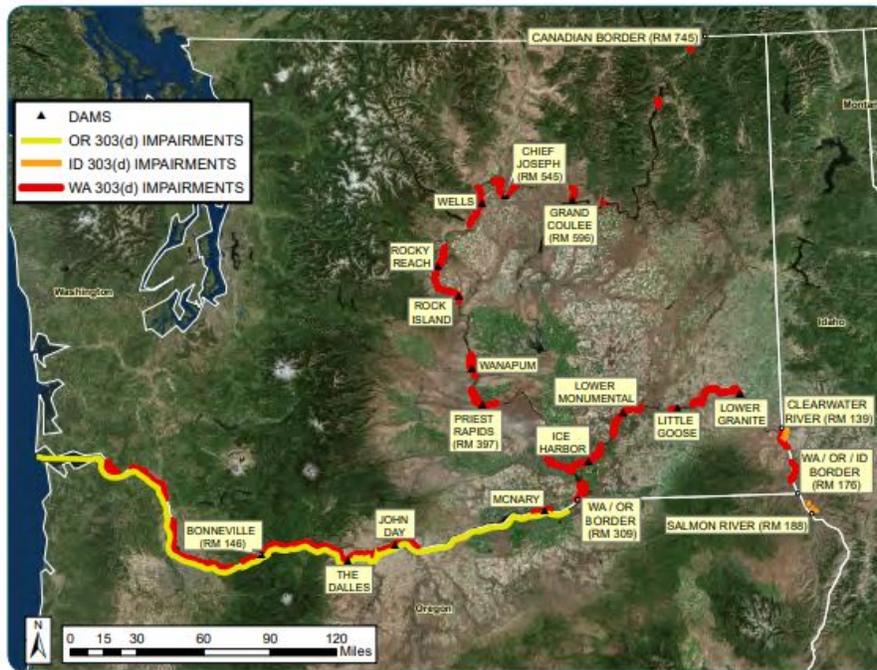


Figure 1. Temperature Impairments in the Columbia and Lower Snake Rivers. Source: EPA 2018.

3.3.1 Watercraft Inspection Stations

Watercraft inspection stations are generally located at boat ramps, highway rest areas, and the parking lots of large sporting goods stores. Current inspection stations operated by the two states and their locations can be found in Table 2 and Table 3. These locations, while near water, are physically removed from water bodies.

3.3.2 Monitoring

Monitoring would most frequently take place in lakes and reservoirs with boat access such as Lake Tahoe, Rye Patch Reservoir, Wild Horse Reservoir, Lake Mead, and Pyramid Lake in Nevada, and Jackson Lake, Yellowstone Lake, Flaming Gorge Reservoir, and Glendo Reservoir in Wyoming. Monitoring is not restricted to these locations and could take place in any state waterbody, but these types of waters are the most likely locations for monitoring for dreissenid mussels. Water quality in reservoirs of Nevada and Wyoming is similar to that of impoundments in the CRB, as discussed above.

3.3.3 Rapid Response

Rapid response locations would be primarily located at boat access points along waterbodies in the CRB in the two states – boat ramps, boat basins, marinas, and other similar access points in Wild Horse Reservoir and the Owyhee River in Nevada and Jackson Lake and the Snake River in Wyoming. Water quality at these locations is similar to that discussed above.

3.4 WILDLIFE RESOURCES

Riparian corridors (rivers, streams, and adjacent lands) are particularly valuable habitats for wildlife. This includes many of what are ordinarily thought of as "upland" species as well as wetland species. Many mammals, birds, and reptiles are dependent on undeveloped, vegetated riparian areas along rivers and streams for movement corridors, hiding cover, hunting, and drinking.

Mammal species dependent upon the habitats provided by rivers, streams and associated ponds and wetlands include mink (*Neovison vison*), muskrat (*Ondatra zibethicus*), river otter (*Lontra canadensis*), American water shrew (*Sorex palustris*), American beaver (*Castor canadensis*), and moose (*Alces alces*). Many other species, however, spend much of their lives within the habitats immediately surrounding the waterways; they are dependent on mixed upland and lowland habitat. Species in this category include everything from raccoon (*Procyon lotor*) to deer (*Odocoileus spp.*), which often forage in the water. Bats often forage on insects above the water. All of these species, as well as many others, occasionally use river corridors as travel routes.

Riparian and wetland habitat provides essential habitat for migrating birds and waterfowl. Many other shorebird species occur along rivers where appropriate mud bars develop. Belted kingfishers (*Megaceryle alcyon*) patrol rivers from the headwaters to the sea in search of small fish. Osprey (*Pandion haliaetus*) flourish along rivers and many species of herons and bittern depend to a large extent on riparian corridors for food, roosting and nesting sites. Bald eagles (*Haliaeetus leucocephalus*) frequent riverine corridors in search of fish and roosting areas. Birds such as cormorants, night herons, and gulls follow river systems for many miles inland in search of good feeding areas. River corridors are also major migration routes for many species of songbirds such as vireos, flycatchers, thrushes, tanagers, and wood warblers.

Reptiles are far less mobile than birds and mammals. Many of the reptiles associated with riparian and wetland habitats in the United States (turtles, snakes, and a few lizards) are the opposites of amphibians in life history strategy. They differ by using riparian and wetland areas for food and cover, but move to the habitat edge or to drier land to deposit eggs (Clark 1979).

3.4.1 Watercraft Inspection Stations

Watercraft inspection stations are generally located at boat ramps, highway rest areas, and the parking lots of large sporting goods stores. Current inspection stations operated by the two states and their locations can be found in Table 2 and Table 3. These locations are developed sites that offer little habitat for wildlife. While wooded areas may be adjacent to highway rest areas, inspections would be conducted only on the developed and paved portions of rest areas.

3.4.2 Monitoring

Monitoring would most frequently take place in lakes and reservoirs with boat access such as Lake Tahoe, Rye Patch Reservoir, Wild Horse Reservoir, Lake Mead, and Pyramid Lake in Nevada, and Jackson Lake, Yellowstone Lake, Flaming Gorge Reservoir, and Glendo Reservoir in Wyoming. Monitoring is not restricted to these locations and could take place in any state waterbody, but these types of waters are the most likely locations for monitoring for dreissenid mussels. Lakes and reservoirs in Nevada and Wyoming provide valuable habitat for wildlife similar to the greater region as discussed above.

3.4.3 Rapid Response

Rapid response locations would be primarily located at boat access points along waterbodies in the CRB in the two states – boat ramps, boat basins, marinas, and other similar access points in Wild Horse Reservoir and the Owyhee River in Nevada and Jackson Lake and the Snake River in Wyoming. The Owyhee River in Nevada and the Snake River Headwaters in Wyoming are both relatively undisturbed systems with high value to wildlife. The Snake River Headwaters in particular is a pristine and unique component of the Greater Yellowstone Ecosystem (NPS 2013).

Rapid response actions within parklands in Wyoming are not covered under this report, and are not part of the proposed action.

3.5 THREATENED AND ENDANGERED SPECIES

The Corps reviewed the lists of threatened and endangered species from the states of Nevada and Wyoming under the jurisdiction of the United States Fish and Wildlife Service (USFWS) on March 17, 2020. The Consultation Codes were 06E13000-2020-SLI-0164, 08EKLA00-2020-SLI-0051, 08ENVD00-2020-SLI-0295, and 08ENVS00-2020-SLI-0086. Table 5 lists the threatened and endangered species in the action area.

As each of the three main elements of the proposed action takes places in distinct regions, not all of the threatened and endangered species are relevant to each action. Table 5 also indicates if a given species may possibly be present in the proposed action area.

Table 5. Threatened and Endangered Species in the Action Area.

Species	State	Status	Watercraft Inspection	Monitoring	Rapid Response
<u>Amphibians</u>					
Sierra Nevada Yellow-legged Frog (<i>Rana sierrae</i>)	NV	Endangered	No	No	No
Wyoming Toad Bufo (<i>hemiphrys baxteri</i>)	WY	Endangered	Yes	No	No
<u>Birds</u>					
Greater Sage-grouse (<i>Centrocercus urophasianus</i>)	NV	Proposed Threatened	No	Yes	No
Least Tern (<i>Sterna antillarum</i>)	WY	Endangered	No	No	No
Piping Plover (<i>Charadrius melodus</i>)	WY	Threatened	No	Yes	No
Southwestern Willow Flycatcher (<i>Empidonax traillii extimus</i>)	NV	Endangered	No	Yes	No
Whooping Crane (<i>Grus Americana</i>)	WY	Endangered	No	No	No
Yellow-billed Cuckoo (<i>Coccyzus americanus</i>)	NV & WY	Threatened	No	Yes	Yes
Yuma Clapper Rail (<i>Rallus longirostris yumanensis</i>)	NV	Endangered	Yes	Yes	No
<u>Conifers</u>					
Whitebark Pine (<i>Pinus albicaulis</i>)	NV & WY	Candidate	No	No	No
<u>Fish</u>					
Ash Meadows Amargosa Pupfish (<i>Cyprinodon nevadensis mionectes</i>)	NV	Endangered	No	Yes	No
Ash Meadows Speckled Dace (<i>Rhinichthys osculus nevadensis</i>)	NV	Endangered	No	Yes	No
Big Spring Spinedace (<i>Lepidomeda mollispinis pratensis</i>)	NV	Threatened	No	Yes	No
Bonytail (<i>Gila elegans</i>)	NV & WY	Endangered	No	Yes	No
Bull Trout (<i>Salvelinus confluentus</i>)	NV	Threatened	No	No	No

*Supplement to the Programmatic Environmental Assessment Federal Participation in Watercraft
Inspection Stations and Rapid Response Actions to protect the Columbia River Basin*

Species	State	Status	Watercraft Inspection	Monitoring	Rapid Response
Clover Valley Speckled Dace (<i>Rhinichthys osculus oligoporus</i>)	NV	Endangered	No	Yes	No
Colorado Pikeminnow (<i>Ptychocheilus lucius</i>)	WY	Endangered	No	Yes	No
Cui-ui (<i>Chasmistes cujus</i>)	NV	Endangered	No	Yes	No
Desert Dace (<i>Eremichthys acros</i>)	NV	Threatened	No	Yes	No
Devils Hole Pupfish (<i>Cyprinodon diabolis</i>)	NV	Endangered	No	No	No
Hiko White River Springfish (<i>Crenichthys baileyi grandis</i>)	NV	Endangered	No	No	No
Humpback Chub (<i>Gila cypha</i>)	WY	Endangered	No	Yes	No
Independence Valley Speckled Dace (<i>Rhinichthys osculus lethoporus</i>)	NV	Endangered	No	Yes	No
Kendall Warm Springs Dace (<i>Rhinichthys osculus thermalis</i>)	WY	Endangered	No	No	No
Lahontan Cutthroat Trout (<i>Oncorhynchus clarkii henshawi</i>)	NV	Threatened	No	Yes	No
Moapa Dace (<i>Moapa coriacea</i>)	NV	Endangered	No	Yes	No
Pahrnagat Roundtail Chub (<i>Gila robusta jordani</i>)	NV	Endangered	No	Yes	No
Pahrump Poolfish (<i>Empetrichthys latos</i>)	NV	Endangered	No	No	No
Paiute Cutthroat Trout (<i>Oncorhynchus clarkii seleniris</i>)	NV	Threatened	No	No	No
Pallid Sturgeon (<i>Scaphirhynchus albus</i>)	WY	Endangered	No	Yes	No
Railroad Valley Springfish (<i>Crenichthys nevadae</i>)	NV	Threatened	No	Yes	No
Razorback Sucker (<i>Xyrauchen texanus</i>)	NV & WY	Endangered	No	Yes	No
Virgin River Chub (<i>Gila seminude</i>)	NV	Endangered	No	Yes	No
Warm Springs Pupfish (<i>Cyprinodon nevadensis pectoralis</i>)	NV	Endangered	No	No	No
Warner Sucker (<i>Catostomus warnerensis</i>)	NV	Threatened	No	No	No

*Supplement to the Programmatic Environmental Assessment Federal Participation in Watercraft
Inspection Stations and Rapid Response Actions to protect the Columbia River Basin*

Species	State	Status	Watercraft Inspection	Monitoring	Rapid Response
White River Spinedace (<i>Lepidomeda albivallis</i>)	NV	Endangered	No	Yes	No
White River Springfish (<i>Crenichthys baileyi baileyi</i>)	NV	Endangered	No	Yes	No
Woundfin (<i>Plagopterus argentissimus</i>)	NV	Endangered	No	Yes	No
<u>Flowering Plants</u>					
Amargosa Niterwort (<i>Nitrophila mohavensis</i>)	NV	Endangered	Yes	No	No
Ash Meadows Blazingstar (<i>Mentzelia leucophylla</i>)	NV	Threatened	Yes	No	No
Ash Meadows Gumplant (<i>Grindelia fraxinipratensis</i>)	NV	Threatened	Yes	No	No
Ash Meadows Ivesia (<i>Ivesia kingii</i> var. <i>eremica</i>)	NV	Threatened	Yes	No	No
Ash Meadows Milk-vetch (<i>Astragalus phoenix</i>)	NV	Threatened	Yes	No	No
Ash Meadows Sunray (<i>Enceliopsis nudicaulis</i> var. <i>corrugate</i>)	NV	Threatened	Yes	No	No
Blowout Penstemon (<i>Penstemon haydenii</i>)	WY	Endangered	Yes	Yes	No
Desert Yellowhead (Yermo <i>xanthocephalus</i>)	WY	Threatened	Yes	Yes	No
Spring-loving Centaury (<i>Centaureum namophilum</i>)	NV	Threatened	Yes	No	No
Steamboat Buckwheat (<i>Eriogonum ovalifolium</i> var. <i>williamsiae</i>)	NV	Endangered	Yes	No	No
Ute Ladies'-tresses (<i>Spiranthes diluvialis</i>)	NV & WY	Threatened	Yes	Yes	Yes
Webber's Ivesia (<i>Ivesia webberi</i>)	NV	Threatened	Yes	No	No
Western Prairie Fringed Orchid (<i>Platanthera praeclara</i>)	WY	Threatened	Yes	Yes	No
<u>Insects</u>					
Ash Meadows Naucorid (<i>Ambrysus amargosus</i>)	NV	Threatened	Yes	No	No
Carson Wandering Skipper (<i>Pseudocopaeodes eunus obscurus</i>)	NV	Endangered	No	No	No
Mount Charleston Blue Butterfly (<i>Icaricia shasta charlestonensis</i>)	NV	Endangered	No	No	No

Supplement to the Programmatic Environmental Assessment Federal Participation in Watercraft Inspection Stations and Rapid Response Actions to protect the Columbia River Basin

Species	State	Status	Watercraft Inspection	Monitoring	Rapid Response
Western Glacier Stonefly (<i>Zapada glacier</i>)	WY	Threatened	No	No	No
<u>Mammals</u>					
Canada Lynx (<i>Lynx canadensis</i>)	WY	Threatened	No	No	No
Gray Wolf (<i>Canis lupus</i>)	NV	Proposed Endangered	No	No	No
Grizzly Bear (<i>Ursus arctos horribilis</i>)	WY	Threatened	No	Yes	Yes
North American Wolverine (<i>Gulo gulo luscus</i>)	NV & WY	Proposed Threatened	No	No	No
Northern Long-eared Bat (<i>Myotis septentrionalis</i>)	WY	Threatened	No	Yes	No
Preble's Meadow Jumping Mouse (<i>Zapus hudsonius preblei</i>)	WY	Threatened	Yes	No	No
<u>Reptiles</u>					
Desert Tortoise (<i>Gopherus agassizii</i>)	NV	Threatened	Yes	Yes	No

3.5.1 Watercraft Inspection Stations

Watercraft inspection stations are generally located at boat ramps, highway rest areas, and the parking lots of large sporting goods stores. Current inspection stations operated by the two states and their locations can be found in Table 2 and Table 3. These locations, while near water, are physically removed from water bodies. Only species that could occur around the inspection stations are considered to be an affected resource. This does not include species that occur in or around the lakes, streams, rivers, wetlands, upland, coastal, or saltwater areas within either Wyoming or Nevada. While boat ramps are located at water bodies, inspections would take place in the parking lots of boat ramps areas, not in the water.

3.5.2 Monitoring

Monitoring would most frequently take place in lakes and reservoirs with boat access such as Lake Tahoe, Rye Patch Reservoir, Wild Horse Reservoir, Lake Mead, and Pyramid Lake in Nevada, and Jackson Lake, Yellowstone Lake, Flaming Gorge Reservoir, and Glendo Reservoir in Wyoming. Monitoring is not restricted to these locations and could take place in any state waterbody, but these types of waters are the most likely locations for monitoring for dreissenid mussels. These locations are physically removed from upland areas. Only the species that could occur near monitoring sites are considered to be an affected resource. This does not include species that exclusively occur away from lakes, rivers, and riparian areas. It also does

not include species that occur in isolated water bodies, such as small desert springs or small terminal basins where monitoring would not occur.

3.5.3 Rapid Response

Rapid response locations would be primarily located at boat access points along waterbodies in the CRB in the two states – boat ramps, boat basins, marinas, and other similar access points in Wild Horse Reservoir and the Owyhee River in Nevada and Jackson Lake and the Snake River in Wyoming. Rapid response actions within parklands in Wyoming are not covered under this report, and are not part of the proposed action. Only species that occur within the CRB within the two states are considered affected resources.

3.6 RECREATION

Nevada and Wyoming provide a variety of opportunities for outdoor recreation, which in turn provides intrinsic value to residents as well as economic opportunities through tourism. While it is difficult to quantify recreation, economic estimates reflect the value placed on outdoor recreation by residents and visitors through the spending and economic activity generated by recreation. In Wyoming, outdoor recreation generates 50,000 jobs, \$5.6 billion in consumer spending, \$1.6 billion in wages, and \$514 billion in state and local tax revenue (Wyoming Business Council 2017). In Nevada, outdoor recreation generates 87,000 jobs, \$12.6 billion in consumer spending, \$4.0 billion in wages, and \$1.1 billion in state and local tax revenue (Outdoor Industry Association 2019).

Recreation facilities and land available for recreation in the Nevada and Wyoming are managed and operated by the Corps, USFWS, local and state recreation agencies, and public port authorities. Recreation sites include parks, rivers, trails, forests, lakes/reservoirs, marinas, boat ramps, and wildlife areas. The Corps owns most of the water-based recreation areas and facilities located along reservoirs and manages many of them. Some Corps-owned facilities are managed under lease agreements by other agencies or organizations.

Research on recreational usage shows that swimming, fishing, and boating occur primarily spring through fall, with prime recreational season from Memorial Day in May to Labor Day in September. Other recreational opportunities that take place around water resources include picnicking, sightseeing, camping, hiking, wildlife viewing, and hunting.

3.6.1 Watercraft Inspection Stations

Watercraft inspection stations are generally located at boat ramps, highway rest areas, and the parking lots of large sporting goods stores. Current inspection stations operated by the two states and their locations can be found in Table 2 and Table 3. These locations are physically removed from recreational areas. However, watercraft

inspections take place during transportation of watercraft, often for recreational purposes. Inspections could also take place in the parking lots of boat ramps, though parking lots are not important areas for recreation, rather they are amenities that can be used to support recreation.

3.6.2 Monitoring

Monitoring would most frequently take place in lakes and reservoirs with boat access such as Lake Tahoe, Rye Patch Reservoir, Wild Horse Reservoir, Lake Mead, and Pyramid Lake in Nevada, and Jackson Lake, Yellowstone Lake, Flaming Gorge Reservoir, and Glendo Reservoir in Wyoming. Monitoring is not restricted to these locations and could take place in any state waterbody, but these types of waters are the most likely locations for monitoring for dreissenid mussels. Lakes and reservoirs in Nevada and Wyoming provide similar recreation opportunities to those in the rest of the CRB.

3.6.3 Rapid Response

Rapid response locations would be primarily located at boat access points along waterbodies in the CRB in the two states – boat ramps, boat basins, marinas, and other similar access points in Wild Horse Reservoir and the Owyhee River in Nevada and Jackson Lake and the Snake River in Wyoming. The Owyhee River in Nevada and the Snake River Headwaters in Wyoming are both relatively undisturbed systems with high value for recreation. Due to the number of river miles and their distribution across a natural landscape largely comprised of public lands, the system allows recreational visitors to establish memorable relationships and a ‘Sense of Place’ with associated emotional bonds, strongly felt values, meanings and symbols. (NPS 2013).

Rapid response actions within parklands in Wyoming are not covered under this report, and are not part of the proposed action.

3.7 CULTURAL AND HISTORIC RESOURCES:

Prehistoric riverine cultures were located along the rivers and tributaries in the CRB up until the middle and late 19th century when they were relocated to reservations (Walker Jr. 1998). During their extensive occupation along the rivers and tributaries of the Columbia River, Native Americans subsisted on the abundant salmon and aquatic resources available. Traditional Cultural Properties (TCPs) and Historical Properties of Religious and Cultural Significance to Indian Tribes (HPRCSITs) reflect important fishing locations and fishing villages native peoples occupied for collecting such resources.

When the first European settlers arrived, the CRB was reformed to support agricultural practices. This, in return, brought more and more settlers to the region and continued to transform the region into the agricultural and industrial superpower it is today. This transformation was aided through the impoundment of water by creating reservoirs

within the major rivers of the CRB. This was done so through the construction of dams, locks and other facilities throughout the CRB. The benefits of water impoundment include water storage for irrigation and flood protection, raising water levels to promote barge navigation, hydroelectric power production, along with many others.

The construction of these structures began as far back as the late 19th century and continued into the mid-20th century, as dams were desired to control the rivers. Many of these dams are complex units with intakes, fish passages, locking mechanisms, and countless other components; all of which can be considered in evaluating their eligibility for the National Register of Historic Places.

Given that cultural resources generally predate 20th century developments like boat ramps and parking lots, the modern history of development has less bearing on the cultural resources of a proposed action area, than it might on other resources. As such, the potential for unique culture resources is similar across the different action area types.

3.8 SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE:

Both Nevada and Wyoming are physically large states with low population density. Nevada is home to 3,080,156 people, as of the July 1, 2019 estimate by the Census Bureau. This figure has grown 14.1% since the 2010 census of 2,700,551. Wyoming is estimated to be home to 578,759 people as of July 1, 2019. Wyoming is not growing as rapidly as Nevada, the population has gone up by 2.7% since the 2010 census, where 563,626 were counted. The main population centers are Las Vegas, Henderson, and Reno, Nevada; and Cheyenne, Wyoming.

Population and Demographics

The population of Wyoming area is less diverse than the national average, while the population of Nevada is fairly representative of the country as a whole (Table 6). Area employment has largely recovered from the national recession in 2008-2010, although unemployment has escalated rapidly in Nevada in early 2020. The insured unemployment rate in Nevada on April 11, 2020 was 16.79% compared to 5.3% in Wyoming and 12.4% nationally (FRED 2020) Wyoming had median household incomes above the national average, while Nevada's median household income was slightly lower.

Table 6. Education and Income in the Six-State Area (U.S. Census Bureau 2016).

	Nevada	Wyoming	U.S.
Persons under 18	22.7%	23.3%	22.4%
Persons Over 65	15.7%	16.5%	16.0%
Percent Minority	54.8%	17.5%	41.8%
High School Graduates	85.8%	92.8%	87.3%
Bachelor's Degree or Higher	23.7%	26.7%	30.9%
Percent In Labor Force	63.6%	67.0%	63.0%
Median Household Income	\$55,434	\$60,938	\$57,652
Persons in Poverty	13.8%	11.3%	11.8%

Environmental Justice

As outlined in Executive Order 12898, federal agencies must evaluate environmental justice issues related to any project proposed for implementation. This evaluation includes identification of minority and low-income populations, identification of any negative project impacts that would disproportionately affect these low-income or minority groups, and proposed mitigation to offset the projected negative impacts. The evaluation of environmental justice issues includes an identification of high minority and low-income populations in the watershed study area.

While less racially diverse than other areas of the country, Wyoming is home to people of a broad variety of races. Nevada, is extremely close to the country as a whole in terms of its racial and ethnic makeup. (Table 7).

Table 7. Racial and Ethnic Identification in the Nevada and Wyoming. Note that percentages do not add to 100, as categories are not mutually exclusive (U.S. Census Bureau 2016).

State	Nevada	Wyoming	USA
White, alone	74.3%	92.6%	76.5%
Black or African American, alone	10.1%	1.3%	13.4%
American Indian and Alaskan Native, alone	1.7%	2.7%	1.3%
Asian, alone	8.7%	1.1%	5.9%
Native Hawaiian and Other Pacific Islander, alone	0.8%	0.1%	0.2%
Hispanic or Latino (may be any race)	29.0%	10.1%	18.3%

Both states have similar poverty levels for seniors over 65. Nevada has a higher percentage of people living in poverty overall, notably higher among those under (Table 8).

Table 8. State Population Poverty Percent by Age Group (U.S. Census Bureau 2016).

Age Group	Nevada	Wyoming
0-17	18.6%	13.0%
18-64	13.0%	11.4%
65+	8.8%	8.0%
All Ages	13.8%	11.3%

4 ENVIRONMENTAL CONSEQUENCES:

This section discusses anticipated effects of the proposed action to the resources described in Section 3 (Affected Environment). The anticipated effects associated with the Proposed Action Alternative are compared to those of the No Action Alternative described in the *Final Integrated Letter Report and Programmatic Environmental Assessment, Federal Participation in Watercraft Inspection Stations, Columbia River Basin* (March 2017) and the *Dreissenid Mussel Rapid Response Action Plan and Programmatic Environmental Assessment* (November 2019).

4.1 AESTHETICS AND VISUAL REOSURCES

4.1.1 Criteria Established to Determine the Significance Threshold

The proposed action would significantly impact the aesthetics if a landscape is changed in a manner that permanently and substantially degrades an existing viewshed or alters the character of a viewshed by adding incompatible structures in a way that is unmitigated.

4.1.2 Proposed Geographic Expansion of Watercraft Inspection Stations

Watercraft inspection stations would not permanently or substantially degrade or alter existing viewsheds by adding incompatible structures. The proposed action would have a minor effect to aesthetics or visual resources because inspection stations would be perceptible, but would not result in an overall change to the resource.

4.1.3 Proposed Geographic Expansion of Monitoring

The Proposed Action Alternative would have no effect to aesthetics or visual resources because monitoring activities would look like routine boat use within the waterbodies using watercraft launched from boat ramps, boat basins, or marinas. Other methods

would include underwater veliger settlement plates or eDNA sampling that would not permanently or substantially degrade or alter existing viewsheds by adding incompatible structures.

4.1.4 Proposed Geographic Expansion of Rapid Response

The Proposed Action Alternative would have temporary adverse effects to visual resources resulting from individual treatment actions in the event of a dreissenid detection and response. These would include minimal short-term negative aesthetic effects on treatment sites due to the presence of equipment needed for treatment or physical isolation. Equipment used to isolate sites would likely be brightly colored and pose a visual nuisance to alert boaters and recreational users to avoid the area. Equipment and vehicles used to conduct treatment may be visually intrusive and detract from natural aesthetics. Development of riparian access and possible loss of vegetation would detract from natural visual values of the riparian zones. These adverse aesthetic effects of dreissenid treatment would be minimal and short-term; isolation barriers and equipment would be removed following treatment, and riparian areas would be restored to ensure there would be no lasting significant visual impacts.

Rapid response would not permanently and substantially degrade viewsheds.

4.2 FISHERIES/AQUATIC RESOURCES

4.2.1 Criteria Established to Determine the Significance Threshold

An impact to fisheries and aquatic resources would be considered significant if: there is a substantial loss in the population or habitat of any native fish (a substantial loss is defined as any change in a population which is detectable over natural variability for a period of 5 years or longer); and/or the movement or migration of fish is permanently impeded.

4.2.2 Proposed Geographic Expansion of Watercraft Inspection Stations

Watercraft inspection stations would be established in paved or gravel areas. No new ground disturbance would occur to established watercraft inspection stations without further environmental review.

Inspection stations would not be located immediately adjacent to any water body, but rather at a secure distance away from the shoreline to eliminate the threat of dreissenid introduction through run-off. Runoff from cleaning vessels would be collected at the inspection or decontamination station or be left to percolate into the ground or evaporate.

Trained staff would evaluate where runoff could go if watercraft owners request decontamination at their home. The watercraft would be hauled to an area where no

water or debris from the decontamination process could discharge into a water body if there is the chance runoff could enter uninfected waterbodies.

The Proposed Action Alternative would not negatively affect fisheries or aquatic resources in the CRB either directly or indirectly over the short-term or long-term. The proposed action would be expected to positively affect fisheries and other aquatic resources due to the reduced risk of infestation provided by the additional funding allocated to support the program.

4.2.3 Proposed Geographic Expansion of Monitoring

Monitoring would be conducted at established monitoring sites at lakes and reservoirs throughout Nevada and Wyoming. No ground disturbance or construction would be required for monitoring. Monitoring would primarily consist of state biologists and associated personnel collecting samples at boat launches and other high risk locations via plankton tows and kick nets, while also visually inspecting these locations for the presence of adult dreissenids. All travel to monitoring sites would be on established roads.

There may be localized and minor disturbance to aquatic resources as fish and other aquatic wildlife avoid the immediate area where sampling occurs, but fish would return to previously occupied habitats once the sampling is finished. These effects would not rise to the level of significance.

4.2.4 Proposed Geographic Expansion of Rapid Response

The effects of the Proposed Action Alternative would be the same as those described in the *Dreissenid Mussel Rapid Response Action Plan and Programmatic Environmental Assessment* (November 2019). In summary, rapid response would have short-term and localized adverse effects to aquatic species including disturbance, direct injury, direct mortality, sublethal injury, reduced cover, reduced dissolved oxygen, reduced spawning habitat suitability, and reduced food sources. Adverse effects would be most substantial at treatable aquatic areas and their access points.

Site isolation, salvage and transport of aquatic species, and other best management practices prevent adverse effects to aquatic resources from occurring outside intended treatment areas and limit adverse effects within treatment areas. Therefore, the adverse effects of the proposed treatments are anticipated only for the specific, isolated treatment area, and are not applicable to the remainder of the waterbody or associated species populations. Following conclusion of rapid response actions, treatment sites would be restored to their prior condition and recolonized by aquatic species. Adverse effects to aquatic species would not result in detectable losses to aquatic species over a five year period, nor would they permanently block migration routes and therefore would not rise to the level of significance.

4.3 WATER QUALITY

4.3.1 Criteria Established to Determine the Significance Threshold

An impact to water quality would be considered significant if the action resulted in the substantial permanent impairment to functions of a waterbody for human, fish, or plant life.

4.3.2 Proposed Geographic Expansion of Watercraft Inspection Stations

The effects on water bodies of establishing and operating watercraft inspection stations, and thus water quality, would be the same as discussed in the fisheries/aquatic resources section (Section 4.2). The Proposed Action Alternative would not negatively affect water quality in the CRB directly or indirectly in either the short term or long term. There would be no additional cumulative effect on this resource. The indirect effects would be positive due to the reduced risk of infestation provided by the additional funding allocated to support the program.

4.3.3 Proposed Geographic Expansion of Monitoring

Monitoring would be conducted at established monitoring sites at lakes and reservoirs throughout Nevada and Wyoming. No ground disturbance or construction would be required for monitoring. Monitoring would primarily consist of state biologists and associated personnel collecting samples at boat launches and other high risk locations via plankton tows, kick nets, and veliger settle plates. Impacts from the placement of underwater equipment would include a short-term turbidity plume that would have a de minimus effect to water quality if the sediment was disturbed. Methods including tow nets and environmental DNA sampling would have no impact to water quality.

4.3.4 Proposed Geographic Expansion of Rapid Response

The effects of the proposed action would be the same as those described in the *Dreissenid Mussel Rapid Response Action Plan and Programmatic Environmental Assessment* (November 2019). In summary, adverse effects resulting from rapid response could arise from development of riparian access, site isolation, application of chemical treatments, and post-treatment monitoring. Adverse effects would be most substantial at treatable aquatic areas and their access points. Isolation of treatment areas would ensure that adverse effects would be quarantined to treatment sites and not affect water quality outside of the immediate action area. Isolation barriers would remain in place until water quality at treatment sites returned to background levels.

Site isolation and post treatment monitoring, could adversely affect water quality, primarily through increased turbidity and suspended sediments. Silt barriers, bladder dams, zone bubblers, and other isolation barriers would generate pulses of turbidity during both their installation and removal. Post-treatment monitoring involving the use of watercraft, divers, and wading personnel could equally generate short-term sediment

pulses. These effects would be localized and short-term in nature. Suspended sediments would likely settle out in the near vicinity of the action area, or within the action area if the isolation barriers were in place. Turbidity would rapidly return to background levels following the cessation of the action.

4.4 WILDLIFE

4.4.1 Criteria Established to Determine the Significance Threshold

An impact to wildlife would be considered significant if there is a substantial loss in a population or habitat of any wildlife species, defined as any change in a population which is detectable over natural variability for a period of 5 years or longer.

4.4.2 Proposed Geographic Expansion of Watercraft Inspection Stations

Inspection sites are established in areas with constant human presence where, in general, wildlife would not be present. Any impacts to wildlife or terrestrial species from the watercraft inspections would be negligible and not significant.

4.4.3 Proposed Geographic Expansion of Monitoring

Monitoring would be conducted at established monitoring sites at lakes and reservoirs throughout Nevada and Wyoming. No ground disturbance or construction would be required for monitoring. Monitoring would primarily consist of state biologists and associated personnel collecting samples at boat launches and other high risk locations via plankton tows, kick nets, and veliger settle plates. Monitoring activities would have negligible impacts on wildlife from temporary disturbances of monitoring crews in the area.

4.4.4 Proposed Geographic Expansion of Rapid Response

The effects of the Proposed Action Alternative would be the same as those described in the *Dreissenid Mussel Rapid Response Action Plan and Programmatic Environmental Assessment* (November 2019). Adverse effects resulting from rapid response would be caused primarily by riparian access development, but could also occur from isolation, monitoring, and treatment.

Riparian access development would require herbaceous vegetation mowing, woody shrub removal, and potentially tree removal which would cause disturbance. For terrestrial species, this could reduce available nesting habitat, food sources, and cover. Species inhabiting the area where vegetation may be removed would be disturbed by equipment operation. Site isolation may also have limited adverse effects to terrestrial species. The act of tying off a silt curtain to existing vegetation may damage vegetation, as well as if blocks or sandbags were placed on top of vegetation. This may reduce

cover and food sources for terrestrial species, but the likely footprint of the disturbance would be minor, on the scale of square feet, and would likely have insignificant effects.

Any riparian areas disturbed in the course of rapid response would be restored to their prior condition following the conclusion of treatment. Wildlife would then resume usage of the treatment area. Any effects to wildlife from rapid response would be short-term and would not rise to the level of significance.

4.5 THREATENED AND ENDANGERED SPECIES

4.5.1 Criteria Established to Determine the Significance Threshold

An impact to threatened or endangered species would be considered significant if the existence of a threatened, endangered, or candidate species is jeopardized or its critical habitat lost or permanently adversely affected.

4.5.2 Proposed Geographic Expansion of Watercraft Inspection Stations

Direct impacts to ESA-listed species would come from decontamination runoff; however, any runoff from washing/decontaminating a vessel would either be captured and transferred to a location away from any water body, evaporate, percolate directly into the ground, or be collected in a retention basin with no possibility of reaching water bodies or wetlands. Additionally, wash water would not be allowed to flow over land covered by any type of vegetation without performing a survey of the area for ESA-listed plants and animals in specific areas. There would be no negative direct effects to ESA-listed species from the proposed action.

Indirect impacts from the Proposed Action Alternative would be beneficial. Increased watercraft inspections reduce the likelihood that dreissenids would invade waterbodies where ESA-listed species live, migrate through, or spawn.

4.5.3 Proposed Geographic Expansion of Monitoring

Monitoring would be conducted at established monitoring sites at lakes and reservoirs throughout Nevada and Wyoming. No ground disturbance or construction would be required for monitoring. Monitoring would primarily consist of state biologists and associated personnel collecting samples at boat launches and other high risk locations via plankton tows, kick nets, and veliger settle plates. Monitoring activities would have negligible impacts on threatened or endangered species from temporary disturbances of monitoring crews in the area.

4.5.4 Proposed Geographic Expansion of Rapid Response

The effects of the Proposed Action Alternative would be the same as those described in the *Dreissenid Mussel Rapid Response Action Plan and Programmatic Environmental Assessment* (November 2019). Adverse effects resulting from rapid response would be

caused primarily by riparian access development, but could also occur from isolation, monitoring, and treatment. Of the species listed in Table 5, only grizzly bear, Ute-ladies' tresses, and yellow-billed cuckoo are found within the action area for proposed rapid response.

Riparian access development would require herbaceous vegetation mowing, woody shrub removal, and potentially tree removal which would cause disturbance. For terrestrial species, this could reduce available nesting habitat, food sources, and cover. Species inhabiting the area where vegetation may be removed would be disturbed by equipment operation. Site isolation may also have limited adverse effects to terrestrial species. The act of tying off a silt curtain to existing vegetation may damage vegetation, as well as if blocks or sandbags were placed on top of vegetation. This may reduce cover and food sources for terrestrial species, but the likely footprint of the disturbance would be minor, on the scale of square feet, and would likely have insignificant effects.

Any riparian areas disturbed in the course of rapid response would be restored to their prior condition following the conclusion of treatment. Wildlife would then resume usage of the treatment area. Any effects to threatened and endangered species from rapid response would be short-term and would not rise to the level of significance.

4.6 RECREATION

4.6.1 Criteria Established to Determine the Significance Threshold

Impacts would be considered significant if the proposed action results in a permanent loss of existing recreational uses.

4.6.2 Proposed Geographic Expansion of Watercraft Inspection Stations

The Corp's involvement in establishing watercraft inspection stations would have negligible effects on recreation and the recreating public in the proposed action area. Because the state AIS coordinators have been conducting watercraft inspections for the past ten years, most people hauling boats and other watercraft are accustomed to the routine of stopping for inspections.

The Proposed Action Alternative could have short-term negligible impacts to recreational activities as boaters may feel they are being inconvenienced by additional inspection stations. However, many of these people may change their position once they learn the importance of stopping the spread of dreissenids.

There would be indirect positive effects to recreation by keeping watercraft and boating infrastructure maintenance costs down and reducing the chance of invasion.

4.6.3 Proposed Geographic Expansion of Monitoring

Monitoring would be conducted at established monitoring sites at lakes and reservoirs throughout Nevada and Wyoming. No ground disturbance or construction would be required for monitoring. Monitoring would primarily consist of state biologists and associated personnel collecting samples at boat launches and other high risk locations via plankton tows, kick nets, and veliger settle plates. Monitoring activities would have no impacts on recreation.

4.6.4 Proposed Geographic Expansion of Rapid Response

Recreational activities such as power boating, kayaking, sailing, swimming, hiking, and picnicking could be restricted due to quarantines of detection and treatment sites. Equipment and vehicles used to conduct treatment or mitigation may also impair recreation, as the public would need to be kept away from equipment for their own safety. It is likely that recreational opportunities would not be entirely precluded as users may elect to recreate at other locations during periods where preferred recreational sites were quarantined. These locations may be other shoreline locations removed from the treatment site, or upland locations. That said, additional transportation time to an alternate site, or foregoing preferred aquatic recreation for upland activities, can be a substantial burden on certain members of the public. Adverse effects to recreation from rapid response would be temporary in nature and would not persist past the duration of isolation, treatment, monitoring, and restoration.

4.7 CULTURAL AND HISTORIC RESOURCES

4.7.1 Criteria Established to Determine the Significance Threshold

The project would have a significant effect on cultural resources if it will disturb, remove from original context, or introduce incompatible elements out of character with any property considered eligible for the National Register of Historic Places.

4.7.2 Proposed Geographic Expansion of Watercraft Inspection Stations, Monitoring, and Rapid Response

There would be no direct impacts to historic or cultural resources from any of the elements of the proposed action. Inspection stations would be limited to parking lots, gravel pits, and other surface-disturbed areas. Any improvements requiring ground disturbing activities would require a separate NEPA analysis to include National Historic Preservation Act (NHPA) Section 106 review.

Monitoring would be conducted at established monitoring sites at lakes and reservoirs throughout Nevada and Wyoming. No ground disturbance or construction would be required for monitoring. Monitoring would primarily consist of state biologists and associated personnel collecting samples at boat launches and other high risk locations via plankton tows and kick nets, while also visually inspecting these locations for the

presence of adult dreissenids. All travel to monitoring sites would be on established roads.

No ground disturbance or construction would be required for rapid response.

Beneficial effects to historic and cultural properties could come from the prevention or delay of establishment of dreissenids in the CRB. Dreissenids have caused substantial damage to in-water structures throughout the Great Lakes and Midwest. Damage from structures can occur both directly due to mussel attachment, and during maintenance actions taken to remove dreissenids. Were dreissenids to establish in the CRB, they would negatively affect historic in-water structures, including the locks and dams of the Federal Columbia River Power System (FCRPS).

4.8 SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE

4.8.1 Criteria Established to Determine the Significance Threshold

The proposed action would have a significant effect on socioeconomics if impacts to public health, population, demographics, employment, wages, investments, productivity, housing, and infrastructure would exceed the capacity of the community to absorb the change.

The proposed action would have a significant effect to environmental justice if the proposed action resulted in disproportionately high and adverse human health or environmental effects on minority and low-income populations.

4.8.2 Proposed Geographic Expansion of Watercraft Inspection Stations, Monitoring, and Rapid Response

There would be no direct impacts to socioeconomics or environmental justice from any elements of the proposed action. The Proposed Action Alternative would reduce the likelihood of dreissenid invasion, but otherwise waterbodies would remain in their current conditions. Positive indirect impacts would be realized in keeping utility bills, extra taxes, and recreational costs from increasing due to dreissenid invasion. Implementing more inspection stations would provide economic benefits due to the hiring of additional employees during the recreation season.

4.9 CUMULATIVE EFFECTS

NEPA and the CEQ regulations for implementing NEPA require federal agencies to consider the cumulative effects of their actions. Cumulative effects are defined as effects “on the environment which result from the incremental impact of an action when added to other past, present and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal), or person undertakes such other actions. Cumulative impacts can result from individually minor, but collectively significant actions taking place over a period of time” (40 CFR § 1508.7).

The primary goal of a cumulative effects analysis is to determine the magnitude and significance of the environmental consequences of the proposed action in the context of the cumulative effects of other past, present, and reasonably foreseeable future actions.

Past and Present Actions: Prior to 2007 there were no regional organizations whose primary missions were focused on aquatic invasive species prevention in the CRB. The 100th Meridian Initiative – Columbia River Basin Team (CRB Team), which is administered by the PSMFC, was one of the first organizations with a goal of preventing the spread of AIS in the Pacific Northwest. The CRB Team (see Section 2.1) is the cornerstone of consistent efforts between the U.S. and Canada, which has instituted many of the actions contained in this report and their participation would contribute to the overall success of this project.

Reasonably Foreseeable Future Actions: Federal investment in the proposed action would further expand and support existing state and Canadian programs, resulting in increased effectiveness in the watercraft inspection program to decrease the vulnerability to a dreissenid infestation to the CRB. It is likely that the program would expand into the future to address a wide suite of aquatic pests.

The analysis of the environmental resources above concludes that implementation of the Proposed Action Alternative would not result in significant adverse effects, either individually or cumulatively with other effects. Additionally, successful implementation of the program is intended to maintain the status quo -- i.e. CRB without the presence of Dreissenids (or other new aquatic pests), but with an appreciably reduced risk of future infestation.

4.10 CLIMATE CHANGE ANALYSIS

Earth's climate is rapidly changing (USGCRP 2017). Observations collected around the world provide significant, clear, and compelling evidence that global average temperature is higher and rising rapidly with widespread and growing impacts. The warming trend observed over the past century can be explained by the impact that emissions of greenhouse gases have had on the climate (USGCRP 2017). Climate change is transforming where and how we live and presents growing challenges to human health and quality of life, the economy, and the natural systems that support us. Risks posed by climate variability and change vary by region and sector and by the vulnerability of people experiencing impacts. Social, economic, and geographic factors shape the exposure of people and communities to climate-related impacts and their capacity to respond (USGCRP 2017).

Existing Conditions

Climate in the Northwest is influenced by the interactions between seasonally varying atmospheric circulation patterns, or weather, and the mountainous terrain within the region. Large-scale atmospheric circulation occurring over the Pacific Ocean, including

the Gulf of Alaska, is the driving influence of seasonal variations in precipitation and weather. Approximately two-thirds of the Pacific Northwest precipitation occurs during half of the year (October-March) from the Pacific storm track, and much of this precipitation is captured in the region's mountains. Precipitation declines from late spring to early fall with high pressure systems to the west, generally keeping the northwest fairly dry.

Contrasts in Pacific Northwest climate can be stark owing to the region's mountains, especially the Cascade mountain range. The Cascades create a barrier between the maritime climate influences to the west, where temperatures are generally mild year-round, and the continental climate influences to the east, with more sunshine and larger daily and annual ranges in temperature (Elsner et al. 2010; Melillo, Richmond, and Yohe 2014).

Water temperature ranges for dreissenid persistence are from approximately 37.4°F to as high as 86°F. Optimal thermal conditions for dreissenid reproduction and larval development are from 57.2°F to 71.6°F and would generally occur in the spring and summer (Ramcharan, Padilla, and Dodson 1992). The Snake and Columbia Rivers are typically within this range from May to as late as November. Summer temperatures typically do not exceed this range (Fuhrer 1996). The CRB is currently highly susceptible to dreissenid infestation as water temperatures are suitable for reproduction with a long potential reproductive season.

Forecasted Conditions

Forecasts developed from regional general circulation models (GCM) predict increases in temperature and variable changes in precipitation over the next century that may affect snow accumulation, snow melt, and streamflow. Indications are that average global atmospheric temperatures are trending upward over the previous several decades, and could be correlated to increased atmospheric carbon dioxide levels (USGCRP 2017).

Climate change can affect the hydrology of the region in a number of ways. Even without changes in precipitation, changes in temperature would affect snow accumulation and melt. Temperature increases would result in more rainfall in winter, less water stored as snow, and earlier melt of these thinner snow packs. For some rivers, peak flows may no longer occur in spring, but may occur in fall and winter instead. Warmer summers may increase drought conditions, especially if less spring and summer runoff is available from mountain snow packs. Changes in precipitation may alleviate or worsen some of these impacts (Halofsky and Peterson 2017).

4.10.1 Proposed Action Alternative

There would be extremely negligible effects on climate change as a result of implementing the Proposed Action Alternative. Vehicles idling at watercraft inspection stations, or used as part of a monitoring or rapid response action are a part of world-

wide cumulative contributions to change in climate by way of increases in greenhouse gas emission. Given the minuscule contribution of CO₂ emissions resulting from the proposed action to overall global emissions, effects are considered to be insignificant. Therefore, there would be no significant direct, indirect, short-term, long-term, or cumulative effects to climate change.

Climate change would not affect implementation of the Proposed Action Alternative.

5 COMPLIANCE WITH APPLICABLE ENVIRONMENTAL LAWS AND REGULATIONS

This chapter identifies the legal, policy, and regulatory requirements applicable to the Proposed Action Alternative and the implications for each requirement. Summaries of compliance, consultation, and coordination for each law, policy, Executive Order, or regulation are also provided. Also included in this chapter are additional authorities and guidance related to the proposed action.

5.1 FEDERAL LAWS

5.1.1 National Environmental Policy Act

As required by NEPA and subsequent implementing regulations promulgated by the Council on Environmental Quality, this Supplemental EA was prepared to determine whether the proposed action constitutes a "...major Federal action significantly affecting the quality of the human environment..." and whether an Environmental Impact Statement is required. This Supplemental EA documents the evaluation and consideration of potential environmental effects associated with implementation of the Proposed Action Alternative.

The Corps prepared this Supplemental EA and will circulate it to state and federal agencies, Tribes, and the public for review and comment. The Corps identified no impacts significantly affecting the quality of the human environment prior to distribution. If no such impacts are identified during the public review process, compliance with NEPA would be achieved upon signing a Finding of No Significant Impact (FONSI). However, if such impacts are identified during the public review, an EIS would be required, and compliance with NEPA would be achieved upon completion of the EIS and the signing of a Record of Decision.

5.1.2 Endangered Species Act

The ESA established a national program for the conservation of threatened and endangered fish, wildlife, and plants and the habitat upon which they depend. Section 7(a)(2) of the ESA requires federal agencies to consult with the USFWS and National Marine Fisheries Service (collectively referred to as the Services) if an action may affect a listed species to ensure that their actions are not likely to jeopardize the continued existence of endangered or threatened species or adversely modify or destroy their

critical habitats. Section 7(c) of the ESA and the federal regulations on endangered species coordination (50 CFR § 402.12) require that federal agencies prepare biological assessments of the potential effects of major actions on listed species and critical habitat.

If any ESA-listed small mammal or plant species could be in a county or watershed where watercraft inspection stations are established and any ground disturbing or vegetation disturbing activity is planned, surveys for their presence would be conducted and the protected species avoided. Table 5 lists the ESA-listed species and Tables 2 and 3 list the locations where surveys would be conducted to ensure there would be no effect on them.

The Corps determined that the establishment of watercraft inspection stations and the expansion of monitoring would have no effect on ESA-listed species or designated or proposed critical habitat. However, there are some stipulations required to justify this determination.

With regards to rapid response, the Corps prepared a Biological Assessment (BA) and initiated Programmatic Framework Consultation with the USFWS for rapid response actions in Idaho, Montana, Oregon, and Washington in May 2018. This consultation is being amended to include the states of Nevada and Wyoming and the three species which may be affected in those states.

As of April 2020, consultation with the Services is not complete, though the Corps expects that, ultimately, a non-jeopardy biological opinion will be issued by the USFWS for activities under the Plan. If dreissenids are discovered in the proposed rapid response action area prior to the completion of programmatic consultation, the Corps would act to implement the Plan under emergency ESA consultation procedures. Under emergency consultation the following process, summarized from the ESA Section 7 Consultation Handbook, would be followed:

1. Upon detection of dreissenid mussels in the FSA, the Corps would notify the Services of the project location, a description of the emergency response action and timelines.
2. Within 48 hours will recommend actions that may be implemented to minimize the impacts to any listed species or critical habitat in the area.
3. The Corps would implement the Plan to contain and eradicate the dreissenid infestation, and the Services would evaluate the action. If this evaluation indicates that the emergency rapid response procedures may result in jeopardy to a listed species or adverse modification of critical habitat, and no means of reducing or avoiding this impact are available, the Services will advise the Corps of this and document this conclusion. The Corps would not stop or delay their emergency response because of this notification.

4. After treatment is complete, the Corps would identify any incidental take of a species or an adverse effect to critical habitat that resulted from the emergency response action and initiate formal consultation. This formal consultation would follow standard procedures, include a description of what actions occurred, and identify the final impacts to listed species.
5. The Services would prepare an after-the-fact biological opinion to cover any incidental take that occurred during the emergency response and document the final impacts to the listed species. This biological opinion could contain suggestions for after-the-fact remediation in the form of reasonable and prudent alternatives, or reasonable and prudent measures when incidental take of listed species or adverse modification of critical habitat attributable to the emergency response occurred. With the finalization of the biological opinion, compliance with the ESA would be considered complete.

5.1.3 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (16 U.S.C. §§ 703-712, as amended) prohibits the taking of and commerce in migratory birds (live or dead), any parts of migratory birds, their feathers, or nests. Take is defined in the MBTA to include by any means or in any manner, any attempt at hunting, pursuing, wounding, killing, possessing, or transporting any migratory bird, nest, egg, or part thereof.

Watercraft inspection station sites would be assessed/surveyed to determine presence/absence of suitable habitat/location of ground nesting or shrub nesting birds. Inspection stations are established along the sides of roads or at boat ramps where there are generally no trees, shrubs, or other bird habitat is proposed to be cut or damaged by the establishment of watercraft inspection stations. Birds would not be affected. There would be no take of migratory birds from watercraft inspection stations.

Monitoring would not involve construction of any kind, not more than brief disturbance to birds from passing watercraft. There would be no take of migratory birds from the expansion of monitoring.

Rapid response actions have the potential to disturb migratory birds, especially through the establishment of riparian access, should the need to treat away from an established boating access point occur. Conservation measures would be implemented to avoid effects to migratory birds to greatest extent practicable, but there is potential for nest and egg take during the nesting season. Therefore, the proposed action may result in take of migratory birds. In the event that take may occur, the Corps would apply for a take permit.

5.1.4 National Historic Preservation Act

The NHPA of 1966 as amended directs federal agencies to assume responsibility for all cultural resources under their jurisdiction. Section 106 of NHPA requires agencies to consider the potential effect of their actions on properties that are listed, or are eligible

for listing, on the National Register of Historic Places. The NHPA implementing regulations, 36 Code of Federal Regulations (CFR) Part 800, requires that the federal agency consult with the State Historic Preservation Officer (SHPO), Tribes, and interested parties to ensure that all historic properties are adequately identified, evaluated, and considered in planning for proposed undertakings.

The Corps has determined the proposed action has no potential to affect historic properties. However, if additional amenities requiring ground disturbing activities are requested, supplemental Section 106 review would be required before approval.

5.1.5 Native American Graves Protection and Repatriation Act

The Native American Graves Protection and Repatriation Act addresses the discovery, identification, treatment, and repatriation of Native American and Native Hawaiian human remains and cultural items (i.e., associated funerary objects, unassociated funerary objects, sacred objects, and objects of cultural patrimony).

Although not expected, in the event of an inadvertent discovery during implementation of the proposed action, work would immediately halt and reasonable resource protective measures would be implemented. After the area is secured, the appropriate authorities should be contacted, including local law enforcement, the federal land manager, appropriate SHPO, and regional Tribal groups.

5.1.6 Clean Water Act

The Federal Water Pollution Control Act (33 U.S.C. § 1251 et seq., as amended) is more commonly referred to as the Clean Water Act. 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 United States. The act was established to restore and maintain the chemical, physical, and biological integrity of the Nation's waters and sets goals to eliminate discharges of pollutants into navigable water, protect fish and wildlife, and prohibit the discharge of toxic pollutants in quantities that could adversely affect the environment. The act has been amended numerous times and given a number of titles and codifications.

Section 402 of the Act, the National Pollutant Discharge Elimination System (NPDES) program, pertains to discharge of pollutants. Point source discharges of biological pesticides and chemical pesticides that leave a residue into waters of the U.S. are required to comply with NPDES requirements. Aquatic pesticide application would require approval for use under a NPDES permit, either the EPA's 2016 Pesticide General Permit (PGP) for treatments in Nevada or on Tribal Reservations, or the Wyoming Department of Environmental Quality, Water Quality Division General Permit.

The pesticides approved for rapid response in the *Dreissenid Mussel Rapid Response Action Plan and Programmatic Environmental Assessment* (November 2019) are all currently covered by both of the PGPs, except for Potash compounds. Potash

compounds are covered by the PGPs for some uses, but were not submitted for approval as molluscicides. Presently, the Canadian province of Alberta is in the process of registering potash compounds as molluscicides in Canada. Were Alberta to register potash as a molluscicide in Canada, it is likely that the EPA and Wyoming could and would recognize the Canadian registration for use in the United States. Another option for the use of potash could be an emergency exception approval from the EPA, as was utilized by the states of Virginia, Minnesota, and Texas in their dreissenid control efforts. Until registration is resolved, or an emergency exception granted, potash would not be used.

Section 402 of the Clean Water Act also regulates stormwater run-off as a result of construction related ground disturbance. Activities involving construction or soil disturbance on the shoreline or upland have the potential for storm water runoff and would be subject to the storm water provisions of Section 402 if the area of soil disturbance would be more than an acre and would discharge storm water into surface water. While development of staging areas would cause soil disturbance, staging areas would be limited to 60 feet of shoreline per treatment, well under the one-acre threshold.

Discharge of dredged or fill material below the line of ordinary high water requires evaluation under Section 404 of the Clean Water Act. Proposed activities would not involve placement of fill below the ordinary high water mark of any water of the U.S., therefore, a 404 permit would not be needed.

Section 401 of the Act requires a certification from the applicable permitting agency that the discharge of a pollutant or dredged or fill material meets water quality standards for any new permit or license issued by a federal agency, even if the issuing authority has been delegated to the state. If a permit under either Section 402 or 404 is needed for an action, Section 401 water quality certification is also needed. In this case, application of chemical treatments would be covered by existing PGPs, not new permits and Section 401 certification would not be required.

The Proposed Action Alternative would be in compliance with the CWA, and would not impede water quality improvement plan efforts by states, tribes, or the EPA.

5.2 EXECUTIVE ORDERS

5.2.1 Executive Order 11988, Floodplain Management, May 24, 1977

This Executive Order outlines the responsibilities of federal agencies in the role of floodplain management. Each agency must evaluate the potential effects of actions on floodplains and avoid undertaking actions that directly or indirectly induce development in the floodplain or adversely affect natural floodplain values.

The proposed watercraft inspection and monitoring would not further alter the floodplain.

The proposed rapid response is located in the 100 year flood plain, and would affect the floodplain. Access to rivers and streams for invasive mussel treatment and riparian mitigation can only occur in or adjacent to floodplains. The Corps evaluated mussel treatment alternatives and determined riparian areas suitable for access and deployment of treatment equipment. 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 the treatment plan was in cooperation with numerous state, interstate, regional resource and management agencies including the 100th Meridian Initiative.

Development of riparian areas for dreissenid treatment inherently has negative effects to the natural environment that would be mitigated with habitat replacement programs and restored to the prior condition following the cessation of dreissenid treatment measures. Mitigation as proposed would ensure floodplain functions and values are restored and maintained.

5.2.2 Executive Order 11990, Protection of Wetlands, May 24, 1996

This order directs federal agencies to provide leadership in minimizing the destruction, loss, or degradation of wetlands. Section 2 of this order states that, in furtherance of the NEPA, agencies shall avoid undertaking or assisting in new construction located in wetlands unless there is no practicable alternative.

Through the implementation of BMP's and 1:1 mitigation of impacted riparian areas used for access, the Proposed Action Alternative would not result in the destruction, loss, or degradation of wetlands. Mitigation as proposed would ensure wetlands functions and values are restored and maintained.

5.2.3 Executive Order 12898, Environmental Justice, February 11, 1994

This order directs federal agencies to identify and address the disproportionately high and adverse human health or environmental effects of their actions on minority and low-income populations, to the greatest extent practicable and permitted by law.

Implementation of the proposed action would not adversely or disproportionately affect minority or low- income populations.

5.3 ADDITIONAL AUTHORITY AND GUIDANCE

Additional authority and guidance related to the proposed action includes the following:

Executive Order 11987, Exotic Organisms. This Executive Order directs Federal agencies as follows:

- Executive agencies shall, to the extent permitted by law, restrict the introduction of exotic species into the natural ecosystems on lands and

waters which they own, lease, or hold for purposes of administration; and, shall encourage the states, local governments, and private citizens to prevent the introduction of exotic species into natural ecosystems of the United States.

- Executive agencies, to the extent they have been authorized by statute to restrict the importation of exotic species, shall restrict the introduction of exotic species into any natural ecosystem of the United States.

Executive Order 13751, Safeguarding the Nation from the Impacts of Invasive Species. Under this Executive Order, Federal agencies are required to prevent the introduction, establishment, and spread of invasive species, as well as to eradicate and control populations of invasive species that are established. See also, Executive Order 13112.

USACE Invasive Species Policy. USACE Invasive Species Policy of June 2, 2009, compliments the National Invasive Species Act (and related laws) and directs Civil Works to address invasive species concerns in analyses of project impacts, and authorizes permits to include stipulations regarding control of invasive species.

The USACE Environmental Operating Principles. The USACE Environmental Operating Principles (EOPs) have been taken into consideration throughout the study process, and would continue to be part of the implementation of the proposed action. Below are the USACE EOPs:

- Foster sustainability as a way of life throughout the organization.
- Proactively consider environmental consequences of all USACE activities and act accordingly.
- Create mutually supporting economic and environmentally sustainable solutions.
- Continue to meet our corporate responsibility and accountability under the law for activities undertaken by USACE, which may impact human and natural environments.
- Consider the environment in employing a risk management and systems approach throughout the life cycles of projects and programs. Leverage scientific, economic, and social knowledge to understand the environmental context and effects of USACE actions in a collaborative manner.
- Employ an open, transparent process that respects views of individuals and groups interested in USACE activities.

In coordination with the agencies and other stakeholders, the USACE proactively considered the environmental consequences of several measures and developed a comprehensive solution that supports economic and environmentally sustainable solutions.

6 COORDINATION, CONSULTATION, AND PUBLIC INVOLVEMENT

As part of the development of the *Dreissenid Mussel Rapid Response Action Plan and Programmatic Environmental Assessment* (November 2019), the Corps sent information letters to 19 Native American Tribes in the CRB to notify them of the Plan and upcoming opportunity to review the NEPA documents. In this letter the Corps also extended the invitation of Government-to-Government consultation.

This supplemental EA is being distributed to additional relevant federal, state, and local agencies, Tribes and the public for a 30-day review and comment period. It is available on the Walla Walla District Corps of Engineers website at www.nww.usace.army.mil/Missions/Environmental-Compliance. The distribution list includes, but was not limited to, the following:

- U.S. Bureau of Indian Affairs
- U.S. Forest Service Region 2
- U.S. Forest Service Region 5
- U.S. Bureau of Land Management Nevada State Office
- U.S. Bureau of Land Management Wyoming State Office
- U.S. Bureau of Reclamation Wyoming Office
- U.S. Bureau of Reclamation Nevada Office

- Natural Resources Conservation Service Wyoming Office
- Natural Resources Conservation Service Western States Office
- Nevada Department of Business and Industry
- Nevada Department of Agriculture
- Nevada Department of Conservation and Natural Resources
- Nevada State Historic Preservation Officer
- Nevada Division of State Lands
- Nevada State Parks
- Nevada Department of Wildlife
- Nevada Division of Environmental Protection
- Wyoming Office of the Governor
- Wyoming Office of the Governor
- Wyoming Department of Agriculture
- Wyoming Department of Environmental Quality
- Wyoming Environmental Quality Council
- Wyoming Water Development Office
- Wyoming State Geological Survey

- Shoshone-Paiute Tribes of the Duck Valley Indian Reservation
- Duckwater Shoshone Tribe
- Ely Shoshone Tribe
- Fallon Paiute Shoshone Tribe
- Las Vegas Paiute Tribe

*Supplement to the Programmatic Environmental Assessment Federal Participation in Watercraft
Inspection Stations and Rapid Response Actions to protect the Columbia River Basin*

Lovelock Paiute Tribe
Moapa Band of Paiutes
Pyramid Lake Paiute Tribe
Reno-Sparks Indian Colony
Summit Lake Paiute Tribe
Te-Moak Tribe of Western Shoshone Indians of Nevada
Winnemucca Indian Colony

Wyoming Game Wardens Association
Wyoming Association of Municipalities
Powder River Basin Resource Council
Teton Regional Land Trust
Wyoming Native Plant Society
Audubon Rockies
Jackson Hole Conservation Alliance
Wyoming Landscape Conservation Initiative
Wyoming Wilderness Association
Wyoming Sportsman Group
The Nature Conservancy in Nevada
Nevada Waterfowl Association
Great Basin Resource Watch
Nevada Water Resources Association

The Corps will consider all comments received, prepare a Comment Response Document, and make clarifications to the report to address the comments. The Corps will complete the NEPA process by signing a FONSI, if applicable.

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*Supplement to the Programmatic Environmental Assessment Federal Participation in Watercraft
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