Supplement Analysis
for the
Columbia Estuary Ecosystem Restoration Program EA
(DOE/EA-2006/SA-07)

Government Island Restoration Project
BPA project number 2010-004-00
BPA contract number 82217

Bonneville Power Administration
Department of Energy

Introduction

Bonneville Power Administration (BPA) and the U.S. Army Corps of Engineers (Corps) are partners in the Columbia Estuary Ecosystem Restoration Program (CEERP), which is a collaboration intended to evaluate, protect, monitor, and restore fish and wildlife habitat in the Columbia River Estuary.

In July 2016, BPA and the Corps completed the Columbia Estuary Ecosystem Restoration Program Environmental Assessment (DOE/EA-2006) (Programmatic Estuary EA). The Programmatic Estuary EA streamlines the environmental review of routine actions with well understood and predictable environmental impacts common to restoration projects in the Columbia River estuary. The purpose of this Supplement Analysis (SA) is to provide site-specific information about an individual restoration project proposed under the Program.

Consistent with the Programmatic Estuary EA, this SA analyzes the proposed Government Island Restoration Project, which would restore off-channel fish habitat on Government Island which is located within the Columbia River channel within Multnomah County. This SA analyzes the site-specific impacts of the project to determine if the project is within the scope of the analysis considered in the Programmatic Estuary EA. It also evaluates whether the proposed project presents significant new circumstances or information relevant to environmental concerns that were not addressed by the EA. The findings of this SA determine whether additional NEPA analysis is needed pursuant to 40 Code of Federal Regulations (CFR) § 1502.9(c).

Project Description

Government Island is a mid-channel island in the Lower Columbia River just upstream of Portland, Oregon and is owned by the Port of Portland and Metro Regional Government. The middle portion of the island contains freshwater wetlands and a seasonal lake (Jewett Lake) which is currently hydrologically disconnected from the river by a large water control structure. The eastern portion of the island is armored along the bank by riprap revetment that disconnects a historical wetland swale from the river. This restoration project presents the opportunity to reconnect almost 300 acres of quality floodplain habitat back to the Columbia River making it completely accessible to fish and wildlife species. Food web connectivity would be greatly enhanced between the interior wetlands and the larger Columbia River system. Water quality would improve as higher water events would more frequently flood and inundate the site.

The Government Island Restoration Project has been in the planning and design stage for the last three years. The design was developed by CREST with input from the following agencies: the Oregon Department of Fish and Wildlife (ODFW); the National Marine Fisheries Service (NMFS); the U.S. Fish and Wildlife Service (USFWS); the Expert Regional Technical Group (ERTG); BPA; and the Corps. The consensus by these various agencies is that the project would provide an overall environmental benefit through the reconnection of the almost 300 acres of floodplain habitat.

Work elements for this restoration project include the removal of an artificial water control structure, removal of a derelict dock and pilings, reconnection of a historical wetland swale, installation of log weirs, installation of large wood habitat features, clearing and grubbing of invasive Himalayan blackberry, construction of hibernacula in the uplands, and replanting of native riparian plants.

The removal of the water control structure would occur in late August or early September. During this time, river levels do not reach the water control structure. The site would be isolated using siltation curtains, straw wattles, and a sandbag cofferdam as needed. Since the water control structure and fish screen currently completely excludes fish, no fish salvage would be necessary for the project. Excavators would remove the water control structure. Metal and wood would be taken off the island for recycling and disposal. Rock salvaged from the water control structure would be reused for ballast rock around the log weirs. If log weirs are not installed, this rock would be placed in the upland disposal area as wildlife hibernaculum features. Soils from the channel bank work would be hauled to an upland disposal area, graded, and replanted with native grasses and plants. As shown in Figure 1, access to various work areas on the island would be gained through the use of barges and an existing dirt road.

At the channel confluence of Jewett Slough and the Columbia River, there are remnant wooden pilings and a dock. To let Jewett Slough meander as it reaches the sandy Columbia River, these artificial features would be removed at low tide in September when the river level is at the lowest point of the year. An excavator with a vibratory hammer would attempt to remove the pilings. If this method does not work or if the pilings break, a hole would be dug two feet below the existing grade and the pilings would be cut. All wood and any metal from the pilings would be taken off the island for proper disposal. Soil samples collected around the pilings and dock indicate that there are no contaminants in the sandy soils (Tetra Tech 2019).

Log weirs would be installed as needed for the project as a part of the adaptive management plan. These structures would be composed of fir logs and ballast rock and would be spaced throughout the channel of Jewett Slough. Vertical rises between the structures would be less than six inches to retain fish passage. If log weirs are installed, they would be accessed from the water control structure and existing open areas at Jewett Lake. This would occur in late summer (August or September) when Jewett Slough dries out and does not have any standing water. To retain the existing large wood throughout the channel, as well as natural topographic features in the channel, equipment would not be tracked up and down the channel profile. An excavator would install the logs and ballast rock.

A large patch of Himalayan blackberry would be grubbed at the edge of Jewett Lake. An excavator or bulldozer would grub the ground surface approximately one-foot deep to tear up the root crowns of the plants. Approved herbicides would be sprayed on the root crowns and the site would be replanted with native riparian plants.

Within the blackberry treatment area at Jewett Lake, a portion of the side slope along Jewett Slough would be decreased in slope to provide more favorable growing conditions after the blackberry removal. This would require approximately 400 cubic yards of soils to be transported from the side slope to the upland location using an excavator and haul truck. The work area is focused on the blackberry-dominated areas and existing trees would be avoided.

On the eastern end of the island, an historical wetland swale would be seasonally reconnected to the Columbia River by creating an opening in an earthen berm. Existing riprap on the Columbia River side of the swale would be realigned and a floodplain notch would be created, allowing seasonal connectivity between the wetland and Columbia River. The existing riprap would be wrapped around the side slopes of the new opening as well as across the sill of the opening. This would prevent any future erosion of the side slopes or downcutting of the floodplain opening. Soil and rock would be placed in soil wrapped lifts and planted with native shrubs and trees. Excess soils removed from the berm would be hauled to the adjacent upland disposal site, graded, and replanted. This work would likely be completed with an excavator and off-road haul truck. The floodplain notch is high in elevation (14 feet NAVD88) and would be well above the Columbia River water levels at the time of construction (August – October) and the small wetland on the interior of the island would have completely dried out by summer as well. The work area would be contained with straw wattles.

Salvaged rock from the removal of the water control structure would be used for two purposes: ballast rock for the log weirs; and hibernacula. Hibernacula are upland habitat features that provide burrowing habitat for snakes, raccoons, and other wildlife species. The salvaged rock would be mixed with salvaged wood slash and loosely piled together, with openings large enough for wildlife species to burrow. All of the hibernacula would be located within the proposed upland disposal areas.

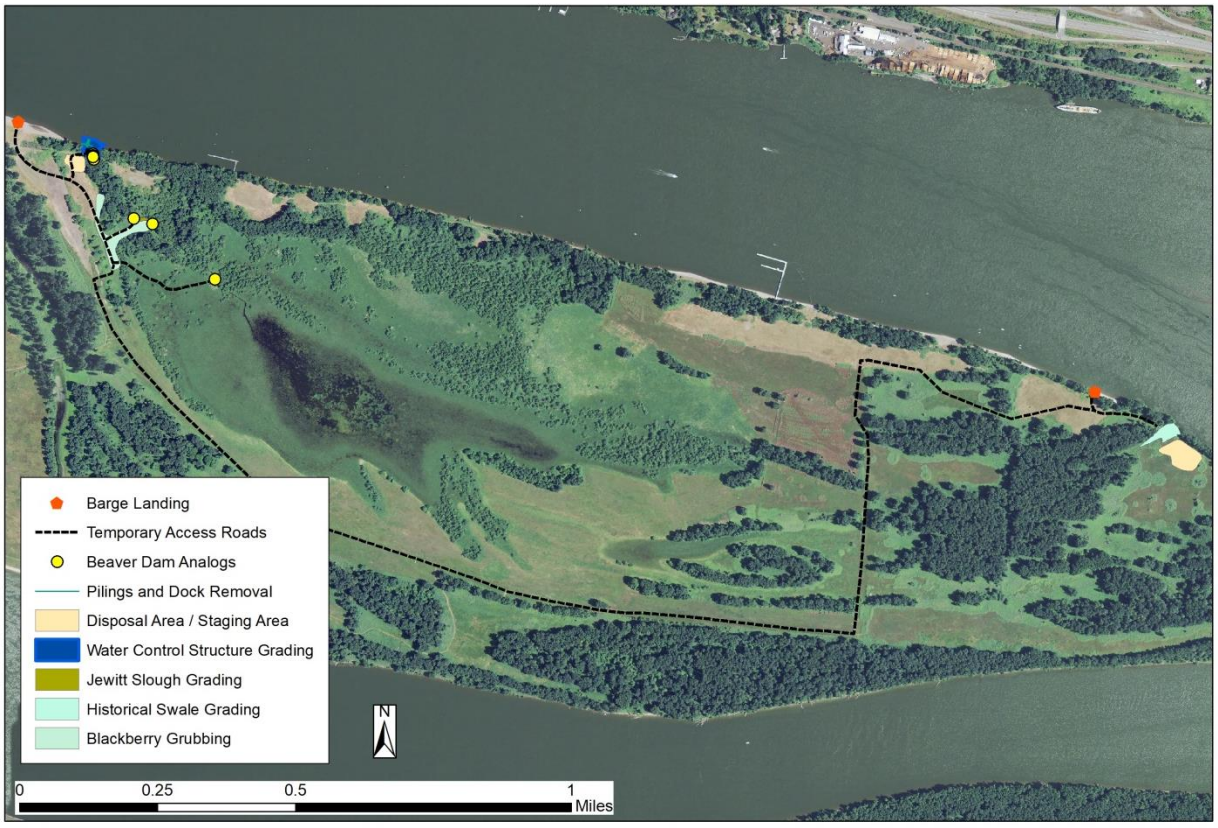

Figure 1. Government Island Restoration Project

BPA proposes to fund the non-profit environmental group Columbia River Estuary Study Taskforce (CREST) to implement the Government Island Restoration Project. The goal of the project is to restore Government Island to a hydrologically connected, accessible wetland complex that provides a variety of wetland habitat types and functions for juvenile salmon, waterfowl, amphibians, and native vegetation

communities in a stretch of the river devoid of habitat access points. The removal of the water control structure and realignment of the eastern riprap revetment would allow more frequent inundation of channels, swale features, and wetlands. This more regular exchange of water between the wetlands of Government Island and the Columbia River would improve water quality and maintain habitat features. The installation of log weirs would retain wetland areas for migratory waterfowl and native plant communities while providing significantly more fish access to the site.

The proposed project has 3 overarching objectives, which are shown below. The bullets below each objective demonstrate what actions would be taken to ensure each objective is met.

Objective 1: Re-establish hydrologic connectivity and fish access between Government Island and the Columbia River

- Increase access and expand food web connectivity by removing water control structure that currently overtops at elevation 26.8 ft. (NAVD88)
- Provide additional access and facilitation of channel development by realigning riprap and notching a floodplain channel opening at the eastern end of the island

Objective 2: Increase wetland habitat capacity

- Enhance foraging interface and prey production through native wetland vegetation planting
- Retain existing overstory and riparian habitat along channel edges
- Increase channel habitat complexity with the installation of log weirs, if necessary for grade control

Objective 3: Retain Port of Portland Wetland Mitigation Credits

- Retain existing wetland acres and waterfowl habitat areas
- Install log weirs, if necessary, to preserve wetland mitigation area in Jewett Lake and surrounding wetlands
- Enhance wetland area with additional plantings

The proposed project is consistent with those considered in the Programmatic Estuary EA, including the following categories of action:

- Placement and maintenance of habitat features to provide structural complexity via the addition of large wood, rock, or other natural materials
- Removal of invasive emergent and upland plants and weeds by chemical or mechanical means (chemical treatment for control of floating-leaved or submerged invasive plants is not included)
- Plant and protect native vegetation
- Implement practices to beneficially use dredged material by removing/relocating previously placed materials to increase inundation or access to off-channel habitat or by strategically placing dredged materials to enhance or create wetlands or tidal marsh
- Long-term maintenance of completed estuary restoration projects
- Levee and dike removal and breaching – This work entails the removal of water-excluding structures that results in the flooding of previously dewatered lands. It also includes the removal of flow-controlling structures not associated with dewatered sites. These actions restore hydrologic processes during high flow (riverine or tidal) and may include entire removal, or strategically located breaches, with the intent that natural erosional processes would complete the action.
- Restoration related ground disturbance and earthwork associated with water control structure removal and swale reconnection

- Construction-related in-water work

The proposed project is also consistent with the Columbia River Estuary (CRE) Module management actions, developed by National Marine Fisheries Service to aid in the recovery of salmon and steelhead throughout the region listed below.

- CRE-1: Protect intact riparian areas in the estuary and restore riparian areas that are degraded
- CRE-6: Beneficial use of dredged materials, including notching or scraping down of existing materials
- CRE-9: Protect remaining high-quality off-channel habitat from degradation and restore degraded areas with high intrinsic potential for high-quality habitat
- CRE-10: Re-establish or improve access to off-channel habitats
- CRE-15: Reduce the introduction and spread of invasive plants

Public Scoping, Comments, and Responses

BPA's public scoping began on June 24, 2019, when BPA posted a description of the Government Island Restoration Project proposal to BPA's website. The website specified individuals to contact for further information on the proposal.

Environmental Effects

The typical environmental impacts associated with the Columbia Estuary Ecosystem Restoration Program (CEERP) are described in Chapter 3 of the Programmatic Estuary EA, and are incorporated by reference and summarized in this document. Below is a description of the potential site-specific impacts of the Government Island Restoration Project and an assessment of whether these impacts are consistent with those described in the Programmatic Estuary EA.

Much of the site-specific analysis cited in the environmental impacts section below comes from several sources: CREST's Final Basis of Design Report, Habitat Restoration Design and Implementation Project Application for the Expert Regional Technical Group (ERTG), Tetra Tech's Government Island Restoration Project Design Plan Set, and Tetra Tech's Government Island Soil Sampling Memo.

1. Fish

Overall, the action is expected to have moderate, beneficial effects on fish. Fish listed by the Endangered Species Act (ESA) in the project area include chum, coho, Chinook, steelhead, and sockeye. In the project vicinity, the Columbia River is designated critical habitat for chum, coho, Chinook, steelhead, and sockeye, and is essential fish habitat for coho and Chinook, according to the Magnuson-Stevens Act.

Since the channel work would be completed in the dry and in isolation from fish-bearing waters, direct effects during construction are not anticipated. However, after construction is completed, when rainfall or surface flow first enters onto newly disturbed soil near the water control structure or the reconnected wetland swale, turbidity in the Columbia River could be temporarily elevated. However, injury or mortality to fish is unlikely to occur due to the limited duration and spatial extent of the impact, the erosion control measures used to limit sediment discharges, and the high dilution levels that would be provided by the Columbia River. Typically, fish would not be entering the site until the late winter- or spring-time when river levels are high enough to connect the wetlands to the Columbia River. This would give adequate time for turbidity to stabilize in the channel before fish are actively using the channel.

Salmonids in Jewett Lake and Slough could be eaten by piscivorous birds. However, the wetlands encompass over 300 acres, allowing for multiple flow paths and an abundance of edge habitat for fish to

utilize for cover from predatory species. The entire site contains emergent vegetation, which provides fish with cover from predatory species, as opposed to sandy-bottomed waterbodies in which fish are more easily preyed upon. Therefore, allowing fish to utilize Jewett Lake and Slough is not anticipated to expose them to unavoidable predation.

In regards to the potential for fish to be stranded as a result of the project, restoring full hydrologic connectivity and fish access to the site would allow the wetlands to rise and fall with the water levels on the Columbia River. Jewett Lake does not contain any low topographic areas that would cause fish to be stranded. During higher river flows, the site would be fully connected through the main Jewett Slough channel, and as the river recedes, the lake levels would begin to draw down, providing a cue for fish to egress back to the Columbia River. It is not anticipated that juvenile salmonids would be enticed to remain in the lake as it becomes shallower and warmer. As with many floodplain wetlands in the system, the fish typically egress back into the deeper main channel once the water levels and temperatures in the off-channel habitat become unfavorable.

Removing the water control structure would allow fish access into the site. This would benefit native fish species but may also allow non-native fish into the wetlands. This is the reality of any floodplain reconnection project and there is no effective way to open floodplain habitat without this risk. The benefit of reconnecting hundreds of acres of floodplain habitat in a stretch of river devoid of any access points outweighs the risk of non-native fish using the site and potentially threatening native fish populations. Furthermore, Jewett Lake is a seasonal waterbody which forms from precipitation and backwatering of the Columbia River. By late summer, all of the water within the lake has evaporated and the entire wetland consists of emergent vegetation. This seasonal inundation means that any non-native, warm-water fish would be unable to survive at the site year-round.

Beneficial effects would far outweigh the temporary negative impacts as a result of this project. The beneficial effects include: increased access to food, resting, and growth areas in Jewett Lake, the inter-island channel, and the reconnected swale; fish passage through the removal of the water control structure; and a lowered risk of predation with the removal of the old dock and pilings.

These impacts are consistent with the analysis in the Programmatic Estuary EA, Section 3.2.4, which concludes that impacts to fish would be moderate and beneficial because of the increased food web support; conversion of vegetation to more natural conditions; and restored and improved hydrology.

2. Hydrology and Hydraulics

Hydrology and hydraulic modeling was completed for the project to determine flow paths, water depths, and the inundation duration. The purpose of the modeling was to ensure that the project would achieve the habitat goals while maintaining the Port of Portland's compensatory wetland mitigation obligations. In addition to being designed by a professional engineer, this project has been reviewed by a BPA hydraulic engineer to ensure that the design would achieve the restoration goals. The modeling showed the following effects to Jewett Lake and the Columbia River: These impacts are consistent with the analysis in the Programmatic Estuary EA, Section 3.3.3, which concludes that impacts to hydrology and hydraulics would be moderate. These impacts discussed in the Programmatic Estuary EA, Section 3.3.3 include: erosion, scour, and in-channel deposition; localized changes in velocity, flow, and circulatory patterns; and reconnection of channel habitats.

Removing the water control structure and realignment of the riprap revetment would allow natural processes to return to the wetlands via the Jewett Slough and the swale. The improved channels are designed to match the natural grade of the site and are sized to be consistent with re-established inundation volumes.

During the spring freshet, water would enter Jewett Lake via Jewett Slough with unimpeded flows. High tides are expected to drive water in to the lake until water-surface elevations are in equilibrium with the Columbia River. The biggest changes are expected in spring (April-June). During this time period, the hydrologic connection between the lake and the Columbia River would occur more frequently.

3. Water Quality

Water surface and temperature data loggers were installed at the site and are currently collecting year-round data. Water temperatures in Jewett Lake remain below 68 degrees Fahrenheit until early July at which time it becomes too warm to support juvenile salmonids, which is typical of floodplain wetlands in this reach of the Lower Columbia River.

Over the long term, water quality is anticipated to stay the same. In the short term, during the first re-watering after the removal of the water control structure, slight, localized increases in suspended sediment could occur in the unnamed channel and the Columbia River, but these impacts would be short in duration, diluted by high flows, and mitigated by utilizing erosion and sediment control best management practices (BMPs).

The proposed project is part of the Action Effectiveness Monitoring and Research Program which is managed by BPA and the Corps. Specific monitoring metrics for this site would include water surface elevations, water temperature, photo points, sediment accretion, as well as channel cross sections. These metrics, in addition to collecting aerial imagery, would be continuously monitored at the site for five years after construction.

The impacts associated with the project are consistent with those described in the Programmatic Estuary EA, Section 3.4.3, which concludes that effects to water quality would be low to moderate and mitigated by erosion and sediment control BMPs. The impacts discussed in the Programmatic Estuary EA, Section 3.4.3 include: increased vegetation cover; increased flows, tidal exchange, and flushing; increased channel complexity and alignment; and decreased composition, distribution, and quantity of invasive species.

4. Geomorphology, Soils, and Topography

Direct impacts to soils would result from temporary construction activities, including vegetation clearing, grading, and compaction of soils by heavy equipment during construction. Clearing and grading would remove both vegetation and topsoil. Compaction from heavy equipment degrades soil structure, reducing pore space needed to retain moisture and promote gas exchange.

Short-term construction-related impacts would include a temporary increase in soil erosion or temporarily elevated suspended sediments in the unnamed channel and the Columbia River. These impacts would be mitigated by the use of erosion and sediment control BMPs, designed and installed by certified erosion control specialists.

Over the long term, impacts would be beneficial due to the restoration of the natural soil-forming process, sediment flushing, and floodplain function. Reconnecting the wetland swale would restore hydrologic functions and assist in re-establishing hydric soils.

Project impacts are consistent with those described in the Programmatic Estuary EA, Section 3.5.3, which predicted that construction would have moderate temporary effects, and that long-term impacts would be beneficial. The impacts discussed in the Programmatic Estuary EA, Section 3.5.3 include: temporary erosion and sedimentation; altered channel form, structure, and density; localized changes in velocity, flow, and circulatory patterns; restored sediment transport; and restored spatial and temporal connectivity of streams and wetlands.

5. Sediment Quality

Ground would be disturbed on Government Island with the removal of the water control structure, grubbing of Himalayan blackberry, and the reconnection of the wetland swale; however, there are no known contaminated sediments on Government Island. Sediment accumulated behind the water control structure is thought to consist largely of organic material. Soil testing at the piling and dock removal site indicated that there were no known containments in this area. Therefore, release of contaminants during the removal activities is not anticipated.

These impacts are less than those described in the Programmatic Estuary EA, Section 3.6.3, which concluded that effects to sediment quality would be moderate. The impacts discussed in the Programmatic Estuary EA, Section 3.6.3 include: mechanical disturbance of existing sediments; changing hydrologic flow patterns; floodplain and tidal reconnection; increasing organic materials in sediments; and introduction of pollutants.

6. Air Quality

Vehicle emissions during the transportation and operation of construction equipment could cause a minor temporary decrease in air quality for the duration of on-the-ground work. Impacts would be low and would not result in violations of state air-quality standards. As described in the Programmatic Estuary EA, Section 3.7.3, impacts on air quality would be low both in concentration and duration. The impacts discussed in the Programmatic Estuary EA, Section 3.7.3 include: temporary and localized increase in dust and pollutants, such as carbon monoxide, nitrogen dioxide, particulates, sulfur dioxide, ozone, or lead.

7. Wildlife

In the short term, noise and visual disturbance during construction would likely cause wildlife to avoid the project area during the construction period. If present during construction, nesting birds, smaller ground-dwelling mammals, reptiles, and amphibians could be harmed or killed incidentally during construction. In the longer term, effects to wildlife are expected to be beneficial. The action would improve breeding and feeding habitat for animals such as river otters, amphibians, reptiles, waterfowl, and shorebirds by expanding the biodiversity at the site through the inclusion of anadromous fish during periods of inundation. No ESA-listed terrestrial wildlife species are known to be on the island.

The project proposes to reconnect Jewett Lake back to its historical condition with a full hydraulic connection back to the Columbia River. Water levels in the lake would rise and fall with the water levels on the Columbia River. The connection and inundation of the lake and associated wetlands would be highly variable, with a range of water depths. Some years the lake would be connected in early spring, other years it would be connected in late spring. It would remain inundated and connected from days to weeks at a time, rather than long periods of time. This variability and frequency would make it less predictable and dependable as a possible food source for waterbirds. So attracting colonies of piscivorous waterbirds is not anticipated. In addition, anadromous fish are thought to follow the water levels into and out of off-channel habitat as the water levels fluctuate, so they are not anticipated to be utilizing the lake and wetlands when the water levels are low and more prone to avian predation.

There are known bald eagle nests on Government Island; however, construction equipment would be more than 660 feet away from nests during the entire project. In addition, there are heavily vegetated areas between construction activities and the nests that would help buffer any construction noise.

These impacts are consistent with the Programmatic Estuary EA, Section 3.8.3, which concluded that effects to wildlife would be moderate and beneficial. The impacts discussed in the Programmatic Estuary EA, Section 3.8.3 include: noise or visual disturbance to wildlife, displacement of individual animals, and habitat conversion.

8. Wetlands, Floodplains, and Vegetation

In the short term, construction would directly affect regulated waters in the project area. Excavation would occur in the vicinity of the water control structure and the wetland swale, but these areas would be restored following construction. As a result of the project, wetland quality would improve due to the restoration of natural flow patterns and the replacement of invasive species with native trees, shrubs, forbs, and grasses through replanting efforts.

Some concern has been expressed that, in the long term, opening up the Jewett Slough would allow invasive plant seeds to migrate onto the island. The wetlands surrounding Jewett Lake were fully connected to the Columbia River prior to 1993, at which time the water control structure was installed at the mouth of the Jewett Slough. The current water structure still allows plant seeds to both enter and exit the wetlands during inundation and retreat, respectively. Vegetation present in the wetlands includes native rushes and sedges, as well as significant areas of invasive reed canarygrass. Invasive vegetation is already present in the wetlands and surrounding riparian areas.

All areas at the site disturbed during construction activities would be revegetated with native plant species. Some Himalayan blackberry patches would be tilled and revegetated with native riparian plants, but the emergent wetland areas within the site would remain undistributed. The site would not be left open and exposed with bare soils for potential invasive vegetation establishment. Furthermore, the site would be monitored for five years following construction to ensure the success of the replanting efforts.

The removal of the water control structure has potential to influence the hydrology of the Jewett Lake wetland complex. CREST would monitor the project area post-project with water surface data loggers, bathymetric surveys, and drone-based observations to ensure that there is no observable change in wetland hydrology. If necessary, adaptive management actions would be applied to ensure wetland hydrology is maintained at the site. Adaptive management proposed at the site includes the installation of log weirs within Jewett Slough that would help maintain water table elevations while also allowing for fish passage.

These impacts are consistent with the Programmatic Estuary EA, Section 3.9.3, which predicted beneficial effects. The impacts discussed in the Programmatic Estuary EA, Section 3.8.3 include: alteration of wetland hydrology; restoration of wetland-forming processes; increased wetland area, habitat complexity, composition of native vegetation, riparian buffer area, vegetation cover, and quantity of tidal marsh habitat flows, tidal exchange, and flushing; and decreased composition, distribution, and quantity of invasive species.

This Floodplain Statement of Findings was prepared in accordance with the Department of Energy's NEPA implementing regulations and in compliance with Floodplain and Wetland Environmental Review Requirements (10 Code of Federal Regulations 1021 and 1022). Chapters 3, 4, and 5 of the Programmatic Estuary EA provide an assessment of impacts to floodplains and wetlands. Consistent with the Programmatic Estuary EA (including Section 3.9.9), the Government Island Restoration Project would restore floodplain connectivity and function and improve wetland function and value, as described above. Additionally, the project would not result in floodplain development. While the project may impact wetlands in the short term, the overall long-term impacts would be beneficial, because the goal of the project is to restore wetland hydrologic connectivity, compared to the current condition.

9. Land Use and Recreation

The entire island is owned by both the Port of Portland (Port) and Metro Oregon Regional Government (Metro). The eastern portion of the island is currently owned by Metro but the Port is proceeding with a land swap to transfer the entire island into Port ownership. The Port manages the Jewett Lake area for migratory waterfowl and emergent wetland vegetation as it is a compensatory wetland mitigation site.

The beaches along the Columbia River are managed by Oregon State Parks as public recreation areas. Technically, recreationalists are only allowed on the beaches and construction is not proposed on the beaches used by recreationalists; however, project construction may temporarily disrupt access to recreation areas on the island specifically in the vicinity of the water control structure. Construction activities, including staging, would be outside of the Columbia River navigational channel and therefore, would have no effect to commerce occurring in the river.

These impacts are consistent with the Programmatic Estuary EA, Section 3.10, which described low to moderate impacts to land use and recreation. The impacts discussed in the Programmatic Estuary EA, Section 3.10.3 include: changes in land ownership, removal of drainage structures, and changes in access to recreational opportunities.

10. Cultural Resources

BPA performed a site-specific National Historic Preservation Act Section 106 cultural resources consultation in 2018 and 2019. BPA consulted with the Confederated Tribes of Grand Ronde, Confederated Tribes of Siletz Indians, Cowlitz Indian Tribe, Confederated Tribes of the Warm Springs Reservation of Oregon, Confederated Tribes and Bands of the Yakama Nation, Confederated Tribes of the Umatilla Indian Reservation, Nez Perce Tribe, Columbia River Inter-Tribal Fish Commission, and Oregon State Historic Preservation Office (SHPO). Archaeological consulting firm Historical Research Associates, Inc. (HRA) conducted a field survey and prepared a cultural resources report with the determination of no historic properties affected. The SHPO concurred with the determination of no historic properties affected on June 5, 2019.

Cultural resources impacts are consistent with the analysis in the Programmatic Estuary EA, Section 3.11.3. That is, the action would not impact historic sites, and impacts to cultural resources uncovered during construction would be mitigated by the use of Inadvertent Discovery Plans (IDPs). Therefore, impacts would be low. The impacts discussed in the Programmatic Estuary EA, Section 3.11.3 include: reestablishment of tidal channels, reestablishment of wetland and riparian plant communities, and removal of structures.

11. Socioeconomics

The project would result in small, temporary, beneficial impacts to socioeconomics by providing jobs for construction workers. Long-term benefits could result from the improvement of fish runs and natural scenery. The action would neither displace residents or degrade residential suitability; nor cause changes to the tax base.

The expected socioeconomic impacts would be low, consistent with those described in the Programmatic Estuary EA, Section 3.12.3. The impacts discussed in the Programmatic Estuary EA, Section 3.12.3 include: short-term employment opportunities, local short-term lifestyle disruptions due to construction, land use conversion, and improvements to fisheries.

12. Visual Resources

In the short term, there may be some visual impacts as a result of construction equipment being visible to people in boats on the river and residents living north of the island in Washington along the Columbia

River. In the long term, removal of the water control structure and reconnection of the historic wetland swale would increase hydrologic connectivity, resulting in an increase in the quality of the wetland and associated habitat within the project site. Post-construction, the mouth of the Jewett Slough and the historic wetland swale reconnection would be planted with native woody riparian vegetation, resulting in a more natural looking environment.

This impact is consistent with the visual resources analysis in the Programmatic Estuary EA, Section 3.13.3, which characterized these effects as low to moderate. The impacts discussed in the Programmatic Estuary EA, Section 3.13.3 include: short-term visual impacts related to construction, and long-term impacts associated with changing the visual condition from a managed state to a more natural landscape.

13. Noise, Hazardous Waste, Public Health, and Safety

Noise level is expected to increase intermittently above ambient conditions during the construction period. The project would not result in any long-term effects to ambient noise levels during operation. Requirements to minimize these effects would be considered during the development of construction specifications. No hazardous materials are documented for the project area.

Potential safety risks could be associated with removing the water control structure at the mouth of Jewett Slough. The public could access this water either by small water craft during high flows or by walking along the beach. However, because water levels are expected to rise and fall slowly with the natural tides, safety risks are anticipated to be low.

This is consistent with the analysis in the Programmatic Estuary EA, Section 3.14.3, which described low effects to noise, hazardous waste, public health, and safety. The impacts discussed in the Programmatic Estuary EA, Section 3.14.3 include: short-term noise during construction and maintenance, potential encounters with contaminated media during construction, and risks to safety due to change in hydrologic regime after construction.

14. Transportation and Infrastructure

The project would not have any impacts on navigation on the Columbia River; however, Jewett Slough would be navigable by small craft more frequently. This is consistent with, or less than, the effects in the Programmatic Estuary EA, Section 3.15.3, which described low effects to navigation.

The impacts discussed in the Programmatic Estuary EA, Section 3.15.3 include: changes in navigation.

15. Climate Change

Vehicles and equipment operating during construction and maintenance of the project could have negative impacts to climate change. However, over the long term, effects are expected to be positive, as the restoration would create a carbon sink that would store carbon dioxide and help mitigate for the release of greenhouse gases.

Plantings would be adaptively managed to address long-term changes in climate (and resulting effects to salinity, surface-water elevation, and groundwater elevation). The riparian area around the water control structure and the historic wetland swale would be replanted first, immediately after construction is completed. These areas would be planted with a variety of native species at a range of elevations to allow plants to adapt to a range of water levels, salinities, and other fluctuating environmental conditions. Although climate change may increase temperatures, change precipitation patterns, cause more extreme weather events, and raise sea levels, these impacts would likely occur regardless of the Government Island Restoration Project. Removal of the water control structure would

pass larger flows without overtopping and stranding fish. Likewise, improving access to Jewett Lake would provide refuge areas to juvenile fish during more extreme flows in the Columbia River.

Overall, the long-term impacts on climate change from the project are expected to be low and beneficial, consistent with the impacts described in the Programmatic Estuary EA, Section 3.16.3. The impacts discussed in the Programmatic Estuary EA, Section 3.16.3 include: both the release and sequestration of greenhouse gases, and the buffering of sea-level rise, particularly during extreme flows.

Findings

This SA finds that the types of actions and the potential impacts related to the proposed Government Island Restoration Project have been examined, reviewed, and consulted upon and are similar to those analyzed in the Columbia Estuary Ecosystem Restoration Program Environmental Assessment (DOE/EA-2006) and Finding of No Significant Impact. There are no substantial changes in the proposed project and no significant new circumstances or information relevant to environmental concerns bearing on the proposed project or its impacts within the meaning of 10 CFR § 1021.314(c)(1) and 40 CFR §1502.9(c). Therefore, no further NEPA analysis or documentation is required.

/s/ Elisabeth Bowers
Elisabeth Bowers,
Contract Environmental Protection Specialist
ACS Professional Staffing

Reviewed by:

/s/ Chad Hamel
Chad Hamel
Supervisory Environmental Protection Specialist

Concur:

/s/ Sarah T. Biegel Date: *July 11, 2019*
Sarah T. Biegel
NEPA Compliance Officer