

# memorandum

DATE: 8/8/2016

REPLY TO  
ATTN OF: ECF-4

SUBJECT: Supplement Analysis for the Columbia Estuary Ecosystem Restoration Program Final EA (DOE/EA-2006/SA-2)

TO: Anne Creason  
Project Manager – EWL-4

**Proposed Action:** Wallacut Confluence Estuary Restoration

**Proposed by:** Bonneville Power Administration (BPA)

**Location:** Pacific County, OR

**Project No.:** 2010-073-00 / **Contract No.:** 70448

## **Introduction**

In July 2016, Bonneville Power Administration (BPA) and the U.S. Army Corps of Engineers (Corps) completed the Columbia Estuary Ecosystem Restoration Program Environmental Assessment (DOE/EA-2006) (Programmatic Estuary EA). The Programmatic Estuary EA analyzed the potential impacts of estuarine restoration actions that occur under the BPA-Corps Columbia Estuary Ecosystem Restoration Program to support more efficient environmental review of site-specific restoration projects. The program was instituted to undertake the activities necessary to evaluate, protect, monitor, and restore fish and wildlife habitat in the estuary. The Programmatic Estuary EA facilitates the environmental review of routine actions with well-understood and predictable environmental impacts common to restoration projects in tidal and riverine systems.

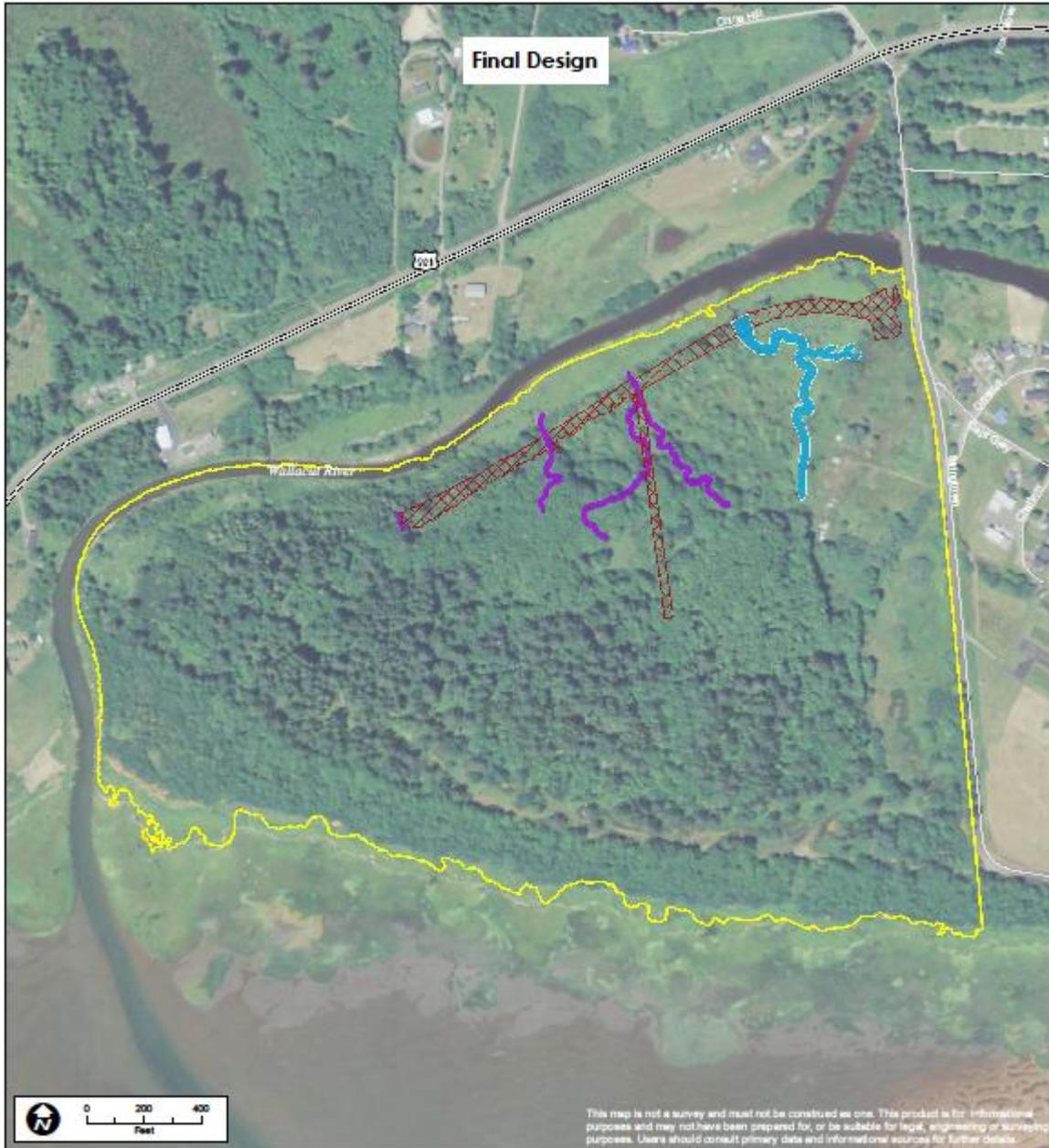
Consistent with the Programmatic Estuary EA, this supplement analysis (SA) analyzes the proposed Wallacut Confluence Estuary Restoration (Wallacut project) that would restore habitat along the Wallacut River in Pacific County, Washington. The SA was prepared to analyze the site-specific impacts of the proposed Wallacut project and determine if the project is within the scope of the analysis considered in the Programmatic Estuary EA. It also evaluates whether the proposed project represents significant new circumstances or information relevant to environmental concerns. The findings of this supplement analysis determine whether additional NEPA analysis is needed pursuant to 40 Code of Federal Regulations (CFR) § 1502.9(c).

**Proposed Action**



**Wallacut River Confluence Estuary Restoration**

Pacific County, Washington



2/17/2016



Under the proposal, BPA would fund the Columbia Land Trust (CLT) to conduct restoration actions on a 113-acre parcel along the Wallacut River at its confluence with the Columbia River, approximately one-and-a-half miles northeast of Ilwaco, Washington. The parcel is owned by

CLT and historically had tidally-influenced wetlands and tidal channels. At some point in the late 19th or early 20th century, a levee was constructed along the south bank of the Wallacut River and ditches and tidegates were installed to drain the area. Currently, the 1,950-foot-long historic farm levee and associated borrow ditch separate a large section of the Wallacut River from its left bank floodplain. At this point, the levee only serves to restrict tidal influence within a portion of the 113-acre parcel and has only partially-functioning tide gates.

The restoration would include removing the levee and filling the borrow ditch, and excavating channels from the river into the property to increase hydrologic connectivity and daily inundation of the adjacent wetland. The levee and ditch area would be seeded and planted with native woody riparian vegetation. Some portions of the levee where existing mature trees are growing would be retained. Soil removed from the levee would be used to fill the borrow ditch and form topographic complexity mounds in the project area to create small upland areas to support diverse vegetation communities.

The proposal would not modify or affect the flood management infrastructure that protects the Vandalia neighborhood, which includes the existing levee and ditch along Stringtown Road and the tidegates at the intersection of the Wallacut River and Stringtown Road.

The proposed restoration would improve habitat for 13 Endangered Species Act (ESA)-listed salmon and steelhead species and ESA-listed eulachon (smelt), as well as other fish species and wildlife species. The proposed restoration actions are consistent with the actions considered in the Programmatic Estuary EA, including the following Columbia River estuary (CRE) module management actions developed by NOAA's National Marine Fisheries Service with the intent of aiding in the recovery of salmon and steelhead throughout the region:

- CRE-1: Protect intact riparian areas in the estuary and restore riparian areas that are degraded.
- CRE-3: Protect or enhance estuary instream flows influenced by Columbia River tributary or mainstem water withdrawals and other water management actions in tributaries.
- 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**

To help determine issues to be addressed in this supplement analysis, BPA conducted public scoping between March 2 and April 4, 2016. A letter describing the proposed project, including public notification and conceptual design maps, was sent to local landowners, Tribes, local, state and federal agencies, and other interested parties.

Eighteen individual letters were received during the public scoping period. BPA received the following questions, and has provided responses in *italics* below:

- How will the project contribute to flooding problems for homes in the Vandalia neighborhood and the Ilwaco airport east of the bridge?

- *As part of the project design, hydraulic modelling was conducted to determine how water would flow and to ensure that adjacent landowners would not be affected. The project would not increase flooding potential to neighboring properties. Both the existing Stringtown Road levee and the Wallacut River tidegates—that help lessen flood risk to the Vandalia neighborhood and the Ilwaco airport—would be left in place and would not be affected by the project. Please see Section 2, Hydrology and Hydraulics, for additional information.*
- Will BPA/CLT pay for flooding damages associated with the levee removal?
  - *The only increased flood risk associated with the project would be within the CLT property itself. No increase in flood risk would occur to neighboring properties. Please see Section 2, Hydrology and Hydraulics, for additional information.*
- Will the public have access to the wetlands? Suggested construction of a river walk from culvert downstream.
  - *The property would be open to the public, but no formal trails, walkways, or access points would be constructed and the property would be inundated with tidal flows more often. See Section 9, Land Use and Recreation, for additional information.*
- How will project impact birds, particularly at the Ilwaco airport?
  - *The project would not attract new bird species to the project area that would potentially affect runway approaches at the nearby Ilwaco Airport. Please see Section 7, Wildlife, for additional information.*
- Will the project result in additional wildlife/human conflicts?
  - *The project would not result in additional wildlife/human conflicts. The only new species anticipated to be attracted to the site are salmonids. Please see Section 1, Fish, and Section 7, Wildlife, for additional information.*
- Will existing floodgates remain or will they be removed?
  - *The existing tide gates on the Wallacut River at Stringtown Road would remain in place and would not be affected by the project.*
- How will the project impact future flow characteristics of the river? Will it cause bank erosion?
  - *The project would increase the tidal prism on the CLT property and would result in slight increases in tidal velocity. However, these increases would remain generally low and would not result in bank erosion or substrate movement.*
- How long will it take to see improvement on fish and wildlife species?
  - *Off-channel refugia and increased habitat for fish species would occur immediately post-construction, with off-site benefits including food-web support developing in conjunction with vegetation establishment at the site. A 2009 assessment of monitoring data from the Columbia River estuary found that at four of five improvement sites, juvenile salmon quickly expanded into newly available habitat and greatly increased in number.*
- Propose that culvert under Highway 101 be removed
  - *Thank you for the suggestion; however, all work is proposed within the boundaries of the 113-acre property.*
- Will weed control be implemented as a part of the project?
  - *The project would incorporate a number of measures to reduce the spread of invasive species. Riparian vegetation planning would utilize native plant species and seeds that are adapted to local climate and soil chemistry, and would use only certified noxious-weed-free seed mixes. In both riparian and upland areas*

*within the project area, invasive plants would be controlled using herbicides in addition to manual and mechanical controls. Please see Section 8, Wetlands, Floodplains, and Vegetation, for additional information.*

- Will the project ensure that short plants are planted to avoid visual obstructions to the Ilwaco airport?
  - *The project revegetation plan has been designed to accommodate air traffic safety for the nearby airport by limiting large trees within runway approaches. Please see Section 8, Wetlands, Floodplains, and Vegetation, for more information.*

Based on the input received during the scoping process, BPA held a public meeting on the project on August 4, 2016, in Ilwaco, WA. The meeting was informational in nature; focusing primarily on hydraulic modeling analyzing water flow and depth associated with the proposal. Three members of the public attended the meeting. Input received during the meeting included a comment about climate change impacts and potential rising tides along the Wallacut River and questions about flood risk potential along the Stringtown Road levee and in the Vandalia neighborhood east of the levee.

## **Environmental Impacts**

The typical environmental impacts associated with the Columbia Estuary Ecosystem Restoration Program 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 impacts of the Wallacut project and whether they are consistent with the impacts described in the Programmatic Estuary EA. Much of the site-specific analysis cited in the environmental impacts section below comes from the Wallacut River Confluence Restoration Final Basis of Design Report, published June 3, 2016.

### **1. Fish**

The overall effects to fish from the proposed Wallacut project would be beneficial. ESA-listed species in the Wallacut project area may include coho, Chinook, and chum salmon, as well as cutthroat trout and Pacific lamprey. Detrimental impacts, such as increased turbidity and injury or mortality from fish salvage and work-area isolation, would be expected, but would be short-term and related to project construction. Beneficial effects to fish, such as enhanced water quality and increased habitat area and access for fish, should develop post-construction. These impacts are consistent with the analysis in the Programmatic Estuary EA, Section 3.2.3 which describes fish impacts as expected to be moderate and beneficial. As consistent with the Programmatic Estuary EA, BPA would use the Habitat Improvement Program III (HIP III) process to provide programmatic ESA coverage for impacts to ESA-listed fish for the Wallacut Project. Categories of action included in the HIP III and relevant to the Wallacut project include those in the ‘River, Stream, Floodplain and Wetland Restoration’ category, including:

- 2a – Improve Secondary Channel and Wetland Habitats
- 2b – Set-back or Removal of Existing Berms, Dikes, and Levees
- 2d – Install Habitat-Forming Natural Material Instream Structures

BPA's Restoration Review Team (RRT), which screens projects to ensure that the obligations set forth are met in the NMFS and FWS Biological Opinions, reviewed the Wallacut project twice, once in September 2015 with conceptual designs and again in April 2016 with 90% designs. The RRT process provided coverage for impacts to ESA-listed species, by communicating the requirements of the HIP III programmatic ESA process, including best management practices and design features.

## 2. Hydrology and Hydraulics

Hydrology and hydraulic modeling was completed for the Wallacut project to determine where water would flow, what the water depths would be, and the inundation durations. The modeling helped show whether the project would have its desired effects (increase water movement into the CLT property, while not impacting adjacent land and infrastructure).

Models show that the depth of water within the main channel of the Wallacut River would not change as a result of the project. In addition, during tidal extremes, increases in water depth would occur within the CLT property, but would not occur on neighboring properties or against the Stringtown Road levee (see Figure 18 of the Wallacut River Confluence Restoration Final Basis of Design Report).

The project would not result in any new impacts to adjacent properties, including the adjacent Vandalia neighborhood and the Port of Ilwaco airstrip to the east of the property. The Stringtown Road levee and tide gate to the east of the project site would remain in place and would continue to function as they currently do. At present, water flows over the Stringtown Road levee when tides exceed the minimum levee elevation of 10.69 feet (NAVD88). The levee would likely continue to be overtopped at 10.69 feet since the existing farm levee is lower in elevation and benefits become insignificant for tides greater than 9.4 feet.

Findings from the hydrologic modeling indicate that the removal of the farm levee on the CLT property would not increase the potential of overtopping Stringtown Road or impair the function of the Wallacut River tidegates. Although the proposed project would result in increased high tide water depth within the interior of the CLT property itself, the modeling showed that with very high tides, there would not be an increase in water in the ditch along Stringtown Road or against the Wallacut River tidegates, and that no increase in depth of water along the Stringtown Road levee would occur. There is a ditch located immediately to the west of the Stringtown Road levee that is connected by a culvert with an approximate length of 20 feet. This ditch is shown as similarly wet under both existing and proposed conditions; modeled depth would not increase in the ditch as a result of the project.

Inundation duration changes due to the project was modeled at four points within the property—two points in the property's interior and two points adjacent to the Stringtown Road ditch and levee. The model showed that although removal of the farm levee would increase water depth at the two points within the property, the duration of inundation would be less because the marsh would be free-flowing. Inundation duration at the two points along the existing Stringtown Road ditch and levee would not change.

During a king tide, velocity is expected to increase between .4 and .6 ft/s during the flood tide and to decrease slightly on the ebb tide. Velocities would generally be low under both existing

and proposed conditions and fall within a range that is considered too low to exceed the threshold for movement of bank substrates.

For groundwater, modeling indicated that transport of groundwater through the substrate is likely less than 0.09 feet under a king tide scenario. This is far short of the distance to adjacent properties east of Stringtown Road. This calculation suggests that the proposed project would not significantly impact groundwater table elevations behind the Stringtown Road levee and that a more detailed groundwater analysis is not warranted, as the cyclical nature of tidal events do not allow for inundation times great enough to significantly increase seepage through the Stringtown Road levee.

The Pacific County Public Works Department is responsible for maintenance of the Stringtown Road levee and the Wallacut River tidegates. The Department's engineer has reviewed the project modeling and design and agrees with the conclusion that the project would not impact either the Stringtown Road levee or the Wallacut River tidegates.

The potential impacts to local hydrology and hydraulics from implementing estuary restoration actions depend on site-specific restoration needs and opportunities, location, proximity to the mainstem of the river, adjacency to other projects, and past land uses. These impacts would vary in context and intensity depending on site-specific conditions and implementation actions. These impacts include:

- Erosion, scour, floodplain accretion, and in-channel deposition
- Increased frequency and duration of inundation
- Localized changes in velocity, flow, and circulatory patterns
- Increase instream flows and groundwater exchange
- Abatement of peak flows and amelioration of flooding

To summarize, impacts associated with depth of water, inundation duration, velocity, and groundwater are minimal and are consistent with the analysis in the Programmatic Estuary EA, Section 3.3.3.

### **3. Water Quality**

The project would result in overall positive impacts to water quality, including increased composition of native vegetation and vegetation cover, increased quantity of tidal marsh habitat, and increased flows, tidal exchange, and flushing. Impacts associated with construction activities at the Wallacut project site could result in increases to localized turbidity but would be short-term and limited to the duration of construction and subsequent site stabilization. As part of the HIP III process, conservation measures would be implemented to ensure that increases in suspected sediment are not exceeding compliance limits. The impacts associated with the Wallacut project are consistent with those described in the Programmatic Estuary EA, Section 3.4.3.

### **4. Geomorphology, Soils and Topography**

Short-term construction-related impacts associated with the Wallacut project would include a temporary increase in soil erosion, compaction, and mixing of soil horizons. Soil disturbance from construction work would include the construction of staging areas and access roads,

earthwork, excavation, vegetation removal, and restoration of the hydrologic regime to areas that have been isolated from the river's natural hydrologic processes.

As described in the Hydrology and Hydraulics section above, the project would not result in any changes to the operation of the existing Stringtown Road levee, as the hydrologic models showed no increase in water depth within the ditch to the west of the levee that could result in increased scour. Similarly, bank stability is not an issue downstream from the project, as modeled velocities along the banks of the Wallacut River were typically less than 1.5 ft/s, which is below reported "permissible velocities" for bare soil. Since the bank of the Wallacut River is generally well-vegetated, it is likely that these banks could withstand higher threshold velocities before erosion would take place. The Wallacut project's impacts are similar to those described in the Programmatic Estuary EA, Section 3.5.3.

## **5. Sediment Quality**

The Wallacut project would remove approximately 3,350 cubic yards of material from the CLT levee, with 2,400 cubic yards of this material used to fill the existing borrow ditch. This activity would stir up sediments, re-suspend them in the water column, and redistribute them within the estuary. Toxic contamination present in the disturbed sediments is expected to be low as the property was historically used for grazing; however, upstream sources may lead to some soil contamination within the material to be removed. Any effect of contaminated soils would be a short-term effect, as the sediment removal and relocating actions would take place in a single season and not create a perpetual source of pollution. Overall impacts on sediment quality are moderate in the long term. Though there may be some short-term adverse impacts from disturbing and redistributing sediments, the actions proposed would increase organic material into the estuary's sediments over time, increasing their capacity to store nutrients as well as toxic chemicals. While this may lower sediment quality, water quality could improve the water column, thus improving the health of the aquatic biota. Such impacts have been previously analyzed in the Programmatic Estuary EA, Section 3.6.3 and are consistent with the impacts associated with the Wallacut project.

## **6. Air Quality**

Temporary impacts to air quality associated with the Wallacut project would result from the transportation and operation of construction equipment, as well as emissions related to travel to and from project areas for maintenance purposes. Impacts would be low and would not result in long- or short-term violations of state air quality standards. Project impacts on air quality would be low both in concentration and duration; consistent with the impacts described in the Programmatic Estuary EA, Section 3.7.3.

## **7. Wildlife**

The site is currently held in a natural state with wetlands and forests attracting a variety of wildlife species. Much of the surrounding area along the Columbia River and Wallacut River also supports wildlife. Impacts on wildlife resulting from the Wallacut project would relate to construction, and the conversion of pasture grass to emergent vegetation, intertidal channels, and mudflats would permanently displace most upland species. Semi-terrestrial mammals such as beaver, as well as amphibians, waterfowl, shorebirds, and insect-eating birds, would have

expanded and much improved wetland and aquatic habitat for breeding and feeding. Species favoring riparian forest would benefit from the planting of native tree and shrub species in areas bordering the restored tidal wetland.

The Programmatic Estuary EA acknowledged the potential for restoration projects to impact ESA-listed species. If ESA-listed species are potentially impacted, the Programmatic Estuary EA describes the need for consultation, including the implementation of mitigation measures, conservation measures, or project design features identified to minimize impacts.

As described in the 'Fish' section above, BPA's use of the HIP III programmatic provides coverage for potential impacts to any ESA-listed species that may occur within the Wallacut project area.

Potential marbled murrelet habitat exists within the Wallacut project site and near the proposed work areas. As part of the HIP III process, BPA has recommended incorporating timing restrictions and conservation measures to minimize impacts to any potential marbled murrelets existing within the project area. The project would not remove any trees with the potential to support marbled murrelet.

With the exception of salmonids and other aquatic species, the project is not anticipated to attract species that are not already present. As a result, the project would not attract new bird species to the project area that would potentially affect runway approaches at the nearby Ilwaco Airport. The impacts of the Wallacut project would therefore be low, and is consistent with the analysis of wildlife in the Programmatic Estuary EA, Section 3.8.3.

## **8. Wetlands, Floodplains, and Vegetation**

Vegetation within the leveed area of the Wallacut project in the lower marsh areas is dominated by red alder, salmonberry, and elderberry. Herbaceous species present include slough sedge, sword fern, and non-native grasses. Gorse and reed canarygrass are also present in this zone. When the levee is breached, the plant community in this area is expected to change with increased salinity of the tidal water.

Material removed from the levee would be used partially to fill the borrow ditch at the project site; additional removed material would be used to form topographic complexity mounds in the project area to support diverse vegetation communities. These mounds would provide topographic complexity and locations where Sitka spruce, willow, and black cottonwood adapted to higher marsh elevations can be planted.

Revegetation would include seeding and installing woody plantings (bare roots and cuttings) following construction. A native seed mix would be applied to all disturbed areas following construction by the contractor. Wetland seed mix would be applied in wetland areas and upland soil stabilization seed mix would be applied in upland areas. Woody plantings would be planted by CLT. Scrub shrub revegetation (such as dogwood, black twinberry, Pacific ninebark, and Pacific willow) would cover approximately 19.9 acres, while forested revegetation (such as Western redcedar, Western hemlock, red alder, and red elderberry) would cover 6.6 acres.

Site revegetation would support a diverse native plant community, increase long-term large wood recruitment on site, and reduce the spread of invasive species, which are beneficial impacts consistent with those evaluated in the Programmatic Estuary EA Section 3.9.3. In addition, site revegetation is anticipated to decrease erosion following site reconnection. Revegetation would support marsh recovery and provide habitat and food for insects, fish, and other organisms in the marsh and larger estuary. The revegetation plan has been designed to accommodate air traffic safety for the nearby airport by limiting large trees within runway approaches.

The impacts to wetlands and vegetation from projects envisioned in the Programmatic Estuary EA are intended to be beneficial by design, since wetland restoration, invasive species control, and estuarine habitat improvement are the intent of these actions (Section 3.9.3). The Wallacut project would result in low to moderate beneficial impacts to native vegetation, wetlands, and estuarine habitats in the proposed restoration area, including the conversion of vegetation to include an increased composition of native vegetation, and the conversion of the leveed area to a tidally influenced wetland area.

## **9. Land Use and Recreation**

Impacts on land use and recreation would occur from the removal of the existing CLT levee. This removal would convert the land from its historical agricultural uses to tidal marsh habitat, therefore reducing potentially farmable lands and access within the project vicinity.

Approximately half of the Wallacut project area is classified by the Natural Resources Conservation Service as “Prime Farmland if drained” or “Prime farmland if irrigated and drained,” with the remainder of the property classified as “Not prime farmland.” In Appendix C of the Programmatic Estuary EA, BPA reviewed land cover types from 2010 GIS mapping and determined the Wallacut site to be forested, and historically comprised of riparian woodland. Grazing was noted to have occurred in riparian areas within the project site.

Historically, some portions of the riparian areas within the Wallacut project area were grazed, as these lands were drained after the CLT levee was built. The levee has deteriorated over time, requires ongoing maintenance, and is presently ineffective for draining or protecting the property from flooding; a finding that is likely to increase in conjunction with anticipated future sea-level rise. Under the current condition of the levee, use of the protected areas as farmland has been determined to be no longer feasible. Although the proposed Wallacut project would convert a portion of the project area away from potential agricultural use, conversion to tidal marsh would be in line with the historic status of the property. As a result, the impacts on land use and recreation would be low to moderate, as described in the Programmatic Estuary EA, Section 3.10.3.

## **10. Cultural Resources**

Site-specific National Historic Preservation Act Section 106 consultation was completed for the Wallacut project in 2013. BPA consulted with the Cowlitz, Grand Ronde, Quinalt, Shoalwater, and Siletz tribes, as well as the Washington State Department of Archaeology and Historic Preservation. Historical Research Associates conducted an archaeological survey of the Area of Potential Effect and identified two High Probability Areas in the vicinity of existing structures

on the property; however, no archaeological materials were identified. In addition, one newly recorded archaeological site associated with the standing historic complex of structures was identified. BPA received concurrence on its determination that the site was not eligible for the National Register of Historic Places, and that no historic properties would be impacted as a result of the proposed project.

Mitigation measures developed during the consultation process included a requirement of archaeological monitoring for ground-disturbing activities going deeper than two feet below the surface in the vicinity of the known site, as well as the requirement that work be halted in the vicinity of any inadvertently discovered finds until they can be inspected and assessed by the appropriate consulting parties. The project was also modified to avoid the identified archaeological site.

Cultural resource impacts of the Wallacut project would be consistent with the analysis in the Programmatic Estuary EA, Section 3.11.3—no known sites would be impacted and potential impacts to unknown sites that could be discovered during construction would be mitigated through the use of monitors and protocols for handling such discoveries.

## **11. Socioeconomics**

Currently, the majority of the Wallacut River is jurisdictional wetlands protected by failing flood control infrastructure. CLT worked with the previous landowner to achieve shared habitat objectives. The development potential of the site is limited due to environmental restrictions, practical considerations, and limited public services. Small beneficial impacts would occur associated with the workers needed for construction, as well as long-term benefits associated with improvement of fish runs and natural scenery. In addition, the acquisition of the Wallacut property by the CLT and the proposed restoration from historic agricultural to protected wetland reduces tax revenues as the property is exempted from county taxes. The expected socioeconomic impacts would be minimal, consistent with those described in the Programmatic Estuary EA.

The Wallacut project would not result in adverse human health or socioenvironmental impacts or disadvantage low-income or minority populations, consistent with the Programmatic Estuary EA, Section 3.12.3.

## **12. Visual Resources**

The CLT property can be seen from Stringtown Road, the Vandalia neighborhood, and Highway 101. The removal of the 1,950-foot levee and the filling of the associated borrow ditch would increase hydrologic connectivity resulting in an increase in the quality and size of the wetland within the project site. The levee and ditch would be seeded and planted with native woody riparian vegetation, resulting in a more natural looking environment.

This alteration of the physical landscape through the removal of existing infrastructure would shift the character of the site from a somewhat human engineered landscape to a more natural looking area, resulting in low impacts to visual resources, which is consistent with the visual resources analysis in the Programmatic Estuary EA, Section 3.13.3.

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

The Wallacut project would result in minimal noise and hazardous waste impacts related to construction and maintenance activities. Potential safety risks could be associated with increased surface area of flowing and standing water with daily tidal flooding in places where there was none in recent history. However, there are no roads or trails that would bring people in close proximity to the water.

The Wallacut project includes project designs with constructed marsh channels sloping downward to promote draining and ponding, and long-term monitoring to ensure proper site drainage would be implemented to avoid increased breeding habitat for mosquitoes.

In addition, there are no existing roads or trails within the areas proposed for restoration; as a result, safety issues associated with the public interacting with new flowing and standing water are not expected. In summary, the only impacts are associated with construction and maintenance, and are similar to those described in the Programmatic Estuary EA, Section 3.14.3.

### **14. Transportation and Infrastructure**

The Wallacut project would not have any impacts on transportation or infrastructure, as there are no existing roads or trails within the areas proposed for reconnection to the Wallacut River. The project would not have any impacts on navigability within the Columbia River. The Wallacut River is not navigable upstream from the Stringtown Road levee, and therefore the project is not expected to have any impacts on navigability. Because no impacts on transportation or infrastructure exist, they are less than the potential impacts described in the Programmatic Estuary EA, Section 3.15.3.

### **15. Climate Change**

Possible negative impacts to climate change include those relating to use of vehicles and equipment associated with construction and maintenance of the Wallacut project area. Positive impacts would include the creation of a carbon sink that would store carbon dioxide and help mitigate for the release of greenhouse gases. Although climate change may impact the project area by increasing air temperatures, changing precipitation patterns, increasing extreme events, and changing sea level and tidal ranges, these impacts are would be expected whether or not the Wallacut project is constructed. The Stringtown Road levee and tidegates would remain in place and operate as they currently do; no new impacts from climate change on properties surrounding the project area is expected as a result of the project. Overall, the long-term impacts on climate change from the project are expected to be low and beneficial as is consistent with the impacts described in the Programmatic Estuary EA, Section 3.16.3.

## **Findings**

This SA finds that the potential impacts from the proposed Wallacut 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 action and no significant new circumstances or information relevant to environmental concerns bearing on

the proposed action 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/ Dave Goodman  
Dave Goodman  
Environmental Protection Specialist – ECF-4

Date: August 10, 2016

CONCUR:

/s/ Sarah Biegel  
Sarah T. Biegel  
NEPA Compliance Officer – ECP-4

Date: August 10, 2016