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United States Government **Department of Energy**

Bonneville Power Administration

memorandum

DATE: February 24, 2020

REPLY TO ATTN OF: Travis Kessler - ECF-4

SUBJECT: Supplement Analysis for the Steigerwald Floodplain Restoration Project EA (DOE/EA-2027)

TO: Anne Creason, Project Manager – EWL-4

Proposed Action: Acquisition of numerous parcels/easements within the Steigerwald Lake National Wildlife Refuge

Location: Clark County, Washington

Description of the Proposal: Bonneville Power Administration (BPA) proposes to fund the Lower Columbia Estuary Partnership's proposal to restore floodplain connectivity to the Columbia River within the Steigerwald Lake National Wildlife Refuge (Refuge) for the Steigerwald Floodplain Restoration Project near Washougal in Clark County, Washington. The Refuge is managed by the U.S. Fish and Wildlife Service. The project would help improve estuarine habitat to benefit steelhead and cutthroat trout; Chinook, coho, and chum salmon; and Pacific and western brook lamprey. The project would involve reconnecting Gibbons Creek to the Columbia River by breaching a federally authorized levee; removing a diversion structure, fish ladder, elevated channel, and water control structure; raising Washington State Highway 14; constructing a setback levee; enhancing approximately two miles of wetland channels; and re-establishing the site's riparian forest.

To understand the potential environmental impacts of this proposal, BPA prepared an environmental assessment (EA) under the National Environmental Policy Act (NEPA) to analyze the potential impacts of the project and to identify ways to reduce those impacts. The final EA and Finding of No Significant Impact (FONSI) were signed on January 22, 2019. During this time, it was not known that real property interests for a portion of the project area would need to be acquired for project implementation. Therefore, BPA is providing this Supplement Analysis (SA) to include the land acquisitions that would be necessary to implement the Steigerwald Floodplain Restoration Project as designed.

BPA is proposing to provide funding for the purchase of real property interests on six properties located within the Refuge. Two additional properties also located within the Refuge that are a part of the Steigerwald Floodplain Restoration Project would be purchased with funding provided from the U.S. Fish & Wildlife Service (USFWS) through the Land and Water Conservation Fund (LWCF) and other sources. These properties are described below within Table 1.

Table 1. Steigerwald Floodplain Restoration Real Property Acquisitions

Land Acquisition Name	Acreage of Parcel	Funding Source	Proposed Closing Date
Gibbons Creek Mobile Estates	1.45 acres	BPA	February 17, 2020
Steigerwald Shores Property	174.76 acres	USFWS through LWCF program	April 1, 2020
Hickey Property	2.50 acres	BPA	March 13, 2020
City Well Field Property	19.67 acres	BPA	May 1, 2020
State Route 14 Right-of-Way	4.43 acres	BPA	February 28, 2020
James Property	80.1 acres	BPA	April 1, 2020
BNSF Railroad Right-of-Way	5.67 acres	BPA	April 1, 2020
USFWS Refuge Property	911.12 acres	USFWS	April 1, 2020

The funding would be provided as part of BPA's ongoing efforts to protect, restore, and enhance habitat for threatened and endangered salmon and steelhead. The acquisitions would support efforts to mitigate for the effects of development and operation of the Federal Columbia River Power System on fish and wildlife in the mainstem Columbia River and its tributaries under the Pacific Northwest Electric Power Planning and Conservation Act of 1980 in a manner consistent with the Northwest Power and Conservation Council's Fish and Wildlife Program. These real property interests needed to implement the Steigerwald Floodplain Restoration Project would specifically satisfy some of BPA's Columbia River estuary mitigation commitments begun under the 2008 NMFS' Federal Columbia River Power System Biological Opinion (as supplemented in 2010 and 2014) (2008 BiOp) and ongoing commitments under the 2019 NMFS' Columbia River System BiOp (2019 CRS BiOp). The 2008 BiOp called for identifying estuary habitat restoration projects and the 2019 CRS BiOp largely continues the estuary habitat restoration program.

The properties consist of riparian and floodplain habitat. The USFWS would include these properties within their management plan for the Refuge to guide the protection and enhancement of habitat and other resources on the property. If BPA proposes to fund any additional activities on the property, further environmental review may be conducted.

Analysis: The effects from the acquisition of the real property interests, which includes transfer of title and easement acquisitions to implement the Steigerwald Floodplain Restoration Project, are consistent with the analysis in the Steigerwald Floodplain Restoration Project Final EA, Chapter 3. To the extent that future activities on the properties may have additional effects, it is expected that the USFWS would comply with all applicable laws and regulations.

1) Cultural Resources

The effects from the acquisition of real property interests, which includes transfer of title and easement acquisitions to implement the Steigerwald Floodplain Restoration Project, are consistent with the analysis in the Steigerwald Floodplain Restoration Project Final EA, Cultural Resources, Section 3.4. The Steigerwald Floodplain Restoration Project Final EA, Section 3.4, described low to moderate impacts to cultural resources from the project because of the impact to the Washougal-Columbia River Levee, a site eligible for listing in the National Register of Historic Places. To the extent that future activities on the properties may have additional effects, it is expected that the USFWS would comply with all applicable laws and regulations.

2) Geology and Soils

The effects from the acquisition of real property interests, which includes transfer of title and easement acquisitions to implement the Steigerwald Floodplain Restoration Project, are consistent with the analysis in the Steigerwald Floodplain Restoration Project Final EA, Geology and Soils, Section 3.6. The Steigerwald Floodplain Restoration Project Final EA, Section 3.4, described low impacts to geology and soils.

Following the completion of the Steigerwald Floodplain Restoration Project, levee breaching would restore the hydrologic connection between the Columbia River and the Refuge floodplain. This would reestablish conditions resembling the historic floodplain connections that were lost when levees were constructed. This flood water exchange would allow for seasonal inundation of wetlands, formation of additional areas of hydric soils, and the natural accretion and erosion of sediment throughout the newly connected channels. Impacts to soils and geology as a result of these geomorphic changes would be low.

3) Vegetation and Wetlands

The effects from the acquisition of real property interests, which includes transfer of title and easement acquisitions to implement the Steigerwald Floodplain Restoration Project, are consistent with the analysis in the Steigerwald Floodplain Restoration Project Final EA, Vegetation and Wetlands, Section 3.13. The Steigerwald Floodplain Restoration Project Final EA, Section 3.13, described low to moderate impacts to vegetation and wetlands.

Following completion of the Steigerwald Floodplain Restoration Project, replacement of non-native vegetation with native species would result in an increase in native plant cover and habitat diversity. This would be a moderate impact. Reestablishing a hydrologic connection to the Columbia River would increase the area of functional floodplain wetlands and riparian habitats. The restored connection could increase the potential for establishment of aquatic invasive plant species currently found only within the Columbia River, but this impact is expected to be low. Overall, restoration of a mosaic of floodplain-connected wetland and riparian plant communities would support a greater abundance of fish and wildlife species. There would be an increase in the area and availability of off-channel, shallow water habitat for juvenile salmon and other species. Expansion and diversification of wetland habitats would increase the availability of cover, nesting, and forage for wildlife species. This impact would be moderate. Some riparian vegetation would be lost, including mature cottonwood forest that supports a

great blue heron rookery. The project would create more riparian areas than it would affect. Any losses of riparian areas would be temporary and the overall impact would be low.

4) Wildlife

The effects from the acquisition of real property interests, which includes transfer of title and easement acquisitions to implement the Steigerwald Floodplain Restoration Project, are consistent with the analysis in the Steigerwald Floodplain Restoration Project Final EA, Wildlife, Section 3.15. The Steigerwald Floodplain Restoration Project Final EA, Section 3.15, described low to moderate impacts on wildlife.

The Proposed Action would result in several beneficial changes for wildlife. The expansion of available open water would directly increase available habitat for wintering waterfowl, and the increase in emergent wetland would expand nesting capacity for ground nesting waterfowl during spring. Once the planted woody vegetation matures, which ranges between three to five years for shrub and wetland communities and 20 to 30 years for larger trees such as cottonwoods, the increase in forest-shrub wetland and cottonwood riparian forest would substantially increase the capacity for shrub- and/or tree-nesting birds such as passerines, woodpeckers, accipiters, herons, and owls. At that stage, the enhanced habitat would also likely provide diverse structure and would include important features such as standing snags at higher frequencies than current conditions. These impacts would be low.

5) Water Resources and Fish

The effects from the acquisition of real property interests, which includes transfer of title and easement acquisitions to implement the Steigerwald Floodplain Restoration Project, are consistent with the analysis in the Steigerwald Floodplain Restoration Project Final EA, Water Resources, Section 3.14 and Fish, Section 3.5. The Steigerwald Floodplain Restoration Project Final EA, Sections 3.14 and 3.5, described low to moderate impacts on water resources and fish.

Following completion of the Steigerwald Floodplain Restoration Project, the hydrologic connectivity between features would be increased across the project area to allow for natural water exchange with the Columbia River. Floodplain habitat would be increased by allowing for backwatering (inflow/outflow) of Columbia River water into the floodplain during the spring freshet and winter flow events. Additionally, by diverting flow from Gibbons Creek, there would be improved wetland habitat in Steigerwald and Straub Lakes during dry seasons. These restoration activities would be expected to result in improvement to designated beneficial uses, specifically rearing of aquatic life, wildlife habitat, and aesthetics, and would likely result in greater groundwater recharge and retention than occurs under current conditions. Since the groundwater table is likely already high in this area due to its proximity to the Columbia River, this impact would be low.

Following completion of the Steigerwald Floodplain Restoration Project, despite evidence of groundwater contamination measured in the remnant Gibbons Creek channel, this site is outside the project area and would not be anticipated to be affected by construction actions. The Columbia River in the vicinity of the project area is

included on Oregon and Washington's 303(d) list for a number of previously described pollutants that could be introduced to the project area through backwatering; however, dilution and flushing from Gibbons Creek would be expected to ameliorate impacts. Conversely, water leaving the project area would not be expected to further impact the previously described parameters for which there are 303(d) listings for the Columbia River, including pH, temperature, and TDG.

Reconnecting Gibbons Creek to the floodplain and reconnecting the floodplain to the Columbia River would provide access and passage for native fish species of all life stages. In addition, the quality, diversity, and function of fish habitat within the project area would benefit from the Steigerwald Floodplain Restoration Project by improving and increasing off-channel habitat for outmigrating juvenile salmonids in need of rearing and overwintering habitat. It would also provide spawning habitat for adult salmonids in the lower Columbia River. By restoring connectivity and function within the project area, hydrologic exchange and processes would improve and provide fish habitat. These operational impacts would be moderate.

6) Land Use and Recreation

The effects from the acquisition of real property interests, which includes transfer of title and easement acquisitions to implement the Steigerwald Floodplain Restoration Project, are consistent with the analysis in the Steigerwald Floodplain Restoration Project Final EA, Land Use and Recreation, Section 3.7. The Steigerwald Floodplain Restoration Project Final EA, Section 3.7, described impacts would be low to moderate.

The land in the Refuge is mapped as "Prime Farmland", "Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season" or "Prime farmland if protected from flooding or not frequently flooded during the growing season." Since the USFWS purchased the property on which the Refuge is located (USFWS 2005), some of the land has been managed for livestock grazing and hay production. The Steigerwald Floodplain Restoration Project would convert up to 115 acres of unmaintained and maintained grassland to seasonal wetland and would not be likely to substantially change this land use. Portions of the seasonal wetland would likely be recolonized by grass species that could be grazed or used for hay. The converted area would likely only be inundated for a relatively short time during the spring freshet and during high-flow events occurring in the winter and spring. The Refuge is not grazed to capacity, so reduction in livestock grazing numbers would not be needed. Since grazing and haying would still occur, impacts to the livelihood of area farmers or farmworkers would not be likely to occur. Therefore, impacts associated with changes to Prime Farmland would be low.

Primary visitor parking area at the Refuge would be closed for the entire construction period. Part of the Refuge and part of the Columbia River Dike Trail (CRDT) would be closed to recreational uses from June to October 15 during the first construction season. All of the Refuge and part of the CRDT would be closed to recreational uses for the entirety of the second construction season (April-October) during the second year. In the winter between the two primary construction seasons, the public would have full or near-full access to the Refuge from the Port Plaza parking lot along the Columbia River, although the primary parking area would remain closed. Up to five private parcels would

be placed under flood protection easements. Noise and visual impacts during construction could affect visitor experience. Conversion of grassland to seasonal wetland could affect Prime Farmland. Temporary construction of Gibbons Creek floodwall would occur on private lands, resulting in temporary loss of access. Some access trails would be reconfigured, but there would be no long-term net loss of hiking trails or access. The trail network would be enhanced and lengthened by one mile.

7) Aesthetic and Visual Resources

The effects from the acquisition of real property interests, which includes transfer of title and easement acquisitions to implement the Steigerwald Floodplain Restoration Project, are consistent with the analysis in the Steigerwald Floodplain Restoration Project Final EA, Aesthetics and Visual Resources, Section 3.2. The Steigerwald Floodplain Restoration Project Final EA, Section 3.2, described impacts to aesthetic and visual resources to be low to moderate.

Following completion of the Steigerwald Floodplain Restoration Project, long-term impacts on visual resources would occur by modifying, relocating, or removing infrastructure including SR14, the Washougal-Columbia River Levee, the elevated Gibbons Creek channel, and the visitor's area; creating new wetland areas; changing the location of trails; and constructing bridges, setback levees, and the Gibbons Creek floodwall, which would have a 10-foot wide cleared area on either side. Changes would be localized and site-specific and would likely not be visible across the entire site or from farther vistas during the long term. Due to the low elevation of the site, most changes would be subordinate to the overall scenic composition adjacent to the refuge. Changes would be visible from vistas within the Columbia Gorge, but at a distance – and when viewed with surrounding man-made elements – should not draw the attention of the casual observer.

8) Air Quality and Climate Change

The effects from the acquisition of real property interests, which includes transfer of title and easement acquisitions to implement the Steigerwald Floodplain Restoration Project, are consistent with the analysis in the Steigerwald Floodplain Restoration Project Final EA, Air Quality and Climate Change, Section 3.3. The Steigerwald Floodplain Restoration Project Final EA, Section 3.3, described impacts to air quality and climate change to be low to moderate.

During implementation of the Steigerwald Floodplain Restoration Project, construction vehicles would temporarily emit pollutants including carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and particulate matter (PM). Emissions would not exceed threshold values, so impact would be low. Construction vehicles would emit greenhouse gases (GHGs), which can contribute to climate change. Dust would be generated during construction and use of unpaved access roads, but would be minimized by application of water. The completed project would provide refuge to juvenile fish during the higher peak flows that are anticipated under climate change scenarios. The completed project would provide flood storage and attenuate higher peak flows anticipated under climate change scenarios. The completed project would increase the capacity of the SR14 Bridge, allowing it to pass Gibbons Creek's 500-year discharge

projected for 2080. This would also protect adjacent residences from 500-year Gibbons Creek flows.

Following completion of the Steigerwald Floodplain Restoration Project, there would be no stationary sources of pollutant emissions associated with operations of the Refuge after construction. Minor amounts of emissions would be generated by equipment used to maintain levees and other infrastructure, and to perform the general actions needed to maintain the Refuge. Although management requirements could be increased due to increased potential for invasive aquatic species, channel maintenance, and other considerations, emissions from maintenance equipment would be relatively minimal and this impact would be low.

9) Noise

The effects from the acquisition of real property interests, which includes transfer of title and easement acquisitions to implement the Steigerwald Floodplain Restoration Project, are consistent with the analysis in the Steigerwald Floodplain Restoration Project Final EA, Noise, Section 3.8. The Steigerwald Floodplain Restoration Project Final EA, Section 3.8, described impacts as low to moderate on the noise resource.

Impacts from noise levels of up 82 A-weighted decibels (dBA) during construction would be a moderate but temporary impact to residents within 100 ft. of the construction area along Gibbons Creek and along SR14 west of Gibbons Creek. Temporary noise impacts could occur if temporary flood barriers were installed on SR14 at the Gibbons Creek Bridge.

During operation of the refuge following completion of the Steigerwald Floodplain Restoration Project, the noise environment would be similar to current conditions, so impacts would be low. Current noise sources that would continue during operation and maintenance include natural sounds such as wildlife, water, and wind, and intermittent noise from maintenance activities such as operating landscaping equipment or maintenance vehicles. Low noise impacts could occur if temporary flood barriers were deployed on SR14 at the Gibbons Creek Bridge, but these impacts would be limited to a maximum of up to 2 hours while the structures were being installed or removed, and the impact would be low.

10) Public Health and Safety

The effects from the acquisition of real property interests, which includes transfer of title and easement acquisitions to implement the Steigerwald Floodplain Restoration Project, are consistent with the analysis in the Steigerwald Floodplain Restoration Project Final EA, Public Health and Safety, Section 3.10. The Steigerwald Floodplain Restoration Project Final EA, Section 3.10, described impacts to public health and safety as low to moderate.

The potential for injury to workers during construction would increase for the duration of the construction period. A larger inundation area could increase potential for mosquito outbreaks within the refuge. There is a potential for temporary and minimal increase in emergency response times if traffic was impeded during construction on SR14. The current level of flood protection would be maintained or increased following project

completion. Overall, the benefit of protection from Gibbons Creek flooding would be increased.

Following completion of the Steigerwald Floodplain Restoration Project during normal operation, risks to public health and safety would decrease because, although Columbia River flood risk would remain unchanged, the risk that Gibbons Creek would flood the Port, the City's wastewater treatment plant, and private residences would decrease substantially. The project is being designed to provide the same level of flood protection that is provided under existing conditions. Because the setback levees and elevated foundation of SR14 would provide the same level of flood protection as the existing levee, and the floodwall and berm on Gibbons Creek would offer increased flood protection, once the Washougal-Columbia River Levee was breached, there would be an increase in the flood protection level provided to the surrounding community. This increase in flood protection would be a moderate, beneficial impact.

Findings: This Supplement Analysis finds that: (1) the proposed actions are substantially consistent with the Steigerwald Floodplain Restoration EA (DOE/EA-2027) and FONSI, and; (2) there are no new circumstances or information relevant to environmental concerns and bearing on the proposed actions or their impacts. Therefore, no further NEPA documentation is required.

/s/ Travis Kessler
Travis Kessler
Contract Environmental Protection Specialist
Salient CRGT, Inc.

CONCUR:

/s/ Sarah T. Biegel DATE: *February 24, 2020*
Sarah T. Biegel
NEPA Compliance Officer

References:
Steigerwald Floodplain Restoration EA (DOE/EA-2027) and FONSI