

Supplement Analysis
for the
Columbia River Basin Tributary Habitat Restoration Programmatic
(DOE/EA 2126) /SA-34)

Bonneville Power Administration
Department of Energy



Introduction

In December 2000, Bonneville Power Administration (Bonneville) issued the Columbia River Basin Tributary Habitat Restoration Programmatic Environmental Assessment (DOE/EA 2126) (Programmatic EA). The Programmatic EA analyzed the potential environmental impacts of implementing habitat restoration actions in the Columbia River Basin and its tributaries.

Since the release of the Programmatic EA, Bonneville has identified an additional restoration action: island expansion and creation. The goal of island expansion and creation is to restore and expand key upland, riparian and wetland habitats and their ecological function. These areas would be designed to persist through the raising and lowering of a reservoir or other types of water bodies. These new and expanded upland areas are important because when a reservoir is drawn down, the areas that are excavated to create islands (borrow areas) would become flooded areas that provide open water to waterfowl and shorebirds. When the reservoir water level is raised, the created and expanded vegetated islands would provide increased security cover and forage for waterfowl and wildlife.

Bonneville has prepared this Supplement Analysis (SA) under the Council on Environmental Quality's National Environmental Policy Act (NEPA) Implementing Regulations at 40 CFR §1502.9(d), and the Department of Energy's NEPA Regulations at 10 CFR 1021.314 to determine whether the proposed island expansion and creation is a substantial change to the proposal or a significant new circumstance or information relevant to environmental concerns that were not addressed by the Programmatic EA, such that either would warrant the need for a supplemental EA.

Proposed Activity

The new restoration action, island creation and expansion, would involve the raising of normally submerged areas to restore and expand fish and wildlife habitat. Island creation could occur in lake environments that have been formed by reservoirs behind dams. Creation of islands in other water body types is not under consideration in this SA. Island expansions could occur in reservoirs, but also in other types of water bodies. In a reservoir environment, the water level is often raised and lowered based on the operation of the dam. This causes areas around the edges of the reservoir to be intermittently submerged and then exposed as the lake levels rise and fall. When lake levels are elevated, these areas are inundated under multiple feet of water for months at a time precluding any terrestrial vegetative growth. Without vegetation and root structure to resist erosive forces, any elevated landforms erode over time. Island creation would construct areas at an elevation that is above the elevated lake levels so that vegetation can be established to create habitat that has been lost from the erosive forces of

fluctuating water levels. Similarly, island expansion can occur from changing water levels and would occur in areas where vegetation can be established to increase available habitat.

To implement this activity, construction equipment would be used to excavate certain areas (borrow areas) in order to provide fill that would be used to create the new raised areas (island areas) at existing islands or entirely new islands. Island creation would result in new or expanded upland features (islands) that would help establish new emergent zones (partially submerged) surrounding the upland areas. Island creation activities could require some in-water work, but is primarily conducted when the project area is exposed (not submerged) and in-water work is typically not necessary.

In project areas where wind-created waves result in erosion that could damage the new and expanded island areas, some rock or large wood pieces would be placed to protect the edges against water and wave erosion. Once new or expanded islands are constructed, new vegetation would be planted following an established planting plan intended to maximize the habitat benefits of the areas by utilizing the appropriate native vegetation.

Construction may require the creation of temporary access roads to allow construction equipment to access the project area. Once within the exposed areas where construction would occur, equipment would travel across barren mudflats and new access roads would not be needed.

As described in Section 2.2.3 “Tiering Future Analyses to this NEPA Document” of the Programmatic EA, future individual actions that involve island creation or expansion would be evaluated to determine the level of NEPA analysis required, and whether the project proposal could be tiered to the Programmatic EA.

Environmental Effect

The effects associated with island creation and expansion would be essentially the same effects described for other habitat restoration actions that were analyzed in the Programmatic EA.

The construction of new and expanded island areas would require the use of a track-mounted excavator to excavate material, dump trucks to haul excavated material between borrow areas and island sites, and bulldozers to move and contour material into the desired locations. Similar to what is described in the Programmatic EA (Section 3.1 “Effects Common to Construction Activities”), construction activities for island creation would temporarily introduce higher amounts of emissions, noise, and the potential for fuel, lubricant, and hydraulic fluid spills and drips. These impacts could occur throughout the project area until project completion. Implementation of mitigation measures would be the same as those described in Section 2.4 “Mitigation Measures and Design Criteria”, and Appendices A and B of the Programmatic EA to reduce, but likely not eliminate, the risk of fuel, lubricant, and hydraulic fluid spills and drips during this period.

Most of the work would occur in exposed lake bed areas, and not in inundated areas, so most turbidity and fish handling effects that would occur in other restoration actions would not occur. If in-water work is required, the excavation of borrow areas is likely to increase turbidity. In-water work would require work area isolation and involve the handling/removal of any fish present in the area in a similar manner as described in Section 3.1.3 “Construction” and Section 3.3.1.2.1 “Short-Term Effects to Fish and Aquatic Species from Construction Activities.” These effects would also be reduced, but likely not eliminated, by mitigation measures described in Section 2.4 “Mitigation Measures and Design Criteria” of the Programmatic EA.

Site preparation, typically requires development of access roads and the construction of staging and materials storage areas. If temporary access roads are needed to reach the areas where islands would be created the construction equipment would compact soil, thus reducing soil permeability and infiltration by storm-water as described in Section 3.1.3 “Construction” and Section 3.3.6.2 “Environmental Consequences for Geology and Soils”. The exposed areas where island creation and expansion would occur would be primarily mud flats that are under water for months at a time and soil compaction would not occur.

If near a populated area, the equipment necessary for island creation and expansion would result in a temporary visual disruption and would continue until the project is complete. This temporary visual effect associated with construction equipment is consistent with those discussed in Section 3.3.9.2 “Environmental Consequences for Visual Resources.” Over the long term, islands would be visible where none existed previously. While this would be a change to the visual landscape, the islands would quickly blend in with the natural landscape and in some cases, improve the visual conditions.

In addition to the short-term construction-related effects, the potential long-term beneficial effects associated with island creation and expansion would be consistent with those described for each of the ten restoration actions identified in the Programmatic EA. Island creation and expansion is a form of aquatic habitat restoration and the typical beneficial effects of this action are described in Section 3.2.2 “Effects of Improving River, Stream, Floodplain, and Wetland Habitat” of the Programmatic EA . The long-term effects of island creation and expansion would be the improved habitat conditions through the establishment of new and expanded island features and additional emergent zones surrounding the new or newly expanded island when water levels are higher. When water levels are lowered areas, the areas used for borrow material in reservoirs would become open water that could be used by waterfowl and shorebirds. Also during low water periods, raised islands and emergent vegetation zones would continue to provide cover and forage habitat for migrating and resident waterfowl and other wildlife.

Overall, island creation and expansion would result in similar construction-related effects to water, fish, wildlife, visual character, soils, and other resources as the habitat restoration types analyzed in the Programmatic EA. Therefore, island creation and expansion would not substantially deviate from the Programmatic EA and does not represent a substantial change in the Proposed Action or significant new circumstances or information relevant to environmental concerns.

Findings

Bonneville finds that the potential impacts related to the proposed island creation and expansion activities are similar to those analyzed in the Columbia River Basin Tributary Habitat Restoration Programmatic Environmental Assessment (DOE/EA 2126) and Finding of No Significant Impact. There are no substantial changes in the EA’s Proposed Action and no significant new circumstances or information relevant to environmental concerns bearing on the EA’s Proposed Action or its impacts within the meaning of 10 CFR § 1021.314 *et seq.* and 40 CFR §1502.9(d). Therefore, no further NEPA analysis or documentation is required.

/s/ Ted Gresh

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Concur:

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References:

Columbia River Basin Tributary Habitat Restoration Programmatic