

ENVIRONMENTAL ASSESSMENT

**Willapa National Wildlife Refuge
Tarlatt Slough WSDOT Tidal Restoration
Pacific County, Washington**

June 2012

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CHAPTER 1. PROPOSED ACTION

1.1 Introduction

The proposed action is a partnership between the Washington State Department of Transportation (WSDOT) and the US Fish and Wildlife Service (Service or USFWS) to restore the bermed and ditched Tarlatt Slough property (Figures 1 and 2) to historic tidal conditions. The goal of this restoration is to improve ecological functions and values of the Tarlatt Slough by re-establishing wetlands, tidal connections, reconnecting channel habitat, enhancing riparian areas, enhancing uplands, and establishing protective buffers. Tarlatt Slough, when restored and enhanced in a manner approved by the appropriate regulatory agencies, will increase the value of the wetlands available for use by WSDOT in the form of mitigation credits and improve wildlife habitat at the Willapa National Wildlife Refuge (Refuge or NWR). After Service conducts the restoration work on the Tarlatt Slough property, WSDOT intends to donate the fee title of the Tarlatt Slough property (49.26 acres) and the Parpala Slough property (Figure 3)(34.65 acres) to the Service.

1.2 Mission of the National Wildlife Refuge System

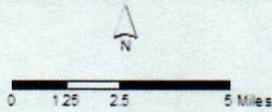
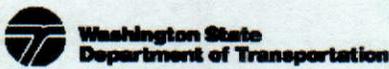
The mission of the National Wildlife Refuge System is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.

1.3 Purpose of the Willapa National Wildlife Refuge

The Willapa National Wildlife Refuge is located on Willapa Bay along the southern Washington coastline. The Refuge was established in early 1937 by President Franklin Roosevelt in order to preserve and manage the important habitats and wildlife of Willapa Bay. The Refuge currently manages over 16,000 acres including sand dunes, sand beaches, intertidal mudflats, saltwater and freshwater marshes, grassland, open water, and forested lands.

The Refuge's wetland habitats support wintering populations of waterfowl such as black brant, trumpeter swans, Canada geese, scaup, canvasback, bufflehead, scoters, and American wigeon.

Figure 1. Location of Tarlatt Slough Restoration Site and Willapa National Wildlife Refuge.



Legend

-  Project Action Area
-  Willapa National Wildlife Refuge
-  Interstate
-  U.S. Highway
-  State Route

Figure 2. Tarlatt Slough Restoration

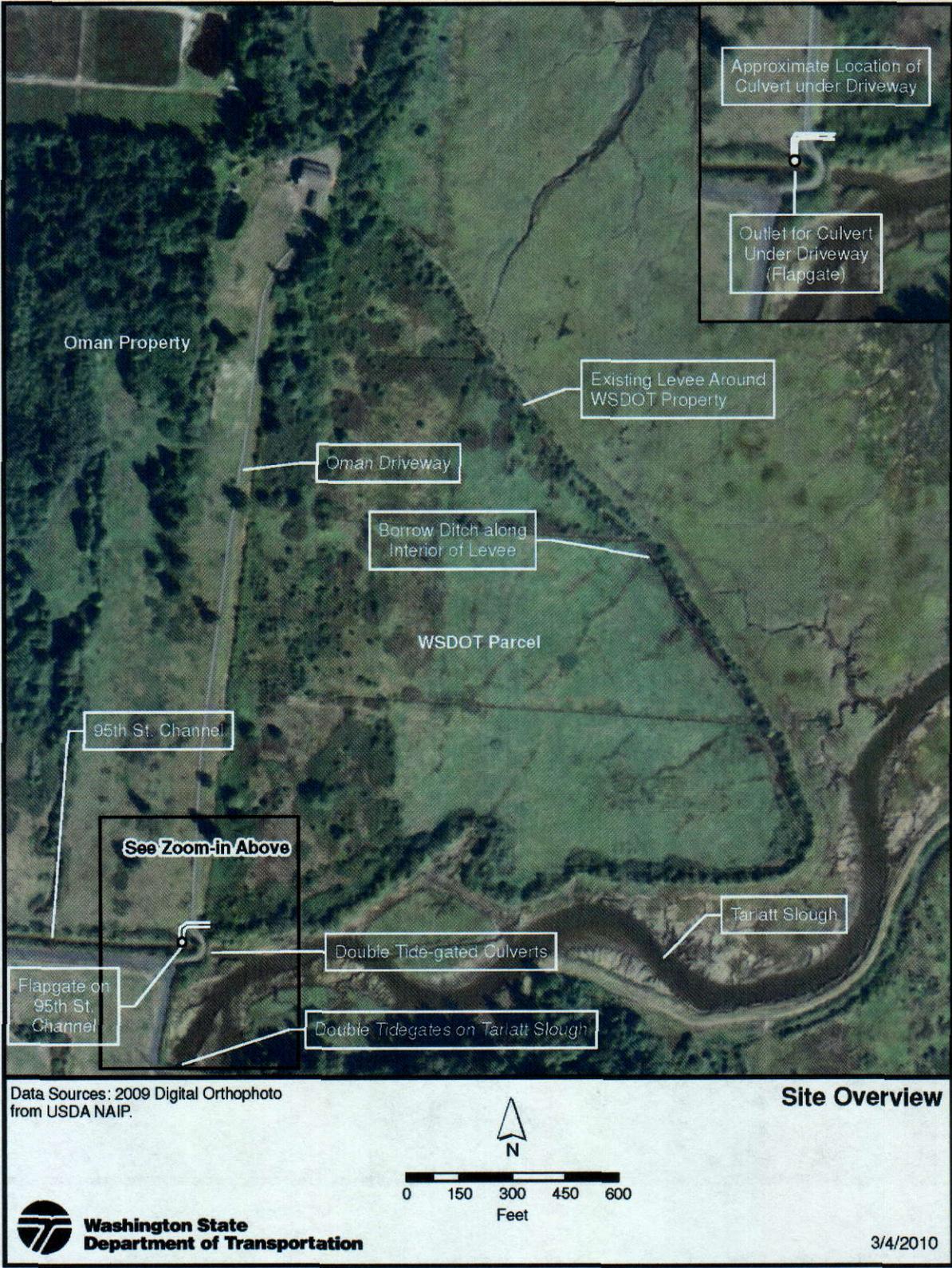
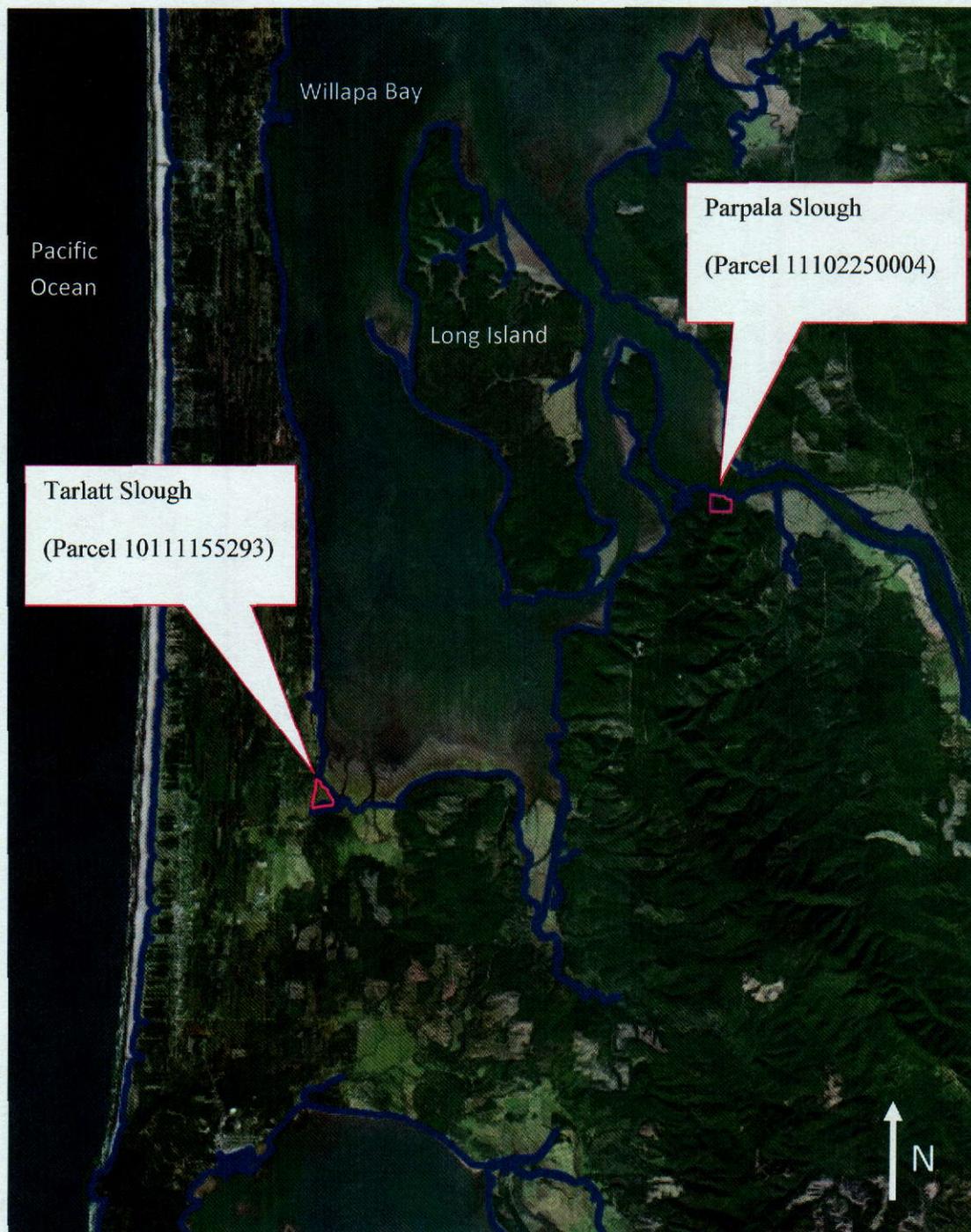


Figure 3. Location of Tarlatt and Parpala Slough



Scale: 1:120,408

The Refuge also hosts some of the largest concentrations of shorebirds on the Pacific Coast during their spring and fall migrations. These large concentrations of migrating shorebirds and the habitats that support them are now recognized as globally significant. The western snowy plover, listed as threatened under the Endangered Species Act (ESA), nests along the refuge beaches. Marbled murrelet, black bear, black-tailed deer, Roosevelt elk, bats, bobcats, and grouse can be found in the forests and upland habitats. The cool, wet climate of the Willapa Hills makes the area a “hotspot” of amphibian diversity; habitats on the Refuge support up to 13 of the 24 native amphibians that occur in Washington. Coastal rivers and streams on the Refuge provide habitat for western brook lamprey; western pearlshell mussels; chum, coho, and Chinook salmon; steelhead; and sea-run cutthroat trout.

The purposes for the Willapa NWR have been identified in historic legal documentation that established and added to refuge lands. Because the Refuge was originally established to preserve an important wintering and foraging habitat for migratory waterfowl in the Pacific Flyway, preservation of this waterfowl habitat represents a priority for management to achieve the refuge purpose. In accordance with 601 FW 1, all lands acquired since the original establishment of the Refuge retain this purpose.

- “as a refuge and breeding ground for migratory birds and other wildlife” (Executive Order 7541, dated January 22, 1937).
- “for use as an inviolate sanctuary, or for any other management purpose, for migratory birds” (16 U.S.C. 715d, Migratory Bird Conservation Act).
- “suitable for—(1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species” (16 U.S.C. 460k-1).
- “the Secretary ... may accept and use ... real ... property. Such acceptance may be accomplished under the terms and conditions of restrictive covenants imposed by donors” (16 U.S.C. 460k-2, Refuge Recreation Act [16 U.S.C. 460k-460k-4], as amended).
- “for the development, advancement, management, conservation, and protection of fish and wildlife resources” (16 U.S.C. 742f(a)(4)).
- “for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude” (16 U.S.C. 742f(b)(1), Fish and Wildlife Act of 1956). In accordance with 601 FW 1, all lands acquired since the original establishment of the Refuge retain this purpose.

Management priorities are further stated in subsequent land acquisition documents to preserve, protect, and restore newly acquired habitats and provide habitat for other migratory birds, plants, and wildlife with special emphasis for marbled murrelets, bald eagles, waterfowl, shorebirds, marsh, and wading birds. Documentation for additional lands also identified the following habitats, wildlife, public opportunities, and management priorities to support a diverse assemblage of native fish, wildlife, and plants:

- Eelgrass beds
- Gravel bars
- Old-growth/mature forests
- Riverine habitats
- Intertidal mudflats
- Sand dune habitat
- Fish species: chum, coho, Chinook, and salmon; steelhead; sea-run cutthroat trout
- Amphibian diversity
- Compatible wildlife-dependent recreation
- Educational/research opportunities
- Cultural resource sites

1.4 Purpose and Need for Action

The purpose of this project is to fully restore natural tidal processes and rehabilitate 48.58 acres of the Tarlatt Slough WSDOT site to historic estuarine wetland conditions for use as mitigation for WSDOT highway improvement projects within the Willapa Bay Watershed (WRIA 24). Removal of the perimeter berm, re-establishment of the historic tidal channel network, and planned connections to existing tidal channels at the edges of the site will restore hydrologic and ecological processes to the currently degraded area.

After the Service conducts the restoration work on the Tarlatt Slough property, WSDOT intends to donate the fee title of the Tarlatt Slough property (49.26 acres) and the Parpala Slough property (34.65 acres) to the Service. Seventy six of the eighty three acres are within the approved refuge boundary and on March 26, 2012, the Regional Director approved the 7-acre boundary expansion of the refuge to include all of Parpala Slough.

The Service will maintain the ecological functions and values of Tarlatt Slough as a wetland and WSDOT will receive mitigation credits for WSDOT bridge and road projects in the Willapa Bay area. The Service will maintain Parpala Slough as a forested wetland and reserve WSDOT's right to use Parpala Slough for mitigation credits.

The acquisition and restoration of the Tarlatt Slough would allow the Service to protect habitat for migrating and wintering shorebirds and the Pacific Brant as well an important rearing area for anadromous fish including steelhead, coastal cutthroat trout, chum, coho, and Chinook salmon and many other aquatic species. Parpala Slough supports low elevation old growth conifer forest which is important for old growth dependent species including the spotted owl, marbled murrelet, bald eagle, Vaux's swift, pileated woodpecker, and bats.

1.5 Acquisition Authorities

Fish and Wildlife Coordination Act of 1934, as amended (16 U.S.C. 661-667e), Fish and Wildlife Act of 1956, as amended (16 U.S.C. 742a-742), and the National Wildlife Refuge System Administration Act of 1966, as amended (16 U.S.C. 668dd-668ee).

1.6 Proposed Action

The Service is proposing to restore 48.58 acres of historically diked tidal marsh at the southernmost end of Willapa Bay. The site is located North of where Tarlatt Slough enters Willapa Bay (Sections 2, 3, 11 & 12, Township 10 N, Range 11 W), in Pacific County. The 49.26 acre site is owned by WSDOT. Historically the site was part of the tidal wetland/marsh system at the mouth of Tarlatt Slough in Southern Willapa Bay. The site is bounded on the West by the Long Beach Peninsula, on the North and East by Willapa Bay and on the South by Tarlatt Slough.

The project will restore 48.58 acres wetland by:

- Removing a perimeter berm that disconnects the site from tidal action.
- Filling two man-made east-west drainage ditches that were excavated in attempts to drain the site.
- Re-establishing the historic tidal channel network across the site.

After the Service conducts the restoration work on the Tarlatt Slough property, WSDOT intends to donate the fee title of the Tarlatt Slough property (49.26 acres) and the Parpala Slough property (34.65 acres) to the Service (Figure 3). Parpala Slough is also located on Willapa Bay (Section 22, Township 11 N, Range 10 W) in Pacific County.

1.7 Scope of the Environmental Assessment

This Environmental Assessment (EA) describes the purpose and need for the restoration effort at Tarlatt Slough. The EA also analyzes the environmental consequences of a range of alternatives. *The document was prepared in compliance with the National Environmental Policy Act (NEPA) of 1969, as amended (42 U.S.C. 4321 et seq.) and Implementing Regulations (40 CFR 1500-1508).*

1.8 Decisions to be Made

Based on the analysis documented in this EA, the Service will determine which alternative to adopt and whether the selected alternative would have significant impacts on the quality of the human environment. If the selected alternative has significant impacts, the Service is required to prepare an Environmental Impact Statement (EIS). If the selected alternative has no significant impacts, a Finding of No Significant Impact (FONSI) is prepared. Alternative B has been recommended for implementation.

CHAPTER 2. PROPOSED ALTERNATIVES

2.1 Alternatives Considered

In response to the proposed habitat restoration at Tarlatt Slough the Service considered two alternatives in detail; the two alternatives are Alternative A: No Action and Alternative B: Tarlatt Slough WSDOT Tidal Restoration Alternative.

2.1.1 Alternative A: No Action

Under Alternative A, the No Action Alternative, the Service would not conduct habitat restoration on the WSDOT parcel adjacent to Refuge and the parcel would not eventually be transferred to the Refuge. Tarlatt Slough would remain diked pastureland and no hydrologic or ecological processes would be restored to the currently degraded area. Since WSDOT had identified the area as a mitigation site they would most likely work with another agency or contract with a private company to conduct the habitat restoration work. WSDOT would also not transfer the Parpala Slough parcel to the Service.

2.1.2 Alternative B: Tarlatt Slough WSDOT Tidal Restoration

Under Alternative B, Tarlatt Slough WSDOT Tidal Restoration Alternative, the Service would fully restore 48.58 acres of diked WSDOT owned tidal marsh at the southernmost end of Willapa Bay to historic estuarine wetland conditions as described in the final signed 2009 Washington State Joint Aquatic Resources Permit Application submitted by WSDOT.

Anticipated improvements to ecosystem function that will result from restoration at this site include:

- Complete removal of the perimeter berm will fully restore tidal influences to the site and re-establish estuarine wetland.
- Restoration of the historic tidal channel network across the site and re-establish connections to Tarlatt Slough and Willapa Bay.
- Restoration of hydraulic connections will rehabilitate the onsite wetlands and restore natural estuarine conditions.
- Filling of artificial drainage features will restore the natural marsh plain surface elevations and allow the return of normal tidal action across the entirety of the site.

To restore the site to natural tidal conditions, WSDOT plans to remove the perimeter berm, which will allow natural tidal inundation and processes to return to the Tarlatt Slough Mitigation

Site. The Service will provide the construction equipment and equipment operators necessary to construct the interior tidal channel network, remove the perimeter berm, and fill the manmade borrow and drainage ditches located on site. WSDOT or USFWS will complete preparatory site work including mowing, clearing and grubbing, and soil preparation activities. WSDOT workforce will also construct the new berm to be located along the driveway of the Oman property and make repairs as needed to damaged sections of the private driveway.

It is expected that work will occur in five stages and take approximately one to two weeks per stage, depending on weather and tides. Stages I-III will occur while the current berm is in place, maintaining the current non-tidal conditions of the site and minimizing the potential for water to mix with disturbed soils. In-water work will occur during Stage IV to remove the existing berm and connect to main tidal channels. The fifth stage will involve clean-up, driveway repairs, and upland revegetation. Details of the proposed action can be found in the Biological Assessment and Wetland Assessment for Tarlatt Slough Mitigation Site (WSDOT 2010) and Advance Mitigation Proposal for Tarlatt Slough Mitigation Site (WSDOT 2010) which are incorporated by reference.

After the Service conducts the restoration work on the Tarlatt Slough property, WSDOT intends to donate the fee title of the Tarlatt Slough property (49.26 acres) and the Parpala Slough property (34.65 acres) to the Service.

CHAPTER 3. AFFECTED ENVIRONMENT

3.1. Physical Setting

The proposed Tarlatt Slough restoration site is located at the southern end of Willapa Bay (Sections 2, 3, 11 & 12, Township 10 N, Range 11 W), in Pacific County (Figures 2 & 3). Long Beach peninsula lies to the West of the site. Willapa Bay is a coastal plain estuary that developed in a drowned river valley as sea levels rose over the last 10,000 years. The estuary is shaped by a partial ocean-built bar at the mouth. (Emmett et al, 2000). The tides are mixed semi-diurnal, with mean tidal range at the mouth of 1.9 m (Banas 2005). Fifty-five percent of the estuary surface area is intertidal. Seven rivers and numerous small streams feed into Willapa Bay. River discharges into Willapa Estuary are driven by precipitation, with the largest discharges in the winter months. The highest salinities at the head of the estuary are associated with late summer when freshwater inputs from river discharges are the lowest.

WSDOT purchased the Tarlatt Slough property (Figure 3) in 2003 for use as compensatory mitigation. The area is bordered by high tidal marsh on the north and east sides and Tarlatt Slough to the south. The majority of the site consists of degraded freshwater wetlands disconnected from natural tidal action by the existing perimeter berm located along the north and eastern property boundary. The existing perimeter berm, the associated borrow ditch along the interior of the site and lateral drainage systems were likely constructed in 1959 as part of the local effort to improve drainage in the Tarlatt waterway. This effort converted the site to non-tidal pasture land. A private driveway lies directly west of the site.

Parpala Slough (Figure 3) is also located on Willapa Bay (Section 22, Township 11 N, Range 10 W) in Pacific County. The majority of the site contains late-successional low elevation coastal rainforest forest with presence of large diameter downed logs and snags within forest habitat matrix of even-aged stands, previously managed for timber production. The forest consists of Sitka spruce, western hemlock and western red cedar with an understory of salal, oxalis, and sword fern. It is surrounded on three sides by similar habitat owned by the Refuge and The Nature Conservancy and is bordered to the north by Parpala Road and State Route 101 where it crosses the Naselle River.

3.2. Hydrology, Water Quality, and Soils

A description of hydrology, water quality and soils can be found in the Biological Assessment (BA) Tarlatt Slough Mitigation Site (WSDOT 2010).

3.3. Wildlife and Habitat

3.3.1. Wildlife

A description of wildlife in the area can be found in the Biological Assessment (BA) Tarlatt

Slough Mitigation Site (WSDOT 2010). Additional information about wildlife on the Refuge can be found in Willapa National Wildlife Refuge Final Comprehensive Conservation Plan and Environmental Impact Statement (USFWS 2011).

3.3.2. Habitat

Historically the site was part of the tidal marsh system at the mouth of Tarlatt Slough in southern Willapa Bay. The site was altered by the construction of a perimeter berm and internal drainage ditches. These were built to prevent the site from flooding and to facilitate the previous owner's use of the property. Water carried by the drainage ditches emptied into the borrow ditch along the inside of the perimeter berm to facilitate the drainage of pasture land.

These historic changes disconnected this portion of the tidal marsh plain and associated tidal channels from Tarlatt Slough and Willapa Bay. The borrow ditch and drainage features were introduced into the natural tidal marsh plain topography on the interior of the constructed berm. Inside the perimeter berm, these changes to site hydrology have resulted in conversion from estuarine marsh with extensive tidal channels to a palustrine freshwater marsh with no tidal connection. On the bay side of the constructed berm, tidal action has developed new tidally influenced channels that closely parallel the Northern and Eastern section of the constructed perimeter berm. Flow in these channels is divided, with one path connecting to a distributor channel of Tarlatt Slough to the south, and the other connected directly to an existing channel that flows northeast directly into Willapa Bay.

Further habitat information can be found in Tarlatt Slough Wetland Assessment and Advanced Mitigation Proposal (WSDOT 2010). Additional information about habitat on the Refuge can be found in Willapa National Wildlife Refuge Final Comprehensive Conservation Plan and Environmental Impact Statement (USFWS 2011).

3.4. Archaeological and Cultural Resources

WSDOT initiated Section 106 consultation with the SHPO, Shoalwater Bay and Chinook Indian Tribe in August 2009 (DAHP Log# 090109-18-WSDOT). No comments have been received from the tribes regarding invitations to consult on the project.

A cultural resource survey report completed for the project by AMEC Earth and Environmental, Inc., titled *Cultural Resources Assessment, Oman Berm Tarlatt Slough Set-Back Project, Pacific County, Washington* (February 5, 2010) detailing the results of the cultural resources assessment was completed for the project.

This report documents the background research and field review completed for the project. Fieldwork consisted of pedestrian survey, sub-surface probes and mechanical trenching in order to try and identify any in-situ cultural resources.

3.5. Wildlife-Dependent Recreation

Tarlatt Slough and Parpala Slough are currently closed to the public and no wildlife dependent recreation occurs.

3.6. Social and Economic Environment

Information about the social and economic environment can be found in the WSDOT SEPA documents. Additional information about social and economic environment can be found in Willapa National Wildlife Refuge Final Comprehensive Conservation Plan and Environmental Impact Statement (USFWS 2011).

CHAPTER 4. ENVIRONMENTAL CONSEQUENCES

4.1. Effects on Hydrology, Water Quality, Soils, Air, and Noise

4.1.1 *Alternative A (No Action)*

Under Alternative A, no earthwork, vegetation management, or restoration activities would occur on Tarlatt Slough. Hydrology, water quality, soils, air and noise would remain unchanged.

However, since WSDOT had identified the area as a mitigation site they would most likely work with another agency or contract with a private company to conduct the habitat restoration work. Effects could be similar as described in Alternative B, except WSDOT would not transfer the Tarlatt or Parpala Slough parcels to the Service.

4.1.2 *Alternative B (Restoration)*

Direct and indirect effects are discussed in the Biological Assessment (BA) Tarlatt Slough Mitigation Site (April 2010) prepared by WSDOT as well as the Wetland Assessment, Determination of Non-significance (DNS), and State Environmental Policy Act (SEPA) Environmental Checklist (WSDOT 2010).

Direct effects from the project include the beneficial hydrological effects from restoring the project area to natural tidal conditions and from temporary changes in water quality during construction. Construction will result in short-term changes in sediment distribution during high tides and initial inundations after construction. This is not expected to have a significant impact.

Some erosion could occur during construction. Grading associated with channel restoration on the interior of the site will be completed and soils stabilized to the extent possible prior to the start of the perimeter dike removal. There will be some periods of project construction associated with the perimeter dike removal that will not be able to be done entirely in isolation from water due to the daily tidal cycles and the time it will take to complete the construction work. Every effort will be made to minimize the period of time that the site is under construction and subject to tidal waters. The work on the interior of the site will be complete and the area stabilized to the fullest extent possible prior to the dike removal to minimize turbidity. Details of erosion control measures will be included in the Temporary Erosion and Sediment Control plan that will be prepared as part of the SWPPS for the required Construction Stormwater General permit.

Construction equipment and vehicles will generate minor quantities of exhaust emissions during daylight weekday hours, for the life of the project. If, as anticipated, construction occurs during dry summer conditions, the project activities may also generate some dust. Construction equipment and vehicles are required by law to have in place and functional the emission control devices they were equipped with at the time of their manufacture. Actions will be taken to minimize conditions that generate dust to the extent possible. Dust will be controlled as needed by water sprayed on the work area. Further details of plans to minimize potential for dust and control dust to the extent possible will be included in the Temporary Erosion and Sediment

Control plan that will be prepared as a part of the SWPPS for the required Construction Stormwater General permit.

Heavy equipment and trucks will generate noise during active construction, scheduled for daylight hours on weekdays. All trucks and equipment used on the project are required to have adequate mufflers as installed by the manufacturer. Noise will return to ambient levels at the end of construction.

4.2. Effects on Wildlife

4.2.1 Alternative A (No Action)

Under Alternative A, no earthwork, vegetation management, or restoration activities would occur on Tarlatt Slough. Wildlife would remain unchanged.

However, since WSDOT had identified the area as a mitigation site they would most likely work with another agency or contract with a private company to conduct the habitat restoration work. Effects could be similar as described in Alternative B, except WSDOT would not transfer the Tarlatt or Parpala Slough parcels to the Service.

4.2.2 Alternative B (Restoration)

Direct and indirect effects on wildlife are discussed in the Biological Assessment (BA) Tarlatt Slough Mitigation Site (April 2010) prepared by WSDOT as well as the Wetland Assessment, DNS, and SEPA Environmental Checklist (WSDOT 2010). The BA concludes that minor impacts from elevated turbidity and sedimentation will have minimal affects to green sturgeon, eulachon or essential fish habitat (EFH). The project will result in mostly beneficial effects to these species through returning habitat to natural tidal conditions in the project area. Therefore, the project may affect listed green sturgeon, designated critical habitat and eulachon, but is not likely to adversely affect these species. The BA also concluded that the proposed project may adversely affect Pacific salmon and Pacific ground fish EFH in the short-term. A summary table is listed below.

Summary of effect determinations for federally listed threatened and endangered species, designated critical habitat and Essential Fish Habitat (EFH) addressed in this document.

Species	ESA Listing Status	Effect Determination
Southern DPS North American Green Sturgeon	Threatened	Not likely to adversely affect
Green Sturgeon Critical Habitat	Designated	Not likely to adversely affect
Southern DPS Pacific Eulachon	Threatened	Not likely to adversely affect
EFH – Pacific Salmon	N/A	May adversely effect
EFH – Pacific Coast Groundfish	N/A	May adversely effect

DPS = distinct population segment.

Effects on terrestrial species at the site are discussed in the Endangered Species Act Section 7 Consultation completed by the Service (USFWS 2010). The Section 7 concluded that there would be “No Effect” to the follow listed species from the project.

Bull trout (*Salvelinus confluens*)- Federally Threatened. Not found within the refuge or the action area. NO EFFECT

Western Snowy Plover (*Charadrius alexandrinus nivosus*)- Federally Threatened. Found within the refuge but not within the action area. No officially designated critical habitat occurs on the refuge. NO EFFECT

Marbled Murrelet (*Brachyramphus marmoratus*)- Federally Threatened. Found within the refuge but not within the action area. Occupied sites exist but no officially designated critical habitat occurs on the refuge. NO EFFECT

Streaked Homed Lark (*Eremophila alpestris strigata*)- Found within the refuge but not within the action area. NO EFFECT

4.3. Effects on Habitat

4.3.1 Alternative A (No Action)

Under Alternative A, no earthwork, vegetation management, or restoration activities would occur on Tarlatt Slough. Habitat would remain unchanged.

However, since WSDOT had identified the area as a mitigation site they would most likely work with another agency or contract with a private company to conduct the habitat restoration work. Effects could be similar as described in Alternative B, except WSDOT would not transfer the Tarlatt or Parpala Slough parcels to the Service.

4.3.2 Alternative B (Restoration)

Effects to habitat from the proposed project are discussed in the Wetland Assessment and Advanced Mitigation Proposal Tarlatt Slough Mitigation Site, Biological Assessment, DNS, and SEPA Environmental Checklist (WSDOT 2010). Anticipated improvements to habitat function that will result from restoration at this site include:

- Complete removal of the perimeter berm will fully restore tidal influences to the site and re-establish estuarine wetland.
- Restoration of the historic tidal channel network across the site and re-establish connections to Tarlatt Slough and Willapa Bay.
- Restoration of hydraulic connections will rehabilitate the onsite wetlands and restore natural estuarine conditions.

- Filling of artificial drainage features will restore the natural marsh plain surface elevations and allow the return of normal tidal action across the entirety of the site.

4.4. Effects on Archaeological and Cultural Resources

4.4.1. Alternative A (No Action)

Under Alternative A, no earthwork, vegetation management, or restoration activities would occur on Tarlatt Slough. There would be no impacts to cultural resources.

However, since WSDOT had identified the area as a mitigation site they would most likely work with another agency or contract with a private company to conduct the habitat restoration work. Effects could be similar as described in Alternative B, except WSDOT would not transfer the Tarlatt or Parpala Slough parcels to the Service.

4.4.2. Alternative B (Restoration)

No prehistoric archaeological sites, historic era archaeological sites, or Traditional Cultural Properties were identified in the project area. AMEC recorded the existing dike and ditch systems as a historic structure. This water management feature is recommended not eligible for listing on the National Register of Historic Places because it lacks association with a historic event and/or person.

The Corps has determined that no historic properties will be affected by this undertaking. No additional archaeological investigation or monitoring is required; USACOE letter dated May 14, 2010 from Regional Archeologist Chris Jenkins.

4.5. Effects on Wildlife-Dependent Recreation

4.5.1. Alternative A (No Action)

Under Alternative A, Tarlatt Slough and Parpala Slough are currently closed to the public and no wildlife dependent recreation occurs.

However, since WSDOT had identified the area as a mitigation site they would most likely work with another agency or contract with a private company to conduct the habitat restoration work. Effects could be similar as described in Alternative B, except WSDOT would not transfer the Tarlatt or Parpala Slough parcels to the Service.

4.5.2. Alternative B (Restoration)

The project site is located within a rural undeveloped area adjacent to the Willapa Bay National Wildlife Refuge. Conversion of the Tarlatt Slough habitat to a naturally functioning estuarine system would improve the wildlife value of the site providing more natural estuarine system.

The Cooperative Agreement and Quitclaim Deeds for Tarlatt Slough and Parpala Slough between the Service and WSDOT state that during the establishment phase of the restoration at Tarlatt Slough (year 1-10) access will be limited to USFWS or WSDOT employees or designees. During the long term maintenance phase (after year 10), public access will be granted for compatible wildlife-dependent recreation opportunities. Public access will be monitored to ensure that no harmful impacts occur to restored channels or wetland vegetation that may cause the mitigation sites to no longer meet performance measures. Public access on Parpala Slough will also be granted for compatible wildlife-dependent recreation opportunities and will be monitored to ensure that no harmful impacts occur. No trails, permanent structures, etc will be permitted on either property.

4.6. Effects on Social and Economic Environment

4.6.1. Alternative A (No Action)

Under Alternative A, no earthwork, vegetation management, or restoration activities would occur on Tarlatt Slough. Social and economic conditions would remain unchanged.

However, since WSDOT had identified the area as a mitigation site they would most likely work with another agency or contract with a private company to conduct the habitat restoration work. Effects could be similar as described in Alternative B, except WSDOT would not transfer the Tarlatt or Parpala Slough parcels to the Service.

4.6.2. Alternative B (Restoration)

Under Alternative B, as described in the Biological Assessment (BA) Tarlatt Slough Mitigation Site (April 2010) prepared by WSDOT as well as the Wetland Assessment, Determination of Non-significance (DNS), and SEPA Environmental Checklist (WSDOT 2010) no social or economic impacts are anticipated from implementation of this restoration project.

4.7. Cumulative Impacts

Cumulative effects on the environment are those that result from incremental effect of an action when added to all other past, present, and reasonably foreseeable future actions, regardless of what agency or individual undertakes such other actions. Restoration of habitat on the Tarlatt Slough by removing fill associated with the perimeter berm and filling both the borrow ditch and the drainage ditches to restore historic marsh plain elevations and re-establish the historic tidal channel network, would assist in restoring the ecological integrity of the site. Additional

beneficial effects include future opportunities for wildlife-dependent recreation on Willapa Bay. Other restoration projects, including those on the Refuge, are expected to be coordinated with this restoration effort in the future.

The proposed action, Alternative B: Tarlatt Slough WSDOT Tidal Restoration would restore the site to historic conditions by removing fill associated with the perimeter berm and filling both the borrow ditch and the drainage ditches to restore historic marsh plain elevations and re-establish the historic tidal channel network. The overall impact would be to improve the ecosystem function of this 48-acre diked pastureland. These improvements would contribute to the goals of several plans and programs for restoration of riparian and aquatic ecosystems of the Sacramento River. These include: the U.S. Shorebird Conservation Plan, Northern Pacific Coast Regional Shorebird Management Plan, Pacific Coast Joint Venture Strategic Plan, North American Waterfowl Management Plan, and A Vision for Recovery of Willapa Salmon. Due to the limited size and scope of the project, this would represent a cumulative minor benefit to the long-term conservation of endangered and threatened species and of biological diversity in the region.

CHAPTER 5. COORDINATION, CONSULTATION, AND COMPLIANCE

5.1 Agency Coordination and Public Involvement

This project has already been subject to public review under the SEPA process. WSDOT has also discussed the proposed project Alternative B: Tarlatt Slough WSDOT Tidal Restoration Alternative, with potentially affected landowners; neighbors; conservation organizations; Federal, tribal, State, County, and city governments; local organizations and interested groups; and individuals.

5.2 Environmental Review and Coordination

WSDOT posted Notices of Application on, or near the site, on August 4, 2010. WSDOT sent a Notice of Application and Hearing on August 4, 2010 to all recorded property owners within 300' of the project site. The Notice of application was published in the Chinook Observer on August 4, 2010. Under the Washington State Environmental Policy Act (SEPA), WSDOT has made a Determination of Non-significance for the proposed restoration project (WSDOT SEPA Determination; March 5, 2010). The end of the 14 day comment period was March 24, 2010.

An Administrative Hearing was held on September 9, 2010 and an Administrative Hearing Determination was issued on October 14, 2010 and Pacific County approved the Shoreline Substantial Development Permit.

WSDOT has determined that this project does not have a probable significant adverse impact on the environment. An environmental impact statement (EIS) is not required under Washington State RCW 43.21C.030 (2)(c). This decision was made after review of a completed environmental checklist and other information on file with the lead agency. The Service has incorporated the WSDOT's SEPA documents by reference (Final Signed SEPA WAC 197-11-970 Determination of Non-significance (DNS) March 5, 2010).

5.2.1 National Environmental Policy Act

As a Federal agency, the Service must comply with provisions of the 1969 National Environmental Policy Act, as amended (42 U.S.C. 4321-4347). An environmental analysis is required under NEPA to evaluate reasonable alternatives to meet a specified purpose and need for action. An environmental assessment serves as the basis for determining whether implementation of the proposed action would constitute a major Federal action significantly affecting the quality of the human environment. The planning process for developing the environmental assessment facilitates the involvement of government agencies and the public.

In this EA, the Service evaluated two alternatives to meet the Service's purpose and need for habitat restoration at the site, Alternative A: No Action and the proposed action, Alternative B: Tarlatt Slough WSDOT Tidal Restoration which would involve restoring approximately 48

acres of WSDOT property adjacent to the Willapa NWR. Based on the analysis in this EA, the Service determined that implementation of the proposed action would not constitute a major Federal action significantly affecting the quality of the human environment. Therefore, the Service has prepared a Finding of No Significant Impact, under NEPA, for the implementation of Alternative B: Tarlatt Slough WSDOT Tidal Restoration, the proposed action.

5.2.2 Endangered Species Act

Based on the Endangered Species Act Section 7 Consultation completed by the Service (2010) for terrestrial species, the proposed action, Alternative B does not represent a Federal action which would affect species listed under the Endangered Species Act of 1973, as amended (16 U.S.C. 1531-1544).

Based on the Biological Assessment completed by WSDOT (2010) for aquatic species, in the short term the proposed action may affect, but is not likely to adversely affect the following species; Southern DPS North American Green Sturgeon, Green Sturgeon critical habitat and Southern DPS North American Eulachon. The BA also noted that the in the short term, the project may adversely affect, *Essential Fish Habitat for pacific coast salmon fishery and the pacific groundfish fishery*.

The BA also found that the majority of the long term effects from the project will be beneficial improvements to habitat and return of the area to natural hydrological processes. The project will reconnect an isolated wetland to Willapa Bay through tidal connectivity, which will provide more channels for fish, such as sturgeon, to forage. Tidal connectivity will also provide additional areas of suitable habitat (mud flats) for forage species of green sturgeon.

5.2.3 National Historic Preservation Act

The Service would follow established procedures for protecting archaeological and cultural resources during the habitat restoration at the Tarlatt Slough project site and the Service would avoid damaging cultural and historic resources. The Service would comply with the National Historic Preservation Act of 1966 (16 U.S.C. 469) and other cultural resource preservation laws, and consult with the State Historic Preservation Office and appropriate Native American tribes for any future restoration and management actions which may have the potential to affect historic properties or cultural resources.

5.2.4 Comprehensive Environmental Response, Compensation, and Liability Act

Under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) (42 U.S.C. 9601 et seq.), the Service determined that the proposed expansion area is not on the Environmental Protection Agency's National Priority List or in their CERCLA System. The WS DOT conducted a Limited Phase I Hazardous Materials Assessment of the property, concluding that there are no known hazardous material issues associated with or impacting the property and no further investigation is warranted at this time.

5.2.5 Other Federal Executive Orders

In implementing the proposed action, the Service would comply with the following Executive Orders: Intergovernmental Review of Federal Programs (Executive Order 12372); Protection of Historical, Archaeological, and Scientific Properties (Executive Order 11593); Management and General Public Use of the National Wildlife Refuge System (Executive Order 12996); Departmental Policy on Environmental Justice (Executive Order 3127); Uniform Relocation Assistance and Real Property Acquisition Policy Act of 1970, as amended; and Consultation and Coordination with Indian Tribal Governments (Executive Order 13175).

5.3. Distribution and Availability

Copies of this EA are available on the Refuge's website: <http://www.fws.gov/willapa>. Hard copies of the document are also available by contacting the Willapa National Wildlife Refuge at 3888 SR 101 Ilwaco, Washington 98624 (360) 484-3482.

CHAPTER 6. REFERENCES

AMEC Earth and Environmental, Inc. 2010. Cultural Resources Assessment, Oman Berm Tarlatt Slough Set-Back Project, Pacific County, Washington.

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