United States Department of the Interior

FISH AND WILDLIFE SERVICE

Western Washington Fish and Wildlife Office
510 Desmond Drive SE, Suite 102
Lacey, Washington 98503

JAN 10 2008

Mr. John Axford, Regional Engineer
Ducks Unlimited Inc.
Pacific Northwest Field Office
1101 SE Tech Center Drive, Suite 115
Vancouver, Washington 98683

Dear Mr. Axford:

The Puget Sound Coastal Program and the National Fish Passage Program of the U.S. Fish and Wildlife Service have completed the environmental compliance procedures for the Leque Island Restoration Project, funded in fiscal year 2007.

These procedures ensure Federal compliance with:

- The National Environmental Policy Act;
- The National Historic Preservation Act (section 106);
- Fish and Wildlife requirements for Level 1 contaminant surveys;
- The Endangered Species Act (section 7, for both the U.S. Fish and Wildlife Service, and the National Marine Fisheries Service); and,
- The Magnuson-Stevens Fishery Conservation and Management Act, section 305 (b)(2) Essential Fish Habitat.

Accordingly, restoration activities for these projects may proceed, providing the enclosed Best Management Practices and Conservation Measures and federal and state laws regarding bald eagle protection are applied to project implementation. It is vital that you help ensure these practices, laws and measures are adhered to by those overseeing and carrying out projects. Please remember that under the terms of our cooperative agreement, you are responsible for obtaining any other required permits or approvals prior to project construction.

Please contact Ginger Phalen at (360) 753-5819 if you have any questions about Federal environmental compliance or applying these Best Management Practices and Conservation Measures.

Keep up the good restoration work!

Sincerely,

Mary S. Mahaffy

Ken S. Berg, Manager
Western Washington Fish and Wildlife Office

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Enclosures

cc:
Washington Department of Fish and Wildlife, Olympia, WA (T. Eturaspe)
Washington Department of Fish and Wildlife, Mt. Vernon, WA (B. Schuster)
Ducks Unlimited Inc., Olalla, WA (D. Golner)

Revised August 7, 2007

APPENDIX G
Programmatic Biological Assessment Consistency Form for USFWS Restoration Activities
Western Washington Version

To use this form: For implementation guidelines and requirements, see Chapter 1, Section C of the USFWS Programmatic Biological Assessment (PBA) for Habitat Restoration Activities, dated May 2006.

The purpose of the PBA and this form is to:

1) **guide you through the section 7 consultation process;**
2) **encourage critical thinking and project design and implementation that minimize effects to listed species; and**
3) **document the rational and decision making process used to make the effect determinations.**

Each project should have the appropriate effect determination. The PBA allows for NE or NLTAA determinations for terrestrial species, and NE, NLTAA or LTAA for aquatic species. Each determination must be adequately documented in this form. If you need assistance in determining the appropriate effect determination, consult with Division of Consultation and Technical Assistance and NOAA Fisheries staff.

Provide information for every item by circling, filling in, or attaching information - as appropriate.

1. General Information

Restoration Program: National Fish Passage Program/Puget Sound Coastal Program/Recovery Implementation Funding
Restoration Biologist: Ginger Phalen
Date: 11/07/2007
Project Name: Leque Island Estuary Restoration
Cooperative Agreement #: 13410-07-J007 and 13320-07-J026
FWS Consultation Log # (for project consultation, assigned by CTA): _____
FWS X-REF: 1-3-05-FWF-0167 (Programmatic Consultation Log #)
NOAA Fisheries X-REF: WSB -99-084-PBO

2. Project Specific Information

Watershed/WRIA: Stillaguamish WRIA 5 County: Snohomish
HUC# and River/Stream Name: 17110008
TRS: T32N R3E S23/26
River Mile: 0
Tributary to: Port Susan Bay
Washington State Class for Surface Water: class A
Anticipated cfs of stream at time of construction: NA no instream construction to occur

Water Quality Standard that must be met (according to above surface water class and anticipated cfs): Turbidity shall not exceed 5 NTU over background turbidity when the background turbidity is ≤ 50 NTU or have > 10 percent increase in turbidity when the background turbidity is > 50 NTU

3. Attach a Vicinity Map: Include an 8.5 X 11 inch copy of a U.S. Geological Survey (USGS) 7.5 minute quad, including the quad name, indicate north direction, and clearly mark the project location on the map. If the project will occur over a distance on a stream or a road, mark the upper and lower limits of the project area. Attached.

4. Document Basis of Feasibility Determination e.g., information used - What watershed analysis, limiting factor analysis, restoration strategy or plan was used to select your project. Include information about how your proposed activities address needs identified in these analyses or plan:
Seventy-eight percent of the historic estuarine salt marsh habitat have been impacted or lost in the Stillaguamish watershed. This project will help restore 105 acres of this imperiled habitat type within this watershed and provide juvenile rearing and refuge habitat for many of the anadromous fish stocks present in the Puget Sound. The Leque site is a high priority site for Ducks Unlimited (DU), Washington Department of Fish and Wildlife (WDFW), the Stillaguamish Lead Entity, and other agencies.

WDFW has identified 8 different listed Chinook stocks from the Skagit and Stillaguamish Rivers that have the potential to use this restored habitat in early stages of their life history. In addition, juvenile Coho, chum, sockeye, and pink salmon are dependent on estuarine marsh. The Skagit and Stillaguamish Rivers also support five sub-populations of native char. One of these stocks is federally listed as threatened. Sub-adult char wintering in the lower reaches of these systems have been documented near the project site. Several other species of anadromous fish will benefit from the restoration of this project as well as many species of wetland dependent birds and other wildlife.

The North American Waterfowl Management Plan identifies this project area as a priority site for estuarine restoration. The Stillaguamish Watershed Chinook Recovery Team, Shared Strategy for Puget Sound, and the Stillaguamish Lead Entity all identify the restoration of estuarine habitats as priority projects.

5. Restoration Activities: (check off all that apply)
- ✓ 4. Restore wetland hydrology
- ✓ 8. Plant native vegetation
- ✓ 10. Remove/setback hydraulic constrictions

6. Project Information
a. Project Goals and Objectives: Include or attach a description of the overall goals and objectives of the project.

The primary objective of this project is to restore 105 acres of native estuarine marsh and provide juvenile rearing and refugia habitat for many of the anadromous fish stocks present in the Puget Sound. The removal of dikes will improve tidal flushing, sediment transport, and other natural processes. The end result of restoring these processes is a functional estuarine marsh with little

management needs. The Stillaguamish estuary was dramatically impacted by settlement and approximately 85% of the Stillaguamish tidal marsh was converted to agriculture between 1870 and 1968. There has been a significant loss of this habitat type and although now currently protected, this project will return 105 acres to the historic habitat. Estuarine wetlands are critical to the filtration and cleansing of pollutants and mineral contaminants from non-point pollution sources. This project will improve the water quality of the Stillaguamish watershed. Restoration of estuarine salt marsh will help in the control of invasive species that dominate the site and provide areas for colonization of native plant communities.

The benefits of this project are many. Most notably, there will be an increase in the available estuarine habitat for salmonids to use for juvenile rearing, and refuge, resulting in a potential long term positive impact on endangered species. Many migratory waterbird species depend on estuaries for critical wintering and migratory habitat. This project will restore 105 acres of estuarine marsh for thousands of waterfowl, shorebirds, and other migratory bird species. Federally listed species, candidates, or recently de-listed species will benefit from the proposed project with increases in foraging and rearing habitat including Chinook salmon (threatened), coho salmon (candidate), and bull trout (threatened). The Stillaguamish Estuary serves as a nursery for anadromous fish species that spawn in the watershed. Recovery plans for anadromous fish identifies estuarine restoration as a high priority for salmon recovery. The restoration may also provide foraging habitat for federal species of concern peregrine falcons and bald eagles. State species of concern, including the Brandt's cormorant and western grebe, spend a majority of the winter foraging in bays and estuaries. This proposal will restore an additional 105 acres of habitat to support these species.

This project area is included in the North Pacific Coast Region (NPCR) of the U.S. Shorebird Plan and is located in Puget Sound, an area recognized in the NPCR as being internationally important to shorebirds. Restoration and protection priorities for shorebirds in the NPCR are as follows; 1) protection of rocky shorelines, 2) restoration of tidal flow to diked wetlands in estuaries, 3) water level control/moist soil management in freshwater wetlands degraded by agriculture, and 4) removal of exotic plant species / re-establishment of native vegetation. This proposal addresses priority 2. The area is protected as it is owned by WDFW, restoration will result in 105 acres of intertidal habitat. Shorebird use of the NPCR occurs during migration and winter, and the key biological requirement of these birds is assumed to be food energy. Restoration of estuarine habitat for shallow water depths will provide high quality foraging sites for migrating and wintering shorebirds, and help ensure adequate survival during the non-breeding period. Furthermore, the project area is located within the North American Waterbird Conservation Plan's Pacific Coast region. Although 43% of all colonial waterbirds included in the plan rely on pelagic habitat for foraging, over a third of all species included in the plan forage in freshwater and estuarine habitat and uses these same habitats for nesting. Thus, protection and restoration of 105 acres of estuarine wetlands within the project area potentially benefits large numbers of colonial waterbirds, in addition to marsh birds identified under the plan. Species recognized within these plans include: black-bellied plover, black oystercatcher, whimbrel, long-billed curlew, marbled godwit, black turnstone, surfbird, rock sandpiper, and dunlin.

b. Project Description: Include or attach a description of the current project area, all phases of the proposed project, including access (existing or new), staging areas, construction,

maintenance and operation of the project. Include any additional conservation measures which will be implemented.

Port Susan Bay is an ecologically important area in Puget Sound. Located at one of the outlets of the Stillaguamish River, the bay provides important rearing habitat for juvenile salmon, bull trout, herring, hake and Dungeness crab, and the tidal channels, mudflats, and emergent marshes provide habitat for some of the highest concentrations of waterfowl, shorebirds, and raptors.

Marine vegetation is relatively sparse in Port Susan, possibly due to perennially turbid, brackish water conditions caused by the outflows of the Stillaguamish and Snohomish Rivers (Washington Department of Fish and Wildlife (WDFW) 2001). The Nature Conservancy is undertaking ongoing control of Spartina in Port Susan Bay, and has reduced the presence of this non-native plant by about 70%.

Historically, the Davis Slough/Leque Island complex formed an intertidal vegetated wetland between the South and West Forks of the Stillaguamish River connecting Skagit and Port Susan Bays. In the 1930's these lands were diked, ditched, drained, and converted to agricultural lands. The property has an extensive dike around the perimeter that prevents natural estuarine and tidal flooding processes from occurring. In 1974-1996 Washington Department of Fish and Wildlife (WDFW) purchased the property and the site is currently used for snow goose winter foraging habitat and as a pheasant release site as well as a local waterfowl hunting area.

The goal of the project is, to the extent possible, to restore the natural hydrology and historic conditions to 105 acres of the island. A portion of the property will be retained as freshwater habitat. Both portions will continue to be managed as public, multiple use areas. The restoration of the island will provide estuarine intertidal habitat to a variety of wetland dependent species including shorebirds, waterfowl, juvenile salmonids, foraging bull trout, and marine fish species. The end result of restoring these processes is a functional estuarine marsh that requires minimal maintenance and management. This project compliments past and ongoing acquisition/restoration efforts in Port Susan Bay involving several agencies and organizations. By restoring 105 acres of natural functioning estuarine high salt marsh habitat; we are increasing one of the rarest emergent plant communities remaining in the watershed. Ultimately, the removal of these levees to the historic estuarine grade will rejuvenate the natural processes of tidal flushing, sediment deposition, and transportation of large woody debris.

Components of the project are the following (see attached project site plans):

<u>Setback Levee Construction, Davis Slough Levee Reconstruction and North and South Exterior Levee Removal:</u>
Two setback levees will be constructed, a new south setback levee and a new north setback levee. Two old and failing levees will be removed, the exterior south levee and the exterior north levee.

The existing Davis Slough levee is not reliable, and will be reconstructed. The reconstruction of the Davis Slough levee will not increase or decrease the tidally influenced area; however

simultaneous construction of all levees is the most efficient for all WDFW needs. Reconstruction of the Davis Slough levee will occur adjacent to, and inside the existing levee and the reconstruction will be 2,515 feet long.

In the southern portion of the project, 75 acres of former estuary will be restored, and 5,100 feet of south exterior dike will be removed, along with most of the existing failing riprap. The existing levee has experienced wave and storm-based erosion and some riprap has sloughed off and fallen away from the levee and is far from the base of the levee. Given the conditions at the site, it will not be feasible to retrieve all pieces of riprap; however, the majority of the riprap will be removed. Depending on riprap size, it will be used onsite for parking lot or trail subgrade, or as vehicular barriers (in lieu of fencing, logs or such).

South setback levee construction will be 2,600 feet long, and will protect existing inholdings and 72 acres of freshwater wetlands that will be created as part of project construction. There was some concern for tidal inundation/storm surge on the face of the new south setback levee. These concerns have been addressed by re-alignment of the SE end of the levee. Any remaining areas of concern will be addressed using bioengineered, vegetative practices.

In the northern portion of the project, 30 acres of former estuary will be restored, 3,962 feet of north levee will be removed, and 1,800 feet of north setback levee will be constructed. The earth materials from the existing levees will be removed in part by grading them back into the borrow ditches, with the balance of the material re-used as appropriate to construct the setback levees. A geotechnical investigation has been completed and additional on-site material will be used to finish off construction of the north and south setback levees, and the Davis Slough levee.

Levee setback and removal will occur on both the north and south parcels at same time.

Borrow Areas, Freshwater Wetlands /Moist Soil Management Areas, Drainage Infrastructure and Tidal Channels:

The use of on-site material for the north and south interior levee construction will result in an interior borrow ditch/drainage system and creation of shallow freshwater, moist soil management wetlands (approximately 18" below grade). There are three wetland creation areas: NW, Central, and East, creating a total of 72 acres of freshwater wetlands. Once recontoured, these wetland areas will be recovered with the previously removed organic material/topsoil.

Once the interior levees are constructed, the existing drainage infrastructure and borrow areas will be reconfigured to support freshwater wetland management, while ensuring that any wetland drainage flows away from Eide Road and the private residence. The majority of drainage from the wetland areas will flow out of each wetland area through flashboard risers and into the interior drainage system. There will be a new tidegate structure installed in the south setback levee which will hook up with an existing tidal outlet channel. On the north end, the tidal channel will be reconnected to the existing channel by 175 feet of minor scalping/excavation to assist with channel formation. The tidegate will be a conventional one-way tidegate, mounted on a concrete headwall, with no fish passage, and will be actuated by differential water pressures. The primary purpose is to ensure drainage for the private residential inholding and to Eide Road,

freshwater wetland discharges will only occur when the ponds are full.

An existing, defunct, tidegate structure on the South Pass side of the project area will be removed, the ditch will be plugged and the drainage will be redirected into the existing drainage system along the road, which will connect to a new ditch system starting at the south end of the road. The new ditch system will connect up to the interior drainage system and flow out through the south tidegate. On the Davis Slough side of the project where the levee will be re-constructed, and existing tidegate will be removed and the existing channel reconnected to Davis Slough, adding about 155 feet of existing channel to the tidally influenced area of the project. A new conventional one-way tidegate on a concrete headwall will be installed and actuated by differential pressure, and will link Davis Slough and the existing channel. At the north side of the project area, an existing tidegate in the north levee will be removed and not replaced.

Revegetation:
Objective: The objective of the revegetation is to restore scrub/shrub wetland habitats within the freshwater enhancement area of Leque Island. The plots comprise 20.5 acres of total planting area and are divided into 3 distinct zones based on their locations within the project boundary (see attached planting map).

Planting Period: All planting areas shall be planted February 15 – April 15, 2009.

Site Information: All planting areas will be clearly marked at the completion of project construction phase to delineated surveyed boundaries and expedite the planting process. In the event that extreme weather and/or animals alter these markers between the end of construction (Mid September 08) and the time of planting (Feb-April 09), please contact John Garrett or Aaron Foster to clarify planting boundaries.

Site Preparation: Most planting will occur within reclaimed agricultural fields and little to no site prep, beyond that included in earth work portion of project construction will be required. All areas within the 72 acre freshwater enhancement portion of the project, not slated as specific revegetation areas, will be seeded with a 50/50, 10lb/acre total, mixture of red fescue and winter wheat. Revegetation areas containing reed canary-grass areas will be scalped during construction activities and will be mowed prior to planting. If established reed canary-grass is present within a planting zone, an area 2 feet in circumference will be cleared manually prior to planting cuttings or bare root stock to reduce competition.

On-Site Conditions: Planting zones are dominated by flat, poorly drained hydric soils that are extremely susceptible to flooding and maintaining water within topographical depressions. The site may be wet or flooded during the spring planting window. Contractors shall use discretion upon entering planting areas with vehicles to avoid rutting or causing unwanted surface erosion. All terrain vehicles or foot access will be the preferred method of entry to access all planting areas.

Planting Species/Materials: Species used for planting include:

Common Name	*Genus species*	Total	Spacing	Planting Stock

		number		
Trees				
Cottonwood, Black	*Populus trichocarpa*	TBD	10' X 10'	36" Cuttings
Crabapple	*Malus fusca*		8'x10'	bareroot
Fir, Douglas	*Pseudotsuga menziesii*		10'x10'	bareroot
Mid-story Shrubs				
Willow, Hooker	*Salix hookeriana*	TBD	6' X 10'	36" Cuttings
Willow, Pacific	*Salix lucida ssp. lasiandra*		6'x10'	36" Cuttings
Willow, Sitka	*Salix sitkaensis*	TBD	6' X 10'	36" Cuttings
Thimbleberry	*Rubus parviflorus var. p*		6'x6'	bareroot
Elderberry, Red	*Sambucus racemes*		8'x10'	
Dogwood, Red-Oiser	*Cornus stolonifera*	TBD	8' X 10'	36" Cuttings
Twinberry	*Lonicera involucrate*	TBD	8' X 10'	36" Cuttings
Rose, Swamp	*Rosa pisocarpa*		6'x6'	bareroot
Gooseberry	*Ribes divaricatum.var.d*		6'x6'	bareroot
Total		TBD		

Materials	
Spiral Tree Wrap	36"
Tree Pro	12"
Wood Stakes	1" X 2" X 18"

Zone A (8.8acres) - Description:
Zone A is defined as south of SR 532 and North of center fill ditch **(Fig 1)**. Trees and shrubs will be planted in clumps as they would grow naturally. Alternate willow species spatially, with first plantings beginning as close as possible to any established or expected high water line. See table below for species, numbers, spacing and planting stock. See map for location and estimated boundaries.

Special conditions:
1. Leave an unplanted 100' buffer south of SR 532 for roadway maintenance / improvements.
2. Do not plant access roads and leave a 20' tree / shrub free buffer along both sides of existing roadways within project site.

Zone B (3.0 acres) - Description:
Zone is defined as north of SR 532 and south of setback levee **(Fig 1).** Trees and shrubs will be planted in clumps as they would grow naturally. Alternate willow species spatially, with first plantings beginning as close as possible to any established or expected high water line. See table

below for species, numbers, spacing and planting stock. See map for location and estimated boundaries.

Special conditions:

1. **Be aware of utility right-of-way just north of SR 532 and do not plant trees or shrubs in this corridor.**
2. Leave an unplanted 100' buffer south of SR 532 for roadway maintenance / improvements.
3. Do not plant access roads and leave a 20' unplanted buffer along both sides of existing roadways within project site.

Zone C (8.7 acres) - Plant Species and Spacing:

Planting zone is defined as north of Port Susan setback levee and south of center fill ditch **(fig 1).** Trees and shrubs will be planted in clumps as they would grow naturally. Alternate willow species with first plantings beginning as close as possible to any established or expected high water line. See table below for species, numbers, spacing and planting stock. See map for location and estimated boundaries.

Special conditions:

1. Conifer planting shall be restricted to the highest ground possible, see **(fig 1)** for these 4 specific locations.
    1) Shore Pine, next to parking area.
    2) Doug fir, western most 8ft contour.
    3) Sitka spruce, center of island.
    4) Cedar, 8ft contour adjacent to Eide Rd, center of Island.

Monitoring:

Qualitative Monitoring

A Partner Biologist will conduct qualitative monitoring surveys on a quarterly basis for the first 18 months, and annually thereafter for the remainder of the monitoring period. Qualitative surveys, consisting of a general site walkover and habitat characterization, will be completed during each monitoring visit. General observations, such as fitness and health of the planted species, pest problems, weed establishment, mortality, and drought stress, will be noted in each site walkover. The Partner Biologist will also note observations on wildlife use and native plant recruitment for the purpose of later discussion in the annual reports. Records will be kept of mortality and other problems such as insect damage, weed infestation, and soil loss. The Partner Biologist will determine remedial measures necessary to facilitate compliance with performance standards.

First-Year Monitoring

Success Standard: A minimum of 35-percent coverage by native/planted species;
No greater than 5-percent coverage by non-native/invasives.

Second-Year Monitoring

Success Standard: A minimum of 35-percent coverage by native/planted species;

No greater than 5-percent coverage by non-native/invasives.

Third-Year Monitoring
Success Standard: A minimum of 35-percent coverage by native/planted species; No greater than 5-percent coverage by non-native/invasives.

Fourth-Year Monitoring
Success Standard: A minimum of 35-percent coverage by native/planted species; No greater than 5-percent coverage by non-native/invasives.

Fifth-Year Monitoring
Success Standard: A minimum of 35-percent coverage by native/planted species; No greater than5-percent coverage by non-native/invasives.

Photo-Documentation
Two permanent stations for photo-documentation will be established prior to or during the first annual monitoring event. Photos shall be taken each monitoring period from the same vantage point and in the same direction each year, and shall reflect material discussed in the annual monitoring report.

Maintenance Schedule:

Maintenance Task	Year				
	1	2	3	4	5
Plant inspection	Quarterly	Bi-annual	Once	Once	Once
Photo-Documentation	Spring & Fall	Spring & Fall	Annual	Annual	Annual
Weed Control	Spring & Fall	Spring & Fall	As needed	As needed	As needed
Plant Replacement	As needed	As needed	As needed	As needed	As needed
Trash and Debris Removal	As needed	As needed	As needed	As needed	As needed

Eide Road, Parking and Trail Access:
Eide Road will be vacated and decommissioned for approximately 175 feet at the south end of the road. This area of the project has a high potential for bank erosion on the South Pass side, and vacating the road puts the new levee an additional 100' inland from the South Pass bank. If further protection of this bank is needed, bioengineered vegetative practices will be used.

The drawings indicate a parking lot at the terminal end of Eide Road and also at the SR-532 pull-off. The Eide Road Terminal parking lot is cancelled and will not happen. The SR-532 parking area will be the same size as the existing graveled-but-impromptu parking area – the parking area will be designed and enhanced to meet WDFW goals without increasing impervious area.

Five viewpoint areas with blinds will be created, all overlooking the freshwater wetland portion of the project. These will connect to existing roads, or will connect to a new trail to be constructed. The new trail will be constructed at the northern end of the southern portion of the

project, somewhat adjacent to SR-532 (see site plan). The trail will be constructed at-grade and will be approximate 1.4 miles long. The tops of the north and south setback levees will also be accessible for trail use with seasonal trail closures due to safety concerns. The trails will be designed to accommodate limited-mobility hunters who have assistance to get them over the terrain of the trail.

The former land use of the project area has been agricultural fields, for silage and wildlife benefits. There are no known contaminants or chemical use concerns associated with the project area.

WORK SCHEDULE

Construction is slated for the Summer and early Fall of 2008. Work will begin as early in the summer (or in late Spring) as moisture conditions allow. Construction work will conclude by mid-September to allow the seeding of borrow and fill areas (soil stabilization) to grow and become effective prior to significant rainfall. Reforestation of certain project areas will commence in October 2008 with final maintenance projected for April 2009.
An estimated schedule is as follows:

May 30:	Award construction contract
June 13:	Issue Notice to Proceed
June 16:	Begin mobilization
June 16:	Install BMPs; construct entrances, lay-down areas, etc.
September 5:	End of significant earthwork
September 19:	Demobilize construction contractor
October 3:	Conclude Reforestation Ground Prep
February, 2009	Revegetation begins
April, 2009	Revegetation concludes

WORK SEQUENCE

The south setback and Davis Slough levees will be constructed as a single unit. Construction of the south setback levee will occur prior to the removal of the exterior south levee. The north setback levee will be constructed at the same time as the south setback and Davis Slough levees, and will also occur prior to the removal of the exterior north levee. A separate crew and equipment will be used to remove the north exterior levee and to construct the north setback levee.

Work will proceed generally as below; some elements may occur simultaneously:

1. Install BMPs for levee construction (fill) and borrow operations.

2. Clear and grub, as required.
3. Remove & stockpile organic topsoils from fill and borrow areas.
4. Temporarily stabilize stockpiled topsoils.
5. Construct keyways and levees.
6. Install new South and Davis Slough tidegates and connect the tidegates to the existing channel through the area that will become the restored estuary. Tidegates will be 36" and will be sized to release the 100-year storm volume during a single low tide cycle. This will protect Eide Road and the inholding from accumulated stormwater.
7. Stabilized placed material.
8. Place stockpiled topsoils in borrow areas; grade to form freshwater wetlands.
9. Excavate new drainage system with an approximate average of 15' at the top, 3' at the bottom, and a depth from grade of 3'.
10. Install freshwater wetland water control structures.
11. Construct parking areas, trails, install signage, fencing, and similar features.
12. Stabilize remaining disturbed areas.
13. Install outer levee removal BMPs.
14. Begin outer levee removal by reducing levee height and thickness to the minimal amount required to withstand predicted tides for the remaining construction period.
15. During lowest available tides, complete outer levee removal.
16. Stabilize disturbed areas in restored estuary. Seed will be placed and worked in by appropriate agricultural equipment.
17. Remove BMPs.
18. Demobilize earthwork contractor.
19. Revegetation ground prep.
20. Revegetation.

III. EQUIPMENT USED

The actual type and number of pieces of equipment will vary by contractor, their work plan (subject to engineering approval), and site conditions during construction.

Equipment will likely be as follows:

Clearing, grubbing, topsoil removal:	Dozers, trackhoes, scrapers
Borrow and haul:	Trackhoes, scrapers, and on- and off-road dumptrucks

Shaping, placement, compaction:	Dozers, sheepsfoot, and smooth-drum compactors
Signage and fencing:	Augers, tampers, miscellaneous tools
Parking lot and trail construction:	Small dozers, compactors
Soil stabilization and Revegetation prep:	Agricultural tractor, seeder, harrow

IV. BEST MANAGEMENT PRACTICES – OUTLINE

These best management practices are additional to those required by the Programmatic Biological Assessment. Best management practices for erosion prevention and sediment control will be comprised of the following features:

Schedule and sequence controls:

- Borrow areas will be closed basins, preventing runoff from most disturbed areas well into the rainy season (no discharge until wetland ponds are full).
- Work will be staged to minimize the area disturbed at any given time.
- Stabilization of disturbed areas will occur soon after work in a given area is completed.
- Work will be completed prior to rainy season.
- The new drainage system will be in place before the existing system is filled, and will route and contain any runoff.
- The filling of existing ditches will be staged so that any expelled water will flow to the new wetland areas for on-site containment.
- If there is any need for dewatering, the discharge will be directed to a closed on-site basin that will be converted to a freshwater wetland at project completion.

Physical Barriers:

- Silt fence will be installed to separate disturbed areas from downhill undisturbed areas.
- Silt fence and bio-bag filtration (or similar) will be installed just upstream from existing tide-gate outlets, until such outlets are removed (during outer levee removal).
- Silt fence will be installed on the down-sloping side of topsoil stockpiles (unless slope leads to borrow area) and on up-slope side if the stockpile is within 50' of existing ditch.
- Road entrances from SR 532 and Eide Road will be rocked to reduce mud tracking onto paved roads.

Disturbed Soil Stabilization:

- Borrow area operations will be managed to minimize the disturbed area and the number and size of topsoil stockpiles in use at any given time.
- Disturbed areas will be seeded with 20 pounds per acre red fescue and 20 pounds per acre winter wheat. The seeds will be harrowed in for effective germination, and to produce a good growth of ground cover before the fall rains.

V. NOISE CONTROL

With one exception, the nearest residential and commercial structures are approximately one mile away by direct line of sight. For those facilities, noise control will not be an issue. The exception is a single-family residence near the end of Eide Road and thus near the Southeast terminus of the proposed setback levee. Approximately 200 feet separate the home from the work area.

In compliance with Snohomish County's "Noise Control" ordinance (Chapter 10.01), work limited to the hours of 7 a.m. to 10 p.m. Monday through Friday and 9 a.m. through 10 p.m. on Saturday and Sunday. Additionally, the operation of heavy equipment within 500' of the residence shall be limited to the hours of 7 a.m. through 6 p.m.

If site conditions allow, the Eide Road entrance to the site will be placed north of the residence, to minimize construction traffic passing the house.

The residents are aware of the proposed work and will be kept informed of activities and schedules throughout construction.

Any potential impacts to fish or wildlife from noise disturbance will be noted in the Effects Determinations section.

VI. SUMMARY OF CONSTRUCTION TECHNIQUES

General techniques are outlined below:

Clearing and grubbing: There are no significant trees in the construction areas. Most of the brush to be removed consists of scotch broom or non-native blackberry. Where brush must be removed, it will be removed using a bulldozer or trackhoe.

Topsoil removal: Depending on site conditions, stripping will be done by bulldozer or scraper; this includes neatly placing the material in stockpiles.

Borrow material mining and hauling: Material will be mined and hauled by scraper, or by trackhoes and dumptrucks, depending on conditions.

Levee material placement: Placement will be by scraper or by dumptruck, with levee

shaping into lifts completed with bulldozers.

Levee material compaction: Compaction will be by sheepsfoot roller, with finish grading by bulldozer.

Soil stabilization: Seed will be placed and worked in by appropriate agricultural equipment.

Trail and parking areas: Subgrade will be leveled and prepared using bulldozers, with compaction by smooth-drum rollers if necessary. Aggregate base and surfacing materials will be placed by truck and spread and shaped by dozer. Compaction will be by smooth-drum roller.

c. Footprint of Project Area: If you have multiple sites within a project, you will need to delineate out the sites and supply information for each site. If you will not be affecting a habitat type, delete it or put NA. Add supporting text in the Notes section as needed to describe any activity or impact.

Riparian area planted: NA
Riparian area removed: NA
Instream length impacted by actual project work: NA
Instream length impacted by sediment inputs (see "effects to bull trout section and Appendix M: NA
Intertidal/Estuarine acreage directly impacted: 105 acres with tidal access restored
Upland area directly impacted (this category does not include riparian area): NA

Notes: 20.5 acres of floodplain area will be revegetated with native species – see revegetation information in Project Description section.

7. Habitat Description:
a. Percentage of vegetation type or land cover in the project area: Forested _____
Road Prism _____ Riparian _____ Riverine _____
Wetland 100% Estuarine _____ Agricultural 100% Grasslands/prairies _____

b. Provide a text description of vegetation type in the project area. The project area consists of prior converted wetland with wetland vegetation existing on site. Portions of the project area are currently used for field corn production; these areas will be converted to tidal estuarine areas. No further crop production on the site will occur. Other existing vegetation consists mainly of invasive blackberry; with some small amounts of typical freshwater wetland vegetation in the existing borrow ditches.
c. If trees are present, estimate the current canopy closure: There are currently no trees present on the project site.

Will trees be felled/removed/modified? Yes _____ No ✓
If yes, provide the number, size, species and area affected (acres): NA

Explain why trees will be felled/removed/modified:
NA

d. Will other vegetation be modified? Yes ✓ No _____
If yes, estimate amount of modification in acres and describe the plant community and age class:
75 acres of former agricultural fields will be converted to tidally influenced estuary wetlands on the south project side, 30 acres will be restored on the north project side, for a total of 105 acres. Additionally, behind the new setback levees, 72 acres of freshwater wetlands will be created. Approximately 0.5 acres of invasive non-native blackberry will be removed. Areas around the freshwater wetlands will be planted with native species (see revegetation desription).

e. Slope distance from project to nearest water body (stream, wetland, lake): The project area is surrounded by South Pass to the East, Davis Slough to the west, Port Susan Bay to the south and West Pass and Skagit Bay to the north. The project site is surrounded by water; however, restoration activities will occur on dry habitat, with no impacts to the water body.

f. Will an active water body be entered, diverted or altered? Yes ___ No ✓
If yes, Name: _____

g. Have you obtained the HPA for inwater work?
If Yes, please attach. The JARPA/HPA is in process.

h. If you are entering, diverting or altering an active water body, are you following the Fish Capture and Dewatering Protocol in Appendix H? Yes _____ No _____
NA ✓
If no, provide justification why the protocol does not need to be used. The project site will be dry for project construction of the setback levees and the Davis Slough levee, and project construction will occur behind existing levees, connected to active waterbodies only by existing tidegates. These tidegates will be protected against sediment by using in-channel BMPs during construction. During north and south exterior levee removal the levee will be removed to the greatest extent feasible with approximately 60% of the height of the existing levee removed before it is actually "breached" and tidal action is allowed into the site.

i. If you are widening a road to either accommodate a new culvert or bridge or are widening the road for safety concerns in conjunction with a new culvert or bridge, quantify and explain the increased impervious surface created as a result of this activity. No road widening will occur as part of the project actions. 175 feet of Eide Road will be vacated and removed. Additionally, several buildings have been removed as part of the overall restoration of the site. The SR-532 existing graveled parking lot will be enhanced, but not enlarged. Overall, impervious surface within the project area will be reduced.

8. Project Schedule
Project construction start date: Mid June 2008
Project construction end date: March 2009
Expected duration of project construction (# of days/month): Mid June to Mid September – levee demolition and construction/ Freshwater wetland creation - Approximately 20 days per month/ 5 days per week. Revegetation will occur from February 2009 through April 2009.

Total # days of project implementation: Approximately 75++ days

9. Noise Generation:
Total # days of activity with above ambient noise: NA, see below
Start date for above ambient noise generation: _____
End date for above ambient noise generation: _____

Explain what equipment will generate noise above ambient levels, for what time period during the day and for how many days. The project site is adjacent to SR-532, with high traffic use. The equipment used on this site is not likely to produce above ambient noise.

10. All 19 General BMPs apply (See Enclosure B - Appendix B. General and Restoration Activity Specific Best Management Practices).
Additional Best Management Practices are described above in the project description section.

A. GENERAL BEST MANAGEMENT PRACTICES (BMP)

All restoration activities implemented under the programmatic consultation will incorporate the following 19 general BMPs to reduce impacts on ecosystems, listed species and their habitats:

1. All regulatory permits and official project authorizations (e.g., National Environmental Policy, National Historic Preservation Act, Level I Contaminants Survey, WDFW's Hydraulic Project Approvals and permits from the Army Corps of Engineers, etc.) must be secured before project implementation. All terms and conditions in these regulatory permits and other official project authorizations must be followed to eliminate or reduce adverse impacts to any endangered, threatened, or sensitive species or their critical habitats.

2. Modifications to an approved work plan must be reviewed and approved by the project biologist and the cooperators and/or landowner(s) before the work can be carried out or continued. This includes changes requiring modifications of permits, or alterations to the scope, design, or intent of the project.

3. Use existing roadways or travel paths for access to project sites. No new roads or

other temporary access roads will be built for access to project sites. If a new road needs to be built for access to a project site, that activity is not covered under this PBA and a separate section 7 consultation will need to be completed. See restoration activity 7 – Improve Road/Trail Conditions and BMPs 36 and 37 for guidance on relocated or replacement roads.

4. Avoid the use of heavy equipment and techniques that will result in excessive soil disturbances or compaction of soils, especially on steep or unstable slopes.

5. Use of heavy equipment in or adjacent to streambeds and streambanks, and ingress/egress points must be minimized to reduce sedimentation rates, channel instability, and aquatic habitat impacts. Vehicles and machinery must cross streams at right angles to the main channel whenever possible. Heavy equipment will be cleaned (e.g., power washed, steamed, etc.) prior to use below the ordinary high water mark. Machinery will be inspected for leaks of hydraulic fluid or fuel after cleaning and prior to entering sensitive areas.

6. Excavation or transport equipment/machinery will be limited in capacity, but sufficiently sized to complete required restoration activities.

7. Streams, riparian zones, and wetlands must not be used as equipment staging or refueling areas. Equipment must be stored, serviced, and fueled in a contained area that is at least 150 feet away from aquatic habitats or other sensitive areas. Prior to project construction, critical riparian vegetation areas, wetlands, and other sensitive sites will be flagged to prevent ground disturbance.

8. In the riparian area, entry and disturbance by equipment will be minimized. If the activity will remove vegetation from an area greater than 50 linear feet, within an area that may impact channel shade or temperature, the project biologist will contact NMFS and USFWS CTA staff to jointly determine how the project would avoid likely significant impacts to channel shade or temperature in areas critical to steelhead salmonid, and bull trout migration, spawning or rearing and provide documentation of the agreement in the Appendix G. PBACF. Cable systems will be used, where appropriate, to eliminate or reduce the need for ground-based equipment.

9. Native vegetation will be planted on disturbed sites (including project site, disposal and staging areas, and access roads) within three days of the end of construction, given appropriate planting seasons, or will be covered or otherwise stabilized with appropriate erosion and sediment control measures. Planting shall be completed no later than April 15 of the year following construction. Vegetative planting techniques must not cause major disturbances to soils and slopes.

10. Boulder, rock, and large woody debris materials used for restoration projects must not be removed from any streams.

11. All construction activities shall comply with water quality standards (RCW 940.48 and WAC 173-201A) set forth by the Washington Department of Ecology. If the USFWS or our project partners anticipate that water quality standards will be exceeded, then we, or our project partners shall seek a Temporary Water Quality Modification Permit from the Washington Department of Ecology. A Pollution and Erosion Control Plan (PECP) will be developed for each authorized project to prevent point-source pollution related to construction operations. Sedimentation and erosion controls (e.g., straw bales, silt fences) will be implemented on all project sites where restoration activities are implemented, materials or equipment is staged or stockpiled, or fill is placed, to minimize the release of fines into the aquatic environment (See Appendix J for proper installation techniques for hay bales, silt fences etc). Effective erosion control measures will be in place at all times during the project, and will remain and be monitored and maintained until such time that permanent erosion control measures are effective.

12. Excavated materials removed during the completion of a restoration activity must be salvaged and/or disposed of properly and/or stabilized to eliminate future environmental problems.

13. All garbage from work crews must be removed from the project site daily and disposed of properly. All waste from project activities must be removed from the project site before project completion and disposed of properly.

14. Structures containing concrete must be cured or dried before they are placed in streams, riparian zones, or wetlands. Creosote-treated wood, or other treated wood will not be used. Wet concrete or runoff from cleaning tools that have wet concrete slurry or lye dust must never enter aquatic habitats. Runoff control measures must be employed, such as hay bales and silt fences, until the risk of aquatic contamination has ended.

15. Inspection will be performed within 1 year following project completion to ensure that restoration activities implemented at individual project sites do not create unintended consequences to fish, wildlife, plant species, and their critical habitats. Corrective actions, as appropriate, must be taken for potential or actual problems.

16. Soil and/or slope disturbances along stream channels should be eliminated or reduced wherever possible. Undisturbed vegetated buffer zones will be retained along stream channels to the greatest extent possible to reduce sedimentation rates, channel instability, and impacts to aquatic habitat.

17. Till unvegetated compacted road surfaces to promote vegetation establishment and growth. Drainage improvements should be constructed and stabilized before the rainy season. Do not sidecast excavated road materials; avoid accumulating or spreading these materials in upland draws, depressions, intermittent streams, and springs. Efforts will be made to restore the original hydrology of the site.

18. Fill material used on project sites must be from non-streambed and non-wetland sources that are free of a large amount of fines.

19. Entry into the stream channel will be minimized to the greatest extent possible during project design, collection of information, implementation, or pre-or post-project monitoring. Project implementers, contractors, stream surveyors and others will stay out of the stream channel as much as possible. If a stream crossing for vehicle or livestock access is included in the project design, WPR project biologists or other local agency biologists will conduct a survey and create a map of potential spawning habitat at the stream crossing. If and when entry into the channel is necessary, spawning areas will not be disturbed.

Select the restoration activity specific BMPs which apply to your project: (See Enclosure B Appendix B. General and Restoration Activity Specific Best Management Practices).

32. Dependent upon the project site and implementation conditions, this activity may require fish capture and removal from the project area and channel dewatering. If fish capture, removal and channel dewatering is required, protocols in Appendix H. *Dewatering and Fish Capture Protocol* will be followed. If electrofishing is used as a tool to remove fish, Appendix N. *Backpack Electrofishing Guidelines* will be followed.

EFFECT DETERMINATIONS, NON-FISH SPECIES

Steps and Guidance for filling out the Non-Fish Species and Fish Species Sections.

1. Prior to completing this form, obtain a species list for the project. Follow the steps below to generate a species list.
   a. Get a County species list from the Share drive.
   b. Work with GIS staff to generate a list of species occurrences for the project area and "vicinity of activity".
   c. Mesh the project area list of species occurrences with the County species list.
   d. Review the species list and evaluate the project area and "vicinity of activity" for the presence or absence of species. This should include evaluation for potentially suitable habitat.
   e. Remove species from the species list when habitat is not available for the species in the project area or "vicinity of activity". If you need assistance with this decision, work with the appropriate species expert contact.
   f. Once the species list is finalized, only those species that occur on the list will need to be included in the PBACF. If a species is not on the species list, it can be removed from the PBACF.

2. Species found across the State are indicated by "E-W" prior to the species name. Species

found only in western Washington are indicated by a "W", and species found only in eastern Washington are indicated by an "E". If the project occurs in western Washington, eliminate all eastern Washington species, and if the project occurs in eastern Washington, eliminate all western Washington species.

3. For question a) Is the species known to be in the vicinity of the activity? No___ Yes___ Not known___;
Not known is used if you don't know if the species is present or absent. If you select Not known, you must assume presence.

4. "Vicinity of activity" generally equals a 1 mile radius around the project site.

5. Each project should have the appropriate effect determination. The PBA allows for NE or NLTAA determinations for terrestrial species, and NE, NLTAA or LTAA for aquatic species. Each determination must be adequately documented in this form. If you need assistance in determining the appropriate effect determination, consult with Division of Consultation and Technical Assistance and NOAA Fisheries staff.

6. For the species listed below, if all conservation measures pertaining to the species and the activity are implemented, the conservation measures are adequate to ensure effect determinations documented in the PBA/BO. If you do not implement all conservation measures, you must explain why in the Notes section.

7. For conservation measures for each species see Enclosure C: Appendix L - *Conservation Measures for Listed Species.*

THREATENED ANIMAL

E-W Marbled murrelet *(Brachyramphus marmoratus)*
a) Is there suitable habitat within 0.25 miles of the project site?
No ✓ Yes ___

b) Have surveys to protocol been conducted in the project vicinity?
No ✓ Yes ___
If surveys have been conducted, describe or attach survey information and results:
Occupied ___ Not Occupied ___
Presence ___ (presence of murrelets was noted, but they were not showing occupied behavior)

c) Will the activity generate noise above ambient levels within 0.25 mile (1.0 mile if blasting) of unsurveyed suitable or occupied nesting or foraging habitat?
No ✓ Yes ___
If yes, apply MM1.

d) Will the activity use aircraft within 0.25 mile of suitable or occupied nesting or foraging habitat?
No ✓ Yes ____
If yes, apply MM2.

e) Will the activity remove trees with suitable nesting habitat structure?
No ✓ Yes ____
If yes, apply MMCH1 and document discussion and rationale for the effect call in the Notes section.

f) In critical habitat, will the activity modify the stand habitat?
No ____ Yes ____ NA ✓
If yes, apply MMCH2 and document discussion and rationale for the effect call in the Notes section.

g) Outside of critical habitat will the activity modify the stand habitat?
No ✓ Yes ____

If yes, apply MMCH3 and document discussion and rationale for the effect call in the Notes section.

h) Notes: (Information adapted from the Concurrence Letter for: Request for Informal Endangered Species Act Section 7 Consultation, Concurrence Request on the Effects of a Federal Grant to Fund the Port Susan *Spartina* Eradication Project (Grant Number 04L55), author Andrea LaTier, dated 5/05/06).
It is not likely that marbled murrelets will be in the vicinity of the action area during project construction. Much of the marbled murrelet courtship, foraging, loafing, molting, and preening occur in nearshore marine waters. Courtship begins in early spring, and continues throughout summer (Speckman 1996; Nelson 1997). In Washington, the marbled murrelet breeding season occurs between April 1 and September 15. Suitable marbled murrelet nesting habitat is located over 5 mi (8 km) from the project site; therefore this project will not affect nesting habitat.

Marbled murrelets are present in the lower half (i.e. mouth) of Port Susan Bay, specifically at the tip of Camano Island. Marbled murrelet effectiveness monitoring is conducted along the southeast side of Camano and around Gedney Island during the summer. Monitoring is not conducted within the action area. According to these monitoring data, the average murrelet density from 2000-2005 was 3.03 murrelets per square kilometer with bird densities ranging from 0.97 to 6.09. These surveys are generally conducted between June and early August. The southeast tip of Camano Island is at a minimum 5 miles from the project site, and at a maximum 11 miles south of the project site.

Marbled murrelets generally forage in shallow waters within 1.25 miles of shore (Strachan et al. 1995). Traditional feeding areas (nurseries) are used consistently on a daily and yearly basis (Carter and Sealy 1990). Foraging locations include physical processes that concentrate prey. In general, small schooling fish and large pelagic crustaceans are the main prey items. Pacific sand

lance (*Ammodytes hexapterus*), northern anchovy (*Engraulis mordax*), immature Pacific herring (*Clupea harengus*), capelin (*Mallotus villosus*), and surf smelt (*Osmeridae*) are the most common fish species taken and are eaten year round. Herring and sand lance spawn in the southwest of Port Susan in winter (November through February) and surf smelt spawn in the same area throughout the year (Lemberg et al. 1997). None of these spawning grounds are in the action area. Therefore, because of the timing and location of spawning forage fish prey, marbled murrelets will not be concentrated in the action area during the proposed action. Although marbled murrelets are present on the southeast side of Camano Island (where forage fish spawning does occur) we do not expect them in the action area, particularly during summer months.

The highest marbled murrelet foraging activity typically is associated with up-welling areas such as at bay entrances, over underwater sills, tidal rips, and narrow passages between islands, shallow banks, and kelp (*Nereocystis* spp.) beds (Ainley et al. 1995; Burger 1995; Strong et al. 1995; Nelson 1997). Activity patterns and foraging locations are influenced by the physical processes mentioned above and biological processes that concentrate prey, such as weather, climate, time of day, season, and light intensity (Ainley et al. 1995; Burger 1995; Strong et al. 1995; Speckman 1996; Nelson 1997). In contrast, the action area is adjacent to approximately 4,000-7,000 acres of shallow mudflats that completely dewater during a "normal" low tide.

It is unlikely that marbled murrelets will be exposed to disturbance activities associated with the proposed project because 1) forage fish (marbled murrelet prey) spawning does not occur in the action area, 2) the Port Susan mudflats do not have the characteristics of a preferred foraging area, and 3) marbled murrelets are found at the southeast end of Camano Island where habitat characteristics are more suitable. Therefore, the potential for marbled murrelets to be exposed to herbicides or disturbed by noise levels from heavy equipment used for dike removal and reconstruction are considered discountable.

i) Conservation Measures to be applied: MM1 ____ MM2 ____ MMCH1 ____
MMCH2 ____ MMCH3 ____ None ✓

j) Effect Determination: NLTAA marbled murrelets
Effect Determination: NE designated critical habitat for the marbled murrelet

The species listed below all have conservation measures that require pre-project consultation with CTA or Species Lead staff to 1) avoid and minimize impacts, and 2) to result in a "not likely to adversely affect" or "no effect" determination. For these species, the project biologist will:

a. **Coordinate and discuss the project and potential impacts with the designated species lead or alternates.**
b. **Document the coordination, discussion, outcome and rationale for the effect determination in the Notes sections on this form.**
c. **When agreement is reached and documented, the Species Lead biologist will sign this form in the designated spot – Species Lead Initials, or provide an e-mail**

confirmation of coordination and outcome.

CANDIDATE ANIMALS

E-W Oregon spotted frog *(Rana pretiosa)*

a) Is the species known to be in the vicinity of the activity?

No ✓ Yes ____ Not known ____

b) Will the activity occur in any of the following counties?

Clark, Cowlitz, King, Klickitat, Lewis, Pierce, Skagit, Skamania, Snohomish, Thurston, Whatcom.

No ____ Yes ✓

If yes, list county/counties.

County/ies:

Snohomish

c) Will the activity occur in a wetland, sluggish stream, pond, or lake?

No ____ Yes ✓

If yes in questions b) and c), apply OSF1.

d) If yes in question c) and OSF1 applied, were indications of Oregon spotted frogs found?

No ____ Yes ____ N/A ✓

If yes, apply OSF2. Species Lead Initials: ____ or e-mail attached: ____

e) Notes: Oregon spotted frog are most likely extirpated from this area. The WDFW Wildlife Area Manager states no evidence of Oregon spotted frog on the property has been documented. Surveys have been conducted at the nearby Wiley Slough Wildlife Management Area, with no Oregon spotted frogs found to be present. No surveys were conducted at Leque Island.

f) Conservation Measures to be applied: OSF1 ____ OSF2 ____ None ✓

g) Effect Determination: NLTJ Oregon spotted frog

E-W Yellow billed cuckoo *(Coccyzus americanus)*

a) Is the species known to be in the vicinity of the activity?

No ✓ Yes ____ Not known ____

b) Will the activity occur in riparian habitats consisting of cottonwood or other deciduous trees with dense understory vegetation?

No ✓ Yes ____

If yes, apply YBC1. Species Lead Initials: ____ or e-mail attached: ____

c) Notes:

d) Conservation Measures to be applied: YBC1 ____ None ✓

e) Effect Determination: NLTJ Yellow billed cuckoo

RECENTLY DELISTED SPECIES

E-W Bald eagle *(Haliaeetus leucocephalus)*

The bald eagle was removed from the Federal List of Threatened and Endangered Wildlife, effective August 8, 2007. After August 8, 2007 bald eagles will be listed as a species of concern and will be protected under federal and Washington State laws, including The Bald and Golden Eagle Protection Act, The Migratory Bird Treaty Act, and the Washington State Bald Eagle Protection Law of 1984 (RCW 77.12.655).
Further information is on the Internet at:
http://wdfw.wa.gov/wlm/diversty/soc/baldeagle/index.htm and
http://www.fws.gov/migratorybirds/BaldEagle.htm.

Staff using this Appendix G. PBACF consultation process will alert our project partners to this change in the eagles' status, and assist them with ensuring that applicable federal or state laws are followed. For the Effect Determination, use NA for not applicable.

a) Identify any bald eagle habitat in project vicinity:
Known/suspected nest territory ✓ occupied night roost ____
key winter foraging area ____ known or suspected perch site ____ None ____

b) Will the activity generate above ambient noise within ½ mile of a known or suspected bald eagle nest territory? No ✓ Yes ____
If yes, contact WDFW for further guidance, document outcome in e) Notes.

c) Will the activity generate above ambient noise within ¼ mile of an occupied night roost or key winter foraging area?
No ✓ Yes ____ Not Known ____
If yes, contact WDFW for further guidance, document outcome in e) Notes.

d) Will the activity alter or remove trees? No ✓ Yes ____
If yes, contact WDFW for further guidance, document outcome in the e) Notes.

e) Notes: The nearest bald eagle nest site is approximately ¾ of a mile from the project site.

f) Effect Determination: NA bald eagles

E-W Peregrine falcon *(Falco peregrinus)*

a) Is the species known to be in the vicinity of the activity?

No ✓ Yes ____ Not known ____

b) Will the activity generate above ambient noise within 0.5 mile (2.0 mile for blasting) of occupied nesting habitat?

No ✓ Yes ____

If yes, apply PF1.

c) Will the activity alter cliffs over 75 feet in height?

No ✓ Yes ____

If yes, apply PF2.

d) Will the activity occur within 0.5 mile (2.0 mile if blasting) of a major estuary?

No ____ Yes ✓

If yes, apply PF3.

e) Notes: _____

_____

f) Conservation Measures to be applied: PF1 ____ PF2 ____ PF3 ✓ None ____

g) Effect Determination: NA peregrine falcon

CONCURRENCE:

Virginia G. Rhal 12/13/07

Project Biologist Date

12/17/07

Manager, Division of Environmental Assessment and Restoration Date

Not Needed

Manager, Division of Consultation & Technical. Assistance Date

EFFECT DETERMINATIONS, FISH SPECIES

NMFS species covered by Limit 8. Once complete, documentation will be in project file.

Each project should have the appropriate effect determination. The PBA allows for NE or NLTAA determinations for terrestrial species, and NE, NLTAA or LTAA for aquatic species. Each determination must be adequately documented in this form. If you need assistance in determining the appropriate effect determination, consult with Division of Consultation and Technical Assistance and NOAA Fisheries staff.

Currently listed evolutionarily significant units (ESUs) or distinct population segments (DPSs). Check all that may occur in the fifth field watershed that the project occurs in.

Threatened

_✓_ Bull trout, Coastal/Puget Sound DPS *(Salvelinus confluentus)*

Designated

_✓_ Critical habitat for Coastal/Puget Sound bull trout DPS

Directions: Use the Notes section under each question to document your rational and decision making process for presence or absence of the fish, and the effect determination.

Fill out this section for bull trout.

Effect Determination by Species (USFWS)
DPS and designated critical habitat: Bull trout, Coastal/Puget Sound DPS

1) Does the restoration activity require an HPA?

YES _✓_ If yes, attach the HPA. Apply conservation measure F1. In the Notes section below, document any ambiguity between the PBO and HPA and how the issue was resolved. Go to question 2.

NO ___ If no, go to question 2.

Notes: The HPA for this project is under development.

2) Is the project in a watershed/water body where bull trout have been documented to occur or that supports or has habitat with the potential to support bull trout?

For the Coastal Puget Sound bull trout DPS all core areas and FMO habitat, including all local populations and potential local populations and Whatcom Creek, Squalicum Creek, Willapa Bay and the mainstem Willapa River should be considered to have bull trout potentially present, as identified in the *Draft Recovery Plan for the Coastal-Puget Sound Distinct Population Segment of Bull Trout, volumes I and II.* Use draft recovery plan, maps, or consult with bull trout species leads to determine answer.
Note: Whatcom and Squalicum creeks and Willapa Bay and the Mainstem Willapa River have all had recent bull trout sitings, but are currently not included in a designated core area of FMO habitat.

YES _✓_ If yes, go to question 2a.
Identify the fifth field watershed or water body. _Port Susan Bay_

NO ____ Identify the fifth field watershed or water body. _____
The effect determination for bull trout is "no effect". Go to question 6.

a. Is the project in Whatcom Creek, Squalicum Creek, Willapa Bay or the mainstem Willapa
River?
YES ____ Identify the fifth field watershed or water body. _____
If yes, go to question 2.f.

NO _✓_ If no, go to question 2b.

b. Is the project within the area covered by the PBA for bull trout? See Enclosure D. Table 4.4. Coastal Puget Sound and Columbia River Bull Trout DPS's Core Areas, Local Populations and FMO Areas Covered by the PBA, and "Key Habitat for Bull Trout Recovery" maps.

YES _✓_ Identify the bull trout management or recovery unit: Puget Sound. ____
If yes, go to question 2.c.

NO ____ If no, the project is not covered by the PBA for bull trout and an individual consultation should be completed.

c. Does the project occur in a bull trout core area?

YES ____ Identify the bull trout core area: _____
If yes, go to question 2.d.

NO _✓_ If no, go to question 2.e.

d. Does the project occur within a local population area (spawning and early rearing) within the above identified core area?

YES ____ Identify the local population area: _____
Apply BT1. Go to question 2f.

NO ____ By default, the project occurs in feeding, migration, and overwintering (FMO) habitat within the above identified core area. Check with bull trout staff for appropriateness of in-water work windows identified in the HPA and apply or make changes as appropriate. Document the discussion and agreement in the Notes section below. Go to question 2f.

Notes: _____

_____

e. Does the project occur in bull trout FMO habitat outside of a core area? See Enclosure D. Table 4.4. Coastal Puget Sound and Columbia River Bull Trout DPS's Core Areas, Local Populations and FMO Areas Covered by the PBA, and "Key Habitat for Bull Trout Recovery" maps.

YES _✓_ Identify the bull trout FMO area: __Marine Areas of Puget Sound._
Apply BT3. Go to question 2f.

NO ____ Go to question 3.

f. Is there exposure of bull trout to project activities? Please explain your answer. (Project timing or location could impact this). If there is not exposure to bull trout over the short or long -term, then your need to evaluate any sedimentation impacts may be precluded). Go to question 3.

All setback levee construction, re-construction of the Davis Slough levee, construction of the freshwater wetlands, drainage infrastructure and access trails will take place behind the existing exterior levees, allowing construction to occur in the dry and removed from the current shoreline of the project area. The only potential impact to bull trout foraging in the marine environment will be when the exterior dikes are removed and inundated by high tide events. Exterior dike removal will happen towards the end of the construction window – likely in August or early September.

The following information is adapted from the Concurrence Letter for: Request for Informal Endangered Species Act Section 7 Consultation, Concurrence Request on the Effects of a Federal Grant to Fund the Port Susan *Spartina* Eradication Project (Grant Number 04L55), author Andrea LaTier, dated 5/05/06.

Bull trout from the lower Skagit core area make extensive use of the lower Stillaguamish estuary and near shore marine areas for extended rearing and sub-adult and adult foraging. A significant portion of the migratory bull trout in the Stillaguamish River basin, exhibit an anadromous life history, and use the estuarine and nearshore marine areas in Skagit Bay and Port Susan. The anadromous bull trout are typically found in nearshore marine waters from the early spring

through the late fall (USFWS 2004). Bull trout are known to migrate by the project area during the time window for project construction.

Port Susan is a shallow bay particularly in the northern portion of the bay, which is adjacent to the project area. Water temperatures in shallow river deltas increase with the onset of spring and summer. Because water temperatures play an important role in determining bull trout habitat use, we used data collected by Goetz et al. (2004) to characterize the timing of bull trout use of habitat adjacent to the project area.

Goetz et al. (2004) attached transmitters to bull trout, which emit a signal that is received by hydrophones anchored at various locations in Puget Sound. Using this methodology, bull trout were detected at specific locations. We used this detection information to identify the time of year the fish would occur in the action area relative to when they may be exposed to potential disturbance from project construction.

Data were available for four individual bull trout (Tag Nos. 149, 649, 234, and 141) in or near the action area[1] (Goetz et al. 2004). Bull trout (Tag No. 149) was detected migrating from Kayak Point to the Stillaguamish River between July 5 and July 15, 2003. Bull trout (Tag No. 649) was detected moving from McKees Beach to the east side of Camano Island between July 19 and July 21 2004, and was then detected on July 24, 2004, on the opposite side of Camano Island (F. Goetz, *in litt.* 2006), indicating it swam around the island. Bull trout (Tag No. 234) migrated south from the Skagit River through West Pass to Jetty Island in April 2003. Bull trout (Tag No. 141) migrated from Kayak Point to the Swinomish Channel following essentially the same route as bull trout No. 649. All individuals heading north along the shore to points north of the Stillaguamish River avoided the shallow delta in Port Susan Bay during late June. Only one individual (Tag No. 149) migrated through the delta in July and went up the Stillaguamish River.

Marine habitat components that influence bull trout distribution and abundance include water temperature, cover, and migratory corridors. Cold water temperatures play an important role in determining bull trout habitat (USFWS 2004). Although bull trout make extensive use of the lower estuary and near- shore marine areas of Port Susan for extended rearing and sub-adult and adult foraging, their presence is likely influenced most by water temperature.

Bull trout behavior appears to correlate with water temperature. For instance, when migrating north in June, bull trout Tag Nos. 141 and 649, went around Camano Island rather than through either West or South Pass to reach Skagit Bay. Apparently, these bull trout may have been avoiding the warmer waters in the north end of Port Susan Bay during their migration (F. Goetz, U.S. Army Corp of Engineers, Seattle, Washington, *in litt.* March 2006). Additionally, the bull trout detected on June 29, 2003, when water temperatures reached approximately 18 °C, was

[1] It should be noted that the actual location of these bull trout during their movements is not specifically known as the hydrophones can detect movement from between 300 ft to 1,500 ft from the receiver (fish) depending on water conditions.