

Feature	Area Affected by Restoration	Type, Function, and Value
Bachelor Slough Habitat Restoration	6 acres	Type: Riparian forest Function: Increase riparian forest habitat; detrital export Value: High (riparian forest)

### **Project Description:**

**General Description:** The Corps will develop riparian forest habitat along 6 acres of Bachelor Slough shoreline on Bachelor Island. Dredging of Bachelor Slough has been dropped from consideration because of the lack of a suitable, nearby, cost-efficient disposal site for the dredged material.

### **Pre-Construction Monitoring Effort**

**a. Contaminant Survey of Bachelor Slough Sediments:** Sediment chemistry was evaluated from samples collected throughout the 2.75-mile long side channel to determine contaminant levels and evaluate the propriety of dredging the slough. The sampling plan and threshold limits were coordinated with both agencies. The final report has been completed and copies were furnished to NOAA Fisheries and the U.S. Fish and Wildlife Service in the January 2005 annual update letter.

**b. Bathymetric Survey:** A bathymetric survey was conducted to determine the volume of sediment present relative to the U.S. Fish and Wildlife Service's objective of a bottom elevation of 0.0 feet NGVD. Volume estimates were provided to the U.S. Fish and Wildlife Service in May 2003.

This feature was previously down-scoped due to incompatibility of disposal on refugee land with refugee purposes. Therefore, dredging component was eliminated from the feature.

### **Post-Construction Monitoring Effort**

**Riparian Forest Habitat:** Ten sampling locations will be established within the Bachelor Slough riparian forest restoration area to record species composition and evaluate seedling survival and growth. Weed infestation will be monitored to determined control efforts.

**Monitoring Schedule:** Monitoring efforts would occur in construction years 1 and 2 and year 2 during Operations and Maintenance. Photographs will be obtained at each sampling location to document control and ecosystem restoration feature conditions.

**Correspondence:** NOAA Fisheries and the U.S. Fish and Wildlife Service will be notified of contractors employed to accomplish these actions, dates of their notices to proceed and when final reports are due.

**Adaptive Management Actions:** If riparian forest sampling results indicate that riparian tree establishment has not attained a level of 400 seedlings per acre by O&M year 2, then actions to harvest seeds and cuttings for planting in the ecosystem restoration feature will be evaluated and implemented if necessary.

**Progress Report:** A monitoring report for the riparian forest restoration action will be provided by December 1 of each monitoring year. The report will discuss results to date and provide recommendations on potential methods to improve the specific restoration feature.

Table 1. Action items and completion schedule for Bachelor Slough Ecosystem Restoration Feature (ERF-7).

Action Item	Completion Date	Comments
Bathymetric Survey	May 28, 2003	See Ryel e-mail of 5/28/03 in CRCIP03; BachelorSIQtys.xls in CRCIP2003
Sediment Sampling – Field	June 3, 2003	
Sediment Contaminant Analysis	June-July 2003	
Coordination w/ NOAA Fisheries and USFWS regarding sampling plan and threshold evaluation limits	Action no longer pertinent to this ERF with dropping of dredging action in Bachelor Slough.	David Leal and Cathy Tortorici notified of action status on 7/17/03 via e-mail; Coordinate of threshold evaluation limits with RESET representatives ongoing per requirements of MA-5.
Final Report – Sediment Contaminant Analysis	October 2003	Final Report Completed; will be provided to USFWS and NOAA Fisheries by 1 December 2004. Report located on CRCIP Intranet site at Final Supplemental EIS\Implementation plan\Terms & Conditions 5\TC 5\TC 5f
Coordination with NOAA Fisheries and USFWS regarding results.	Date Pending	e-mail dated 5/19/04 to David Leal/Joe Engler stating that Bachelor Slough ERF would be limited to riparian restoration on Bachelor Slough shoreline.

	<b>FY03 - Pre-constr.</b>	<b>Construction Year 1 (Baseline)</b>	<b>Construction Year 2</b>	<b>O&amp;M Year 2</b>
<b>Contaminant Survey</b>	Bachelor Slough			
<b>Bathymetric Survey</b>	N/A	N/A	N/A	N/A
<b>Benthic Invertebrate Productivity</b>				
a. Bachelor Slough	N/A	N/A	N/A	N/A
<b>Juvenile Salmonid Use</b>				
a. Bachelor Slough	N/A	N/A	N/A	N/A
<b>Riparian Forest - Stand Establishment</b>				
a. Bachelor Slough shoreline	N/A	10 stations	10 stations	10 stations
b. Upland Disposal Sites	N/A	N/A	N/A	N/A
<b>Point Photography</b>				
a. Bachelor Slough shoreline	N/A	Two photo Stations	Two photo Stations	Two photo Stations
b. Upland Disposal Sites	N/A	N/A	N/A	N/A
<b>Monitoring Report</b>	1-Dec	1-Dec	1-Dec	1-Dec

### Bachelor Slough

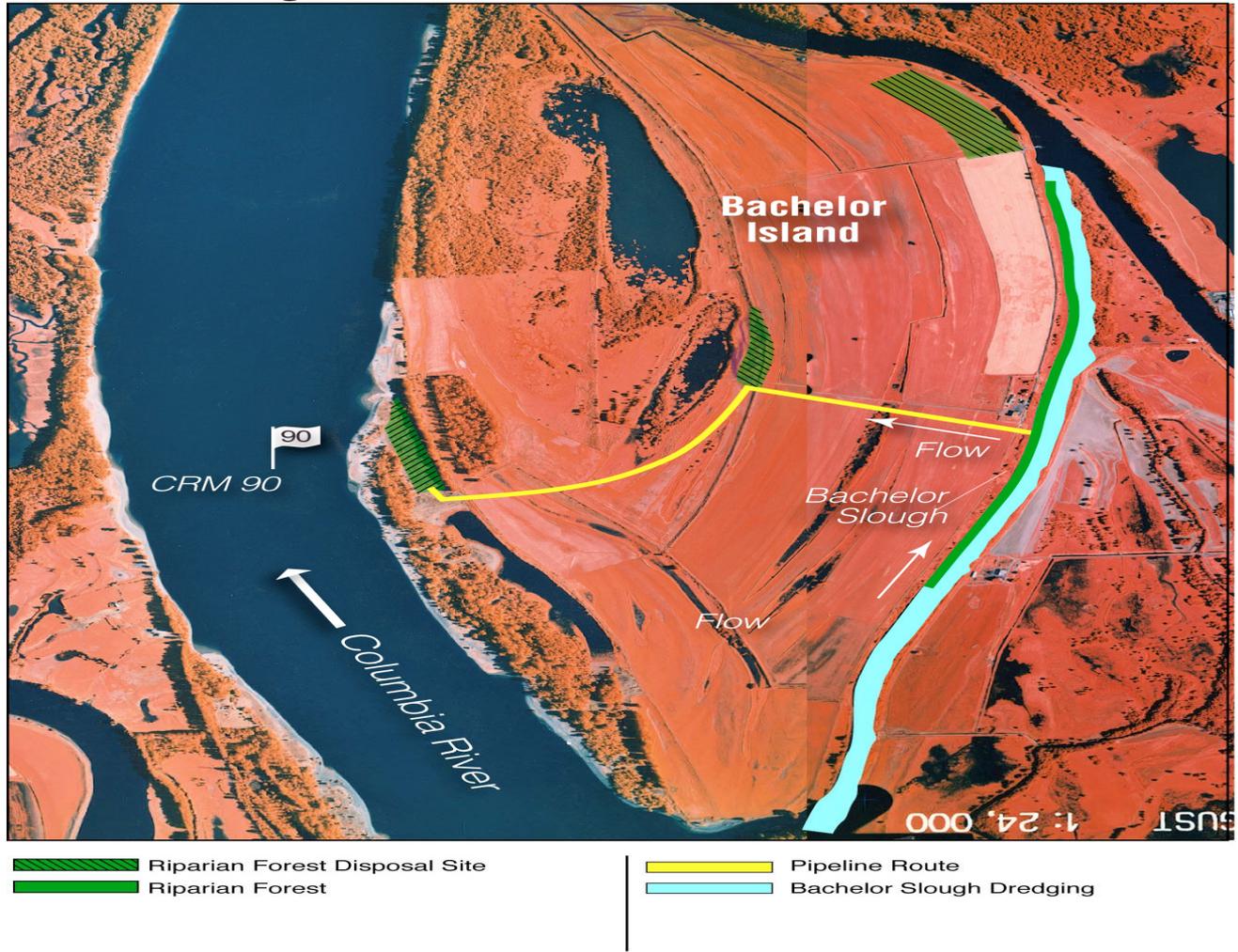


Figure S4-11 Bachelor Slough Ecosystem Restoration