Feature	Area Affected by Restoration	Type, Function, and Value
Tenasillahe Island Interim Habitat Restoration	92 acres	Type: Backwater/side channel reconnection to Columbia River. Function: Increase access/egress for ocean-type salmonids. Value: Moderate

Project Description:

General Description: The Corps will improve tidegate outlets at existing locations in the flood control levee surrounding Tenasillahe Island and construct inlet structures and channels at two locations to improve fisheries access and egress and improve water circulation in interior channels. Monitoring actions for the interim feature will cover 3 years in the estimated 10-year life of this feature and then be discontinued with implementation of the long-term restoration feature for Tenasillahe Island.

Pre-Construction Monitoring Effort

a. Hydrology/Hydraulic Analysis: Hydraulic modeling was completed in FY 06.

b. Juvenile Salmonid/Fisheries Use: Juvenile salmonid use will be measured in the interior channels of Tenasillahe Island and in comparable natural channels at nearby Welch Island. Gear used for sampling purposes will be dependent upon channel morphology and water/tidal levels and data collected will be similar to other data being collected in other areas of the estuary. Sampling began in 2005. A full season of fisheries monitoring was completed FY 06. A final report will be presented to the AMT in January 2007.

Post-Construction Monitoring Effort

a. Benthic Invertebrate Productivity: Three AFEP stations are identified in close proximity to this site and those transects will be used as representative of benthic invertebrate communities that could occur post implementation.

b. Juvenile Salmonid/Fisheries Use: Juvenile salmonid use will be measured in the interior channels of Tenasillahe Island and in comparable natural channels at nearby Welch Island. Gear used for sampling purposes will be dependent upon channel morphology and water/tidal levels. The sampling timeframe would be Spring and Fall.

Monitoring Schedule: Monitoring efforts would occur in construction years 1 and 2 and Operation and Maintenance year 2. 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. Each agency will be furnished final reports on each monitoring action as they are received.

Adaptive Management Actions: If sampling results indicate that juvenile salmonids are not using the interior channels, then structural modifications to the inlets and outlets will be further evaluated and implemented if necessary.

Progress Report: Monitoring reports for each pre- and post-construction monitoring action will be provided by December 1 of each monitoring year. These reports will discuss results to date, provide recommendations on potential methods to improve the specific restoration feature.

Schedule: Data from three temperature and water level gages installed during FY 04 will be collected and checked in the second quarter of FY 05. This data will be made available through the web site. Hydrologic and hydraulic analysis using this data and design of tidegate retrofits will take place in FY 05.

Literature Cited:

Hinton, S. A., R. L. Emmett, and G. T. McCabe, Jr. 1992a. Fishes, shrimp, benthic invertebrates, and sediment characteristics in intertidal and subtidal habitats at Rice Island and Miller Sands, Columbia River estuary, 1991. Report to the U.S. Army Corps of Engineers, Contract E96910025, 44 p. plus appendix. (Available from Northwest Fisheries Center, 2725 Montlake Blvd. E., Seattle, WA 98112).

Hinton, S. A., R. L. Emmett, and G. T. McCabe, Jr. 1992b. Benthic invertebrates and sediment characteristics in subtidal habitats at Rice Island, Columbia River estuary,

December 1991 and March 1992. Report to the U.S. Army Corps of Engineers, Contract E96920018, 14 p. plus appendix. (Available from Northwest Fisheries Center, 2725 Montlake Blvd. E., Seattle, WA 98112).

Hinton, S. A., G. T. McCabe, Jr. and R. L. Emmett. 1990. Fishes, benthic invertebrates and sediment characteristics in intertidal and subtidal habitats at five areas in the Columbia River estuary. Report to the U.S. Army Corps of Engineers, Contracts E86880158, E8680107, E86900048, 92 p. plus appendix. (Available from Northwest Fisheries Center, 2725 Montlake Blvd. E., Seattle, WA 98112).

Hinton, S. A., G. T. McCabe, Jr. and R. L. Emmett. 1995. In-water restoration between Miller Sands and Pillar Rock Island, Columbia River: Environmental Surveys, 1992-93.

	Construction Year 1 (Baseline)	**Construction Year 2**	**O&M Year 2**
Hydrology/Hydraulic Investigation	Inlet/outlet locations	N/A	N/A
Benthic Invertebrate Productivity			
a. Tenasillahe Island Interior Channels	10 Sampling Stations; 11 cores/station	10 Sampling Stations; 11 cores/station	10 Sampling Stations; 11 cores/station
b.Welch Island Interior Channels	10 Sampling Stations; 11 cores/station	10 Sampling Stations; 11 cores/station	10 Sampling Stations; 11 cores/station
Juvenile Salmonid Use			
a. Tenasillahe Island Interior Channels	4 Trap Net Sites	4 Trap Net Sites	4 Trap Net Sites
b.Welch Island Interior Channels	4 Trap Net Sites	4 Trap Net Sites	4 Trap Net Sites
Point Photography			
a. Tenasillahe Island Interior Channels	Two photos/inlet and outlet	Two photos/inlet and outlet	Two photos/inlet and outlet
b.Welch Island Interior Channels	Two photos/inlet and outlet	Two photos/inlet and outlet	Two photos/inlet and outlet
Monitoring Report	1-Dec	1-Dec	1-Dec

Tenasillahe Islands

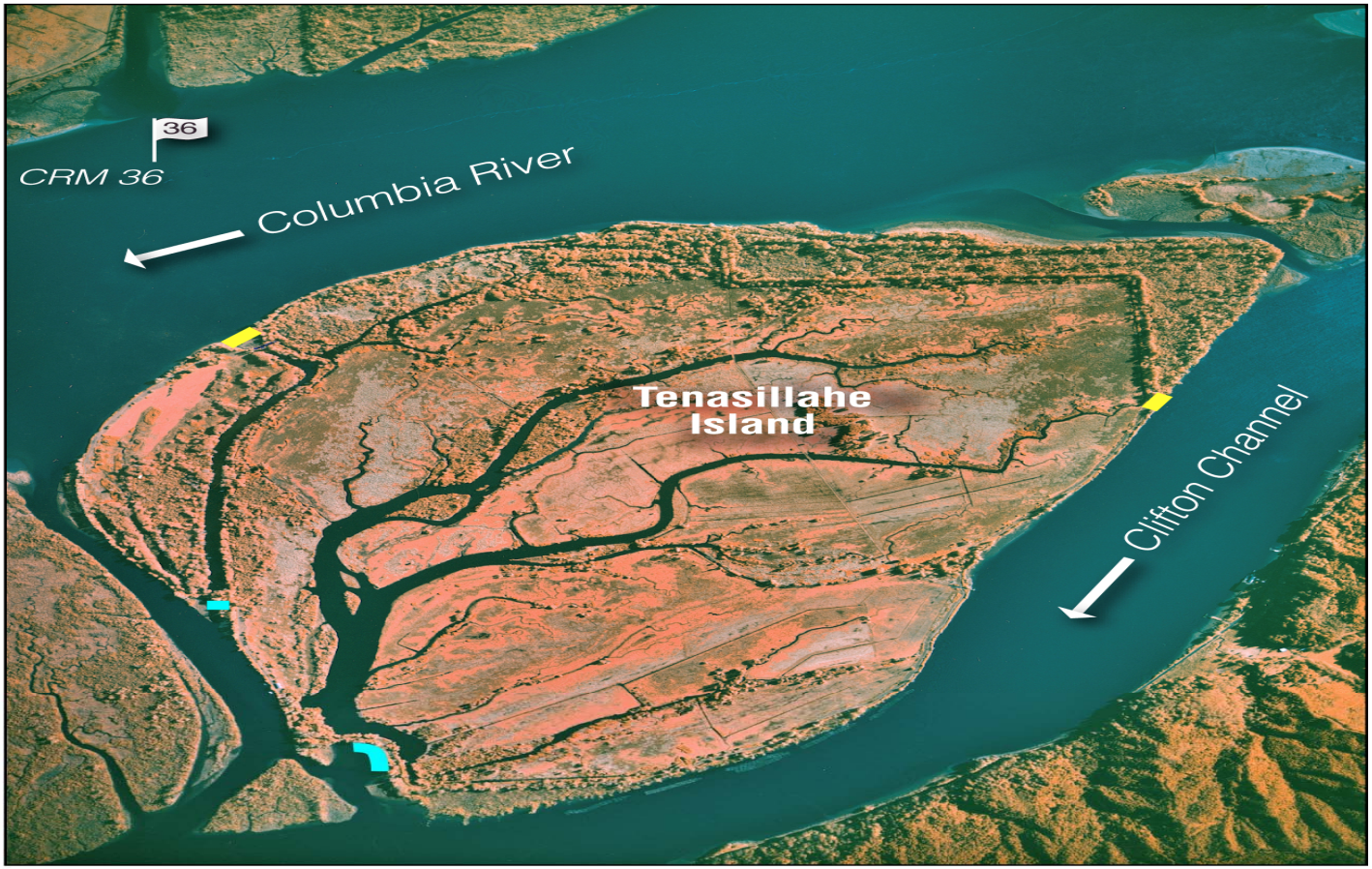

Figure S4-8 Tenasillahe Island Phase 1 - Interim Ecosystem Restoration Feature

Final SEIS