

Appendix 1-E:

**DRMT Watershed Restoration Plans & Activities
1989 to 2001, 2001 Milestone Report, and the
2002 Milestone Report**

APPENDIX 1-E
DRMT WATERSHED RESTORATION PLANS & ACTIVITIES 1989 TO 2001, THE
2001 MILESTONE REPORT, & THE 2002 MILESTONE REPORT

Dungeness Watershed Restoration Plans & Activities 1989 to Present

I. PLANS AND STUDIES

A. Major Plans and Documents

- *Clean Water Strategy For Addressing Bacterial Pollution in Dungeness Bay and Watershed*. May 2002. Clean Water Workgroup, Clallam County.
- *Comprehensive Water Conservation Management Plan*. 1999. Montgomery Water Group. Prepared for Dungeness River Agricultural Water Users Association. WA Department of Ecology.
- *Dungeness Area Watershed Analysis*. Dungeness Area Watershed Cooperative Team. 1995. Prepared for U.S. Forest Service, Olympic National Forest.
- *Dungeness River Area Watershed Management Plan*. 1993. Dungeness Watershed Committee coordinated by Clallam County.
- *Dungeness River Area Watershed*. 1991. Puget Sound Cooperative River Basin Team for Clallam County.
- *Dungeness River Comprehensive Flood Control Management Plan*. 1990. Kramer, Chin & Mayo for Clallam County (update 2003).
- *Dungeness River Greenway Plan*. 1994. CZM, by Clallam County.
- *Dungeness-Quilcene Water Resources Management Plan*. 1994. Regional Planning Group, Jamestown S'Klallam Tribe Coordinating Entity.
- *Dungeness Watershed Analysis 2nd Iteration*. 2001-2002. U. S. Forest Service, Olympic National Forest.
- *Hydrogeologic Assessment of the Sequim-Dungeness Area, Clallam County, Washington*. 1999. Thomas. U.S. Geological Survey Water-Resources Investigations Report 99-4048.
- *Physical Processes, Human Impacts and Restoration Issues of the Lower Dungeness River*. 2002. Bountry, et al., USBOR. Prepared for Jamestown S'Klallam Tribe.
- *Recommended Restoration Projects for the Dungeness River, (Habitat Plan/Blue Book)*. Dungeness River Restoration Work Group. 1997. Prepared for the Dungeness River Management Team.
- *Salmon and Steelhead Habitat Limiting Factors, WRIA 18, Final Report*. Haring. 1999. State Conservation Commission with Dungeness River Restoration Workgroup.
- *Sequim-Dungeness Groundwater Protection Project (and "Strategy")*. 1992-1994. Clallam County and Groundwater Committee.
- *Shoreline Master Program/Inventories*. Ongoing. Preparation for future amendments to integrate GMA/CAO/Watershed Planning.
- *Water Cleanup Plan for Bacteria in the Lower Dungeness Watershed*. Total Maximum Daily Load (TMDL) Submittal Report. June 2002. Hempleton, C. and Sargeant, D. WA Department of Ecology Southwest Regional Office.

B. Habitat Assessment

- *An Aquatic Resource Assessment of the Dungeness River Basin System: Phase I*. 1992. Orsborn and Ralph. Prepared for the Jamestown S'Klallam Tribe.
- *An Aquatic Resource Assessment of the Dungeness River Basin System: Phase II—Physical Channel Analysis, Hydrology, and Hydraulics, & Phase III—Fisheries Habitat Survey*. 1994. Orsborn and Ralph. Prepared for the Jamestown S'Klallam Tribe & USFS.

- *Dungeness Bay Bathymetry, Circulation and Fecal Coliform Studies, Phase I.* 2001. Rensel and Smayda. Prepared for Jamestown S'Klallam Tribe.
- *Dungeness Bay Bathymetry, Circulation and Fecal Coliform Studies, Phase II.* 2003. Rensel. Prepared for Jamestown S'Klallam Tribe.
- *Review of the Influence Exerted by Environmental Factors on Spring Chinook Salmon in the Dungeness River.* 1993. Lichatowich. Prepared for the Jamestown S'Klallam Tribe.
- *Seepage and Mainstem Aquifer Characterization.* 2001. USGS, WA Dept. of Ecology.
- *Upper Dungeness Aquifer Study – Final Report: Relationship Between the Upper Dungeness River and the Bedrock Aquifer, Clallam County.* 2001. Gibbons. WA Dept. of Ecology.

C. Stock Analysis / Rebuilding / Recovery

- *1992 Washington State Salmon and Steelhead Stock Inventory (SASSI).* 1993. WDFW and Washington Tribes.
- *Dungeness Chinook Acclimation Ponds / Chinook Broodstock Program.* 1996-present. Jobs in the Woods (BIA), Jamestown S'Klallam Tribe.
- *Dungeness Chinook Captive Broodstock Program.* 1992-present. WA Dept. of Fish & Wildlife, Jamestown S'Klallam Tribe, USFWS, volunteers.
- *Dungeness Chinook Redd Mapping Study.* 1992-2002. Jamestown S'Klallam Tribe.
- *Dungeness Chinook Salmon Rebuilding Project Progress Report, 1992-1993.* 1995. Smith, WDFW and Wampler, USFWS.
- *Dungeness Fall Pink Captive Broodstock Program and Tagging.* 1995-present. WDFW, Jamestown S'Klallam Tribe, USFWS.
- *Dungeness Pink Outmigration.* 1994. USFWS.
- *Dungeness River Pink and Chinook Salmon Historical Abundance, Current Status and Restoration.* 1993. Lichatowich. Prepared for the Jamestown S'Klallam Tribe.
- *Dungeness Salmonid Life History Study.* 1998. Hirschi and Reed. Prepared for Jamestown S'Klallam Tribe. Life History Assessment continues by the Jamestown S'Klallam Tribe (2002).

D. Instream Flow, Water Conservation & Water Quality Studies

- *Dungeness Bay Bathymetry, Circulation and Fecal Coliform Studies - Phase I.* August, 2001. Rensel, J. and Smayda, T. Prepared for the Jamestown S'Klallam Tribe.
- *Dungeness Bay Bathymetry, Circulation and Fecal Coliform Studies - Phase II.* April, 2003. Rensel, J. Prepared for the Jamestown S'Klallam Tribe.
- *Dungeness River and Matriotti Creek Fecal Coliform Bacteria Total Maximum Daily Load Study.* May 2002. Sargeant, D., WA Department of Ecology Environmental Assessment Program.
- *Dungeness River / Matriotti Creek TMDL Study Preliminary Data Results for Nov. 1999 – Oct. 2000.* January 2001. Sargeant.
- *Dungeness River In-Stream Flow Side Channel Study.* 2003. USBOR for Department of Ecology and Clallam County.
- *Dungeness River Irrigation Ditch Leakage Assessment.* 1993. Montgomery Water Group. Prepared for WA Dept. of Ecology, and Dungeness River Agricultural Water Users Association.
- *Dungeness Sediment Reduction for Fish/Shellfish Project.* 1999-2002. Sediment / temperature monitoring instream and extensive bay / small tributaries monitoring. In cooperation with WA Dept. of Ecology, Clallam County, WA DOH, CCWF funds.
- *Fish Habitat Analysis for the Dungeness River Using the Instream Flow Incremental Methodology.* 1991. Wampler and Hiss, USFWS.
- *Groundwater measurements to determine hydraulic continuity connections.* 2000-2001. USGS.
- *Instream Flow Recommendations for Dungeness-Quilcene Area Salmon and Steelhead Streams, 1993.* 2000. Hiss, USFWS, Dungeness River Restoration Work Group, with WA Dept. of Ecology review of Dungeness watershed streams.

- *Recommended Instream Flows for the Lower Dungeness River*, 1993. 2000. Hiss, USFWS, Dungeness River Restoration Work Group, with WA Dept. of Ecology review of Dungeness watershed streams.
- *SNOTEL gauges* (2) installation in upper Dungeness to predict instream flows, drought, flooding. 1998-1999. NRCS for Jamestown S'Klallam Tribe.
- *Stream flow measurements* (on river, tributaries, irrigation ditches), Dungeness River. 1924-present / ongoing. USGS. Also flow measurements by WA Dept. of Ecology, Jamestown S'Klallam Tribe, Agricultural Water Users Association. Includes "real-time monitoring" on five irrigation outtakes.

II. RESTORATION AND EDUCATION PROJECTS & PROGRAMS

A. Restoration Projects & Programs

- *Burlingame Bridge Widening and Habitat Restoration*. 2001. Clallam County.
- *Conservation Reserve Enhancement Program (CREP)*. Ongoing. NRCS.
- *Dungeness Irrigation System Improvements*—Projects to improve water conveyance efficiency/fisheries survival (fish screens, ditch pipe lining, siphon replacement). Jamestown S'Klallam Tribe/WDFW, JFE-DNR, 1994-1998, IAC 1999-2001, WA SRFB 1999-2001. Clallam Conservation District/CCWF, 1999-2001. Sequim-Dungeness Agricultural Water Users Association, NRCS.
- *Dungeness Large Woody Debris Placement*. 1996-2001. JFE-DNR, JIW-BIA & IAC, Jamestown S'Klallam Tribe.
- *Dungeness Riparian Habitat Restoration Program*. 1997 – 2001. Acquisition of conservation easements. North Olympic Land Trust, Clallam County.
- *Dungeness River Bank Stabilization*—Bioengineering projects to stabilize eroding banks in lower river. Clallam County/EPA, WDFW, JFW-DNR, and County roads/bridges projects. 1994.
- *Dungeness USFS Roads Sediment Reduction Project*. 2001 Stabilization completed. USFS, in partnership with Clallam Conservation District, Pacific Coast Watershed Project, WA Conservation Corps and Olympic National Forest.
- *Sequim Prairie Irrigation Channel/Fish Screens/By-Pass/Habitat Restoration Project*. 1999-2001. Joint Funding WACERT, Sustainable Solutions, Jamestown S'Klallam Tribe. Completed by Jamestown S'Klallam Tribe.
- *Stream Restoration Projects* (fencing/re-vegetation along rivers/creeks- Gray Wolf, Bell, Cassalery, Hurd, Matriotti, Meadowbrook, Siebert). 1994 – present. JFE-DNR, Clallam County, Clallam Conservation District, Jamestown S'Klallam Tribe, Youth Conservation Corps, Siebert Creek Group.

B. Public Education Projects

- *"A Manual of Tools for Understanding the Natural History of the Dungeness River Watershed."* 1996. Clark, Clark and Newberry. Prepared for the Jamestown S'Klallam Tribe.
- *"Every River Has Its People" (The 1993 State of the Dungeness River Report)*. 1993. Jamestown S'Klallam Tribe, Public Involvement and Education (PIE) Grant, Puget Sound Water Quality Authority.
- *"Keys to an Understanding of the Natural History of the Dungeness River System."* 1996. Clark and Clark. Prepared for the Jamestown S'Klallam Tribe.
- *Dungeness Bay Stewardship Initiative*. 1999. Clallam County, CCWF.
- *Dungeness Bay Tour*. 1998. Clallam County.
- *Dungeness Bay Watchers*. 1999. Public Involvement and Education (PIE) Grant, Puget Sound Water Quality Authority, Clallam County.
- *Dungeness River Audubon Center at Railroad Bridge Park* – Public access, education, research, annual river festival. Ongoing. Rainshadow Foundation, Olympic Peninsula Audubon Society, Jamestown S'Klallam Tribe.

- *Dungeness River Riparian Landowners Education Project* – “Living on the River” booklet. 1998. Clallam County, CCWF.
- *Living by the Coast, Coastal Processes Workshops*. 1998-1999. CZM, Clallam County.
- *Matriotti Creek Environmental Learning Area*. 1992 – Ongoing. Clallam County.
- *Pollution Prevention Outreach Program (Landowner Education)*. 1994-1995. Clallam and Jefferson Conservation Districts, WSU Cooperative Extension, funded by Jamestown S’Klallam Tribe/EPA grant.
- *Salmon in the Dungeness River: From Abundance to Emptiness, Parts 1 & 2*. McNulty, T. 2001. Prepared with the Jamestown S’Klallam Tribe.
- *Sequim Irrigation Festival – Increasing Awareness of the Dungeness River*—Parade entry and “River Gone Run” play. 1996-1998. Jamestown S’Klallam Tribe, Olympic Theatre Arts, and PIE Grant.
- *Stream Keepers of Clallam County*. 1999 to present. Clallam County.

III. STUDIES / PROJECTS IN PROGRESS 1998-2003

A. Projects / Plans / Studies / Programs in Progress

- “*Comprehensive Irrigation District Management Plan*.” WA Department of Agriculture and Ecology with Agricultural Water Users Association. Due 2003.
- *Clallam County Flood Plan Update*. 2000-2003. Clallam County with cooperators.
- *Dungeness Bay TMDL*. 2000-2002. WA Dept. of Ecology, Jamestown S’Klallam Tribe and cooperators.
- *Dungeness Estuary Restoration / Schoolhouse Bridge Widening*—studies and planning. 1999-present. Clallam County, U.S. Army Corps. of Engineers, and U. S. Bureau of Reclamation in cooperation with DRRWG and DRMT.
- *Dungeness Irrigation System Improvements*. Projects in progress to 2003. To improve water conveyance efficiency/fisheries survival. Jamestown S’Klallam Tribe / Sequim-Dungeness Agricultural Water Users Association, Clallam Conservation District, NRCS.
- *Dungeness Scour Chain Study of Bedload Scour and Deposition*. 1999-2002. (Data collection completed 2002.) BIA/Jamestown S’Klallam Tribe.
- *Dungeness USFS Roads Sediment Reduction Project*. 2002-ongoing. Stabilization / decommission and repair. USFS, in partnership with Clallam Conservation District, Pacific Coast Watershed Project, WA Conservation Corps. and Olympic National Forest.
- *EIS for Comprehensive Water Conservation Management Plan*. Eckert, P. 2003.
- *Groundwater modeling project*. 2003. In progress. WA Department of Ecology.
- *Instream flow study* to show connections between mainstem and side channels. US Bureau of Reclamation. 2002 Data collection completed. For Jamestown S’Klallam Tribe.
- *Recommended Land Protection Strategies for the Dungeness River Riparian Area*. Working Draft. May 2003. Dungeness River Restoration Workgroup.
- *Restoring the Dungeness: An Overview of the Dungeness River Restoration Strategy*. May 2003. Jamestown S’Klallam Tribe.

B. Planning

- *State HB 2496 North Olympic Peninsula Salmon Recovery Planning (WRIA’s 17-20)*. 1998-present. Clallam County lead.
- *State HB 2514 Watershed Planning (WRIA 18)* 1998-present. Cooperative governments in lead entity, DRMT planning group. Clallam County lead.
- *Clallam County Marine Resource Committee*. 2001-present/ongoing.



Dungeness River Watershed Area 2001 Milestone Restoration and Conservation Activities



Prepared by: Dungeness River Management Team

WATER RESOURCES:

PROJECT NAME/LOGISTICS	PROJECT DESCRIPTION
<p><u>Water Conservation (Irrigation Ditch Piping) Projects</u></p> <p>Contributors: <i>Sequim-Dungeness Agricultural Water Users Association (WUA), Jamestown S'Klallam Tribe (JSKT) (IAC-SRFB), Clallam Conservation District (CCD) (Centennial Clean Water Fund, National Fish and Wildlife Foundation), NRCS, Dungeness Irrig. Company, Sequim-Prairie Tri Irrig. Company, Highland Irrig. District, Agnew Irrig. District, Cline Irrig. District, Clallam Ditch Company</i></p> <p>Contact: <i>Shawn Hines, JSKT, 360-681-4664, Joe Holtrop, CCD, 360-452-191, Mike Jeldness, WUA, 360-683-4331</i></p> <p>Project Status: <i>Dungeness, Agnew, Clallam, Cline projects near completion. Highland projects to be complete by April 2002. Sequim-Prairie-Tri projects to be complete prior to June 2002.</i></p>	<p>As part of an on-going effort to implement recommendations from the WUA Comprehensive Water Conservation Plan (1999), the Tribe and CCD have been active in administering grant funded projects which involve piping several miles of leaking irrigation ditches within the Dungeness Watershed. Primary objectives include increasing useable salmonid habitat in the Dungeness River by improving irrigation system efficiency to conserve instream flows, and improving habitat for salmonids by protecting water quality via lower instream temperatures. In some cases, irrigation districts/ companies provided much of the construction work themselves, enabling implementation of several more projects than were originally projected in grant applications. Project site location descriptions for 2001 are available from the Tribe.</p>
<p><u>Drought Leases</u></p> <p>Contributors: <i>WUA, Department of Ecology (DOE), CCD</i></p> <p>Contact: <i>Cynthia Nelson, DOE, 360-407-0276; Mike Jeldness, WUA, 360-683-4331</i></p> <p>Project Status: <i>Details are included in the 2001 Drought Response Report to the Legislature (DOE Publication # 01-11-017), a publication produced by DOE, December 2001 (see URL: http://www.ecy.wa.gov/pubs/0111017.pdf).</i></p>	<p>The DOE allocated funds for water rights leases to farmers in order to keep trust water in the Dungeness River. DOE worked with the WUA to commit more than 1,000 acres of normally irrigated land to the temporary water trust program. Between August 1 and September 15 (the end of the irrigation season), irrigators removed approximately 20 percent of their acreage from production. This action augmented stream flows to protect spawning salmon. Collectively, the leased water from the Dungeness River corresponded to about 460 acre-feet.</p>
<p><u>Real-Time Monitoring on Dungeness Irrigation Diversions</u></p> <p>Contributors: <i>WUA, DOE</i></p> <p>Contact: <i>Lyn Coleman, DOE, 360-407-0276; Mike Jeldness, WUA, 360-683-4331</i></p> <p>Project Status: <i>Installation was completed Spring 2001, and measuring devices are fully functional. Data generated from these stations is currently being managed by Ecology.</i></p>	<p>This project entailed equipping the five irrigation outtakes with realtime monitoring devices that measure flow and temperature. The data will assist the WUA in implementing the Trust Water Right agreement with DOE. Previous day's data can be obtained from the following DOE web page: http://www.ecy.wa.gov/programs/eap/flow/shu_dung_irrig.html</p>
<p><u>Seepage and Main-stem Aquifer Characterization</u></p> <p>Contributors: <i>US Geological Survey (USGS), DOE</i></p> <p>Contact: <i>Cynthia Nelson, DOE, 360-407-0276; Bill Simonds, USGS, 253-428-3600 x2669</i></p> <p>Project Status: <i>Preliminary results were presented to DRMT in October 2001. Final report due in early 2002.</i></p>	<p>In 1999, the USGS began conducting a study of the Dungeness River flow and the shallow aquifer in the area. Fieldwork was completed in Fall 2001. Objectives of the study include: to determine the relationship between the Dungeness River and groundwater i.e. to determine where the water is being exchanged; to examine the effects of rain and snow on the exchange; and to provide estimates of streambed conductance.</p>



**Dungeness River Watershed Area
2001 Milestone Restoration and Conservation Activities**



**Upper Dungeness Aquifer Study - Final Report:
Relationship Between the Upper Dungeness River and
the Bedrock Aquifer, Clallam County**

Contributors: DOE's Environmental Assistance Program (EAP);
Contact: Tom Gibbons, EAP, 360-407-6638
Project Status: The project report was published December 2001 and is available at:
<http://www.ecy.wa.gov/biblio/0103027.html>

A synoptic-flow (seepage run) study was conducted on the upper Dungeness River in September and October 2000, and a final report was published December 2001. The study reach is located between the Gray Wolf confluence (RM 15.9) and the upper USGS stream gage site (RM 11.8). The purpose of the study was to assess the relationship between the upper Dungeness River and the underlying bedrock aquifer and to attain synoptic-flow data to examine river gains and losses in the study reach. A description of the study area, methods, results, and recommendations are all included in the study publication.

UPPER WATERSHED:

PROJECT NAME/LOGISTICS	PROJECT DESCRIPTION
<p><u>Dungeness USFS Roads Sediment Reduction Project ~10.4 miles (Fall 2000 SRFB Project)</u></p> <p>Contributors: Partnership with Clallam Conservation District (CCD) (SRFB project sponsor), Pacific Coast Watershed Project, and Olympic National Forest (ONF), Washington Conservation Corps (WCC). Contact: Scott Hagerty, USFS, 360-765-2200; Joe Holtrop, CCD, 360-452-1912 Project Status: Stabilization completed 2001. Decommission and repair contract awarded 2001. Implementation to begin July 2002. Completion expected 2002-2003.</p>	<p>Road drainage improvement and stabilization work was carried out to minimize road-related delivery of coarse/fine sediment inputs to anadromous spawning and rearing habitat in the Dungeness River. These efforts will aid to protect salmon habitat and improve water quality. Treatments included additional ditch relief culverts; armoring of inlets/outlets; fillslope pullback; ditch cleaning; spot road resurfacing near stream courses. Road decommissioning in 2001 consisted of removing culverts, unstable fill-slopes, ripping road surface, and outcropping segments. Soil bioengineering techniques for soil stabilization will also be performed as a component of the project in 2002-2003. The project will result in a total of approximately 3.4 miles of decommissioned roads, and 7.0 miles of road stabilization.</p>
<p><u>Dungeness Watershed Analysis 2nd Iteration Contract</u></p> <p>Contributors: ONF Contact: Robin Stoddard, USFS, 360-956-2433 Project Status: Contract for data collection - prepared August 2001. Development of restoration opportunities is set for February-March 2002. Analysis to be completed by March 2002. Updated watershed analysis document to be completed summer 2002.</p>	<p>This science-based analysis contract, initiated in 2001, will focus on the relationship of roads and slope stability with stream channel processes. It will cover approximately 170 square miles and will consist primarily of federal lands in the upper portion of the Dungeness River watershed. The core team will address aquatic and terrestrial issues, with emphasis on Threatened and Endangered species, anadromous fish stocks, aquatic habitat and water quality. The team hopes to further science-based understanding of the watershed for the purpose of identifying restoration opportunities on lands within the analysis area.</p>

RIPARIAN LAND PROTECTION AND/OR RESTORATION:

PROJECT NAME/LOGISTICS	PROJECT DESCRIPTION
<p><u>DePalma Floodplain Acquisition and Conservation Easement</u></p> <p>Contributors: Department of Fish and Wildlife (WDFW), Puget Consumer Cooperative Farmland Fund (PCCFF) Contact: Randy Johnson, WDFW, 360-417-3301 Project Status: Pending.</p>	<p>The project is located within the northeastern section of the Dungeness floodplain, (adjacent to the east side of Towne Road, above the Schoolhouse Bridge and the Still property). PCCFF acquired the entire 96 acres of this parcel. WDFW obtained a purchase option for the northern 22 acres of the property. Additionally, WDFW purchased a highly restrictive conservation easement on the remaining 74-acre portion, which will prohibit development practices and/or other activities that could potentially interfere with natural river processes.</p>



**Dungeness River Watershed Area
2001 Milestone Restoration and Conservation Activities**



Dungeness Riparian Habitat Restoration Program

Contributors: *North Olympic Land Trust (NOLT), Clallam County*
Contact: *Eve Dixon, NOLT, 360-417-1815*
Project Status: *Project began in 1997/1998 and has continued through 2001. Easements are in perpetuity and NOLT bears the responsibility of monitoring and enforcement if necessary.*

Conservation Reserve Enhancement Program (CREP)

Contributors: *CCD (Conservation Commission)*
Contact: *Jennifer Coyle, CCD, 360-452-1912*
Project Status: *Ongoing*

Large Woody Debris (LWD) Restoration Project Monitoring

Contributors: *JSKT, Bureau of Indian Affairs (BIA)*
Contact: *Byron Rot, JSKT, 360-681-4615*
Project Status: *In progress; report due 2002.*

Bureau of Reclamation (BOR) Study on the Geomorphology of the Lower Dungeness River (Presentation of Results)

Contributors: *BOR (Lower Colorado River Office), JSKT*
Contact: *Byron Rot, JSKT, 360-681-4615*
Project Status: *Preliminary results presented to DRMT, DRRWG, and public in October 2001. Final report due to Tribe early 2002.*

The North Olympic Land Trust completed acquisition of eight conservation easements on 103.5 acres, totaling over two miles of Dungeness riparian corridor. The easements are designed to preserve critical habitat of the Dungeness River and its associated side channels and flood plain. The easements are located within the entire lower river, encompassing the entire Gagnon side channel, reaching close to the mouth and to the upstream side of Kinkade Island.

This incentive program pays for the restoration of riparian forest buffers along salmon streams in agricultural land and compensates landowners for taking land out of production. Currently, four properties totaling 22 acres are enrolled or are in the process of enrolling in the program.

A grant from the BIA Jobs in the Woods Program was used by the Tribe to monitor LWD structures, which were constructed from 1997 through 2000. 2001 monitoring included field and photo observation of jam function during high and low flows. The 2000 Dawley side channel project, located at RM 6.6, received more intensive monitoring including: summer low flow cross-section surveys and photographs to monitor structural channel change through time; summer low flow and winter base flow juvenile surveys to determine community composition and density; and monitoring of planted riparian vegetation for mortality.

In 1997, the BOR was asked by JSKT to complete a geomorphological investigation of the Dungeness River. The overall study objective was to gain a better understanding of altered river process due to historical and current human activities occurring within the floodplain. Specifically, the study team aimed to: describe the physical processes of the Dungeness river through geomorphic investigations; identify human impacts on the River's natural processes; and develop predictions of future channel change and potential management options. In October 2001, the BOR presented results of the study and proposed several important recommendations to the DRMT, the DRRWG, and the public.

WATER QUALITY:

PROJECT NAME/LOGISTICS	PROJECT DESCRIPTION
<p><u>Formation of Clallam County Clean Water District</u></p> <p>Contributors: <i>Clallam County</i> Contact: <i>Valerie Wilson, Clallam County, 360-417-2543; Andy Brastad, Clallam County, 360-417-2415</i> Project Status: <i>District boundaries were set and corrective actions were identified in the Clean Water Strategy (described below).</i></p>	<p>A Clean Water District was formed by Clallam County in May 2001. The initial impetus for initiating the District was in response to the Department of Health's (DOH) closure of portions of Dungeness Bay to shellfish harvest due to fecal coliform contamination. The scope of the District has since broadened to include not only shellfish contamination problems, but <i>all</i> water quality problems. Similarly, the boundaries of the District have expanded to encompass the entire DRMT focus area, allowing for a watershed approach to addressing water quality issues.</p>



Dungeness River Watershed Area 2001 Milestone Restoration and Conservation Activities



Formation of Clean Water Workgroup

Contributors: *Clallam County, JSKT, CCD, Dungeness River Management Team (DRMT), DOH, DOE, PUD, City of Sequim, and Dungeness National Wildlife Refuge*

Contact: *Valerie Wilson, Clallam County 360-417-2543; Lyn Muench, JSKT, 360-681-4631*

Project Status: *Implementation actions are ongoing; outreach tours and workshops were conducted in 2001 and are planned for 2002.*

Although participants began meeting in 1997, the Clean Water Workgroup officially formed in 2001. The group's role is to implement activities recommended in the Clean Water Strategy (2000), which was formally adopted by the Board of Clallam County Commissioners (BOCCC) in May 2001. The group reports directly to the BOCCC and also serves as a subcommittee to the DRMT.

Total Maximum Daily Load (TMDL) Study

Contributors: *DOE, Clallam County, DOH, JSKT, others*

Contact: *Debbie Sargent, DOE, 360-407-6684*

Project Status: *Two publications were produced in 2001: "Dungeness River / Matriotti Creek TMDL Study" Preliminary "Data Results for Nov 1999 - Oct 2000," by Debbie Sargent, January 2001; and "Dungeness River / Matriotti Creek Fecal Coliform Bacteria TMDL Study Streamflow Summary" by James Shedd, November 2001. Public comment on final technical report set for April 2002. Target date in early 2002 for setting load allocations. JSKT continues to monitor water quality at Ecology-established TMDL stations.*

In response to consistently degrading water quality in the Dungeness Bay over the last decade, and to the federal closure of the Bay to shellfish harvest, the Jamestown S'Klallam Tribe and DRMT requested the assistance of the Washington Department of Ecology in monitoring water quality within the Dungeness River and Bay. In water year 2000 (November 1999 through October 2000), the DOE proceeded by conducting a TMDL study for the purpose of establishing new fecal coliform criteria and to facilitate restoration of water quality. TMDL sample sites occur at various locations along the Dungeness River and Matriotti Creek. The report's findings will be used to set future TMDL load allocations.

Circulation Study - Phase 1: Dungeness Bay Bathymetry, Circulation and Fecal Coliform Studies

Contributors: *JSKT; J.E. Jack Rensel, Ph.D. (Rensel Associates Aquatic Science Consultants), Thomas J. Smayda, P.E. (Smayda Environmental Associates, Inc.)*

Contact: *Lyn Muench, JSKT, 360-681-4631; Shawn Hines, JSKT, 360-681-4664*

Project Status: *Phase 2 fieldwork is currently under way. Expected completion date: December 2002.*

In response to the April 2000 closure of Dungeness Bay to Shellfish harvest, and the subsequent formation of the Clean Water District and Clean Water Workgroup, the JSKT hired consultants to investigate water circulation and fecal coliform sources and losses within the Dungeness Bay. Fieldwork included bathymetric mapping, circulation studies and water quality monitoring in May and October 2000. The new data (water quality, marine fecal coliform concentrations, bird abundance, river flow rates, tidal data) was analyzed along side previously-gathered data, which the consultants compiled from other sources. The combined data will eventually be used by DOE to establish new fecal coliform criteria for the Dungeness River. The analysis and its recommendations were completed August 2001.

Irrigation Water Quality Improvement

Contributors: *Dungeness IC, Clallam Ditch Company, Agnew ID, CCD (Conservation Commission and DOE Centennial Clean Water Fund, Conservation Commission Dairy Cost Share and National Fish and Wildlife Foundation), JSKT (IAC-SRFB), Clallam County Road Department, NRCS, Streamkeepers, WUA*

Contact: *Joe Holtrop, CCD, 360-452-1912*

Project Status: *Dungeness and Clallam projects complete. Project construction for Agnew will be complete prior to June 2002.*

The Dungeness Irrigation Company replaced approximately 7,100 feet of open irrigation ditch with pipeline, completely eliminating contaminated irrigation tailwater to Mud Creek. CCD and the WUA ranked tailwater ditches based on water quality data collected by DOE and Streamkeepers. The Dungeness Company tailwater ditch to Mud Creek had the second highest fecal coliform loading out of 27 ditches monitored. A construction contract was awarded in December 2001 by the Clallam Ditch Company for the installation of approximately 17,000 feet of pipe in the Carlsborg area. This project will eliminate contaminated tailwater to Matriotti Creek and pumping from the creek. This project ranked number 4 for fecal coliform loading. Design is complete for the piping of approximately 4,500 feet of open irrigation ditch delivering contaminated tailwater to Matriotti Creek within Agnew Irrigation District.



Dungeness River Watershed Area 2001 Milestone Restoration and Conservation Activities



Farm Conservation Planning

Contributors: CCD (Conservation Commission, DOE Centennial Clean Water Fund, County); technical assistance provided by CCD.

Contact: Joe Holtrop, CCD, 360-452-1912

Project Status: Ongoing.

Seven landowners, including two dairies, developed comprehensive farm conservation plans. These plans provide an assessment of current management practices, resource concerns and land user objectives. CCD conducted resource inventories and evaluations on 17 properties.

Conservation Practice Implementation

Contributors: CCD (Conservation Commission, DOE Centennial Clean Water Fund, County); technical assistance provided by CCD and NRCS.

Contact: Joe Holtrop, CCD, 360-452-1912

Project Status: Ongoing.

The following conservation practices were implemented in 2001:

- 3,207 feet of riparian fencing
- 5 alternative stock water sources
- 3 alternative stream crossings
- 5 fish migration barriers removed in Hurd Creek
- 1 compost structure
- 1 liquid manure aeration system

OTHER HIGHLIGHTS:

PROJECT NAME/LOGISTICS	PROJECT DESCRIPTION
<p><u>Dungeness River Audubon Center at Railroad Bridge Park</u></p> <p>Contributors: Partnership among JSKT, Rainshadow Natural Science Foundation, Olympic Peninsula Audubon Society, National Audubon Society</p> <p>Contact: Bob Boekelheide, Director, 360-683-4076</p> <p>Project Status: The Center is fully functional. A capital campaign is under way for future funding for operation and expansion.</p>	<p>Construction of the Dungeness River Audubon Center at Railroad Bridge Park was completed, and a full time Director/Volunteer Coordinator was hired in September 2001. The Grand Opening occurred on October 21, 2001. The Center provides exhibit, classroom, and meeting space, and it includes computer facilities. Formal and informal environmental education programs are also offered. Additional information can be found on the Center's website: http://www.dungenessrivercenter.org</p>
<p><u>Comprehensive List of Restoration Projects Completed and Ranked</u></p> <p>Contributors: DRMT Members</p> <p>Contact: Shawn Hines, JSKT, 360-681-4664</p> <p>Project Status: The DRMT intends to review and/or revise the project list on an annual basis.</p>	<p>The DRMT prioritized Dungeness Watershed Proposed Projects in March/April 2001. The list, created by the DRMT, consists of 10 strategic elements, including 41 potential activities. Restoration of the Lower Floodplain and Delta ranked as the highest priority strategic element. Potential activities within this element ranked as follows: land acquisition (#1), schoolhouse bridge expansion (#2), and Army Corps of Engineer dike removal/setback (#3).</p>
<p><u>Chinook Captive Broodstock Tagging</u></p> <p>Contributors: WDFW, JSKT (Pacific Salmon Treaty/Bureau of Indian Affairs funding), local volunteers</p> <p>Contact: Scott Chitwood, JSKT, 360-681-4616</p> <p>Project Status: Annual tagging expected to continue through 2004. A progress report on the Dungeness River Chinook Salmon Rebuilding Project (1993 - 1998) was complete January 2001 by WDFW and is available in the Jamestown Tribal Natural Resources Library.</p>	<p>The Chinook Captive Broodstock Program was initiated in 1992. State, hatchery and tribal staff, along with local volunteers, removed a portion of wild chinook eggs from their river nests, raised them in captivity until they were adults, spawned them and released the offspring back into the river. The tagging program complements the broodstock program by enabling fisheries managers to track the success of chinook stock restoration and recovery efforts. A total of 2,080,000 juveniles were released in stages at different locations in the watershed. Of those released, 330,000 were unmarked, while the remaining were either coded-wire-tagged (and/or adipose clipped), blank-wire-tagged, or otolith marked.</p>



Dungeness River Watershed Area 2001 Milestone Restoration and Conservation Activities



Fall Pink Salmon Supplementation Program

Contributors: WDFW, NOSC

Contact: Don Rapelje, WDFW, 360-683-4255

Project Status: Small pink fry will be marked in March 2002. Fry will be released in April 2002.

WDFW continued a fall pink salmon broodstock collection effort during 2001. The program was initiated in 1995 due to the fact that egg incubation conditions in the lower Dungeness River are not optimal for the long-term health of the pink stock. A fish weir was installed in the lower Dungeness River, which captured adult salmon from August 7 through September 17, 2001. 876 captured fish were transferred to a protected fish culture facility and genetically identified. Approximately half were identified as fall pink. These broodstock produced 300,000 eggs. Fry releases, a portion of which will be marked, will occur in the spring from Hurd Creek Hatchery.

Salmon Recovery Funding Board (SRFB) Visit

Contributors: DRMT members

Contact: Shawn Hines, JSKT, 360-681-4664

The Salmon Recovery Funding Board toured the Dungeness watershed and met with DRMT members in September 2001 to review and discuss SRFB-funded projects and how these integrate with other local restoration efforts. The DRMT received positive feedback from SRFB representatives for its salmon recovery efforts.

2514 Watershed Planning

Contributors: DRMT

Contact: Jeremy Pratt, Entrix, 360-452-7057

Project Status: Additional background information on the Watershed Planning Act and 2514 process can be found on the Washington DOE web page:

<http://www.ecy.wa.gov/watershed/background.html>

The 1998 legislature passed the Watershed Planning Act (HB 2514), which directed local watershed councils to develop watershed plans for managing water resources and protecting existing water rights. A consultant guides the planning process in Water Resources Area 18 and is working with the DRMT on the Dungeness Watershed Plan. The following accomplishments occurred in 2001:

- held "visioning" workshop in March 2001
- identified issues and held focus workshops on habitat, salmon recovery, integration with ESA compliance, instream flows, small streams, riparian corridor, wildlife, water quality, groundwater (including scoping groundwater model)
- developed draft watershed characterization and draft "planning framework" for Dungeness Watershed Plan



2002 Milestone Restoration and Conservation Activities in the DRMT Geographic Focus Area

Prepared by: *Dungeness River Management Team*



FISHERIES / WATER RESOURCES

Dungeness River In-Stream Flow Side Channel Study

During the months of June through October 2002, field data was collected from ten Dungeness River side channels to assess the relationship between flows in the main stem and flows in the side-channels. Side channel cross-sectional data, including width, depth, temperature, and flow velocity were analyzed with Dungeness main stem measurements to help determine the main stem discharge ranges necessary to provide viable salmonid habitat in the side channels. Conclusions from the study were presented to the DRMT January 2003.

Contributors: US Bureau of Reclamation (USBR), Jamestown S'Klallam Tribe (JSKT), Clallam County, Washington Department of Ecology (DOE)
Contact: Andy Brastad, Clallam County, 360-417-2415
Status: Final report due March 2003.



Using GPS to record gauge location

Smolt Trapping on Jimmycomelately and Siebert Creeks



In the spring of 2002, natural resources technicians at the Jamestown S'Klallam Tribe were trained to survey smolt production on Jimmycomelately and Siebert Creeks. Smolt traps were built and installed, and out migration data (species ID, size, number) were recorded.



and possibly Matriotti Creek, in April 2003. The Jamestown S'Klallam Tribe maintains the smolt production data.

Contributors: Northwest Indian Fisheries Commission, JSKT, WDFW, volunteers
Contact: Scott Chitwood, JSKT, 360-681-3616
Status: Traps will be reinstalled on both Siebert and Jimmycomelately Creeks,

Real-Time Stream Flow Monitoring

Through DOE's Environmental Assessment Program (EAP), the DRMT selected and prioritized stream site locations for up to eight real-time telemetry gauges. The gauges transmit flow discharge and temperature data to DOE. Site locations were prioritized according to where data would be most valuable for long-term salmon recovery. Gauges were installed on Morse (lower), Jimmycomelately, Siebert, Ennis, and Little River Creeks. This program also operates the gauge at Schoolhouse.

Contributors: Clallam County, DOE, JSKT, Dungeness River Management Team (DRMT)
Contact: Andy Brastad, Clallam County, 360-417-2415
Status: The temporary gauge near the Railroad Bridge was removed at the end of the USBR's study period. Real-time data for the other telemetry gauges can be accessed at DOE's website: <http://www.ecy.wa.gov/apps/watersheds/flows/regions/state.asp>
Two additional gauges will be installed in early 2003, one in McDonald Creek and one in Morse Creek (upper).

Water Conservation (Irrigation Ditch Piping) Projects

As part of an on-going effort to conserve Dungeness River water, the irrigation community and others have been involved in the implementation of projects to improve irrigation system efficiency. Efforts have resulted in reduced river water withdrawal, pond elimination, and conserved instream flows. Projects that were completed in 2002 include the following:

- Agnew Irrigation District: installed approximately 1,500 feet of pipe near Taylor Cut-off Road;
- Sequim Prairie Tri Company: completed 4 separate projects near Old Olympic Highway using a total of 12,740 feet of pipe;
- Highland Irrigation District: installed approximately 1,400 feet of pipe near Miller Road.

Contributors: Agnew Irrigation District and property owners (on the Steller Ridge lateral off Taylor Cut-off Road) served by Agnew Irrigation District; Sequim Prairie Tri Irrigation Company; Highland Irrigation District; Clallam Conservation District (CCD); JSKT; Salmon Recovery Funding Board (SRFB)
Contact: Mike Jeldness, Dungeness River Agricultural Water Users Association (WUA), 360-683-4331
Status: Projects complete and functional.



WATER QUALITY

Irrigation Water Quality Improvement

Contaminated tailwater to Matriotti Creek was eliminated with the completion of 2 irrigation ditch piping projects, one in the Carlsborg area and one off Hooker Road. Contractors hired by the Clallam Ditch Company installed approximately 16,000 feet of pipeline in the Carlsborg area. The Agnew Irrigation District Hooker Road Lateral project entailed replacing approximately 4,500 feet of open ditch with pipeline. The County Roads Department assisted with road crossings on the Agnew project.

Contributors: CCD, Clallam Ditch Company, Washington Conservation Commission, National Fish and Wildlife Foundation, DOE, JSKT, Agnew Irrigation District
Contact: Joe Holtrop, CCD, 360-452-1912 x 5
Status: Completed.



Installing pipe

Dungeness River and Matriotti Creek Fecal Coliform Bacteria Total Maximum Daily Load (TMDL) Study

In water year 2000 (Nov 1999 - Oct 2000), DOE conducted a TMDL study in order to establish new fecal coliform criteria and to facilitate restoration of water quality in the Dungeness River and Matriotti Creek. Study results confirmed violations of water quality standards for fecal coliform in Matriotti Creek and Dungeness Bay, Meadowbrook and Cooper Creeks, Golden Sans Slough, and several irrigation ditches. The final report, Dungeness River and Matriotti Creek Fecal Coliform Bacteria TMDL Study, was completed May 2002 and includes study results and recommendations. It is available from DOE.

Contributors: DOE, JSKT, Clallam County, CCD, Clean Water Workgroup
Contact: Debby Sargeant, DOE, 360-407-6684; Christine Hempleman, DOE, 360-407-6329
Status: In June 2002, a cleanup implementation strategy (Water Cleanup Plan for Bacteria in the Lower Dungeness Watershed: TMDL Submittal Report) was published as a follow up to the TMDL. The Cleanup Plan describes implementation actions to address the problems listed in the TMDL study. Examples include public education, septic inspections and maintenance, and agricultural BMPs. A separate TMDL study is being conducted for Dungeness Bay and will be completed in 2003.

Agricultural Conservation Planning and Implementation

Agricultural conservation and Best Management Practices (BMPs) were applied on several farms in 2002, with guidance from the CCD and Washington Conservation Commission. Activities included:

- Installation of one manure lagoon and four manure aerators in the Bell Creek area;
- Placement of three animal waste storage structures/compost facilities;
- Installation of ~100 feet of riparian fencing and 1,200 feet of stream-bank stabilization (all of the stream-bank stabilization occurred on Siebert Creek);
- Distribution of ~300 rain barrels for water conservation (this occurred countywide).

The Clallam Conservation District provided guidance to landowners wishing to participate in land use planning. Their efforts resulted in eight farm conservation plans, two dairy nutrient management plans, and seven riparian restoration plans. The CCD conducted resource inventories and evaluations on nine properties within the DRMT focus area.

The Conservation Reserve Enhancement Program (CREP) provides technical assistance and financial incentives for buffers along salmon streams that run through agricultural land. Currently six landowners are enrolled in the program.

Contributors: Landowners, CCD, Washington Conservation Commission, DOE, Clallam County, JSKT, Natural Resource Conservation Service (NRCS), Farm Services Agency
Contact: Joe Holtrop, CCD, 360-452-1912 x 5
Status: On-going.

Groundwater Guardian Program

In February, the Clean Water District submitted an application to the Groundwater Guardian Program, a program which supports, recognizes, and connects communities working to protect groundwater. The application process included submittal of a list of proposed groundwater education and/or protection activities. In the fall, the Groundwater Foundation officially designated the Clean Water District Outreach Team as the "Sequim-Dungeness Groundwater Guardian Community."

Contributors: Clean Water District, Clallam County, Groundwater Foundation
Contact: Ann Soule, Clallam County, 360-417-2424
Status: On-going.



RIPARIAN LAND PROTECTION AND RESTORATION

Jimmycomelately (JCL) Creek and Estuary Restoration

Components of this project include removal of a log dump in the estuary (2002), relocation of JCL to its former channel (2002/03), removal of buildings along the shoreline (2002/03), removal of dikes and fill (2003), construction of a new bridge on Highway 101 (2003). The following accomplishments occurred in 2002:



Early stages of construction

- Channel realignment construction initiated;
- Placement of large woody debris and streambed gravel;
- Log dump and building removal;
- Bridge design drafted.

Contributors: JSKT, Clallam County, CCD, DOE, Washington Department of Fish and Wildlife (WDFW), Washington Department of Transportation (WDOT), Bureau of Indian Affairs (BIA), US Forest Service (USFS)

Contact: Sam Gibboney, JSKT, 360-681-3613

Status: Excavation and construction of the new channel was approximately 85% complete before it was shut down for winter. Construction will resume in summer 2003.



Ground breaking ceremony (July 11, 2002)



Dungeness Estuary Restoration

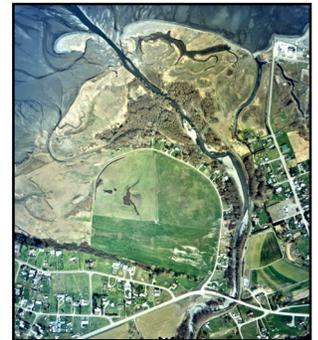
After receiving grant funding from the SRFB in 2001, Clallam County began planning for a large-scale restoration effort of the Dungeness River estuary. In 2002, landowners in the Rivers End area were contacted, and a meeting was held between landowners and project partners. Twelve landowners (representing 18 land parcels) signed letters of intent to sell, and the County initiated appraisal and relocation processes.

Contributors: Clallam County, JSKT, WDFW, USFS, SRFB

Contact: Cathy Lear, Clallam County, 360-417-2361

Status: Funding is currently being sought for re-vegetation.

Dungeness River mouth and estuary (2002)



Riparian Land Conservation

Appraisals were conducted and conservation easements were purchased on two riparian land parcels, one at the headwaters of Matriotti Creek and one at lower Bell Creek. The conservation easements protect the land from development. The North Olympic Land Trust (NOLT) accepts perpetual responsibility for keeping the land protected, as well as for on-going monitoring.

Contributors: Landowners, NOLT, Clallam County

Contact: Cathy Lear, Clallam County, 360-417-2361

Status:

UPPER WATERSHED

Dungeness Watershed Analysis

This is an update of previous watershed analyses to improve the quality of the data and fill in gaps identified in earlier efforts. The science-based analysis focused on sedimentation, stream channel processes, and the identification of restoration opportunities. The project area comprises federal lands in the upper watershed. In 2002, sources of sediment and areas of channel instability were mapped, and priority restoration projects were identified and recommended for treatments.

Contributors: Olympic National Forest

Contact: Robbin Stoddard, USFS, 360-956-2433

Status: The project was initiated in 2001 and completed in Dec 2002. Information on the project is available at the Hood Canal Ranger District office in Quilcene.



Dungeness USFS Road Sediment Reduction Project

This project involves upgrading several US Forest Service roads, and decommissioning other roads (located in the highest risk landforms and the riparian zone), in order to reduce road-delivered sediment inputs to anadromous spawning and rearing habitat in the Dungeness River. The East Crossing Campground, located in the riparian area and served by the road to be decommissioned, is also under contract to be decommissioned in 2003. Major repair work occurred at seven sites along 12 miles of road in 2002. Implementation and effectiveness monitoring sites were also established.

Contributors: Olympic National Forest, SRFB, CCD, Washington Conservation Corps

Contact: Scott Hagerty, District Soil Scientist, USFS, 360-765-2249

Status: The project was initiated in Jan 2002, and the expected completion date is Sept 2003. Remaining work for 2003 includes decommissioning of 3.4 miles of road, converting 0.5 miles of road to trail, and decommissioning the East Crossing Campground.

Jimmycomelately Road Drainage Improvement

Approximately 10 miles of road (2840 and 2850) in the upper JCL watershed (~ River Mile 12) received road drainage structure improvements. This involved the addition and replacement of ditch relief culverts, ditches and culvert cleaning, and road surface grading.

Contributors: Olympic National Forest (Title II funds)

Contact: Scott Hagerty, District Soil Scientist, USFS, 360-765-2249

Status: This project was initiated in May 2002 and completed in Oct 2002.

COMMUNITY OUTREACH

National Water Monitoring Day

In October, the Clean Water District organized local participation in National Water Monitoring Day, an event launched by the US Geological Survey to mark the 30th anniversary of the Clean Water Act. For our area, experts presented methods and monitoring objectives for surface and ground water to ~200 students from Sequim High School. Students also participated in hands-on field activities.



Contributors: US Geological Survey (USGS), Clean Water District, Clallam County, JSKT

Contact: Ann Soule, Clallam County, 360-417-2424

Status: N/A

Student measuring water level in a well (photo credit: Sue Chickman)



Students locating their watershed (photo credit: Sue Chickman)

Dungeness River Audubon Center at Railroad Bridge Park

The Dungeness River Audubon Center provided wide-ranging educational opportunities to the Dungeness community and its visitors. In all, the Center was venue to 330 educational events attended by ~9,500 individuals. At least 3,150 additional visitors dropped in at the Center to look at exhibits and request information on the area. Some of the 2002 highlights include:

- 7th Grade Watershed Week (April) and follow-up community presentation (June): curriculum and field trip for all 7th graders attending Sequim Middle School
- Field Trips (May): 6th grade field trips to the Dungeness River
- Summer Camp (July): science camp for 3rd-5th graders
- Dungeness River Audubon Festival (Sept): festival dedicated to issues related to the Dungeness River Watershed and watershed education; 3,000+ attendees.

Contributors: National Audubon Society, Olympic Peninsula Audubon Society, Rainshadow Natural Science Foundation,

JSKT, local volunteers

Contact: Bob Boekelheide, Director, 360-683-4076

Status: A schedule of upcoming events can be found at the Center's website:

<http://www.dungenessrivercenter.org>



School field trip on the Dungeness River