

2009 MidCoast Watersheds Council Annual Report

The MidCoast Watersheds Council (MCWC) is a local nonprofit organization dedicated to improving the health of streams and watersheds of Oregon's central coast so they produce clean water, rebuild healthy salmon populations, and support a healthy ecosystem and economy.

The MCWC works in an area of nearly one million acres, including all streams draining from the crest of the Coast Range to the Pacific, from the Salmon River to Cape Creek at Haceta Head. This area includes the watersheds of the Salmon, Siletz, Yaquina, Alsea, and Yachats Rivers, including more than 28 smaller ocean tributaries.



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The MCWC is dedicated to achieving the following goals:

1. To provide a public forum for discussion and education of regional watershed issues.
2. To assess the conditions of MidCoast watersheds.
3. To implement and monitor scientifically based projects to promote the protection or restoration of healthy fish and wildlife resources, water quality and quantity, and overall watershed health.

Statement From the Chairman

At the February 2009 Council meeting I was honored and humbled to again be allowed the opportunity to serve as the Chair of the MidCoast Watersheds Council (MCWC). Leadership from dedicated volunteers and our staff led to another successful year.

We increased the number of grant applications compared to the previous year. This hard work was rewarded as the MCWC was awarded grants for many projects to restore habitat and to monitor stream conditions.

We continue to have a good working relationship with the Salmon Drift Creek Watershed Council. The Oregon Watershed Enhancement Board included a small council support grant to the Salmon Drift Creek Watershed Council in our council support grant as a pass through to them. The small size of the grant has resulted in some staff and office budgetary issues. In spite of their budget issues the Salmon Drift Creek group completed several projects last year.

Our relationship with the Alsea Watershed Council is much improved. Both councils send representatives to attend each others meetings and provide reports on new and ongoing projects.

The Siletz Watershed Council is also very active. They are leading an initiative to prohibit motor boats above the drinking water intakes for several communities, including working with the City of Siletz to prohibit launching motorized boats at city boat ramps. Their annual cleanup of trash along the riverbank was a success. Another project they completed removed several large items of trash from the river.

The Yaquina Basin Planning Team conducted two outings to increase public awareness in the Yaquina River watershed. One outing went to a site of a completed habitat restoration project and the other was a tour by Oregon Department of Transportation on the new section of Highway 20. Debra Spoelstra, the Yaquina Basin Planning Team coordinator left us for personal reasons. We welcome the new coordinator Lisa Mulcahy. She has worked for SeaGrant and Oregon Department of Fish and Wildlife as an educator regarding marine and aquatic topics and was the manager of the Seafest celebration last year.

The MCWC education program hit a speed bump this year. We did not receive a grant from the Oregon Watershed Enhancements Board and that has been our primary source of funding in previous years. We have had to scramble over the last several months to continue the after-school programs in schools throughout Lincoln County. This year the summer Natural Resource Crew program was a big success and some of the students that live in Toledo and Eddyville were invited to a national conference in Chicago to make a presentation on their various project accomplishments this summer.

Our monthly Council meeting had some lively discussions on marine reserves and support for green infrastructure projects of the new administration. The educational programs at our monthly meetings covered new topics as well as updates on prior programs.

Overall, the MidCoast Watersheds Council will continue to prosper and grow because of its dedicated volunteers and staff.

Respectfully;
Sam Adams
Chair



Statement From the Coordinator

This was a quiet year for the MidCoast Watersheds Council, at least as far as restoration projects go. Two major projects were delayed, and one other proposal did not get funded. The current fiscal year is more active, but we have decided that it is time to revisit our Action Plan, and reset priorities for future work. After all, we have done Limiting Factors Analyses on most of the sub-basins we ranked as highest priority in our Action Plan, and have completed or have under way restoration projects on most of those. So, we are currently looking at opportunities for more estuarine restoration projects, and reassessing priorities for instream restoration.

Our new Salvage Log program, led by Plum Creek Timberlands' biologist Jeff Light, has been very successful at obtaining logs for future projects on both timberlands and other private lands.

In addition, the Oregon Legislature designated coastal watershed councils as groups to be represented on the Marine Reserves Community Teams, so we will be participating in the Cape Perpetua Reserve Team. This will be an opportunity to build partnerships with additional segments of the commercial fishing industry and the marine research community, and might eventually lead to some new projects. We do not anticipate large-scale restoration projects in the reserves, but debris-removal projects are possible, and there may be a need to work on restoration along the shore and up adjacent ocean-tributary streams to protect the reserves from anthropogenic runoff or other influences.

Our education program continues to expand in coverage and scope, with programs throughout the region. The highlight this year was the performance of Natural Resource Crews of teens and young adults, closely supervised by paid adult supervisors. These crews provide paid work experiences for youth (primarily disadvantaged and at-risk) doing work of real natural resource value, receiving instruction in ecology and natural science in the process.

Once again, I must acknowledge our gratitude to our many partners. The Oregon Watershed Enhancement Board always ranks first among these. Other important partners include the US Forest Service, Oregon Department of Fish and Wildlife, Oregon Department of Forestry, The Lincoln Soil and Water Conservation District, Lincoln County, Pacific States Marine Fisheries Commission, Plum Creek Timberlands, Forest Capital Partners, Starker Forests, Salmon-Drift Watershed Council, Surfrider, and the Camp Westwind Stewardship Group.

Wayne Hoffman

The Watershed Coordinator, Dr. Wayne Hoffman, also represents the interests of the council and lends his scientific expertise in a variety of policy arenas.

This fiscal year's participation included:

Oregon Department of Fish and Wildlife's native Fish Conservation Policy Task Force
Oregon Department of Agriculture's local Advisory Committee for SB1010 Plan review

Oregon Network of Watershed Councils

Oregon Hatchery Research Center Advisory Committee

Siuslaw National Forest Alsea Forest Stewardship Program

Sea Grant Research Prioritization for 2009-2011.

Directors and Officers

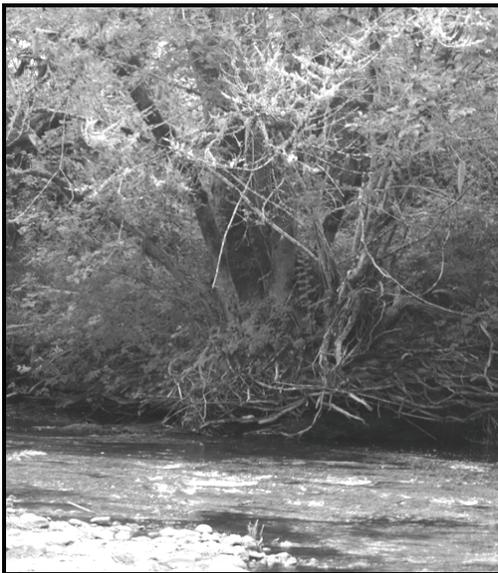
• Chair	Sam Adams	541-336-8041	Georgia Pacific
• Vice-chair	Rennie Ferris	541-265-5709	Ferris Nursery
• Treasurer	Jan Christensen		
• Recorder	Fran Recht	541-765-2234	PSMFC
• Siletz WC	Jan Christensen		
• Yaquina WC	open		
• Salmon-Drift WC	Corrina Chase	541-921-7394	Salmon Drift WC
• Industrial Timber	Jeff Light	541-336-3819	Plum Creek Timberlands
• Industry	Sam Adams	541-336-8041	Georgia Pacific
• Environmental	Paul Engelmeyer	541-547-4227	Wetlands Conservancy
• Commercial Fishing	Bob Kemp	541-270-3752	Commercial fishing
• Small Woodlot owner	open		
• Local Government	open		
• Grazing	Joe Steere	541-996-3842	Miami Lumber Co.
• Agriculture	Rennie Ferris	541-265-5709	Ferris Nursery
• Public Land Manager	open		
• Sport Fishing	Kip Wood	541-265-2631	Lincoln SWCD
• TECH Team	open		
• Academic Research	open		
• Port Districts	open		
• Aquaculture	open		
• Education	Fran Recht	541-765-2234	PSMFC
• Restoration Worker	Mark Stone	541-265-2631	Lincoln SWCD
• At large	Stacy Polkowske	541-265-2631	Lincoln SWCD
• At large	Jennifer Beathe	541-929-2477	Starker Forests

Staff and Contractors

- **Council Coordinator**
Wayne Hoffman
- **Restoration Technician**
Parker Ogburn
- **Local Watershed Support**
Salmon-Drift Creek: Corrina Chase
Siletz: Greg Harlow
Yaquina: Debra Spoelstra
- **Education Coordinator**
Virginia Tardaewether
- **Financial Management**
Tanya Jorgenson



Committees



Technical Team

The TECH Team meets the third Thursday of each month to review project proposals, plan projects, and make recommendations to the Council on scientific issues.

Administration

The ADMIN Committee meets the Tuesday immediately preceding the monthly Council meeting and reviews financial statements, oversees the administrative budget, supervises employees, and makes recommendations to the Council on organizational, policy, and procedural matters.

Partners

The MidCoast Watersheds Council thanks our many partners
who contributed to our work in 2008-2009

Angell Job Corps

Benton County Public Works

Benton Soil and Water Conservation District

Bio Surveys LLC

Bureau of Land Management

Central Coast Land Conservancy

Community Services Consortium

Confederated Tribes of Grande Ronde

Confederated Tribes of Siletz Indians

Eddyville Charter School

Forest Capital Partners

Hancock Timber Resource Group

Jubitz Foundation

Lincoln County Commission

Lincoln County Public Works

Lincoln County School District

**Lincoln County Soil and Water Conservation
District**

National Audubon Society

National Fish and Wildlife Foundation

National Forest Foundation

Natural Resource Conservation Service

Oregon Coast Community College

Oregon Department of Environmental Quality

Oregon Department of Fish and Wildlife

Oregon Department of Forestry

Oregon Department of State Parks

Oregon Department of State Police

Oregon Department of Transportation

Oregon Ecology Education Fund

Oregon State University Extension Service

Oregon Watershed Enhancement Board

Pacific States Marine Fisheries Commission

Plum Creek Timberlands

Port of Alsea

River Design Group

Siletz Valley School

Siuslaw National Forest

Starker Forests

The Wetlands Conservancy

**United States Environmental Protection
Agency**

United States Fish and Wildlife Service

Van Eck Forest Trust

Wilderness Volunteers

Local Watershed Groups

Siletz Watershed Council

The Siletz Watershed Council continues to work on its Siletz River Clean Water Initiative. The initiative focuses on a variety of factors degrading water quality, including sediment inputs, petroleum products, failing septic tanks, seafood processing waste, and biosolids. The SWC has identified Little Rock Creek as a heavy contributor of sediment during winter storms. Use of outboard motors above the City of Siletz creates chronic petroleum contamination, with the risk of larger spills. Seafood processing waste, including crab and shrimp shells has been used as fertilizer or soil amendment on farms along the Siletz River. "Biosolids" are slurries of waste products from sewage treatment, and are spread as fertilizer on some farm fields in the basin. Both of these fertilizer sources may be benign if properly applied, but applications during or before rainstorms or too close to streams are problematic. Biosolids also vary in composition depending on the industries present in the source municipalities. In some places they may contain contamination by solvents and toxic metals, and everywhere they carry waste pharmaceuticals.

The SWC is working with the City of Siletz on plans for development of its Mill Site property into a city park with restrooms, picnic facilities, a nature trail, an improved boat ramp, and more parking. Invasive plant removal is also a priority. The park is intended to also be useful to the Siletz Valley School as a location for outdoor education. SWC obtained funding for a survey of the property and is in the process of locating a landscape architect to work on design. Oregon Department of Fish and Wildlife partnered on repairs to the toe of the boat ramp.

The SWC again conducted a highly successful river cleanup in April. Again fishing guides and others brought their drift boats so that they could clean the whole river, not just the places accessible from land. New partners this year included Career TECH High School in Lincoln City, which did major cleanup work on the Siletz estuary, in association with the US Fish and Wildlife Service.

The SWC meets on the third Tuesday of each month at 7 PM, at the Siletz Library.



Yaquina Group

The Yaquina Group conducted field trips to Cook Creek in December 2008 to watch salmon spawning and to discuss MCWC restoration projects there. The salmon, both Chinook and Coho, were very cooperative, and the participants got to watch salmon courting, chasing and digging redds.

The group participated as well in a Yaquina Bay cleanup in April 2009, with partners from Georgia Pacific and a variety of community groups. Styrofoam was a major item cleaned up.

The group also prepared for summer 2009 field trips to see the Highway 20 construction, and to Yaquina Falls.

Local Watershed Groups cont.

Salmon-Drift Creek Watershed Council

The main focus of the SDCWC this year was restoration in the Salmon River estuary, particularly at the Tamara Keys, Crowley Creek, and Pixieland sites. Restoration activities included removal of pavement and other infrastructure, exotic plant control, dike removal, recontouring, and tree and shrub planting. Classes from Career TECH High School and NRC Crews from the MCWC contributed to these projects.

In addition the group prepared for a large wood project on Sampson Creek and upper Drift Creek, and contracted with Bio Surveys LLC for a Limiting Factors Analysis on Bear Creek.

The SDCWC continued its emphasis on water quality monitoring in the basin. The Council has been involved with this monitoring for most of its existence, and has accumulated extensive baseline datasets.

The SDCWC meets the second Tuesday of each month at 6:30 PM in its offices in the former Taft Elementary School building next to Schooner Creek at the south end of Lincoln City.



Alsea Watershed Council

In January 2009 the MCWC and the Alsea Watershed Council signed a Memorandum of Understanding, agreeing to improve communications and to keep each other informed of our project development plans and progress. The Oregon Watershed Enhancement Board assisted in the development of the MOU by providing a facilitator and by conditioning 2009–2011 Council support on the MOU. Under this agreement both groups send representatives to each others' meetings, and keep each other informed of our project plans in the Alsea Basin. In April 2009 the MCWC and Alsea WC collaborated on a grant application for technical assistance for outreach in the Five Rivers Basin.

The Alsea Watershed Council is active in the Alsea Forest Stewardship Group, and is particularly interested in maintenance and development of meadow habitats for elk and other wildlife.

Education Program

Now in its tenth year, the MCWC Education Program has grown primarily from an effort to take school classes on steam-oriented fieldtrips to a more comprehensive program reaching children and youth from elementary grades through high school. The program continues to provide classroom field studies but also runs outdoor camps, a native nursery, and Natural Resource Crews.

Classroom Field Studies

Lincoln City

Valerie Baker's fifth grade held their Stream Watch/Salmon Watch field trip twice at upper Schooner Creek above the fish ladder. This is a new site for us but it was a good place to work with a classroom-sized group. There were 25 fifth graders, four parent volunteers, two Long View Hills Fishing Club volunteers, Parker Ogburn, and MCWC Education Coordinator Virginia Tardaewether. The children discovered that the water was colder in the pools than in the ripples. They found a steelhead redd and saw hatched and larval bugs. Kimberly Miller's fifth graders held their Stream Watch/Salmon Watch at middle Schooner Creek meadows. This was an elk meadow area but has been planted with Sitka Spruce so soon will no longer be such. The class had 27 fifth graders, six parent volunteers, one teacher, Parker Ogburn, and Virginia. The children participated in sessions on fish biology and released 50 steelhead they raised from eggs. Students measured water quality pH, DO, temperature, and turbidity.



Waldport

Linda Serbus took her ecology and biology students to Canal Creek for a macro invertebrate survey. They took samples back to the class and keyed them out using the classroom dissecting microscopes. Parker helped out with this day-long lesson.

Eddyville

Bob Pearson started a class this year in field biology with lots of outdoor activities. Students have started sampling of the Yaquina and Little Elk waters for dissolved oxygen, nitrates, fecal coliform bacteria, pH, and temperature. They also have been trapping small mammals with Sherman-style live traps, finding two species of mice, one vole, and three species of shrews. In addition, they placed leaf litter bags in a stream and 50 pieces of habitat wood on land for amphibians. Snake habitat sheet metal and plywood have also been placed. Quite by accident Pearson's class discovered an abundance of Pacific lamprey juveniles in Little Elk Creek. They found them in every shovelful of silt/mud they were digging to clean the intake for an irrigation pump. Mrs. Daugherty's sixth grade class built on their outdoor school experience in their Stream Watch/Salmon Watch trip. They observed spawning Coho, Chinook and Chum salmon in Simpson Creek. Matt from OHRC taught the fish biology lesson, Jim from Corvallis taught the riparian lesson, Virginia handled macro-invertebrates, and Kim from Oregon Trout conducted the water quality session. DO=11, pH 6.5, macros were especially rich in the leaves and detritus along the stream edge.



Education Program cont.

Newport

Newport Middle School has joined with Siletz Valley Schools and Eddyville Charter School in doing comparison studies. Newport is going to compare Big Creek and tributaries with Drift Creek (Salmon River). Eddyville will be doing some work with Jason Dunham starting this March. Jason has found mussels in the small isolated dune lakes around Florence and Waldport. These lakes are isolated in the sense of no surface inflow or outflow currently. The age of the mussels suggest that they were there before any trout were added for sport fishing. Jason doesn't know what the host fish is for the mussel's larval stage, and that is where the class comes in. He suspects the host is a sculpin species but needs confirmation.

Outdoor Schools

The program hosted outdoor schools for Siletz, Eddyville, and home school youth (one session with 60 kids for a week at Drift Creek Camp), and Newport Middle School (100 sixth graders). Joe Scott from Siletz taught a history lesson on the Confederated Tribes and showed the children how to make dentalium jewelry. Elizabeth Rose and Willie Worman and Jason from Georgia Pacific worked with students on recycling and making paper from invasive species.

Parker Ogburn taught lessons on teamwork; Gene and Pat Davenport taught lessons on native culture, feather wrapping, and native uses of plants and animals. Jan Robbins held lessons on forestry and soils; Jack Davis taught lessons on tracking, fire making, arrow and hatchet use. The fire dancers performed an evening presentation, which included a local high school student in the cast.

Sarah Gibson (home school) and Sandi LaRoche (Eddyville) taught mycology and botany lessons. Garry Corkum was the camp nurse, and also taught a hiking lesson, kayak lessons and water safety. Virginia ran logistics and filled in wherever needed. The children all participated in macro invertebrate studies, water quality and stream flow, tracking and habitat, pioneer skills, poi dancing, water safety and kayaking, plant identification and uses, hunter safety and wilderness survival, riparian transects, outdoor cooking, and an art and ecology project. The program is designed to provide instruction toward Oregon educational benchmarks.



Education Program cont.

The Olalla Creek Restoration and Education was a special eight-day day camp on Olalla Creek east of Toledo, with more than 60 youth and six high school counselors, led by Matt Sennewald. The first week of camp the youth learned micro invertebrate habitat and ecology, then tied fishing flies mimicking various insect life stages. They tried out their flies fishing at Olalla Reservoir with the Longview Hills Fishing Club. The youth made paper from reed-canary grass, yellow iris, nettles and blackberries. They also completed an obstacle course where they had to throw a hatchet,

make a fire with flint and steel, demonstrate fire safety, climb a hill and cross a log, track a deer and find coyote scat.

The group practiced drumming and learned how to make “flashers,” then practice fire dancing in the wooded glen.

Olalla Creek studies continued this year with a new group of seventh and eighth graders. They spent two days reviewing the creek and checking the changes. The beaver dam is definitely changing the bottom marsh area as well as the creek bottom. The students found the usual collection of macro invertebrates. They did an initial mycology survey for each area. The students got pretty good at categorizing the mushrooms. They also reviewed the photo points for tree growth changes (the photos will show the beaver dam changes, too). Richard Steenkolk, the landowner, dropped by the see how we were doing and assured us that Lincoln County students are welcome to study on his property.



The Natural Resource Crews earned their first aid, CPR cards, completed kayak and mud shrimp protocol training, and learned beaver survey protocols. The crews worked on beaver dam surveys, mud snail surveys, trail making and the Salmon River Restoration work, among other activities. The mud snail surveys are being conducted for Dr. John Chapman and have contributed to several published papers. In addition, they set up a pretty nifty watering system for the native tree nursery on the Watson property. They moved MCWC plants from the nursery, potted the plants, and are monitoring that the watering system is working. We had a roll of felt donated that we used as ground cover and use of the property and water are being donated by Godfrey and Jeannie Watson.



Youth Native Nursery: Students at several local schools are being taught to care for seedlings of native trees and shrubs, to grow them for planting in watershed restoration projects. Native trees and shrubs from this program have already been planted in several sites.

Restoration Projects

This was a transition year for restoration work for the MCWC. Our largest restoration project of the year was the Feagles Creek riparian restoration project. Our newest Salvage Log program has some exciting new features, described below. The final phase of the major Lint Slough restoration project was postponed into the 2009–2010 fiscal year, and a major marsh



restoration project on the Salmon River is delayed indefinitely. In support of future projects we have obtained four Technical Assistance grants to help with project design for future restoration work, and have a fifth one in the works. The first of these TA grants paid for limiting factors analyses and project prescriptions on upper and middle Five Rivers, the Upper Yaquina, and Little Rock Creek. The second evaluated options for improving fish passage at the Five Rivers Fishway, and development of a design for a preferred option. The third provided an engineering design for replacing a culvert in a tidal slough in South Beach, and the fourth provided designs for off-channel habitat features along Bummer Creek, tributary of the South Alsea River.

Feagles Creek Riparian Restoration

Feagles Creek is a large tributary of the Big Elk, flowing in from the south at the village of Harlan. The creek begins on the north side of the ridge separating Big Elk drainage from the North Fork Alsea drainage, and flows north for about a mile through a narrow forested valley, then into a flat, fairly broad valley floor that used to be a small lake. At the outlet of the former lake, the creek flows through a narrow gorge into its lower valley, which extends to its confluence with the Big Elk. This project is sited on the middle reach, the former lake bed. The stream follows a sinuous course down the flat valley floor. Its channel is not seriously down-cut, apparently because a large number of logs accumulated and buried the lower end (the lake outlet) and provide grade control. This reach of Feagles Creek is heavily used by Chinook and Coho salmon for spawning.

This valley floor is owned by a descendent of a pioneer family and is used for grazing cattle. The owner recognized his responsibility to protect the stream from livestock damage, so contacted us about a fencing project.

The project built over 15,000 feet of riparian fence. This included 1000 feet electric fence with a solar electrification system, and over 14,000 feet of barbed wire fence. The electric fences are used primarily for stream crossings. The fenced off riparian area was planted with approximately 4400 trees, plus 5000 willow stakes. The trees included 960 hardwoods, including Red der, Big-leaf Maple, and Oregon Ash. The remainder were conifers. Some of the trees are protected from wildlife in 32 group exclosures, the remainder by individual caging. In addition, crushed rock was used to armor stream crossings, allowing vehicles and cattle to cross without increasing turbidity. Tree release will continue until 2012.



Fish Log Fund

Previous editions of our Salvage Log program were directed solely at transport and storage of donated logs from blow downs and land-clearing projects, for use mainly on our own restoration projects. Our new program, developed in partnership with the timber industry, and managed by Jeff Light of Plum Creek Timberlands, continues these salvage efforts, but also funds bargain purchases of logs from timber companies. These purchases are possible because the trees that are the best for instream projects tend to be large diameter with large limbs and knots, which minimizes their timber value. The new program also is directed at providing wood for projects conducted on industrial timberlands by timber companies, as well as for our projects. The industry has done a lot of instream restoration during harvest operations, but as they concentrate more on short rotation management, fewer suitable fish logs are available on site, so this program facilitates bringing suitable wood to these projects.

Restoration Projects cont.

Technical Assistance Grants

Limiting Factors Analysis. This grant allowed us to contract with Bio Surveys LLC to conduct limiting factors analyses on upper Five Rivers, the upper Yaquina, and Little Rock Creek. The Five Rivers analysis found winter habitat to be limiting, and found that a severe decline in beaver populations was a contributing factor. Prescriptions included large wood placement in some reaches, replacement of some barrier culverts, and efforts to restore beaver populations in particular stream reaches. In the Upper Yaquina, summer rearing habitat is affected by temperature, and beaver populations have also declined. In addition, 21 culverts were impediments fish passage. We currently have a pilot project under way restoring beaver habitat on one tributary. Little Rock Creek lacks adequate large wood in some reaches, and is affected by turbidity.



Five Rivers Fishway Technical Assistance. In the late 1950s Five Rivers Road was built up along upper Five Rivers. At one point the stream made a loop to the east, and to straighten the road and avoid building bridges, the stream channel was moved to the west, cutting off the loop. In the process, an 18-foot cascade was created, which was a barrier to fish passage. A few years later a fish ladder was constructed around the cascade, but the ladder has not functioned as well as hoped. It tends to fill with gravel, impeding passage on low flows, and the upper end has had problems with being blocked by debris. Fish also tend to have difficulty finding their way into the lower end of the ladder. Most seriously, it was constructed with one-foot steps, making it a barrier to juvenile salmon. Our engineering contractor, River Design Group, evaluated

several options for different road alignments and channel restorations, but in the end we settled on a redesign of the ladder, with six-inch steps, and pools designed to be self-cleaning, with special provisions for increasing the attractiveness of the entrance.

South Beach Culvert Design. A culvert on a tidal slough off Yaquina Bay in South Beach is in need of replacement. Determining appropriate size of a culvert is very different in tidal situations than in fresh water, because flow is two-way, and adequate inflow on a rising tide is environmentally important. We contracted with an engineering firm to determine the proper size and depth of a replacement. Construction will be done in summer 2010.

Bummer Creek Off-channel Habitat. Our Limiting Factors Analysis on Bummer Creek determined that the sub-basin was limited by spawning habitat, and by summer temperature. We have placed log structures in the stream to capture gravel and otherwise improve the habitat, and have done extensive riparian planting. We contracted with River Design Group to design some off-channel alcoves in old side-channels to provide shaded summer rearing habitat that would remain cool enough for salmon through the summer.



Monitoring

Effects of Large Wood Placements

This year we and our partners were able to complete an analysis of the effects of large wood placement on stream morphology and fish habitat in the South Fork Yachats. The study area extends from the confluence of Grass Creek upstream 1.2 miles.



The heroes of this effort are Mark Stone and Kip Wood of the Lincoln Soil and Water Conservation District. Both are former commercial fishers who joined the SWCD through the “Hire the Fisher” program for retraining into new careers in salmon conservation. Mark and Kip initially surveyed the South Fork Yachats in 1997 as part of a Hire-the-Fisher effort to inventory fish habitat throughout the MidCoast area. The program used the ODFW Aquatic Habitat Inventory (AHI) protocol, which quantifies an extensive array of habitat components. Their results for the Yachats Basin as a whole showed that a shortage of good winter habitat limits Coho Salmon productivity in the basin. This particular stream segment of the South Fork, like many streams in the region, was deficient in large wood, and lacked the channel complexity that provides good winter habitat. The reach had limited gravel available for spawning, with much of the stream channel running on exposed bedrock.

In 2004, the MCWC, in partnership with the Siuslaw National Forest and Oregon Department of Fish and Wildlife, used a Chinook helicopter to fly over 60 large logs into the stream channel. Oregon Watershed Enhancement Board and the National Forest Foundation provided major funding. In 2006 and again in 2009, Kip and Mark returned and repeated the AQI survey protocol for this segment, to measure the effects of the log placements on habitat structure and quality.

Table 1 (Page 15) summarizes the habitat changes documented between these three AQI surveys. The AQI protocol partitions the habitat into “units,” which are relatively uniform discrete segments of the stream, such as pools, riffles, glides, and cascades. The total number of units in this segment increased from 111 in 1997 to 181 in 2006, and 220 in 2009. This



count of units is a measure of stream complexity. The doubling of the unit count means the habitat is much more heterogeneous, subdivided into more but smaller units, which generally is associated with greater productivity. This increased complexity indicates that habitat has improved, but we can look at the individual unit types to see just how much improvement has happened.

The aggregate length of primary channels in this 1.2 mile stream segment decreased modestly from 1493 meters in 1997 to 1340m in 2006 and 1337m in 2009, while the aggregate area of primary channels increased from 7147 square meters in 1997 to 7311 m² in 2006, and finally 7790 m² in 2009. The decrease in length was because more of the overall stream sinuosity in the segment was taken up by secondary channels, and the increase in area indicates the primary channels tend to be wider and shallower.

Secondary channels tripled in length and area, as the logs trapped gravel and other bedload, and caused the stream to spread out across the floodplain. Secondary channels contribute a spawning habitat and some summer rearing habitat, but are particularly important as winter rearing habitat, the limiting resource in this watershed.



Monitoring cont.

Table 1. Changes in Habitat Parameters between Three Aquatic Habitat Inventories on the South Fork Yachats River. A “unit” is a contiguous section of stream of uniform type, for example a pool, a riffle, or a glide.

Parameter	Measurement	1997	2006	2009
“Units”	Count	111	181	220
Primary channel	Length, meters	1493	1340	1337
Primary channel	Area, meters ²	7147	7311	7790
Secondary channels	Length, meters	180	436	643
Secondary channels	Area, m ²	575	850	1592
Pools	Count	47	67	93
Pools	Area, m ²	3635	2999	3891
Glides	Count	16	14	19
Glides	Area, m ²	1122	1218	1282
Fast water units	Count	39	45	58
Fast water units	Area, m ²	2231	3470	3623
Backwaters, alcoves	Count	4	23	29
Backwaters, alcoves	Area, m ²	143	269	413

The number of pools doubled, from 47 to 93, while area of pools initially declined, from 3635 m² in 1997 to 2999 m² in 2006, then rebounded to 3891 m² in 2009. The initial decline in area occurred as the accumulating bedload partially filled pools, and the rebound reflected subsequent increases in scouring under and around the logs, creating new pools and enlarging existing ones. Pools are particularly important as summer rearing habitat, and the tailouts (lower ends) of pools are important spawning sites.

Backwaters and alcoves increased eightfold in number from 4 to 29, and over threefold in area from 143 m² in 1997 to 413 m² in 2009. These are high-quality winter rearing habitat because they give juvenile fish opportunities to escape the current during winter high flow events.

The number and area of glides, and of fast water units (riffles, cascades, steps) both increased moderately, which likely improves habitat for Steelhead, as well as Coho. Steelhead juveniles are less pool-oriented than Coho, instead orienting to small eddies and pockets in faster water. Overall, the project achieved just the kinds of habitat changes we wanted. The log structures trapped gravel, raising the streambed and providing spawning sites. They also caused the stream to become more braided, with more secondary channels, backwaters, and alcoves, providing more and better rearing habitat, both in summer and winter.



Financial Statement

INCOME	2007-2008	2008-2009
Government Grants	1,017,829	304,786
Other Grants	103,137	23,014
Cost Reimbursements		18,539
Interest	251	151
Donated Services	280,239	161,387
Other Income	853	60
TOTAL INCOME	1,432,563	507,937
EXPENSES		
Contract Services	815,340	233,704
Inkind Service	280,329	161,387
Payroll and Taxes	136,309	114,825
Materials and Supplies	62,206	49,946
Grant Reimbursements	9,437	24,165
Travel	11,109	7,261
Rent	10,800	12,000
Office Expenses	3,806	1,904
Telephone and Internet	3,930	3,817
Professional Fees	3,900	3,900
Insurance	9,290	3,499
Depreciation	615	569
Other Expenses	3,029	1,770
TOTAL EXPENSES	1,349,010	618,747
Net Assets July 1	41,054 (2007)	139,546 (2008)
Net Assets June 30	139,546 (2008)	28,736 (2009)
Change in net assets	98,492	(110,810)