Coos Watershed Association
Supporting environmental integrity and economic stability within the Coos Watershed

2016 Annual Report
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Welcome & Reflections
2016 - A Transitional Year for The Association

Dear friends, partners, colleagues and watershed community members,

It is with pleasure that we share our accomplishments and reflections of the past year in this 2016 Annual Report. We hope that you find it an insightful and affirming read.

2016 was both a transitional year and a year of burgeoning opportunities for the Coos Watershed Association. Having lost our long-time executive director in 2015, Alexis Brickner was promoted to Interim Executive Director—working double duty for most of 2016, while also performing her restoration and invasive species program responsibilities. Simultaneously, a specially-appointed Search Committee of the Board of Directors conducted a more than one-year-long search for a new Executive Director. The Committee finalized their decision to hire Elizabeth (Liz) Galli-Noble in fall 2016. Liz moved to Coos Bay from Bozeman, Montana and started work on November 1, 2016.

Although 2016 was a challenging year for the Coos Watershed Association, our highly-experienced, professional and knowledgeable team of nine staff, grew stronger and more cohesive. We successfully sustained and even expanded our programs, and our annual budget reflected those gains reaching a 23-year all-time high. Furthermore, in the absence of a permanent director, the need for enhanced internal communications became crucial for the Association to conduct our complex and heavy workloads and to maintain professional standards. Fortuitously, that need also presented an opportunity, which resulted in increased interactions between professional staff and the Board. Ultimately, staff-Board relations strengthened and stakeholder-Association collaborations were augmented.

2017 holds great promise of new opportunities for the Association. In addition to new and positive administrative leadership, we also look forward to the completion of our 10-year strategic plan, the addition of a highly-experienced office manager, increased participation in regional invasive species management collaborations, an enhanced restoration focus in estuarine and tidal habitats, launching a stormwater program, the development of a Coos River Coho Strategic Action Plan, completing our Model Watershed project, expanding our stream gauging station system, and the debut of our first Mayfly Festival—just to name a few. We hope you continue to partner with us in these meaningful endeavors and thank you for your support of the Coos Watershed Association and commitment to the vitality and health of our amazing watershed.

Best wishes,

Alexis Brickner, Interim Executive Director
(January - October 2016)

Elizabeth Galli-Noble, Executive Director
(October - December 2016)
The **Coos Watershed Association** is a 501(c)(3) organization dedicated to restoration, monitoring, and education to improve the health of the Coos Watershed. Our work is rooted in science and driven by the belief that balance between economic and environmental interests is possible.

**Mission**
The Coos Watershed Association’s mission is to support environmental integrity and economic stability within the Coos Watershed by increasing community capacity to develop, test, promote, and implement management practices in the interests of watershed health.

**Shared Values**
The Coos Watershed Association Board of Directors has adopted the following statement as an expression of the shared values that inspired creation of the Association:

- We believe it is possible to achieve both environmental integrity and economic stability within the Coos Watershed
- We believe that the natural products and processes of the watershed are indicators of watershed health, and are important to the economy and vitality of the community
- We believe that human activities have a legitimate place in the watershed
- We recognize that our actions can affect the stability of the watershed and related economy
- We believe deliberate planning and action for watershed health are important and are effectively achieved by the people who live and work within the watershed
- We believe that a watershed-scale perspective improves our ability to sustain the health of the watershed and related economic activities
- We believe the coordination of our individual efforts can achieve a synergistic, beneficial effect on the watershed.

**Goals**
The Association has adopted the following goals in order to fulfill its mission and to support its shared values:

- Foster and encourage landowner action in the interests of watershed health
- Foster public awareness of watershed processes and activities and opportunities to contribute to watershed health
- Foster scientific understanding through a program of experimental watershed research and focused monitoring
- Serve as a clearinghouse of watershed information and activities
- Operate according to a plan which supports environmental integrity and economic stability with the Coos watershed
- Provide an organizational framework to accomplish the Association’s mission.
Accomplishments of 2016

The Coos River Estuary is one of the most productive systems in the State of Oregon for salmonids, particularly for coho salmon (*Oncorhynchus kisutch*). Lessons the Coos Watershed Association has learned over the past 23 years, has lent insight to restoration efforts throughout the state and coastal region.

Monitoring Programs

The Coos Watershed Association works to understand current habitat conditions now so that we can implement targeted, high-impact restoration for the future. For more than 20 years we have worked to help landowners, agencies, and policy makers determine how to best manage and restore natural resources in the Coos Watershed. In order to make this possible and ensure the success of both current and future restoration projects, we have developed multiple monitoring program components—aquatic inventories, salmon life cycle monitoring, and water resources monitoring and stream gauges—to track the dynamic habitats in our watershed.

**Life Cycle Monitoring Program (LCM)** - Since 2004, the Association has conducted a life cycle monitoring (LCM) project to study coho salmon abundance, survival, life histories, and habitat use in tide gated lowland streams. Palouse and Larson creeks were selected as initial study sites, but monitoring effort was switched from Larson Creek to Willanch Creek in 2015. For many years, the focus of stream restoration has been in the upper spawning reaches of salmon bearing streams. However, recent data from the LCM project, as well as other similar projects, have revealed that rearing juvenile coho thrive in tidal rearing habitat and exhibit temporal/spatial migration throughout freshwater and estuarine habitat. Utilization of tidal and floodplain habitat for foraging and winter shelter is a previously undervalued aspect of coho life histories that has
been inhibited by human activity such as channelization, tides gates, and dike construction. LCM efforts help highlight the critical importance of diverse habitat and juvenile fish passage for recovering viable coho populations.

In 2016, Ed Hughes (fisheries biologist and program leader) led a team of Association staff, volunteers, and interns to implement the LCM program, using four main methods to monitor coho and other native fish species: spawning surveys, PIT tag mark-recapture, rotary screw traps, and seining.

**Spawning surveys** track long-term trends in population abundance. Live fish and corpses of spawned out salmon are counted, and scale samples are taken for analysis by the Oregon Department of Fish and Wildlife. For the past two seasons (2015-2016 and 2016-2017) spawning surveys were conducted every 10 days from October to December. Willanch Creek produced 59 and 18 total coho, while Palouse Creek produced 168 and 186 total coho.

**PIT tags**, or passive integrated transponders, are small chips that emit an identifying code when activated by the electrical field of an **antenna array**. The LCM team captures and inserts tags into the body cavities of young parr as they pass downstream through the **rotary screw trap** on their way out to the ocean. Fish movement up and down stream is then recorded at designated antenna sites within the two study streams. In 2016, 565 juvenile and smolt coho were PIT tagged in Palouse and Willanch creeks. Over the same year, 361 PIT-tagged fish were resighted at antenna arrays in the two study streams. This long-term Association program has demonstrated the utility of PIT tagging as one of the best techniques in freshwater and marine survival analyses. Continued tracking of PIT-tagged juvenile coho will provide key information on habitat utilization in lowland streams, winter survival, and performance of two different life history types.

In addition, Ed’s team conducted **seining**—a random, mobile, and cost-effective trapping method useful for sampling on larger stream segments—in the summer of 2016 in Willanch and Palouse creeks. Seining is often used to boost numbers of PIT-tagged fish if rotary screw trap captures are insufficient; seining also provides for population estimates based on random sampling. 865 coho were sampled and 25 were recaptured in 2016.
Aquatic Habitat Inventory Program (AQI) - Programs such as the aquatic inventory surveys play a vital role in helping our restoration project managers to: (1) develop and measure the effectiveness of our projects; (2) prioritize which areas within the watershed are most in need of restoration; and (3) provide a holistic view of restoration needs at the watershed scale. These surveys follow standard Oregon Department of Fish and Wildlife protocols, thus allowing our data to be consistently collected, while also allowing us to compare our results with other surveys throughout the state.

The aquatic habitat inventory program is led by fish habitat specialist, Dan Draper, who has been with the Association for 15 years. Aquatic inventory surveys are quantitative assessments of habitat characteristics in wadeable streams in the Coos Basin. Association staff and our partners have been collecting aquatic habitat data—valley width, channel type, slope, terrace height and width, sinuosity, active channel width, depth, substrate, and bank erosion—in the Coos Watershed for more than two decades. The process of conducting an aquatic habitat survey involves collection of general information from maps and other sources as well as direct observation of stream characteristics in the field. To date, we have surveyed ~350 miles of anadromous fish habitat (80% of the watershed), much of it crucial for coho and Chinook salmon, cutthroat trout and other native fish species. These surveys provide the baseline habitat data needed to begin prioritizing our restoration projects; and are needed to meet habitat limitations at a much more site-specific reach level.

Coos Watershed Association staff are wrapping up the last AQIs along the East and West Forks of the Millicoma River and their tributaries in 2016-2017, which will complete habitat inventory coverage of virtually all the wadeable streams in the 630-square-mile Coos Watershed.
From June through October 2016, Dan and his team completed 11 snorkel surveys at sites on the East Fork Millcroma River, Beulah Creek, Matson Creek, Little Matson Creek, Glenn Creek and Fox Creek.

In 2017, Dan’s team will complete the last 25 miles of habitat inventories for the entire watershed. Once complete, Association staff and regional biologists will have the tools to begin evaluating restoration prioritization at a much larger scale. As a next step, we plan to write a Technical Assistance grant, which will allow us to: culminate 10 years of AQI data, create a single GIS layer at the reach and unit levels, and establish an AQI database to house our most recent data. These data will be synthesized and run through the Habitat Loss and Fragmentation (HLF) Model and potentially a Habitat Rating (HabRate) Model to prioritize restoration opportunities.

In addition to internal use of these inventory data, the public is also able to access the information through the Oregon Fish and Wildlife Data Clearinghouse at: https://nrimp.dfw.state.or.us/DataClearinghouse/.

**Hydrological, Meteorological and Water Quality Monitoring Program** - Led by Freelin Reasor for 13 years, the Association maintains and operates nine stream gauges: South Fork Coos River, West Fork Millcroma River, East Fork Millcroma River, Tioga Creek, Winchester Creek, Tenmile Creek, Eel Creek, Whiskey Run Creek, and Marlow Creek. In addition, we also operate a tidal station at the Willanch Creek tide gate, where water levels (bayside and upstream), door angles, water temperature, and velocities are monitored.

Once the responsibility of state and federal agencies, data collection at several stations in the Coos Watershed was discontinued in decades past due to funding constraints. The Association recognized the importance of this information and stepped in to oversee four stream gauges and three weather stations by 2004. We’ve expanded our operations ever since, and now operate: nine stream gauges,
four weather sites, one tidal station, and five year-round water quality stations; seven of these sites are available on our website in real-time and all of our site data are available on our website.

The Association conducts three types of stream monitoring at our gauging stations: hydrological (stream flow), meteorological (weather), and water quality (water temperature, sediment levels, and turbidity)—all of which are important for improving fish habitat and monitoring stream restoration activities.

Each gauging site is visited on a monthly basis; high stream flow measurements are taken twice per year; and cross sections are surveyed once per year. Downloaded data are archived and processed, and posted on our website for public use (see link: http://www.cooswatershed.org/stream-data/). In 2016, more than 10,000 people (landowners, fishermen, recreationists, and others) visited our stream data webpage (>40,000 page views) seeking real-time updates of stream flow levels and site-specific weather information; making it by far the most popular use of our website.

Many other project partners and local stakeholders—private landowners, organizations, academic institutions, businesses, and government agencies—also view and download our data for a wide range of uses, including but not limited to the following:

- Monitoring trends and changes to the climate and the hydrologic cycle
- Planning, designing, operating, and maintaining water management systems (including tide gates)
- Monitoring flood events for public safety
- Designing culverts, bridges, and roads
- Mapping floodplains
- Protecting water rights (for human and wildlife uses)
- Protecting water quality
- Education and research
- Project effectiveness monitoring
- Recreation (fishing, kayaking, etc.)

Our main project slated for 2017 is upgrading our seventh station to real-time capability using new equipment from a National Oceanic and Atmospheric Administration grant in collaboration with the University of Oregon.

**Road Assessment Program** - The Road Assessment Program is one of the driving forces of future restoration efforts in the Coos Watershed. The Coos Watershed Association has a long history of converting road surveys into actual on-the-ground restoration projects. Through prior grant awards from the Oregon Watershed Enhancement Board and the Oregon Department of Environmental Quality, ~$250,000 has been utilized for surveys that have resulted in over $3 million in related fish passage and sediment restoration projects, a return of 15:1 for survey and analysis expenses.

In 2016, we continued our survey efforts in the East Fork Millicoma Subbasin. Using Oregon Watershed Enhancement Board and Weyerhaeuser funding, we nearly completed the final phase of these surveys (450 miles were surveyed of about 520 total miles). This project is scheduled to be completed in 2017.
Education & Outreach Program

The Coos Watershed Association is committed to enhancing our community. Our education programs—co-led by Alexa Carleton, Dave Nelson and Clea Harrelson in 2016—are unique in our community and provide critical support and opportunity to youth who may otherwise be left behind in a traditional school setting. Since 2005, our outreach program has emphasized improving communication and fostering cooperation with landowners throughout the watershed. We are also dedicated to ensuring that the youth of Coos County have an outlet to pursue careers and interests in applied sciences.

We have created three education programs catered to meet the needs of Coos County youth: Master Watershed Stewards, Community Stewardship Corps, and the Natural Resources Youth Leaders Program. In addition, we run a full-time, paid summer restoration crew with high school students across local schools through the Oregon Youth Conservation Corps.

The Master Watershed Stewards program in partnership with Marshfield High School is a nine-month after-school program that served 11 students in 2015-2016 (40-80 hours) and 11 students in 2016-2017; and more than 80 students since 2012. The program is open to 8th to 12th grade students interested in exploring their local watershed on Friday afternoons. Participants are exposed to issues such as stormwater runoff, stream restoration, fish passage, native plant propagation, basic ecological principles, and much more. In recent years, we have added a significant public speaking and education component. This program is designed for flexibility, allowing us to take advantage of local issues and projects as they arise and better meet community needs.
The **Community Stewards Corps (CSC)** program is offered through the Oregon Youth Conservation Corps, whose mission is to “build on strong connections between positive experiences, work skills, personal responsibility, commitment to education, and future employment for Oregon’s youth.” Our Watershed CSC program began in 2014 as a way to offer project-based learning for academic credit to students at Destinations Academy, a local alternative high school housed in the Harding Building in Coos Bay. Since its initiation, 47 students (9th to 12th grades) have completed the program. In 2015-2016 and 2016-2017, 13 and 16 crew members participated, respectively. They worked on visible community enhancement projects such as rain garden installations, ecological landscaping, trail repair, invasive species removal, and more. Each project emphasized community connections and was specifically designed to build basic job skills, teamwork, and awareness of various environmental issues. This program also offers a college tuition voucher for participants who complete the required hours.

**Natural Resources Youth Leaders** is a six to eight-week college-preparatory, natural resources field program designed for low-income or first-generation college-bound high school students in Coos County. Participating high schoolers enroll as students at Southwestern Oregon Community College for the summer term and earn up to three college credits and a stipend. Through the hands-on Natural Resources Internship, students learn about salmon monitoring, and study design, ecology, and sustainability by working alongside natural resource professionals from the Association, Oregon Department of Fish and Wildlife, Oregon Institute of Marine Biology, Bureau of Land Management, the Cob Cottage Company, and other local organizations. In 2016, eight students successfully completed the internship, with 100% of participants earning an A grade.

**Watershed Restoration Youth Crew** - Every summer since 2012 the Coos Watershed Association has hired a small team of local youth (working four, 10-hour days throughout the eight to 10-week season) to maintain riparian restoration projects while building invaluable leadership experiences, teamwork skills, and safe work practices as a jump-start for life after high school. This opportunity is made possible by support from the Oregon Youth Conservation Corps, which allows positions on this youth crew to be paid.
To date, 42 students (ages 16 to 18) have participated in the Restoration Youth Crew. In 2016, eight youth participated as crew members working alongside our professional crew leader, an assistant crew leader and an AmeriCorps associate. They were exposed to many of the basic principles of riparian restoration, such as invasive plant removal, fence construction, rare plant monitoring, fish salvage, greenhouse maintenance, trail work, and erosion control. Each summer, crew members also conduct education and outreach about their program by manning an informational booth at local events, such as the Coos Bay Farmer’s Market and Coos County Fair in 2016.

**AFS - Hutton Junior Fisheries Biology Program** - In addition to the four programs described above, the Association also hosts Hutton Scholars/Interns during the summer months. Sponsored by the American Fisheries Society, the Hutton Junior Fisheries Biology Program is a paid summer internship and mentoring program for high school juniors and seniors. The goal of the program is to stimulate interest in careers in fisheries science and management among groups underrepresented in the fisheries professions, including minorities and women. Coos Watershed Association has been involved with the program since 2014, and became an official placement site in 2016. Students now spend two to three weeks with the Coos Watershed Association, where they are mentored by Ed Hughes, as well as other professional Association staff, as part of their fisheries science summer experience in marine and freshwater habitats. In August 2016, we hosted two interns for three weeks, most of which was spent learning the ins and outs of our juvenile salmon monitoring program.

**Restoration Programs**

From upland streams to the bay, the Coos Watershed Association works with private landowners and public agencies to ensure that stakeholder and environmental needs are being met. Because restoration strategies are dynamic and ever-improving, our restoration team—led by Alexis Brickner, Allison Tarbox, and Dave Nelson in 2016—make it a priority to build local partnerships and learn from every project we complete. Our in-stream work is one facet of our restoration efforts and is often complemented by riparian restoration elements, such as stabilization (planting native trees, shrubs and grasses), noxious weed control, and education. The benefits from a single restoration project extend far beyond the project site itself, rippling through the watershed and increasing the quality of habitat for fish and humans alike.

**In-stream Restoration** - Targeted in-stream restoration has been a pillar of our work since the Association was founded. We began implementing in-stream restoration projects in the mid-1990s as a way to improve the quality and quantity of coho salmon habitat. In-stream restoration projects can be grouped into four general categories: wood placements, channel reconfiguration, fish passage, and sediment reduction.
All in-stream projects are based on extensive analysis of aquatic habitat surveys and road inventory surveys conducted by our staff or partner agencies. While some techniques may overlap, each project type requires different procedures and tools in order to accomplish desired restoration outcomes. Project work is contracted either through the Association, the landowner, or an independent operator. In-stream project work typically occurs from July to mid-September during the “In-Water Work Window,” which is set by the Oregon Department of Fish and Wildlife to protect aquatic habitat during critical spawning seasons and may be extended for special circumstances.

**Large wood placements** and **constructed log jams** are installed in stream channels to increase quantity and quality of spawning and rearing habitat for salmonids and other aquatic species. Large logs and boulders are placed within stream channels, altering water flow and preventing gravel and woody debris from washing downstream. Log placements also provide habitat complexity and cover for fish to avoid potential predators. In 2016, we installed five constructed log jams and seven large wood placements on the mainstem of the West Fork Millcroma River.

**Road sediment reduction projects** are generally focused on areas of chronic and catastrophic sources of sediment that enter streams—for example, a plugged, restricted, and/or failing culvert that is causing erosion. Most projects focus on adding drainage features (culverts), maintenance of existing culverts, and increasing the size of stream crossing culverts that are undersized to reduce the possibility of plugging and complete failures. In 2016, funding was secured for one road sediment reduction project and two undersized culvert replacements on the 4000 Road of Weyerhaeuser’s Millcroma Tree Farm, which will be installed in 2017.

**Channel reconfiguration**, or **re-meandering**, consists of moving lowland streams—which have been altered to run in a channelized ditch along one side of a valley for agricultural purposes—back to their original path across the valley floor. Projects often involve landowners who no longer want to use their land for agricultural production. But our projects have also involved landowners who want to help reconnect the floodplain, while at the same time promoting better field drainage and reduced maintenance costs on their agricultural lands. The Association conducted one major channel re-meander project in 2016—the Ross Slough Project—which is described in detail on Page 16 of this report.

**Fish passage projects** are designed to eliminate barriers for adult and juvenile salmonids to available spawning and rearing habitat upstream. Common projects include upgrading culverts and tide gates that restrict passage to upstream habitat. Tide gate replacement is an increasingly important issue for watersheds including the Coos, as older infrastructure begins to fail in tidally influenced streams. In 2016, we worked on a wide variety of fish passage projects from bridge installations to fish salvage efforts during culvert replacements in the following drainages: East
Fork Millicoma River, Ross Slough, Kentuck Inlet, and Stock Slough, along with a non-traditional fish passage project on the West Fork Millicoma River to assist with adult passage over Stulls Falls (described in detail on Page 15 of this report). Funding was also secured in 2016 for two fish passage culvert projects on the 4000 Road of Weyerhaeuser’s Millicoma Tree Farm, which will be installed in 2017.

**Riparian Restoration program** -
Intact riparian ecosystems are key to maintaining and restoring fully functional stream habitat. Healthy riparian zones play a central role in creating habitat for aquatic species. Intact vegetation helps provide cooler stream temperatures, reduces stream bank erosion, and also acts as a buffer, filtering run-off of nutrients and sediment from the surrounding lands. Trees and other plants that fall into the stream from vegetated banks are an important source of nutrients and help create in-stream habitat complexity.

Only about 10% of Coos Bay’s original tidal wetlands remain, today; mostly as the result of human development. This dramatic loss of habitat makes it all the more important to ensure that what lowland streams and marshes do remain are fully functional. Functionality in these systems also means working with agricultural stakeholders to return fields that experience frequent flooding to productivity. In addition to restoring lowland riparian zones, the Association also addresses upland streams that may have impacted riparian zones due to historical logging practices. The tools and practices that we use to restore functionality to riparian zones typically fall into one of three categories: planting, fencing, and erosion control. These techniques are frequently combined with sediment reduction projects, long-term monitoring efforts, and in-stream restoration projects to holistically restore streams.

Riparian restoration methods are highly variable depending upon the eco-region, the location within the watershed, and the specific site characteristics of the restoration project. On the Oregon Coast, allowing natural regeneration to restore the site is rarely successful due to the rampant and highly competitive nature of invasive riparian plant species. Under such conditions, restoration of riparian areas usually involves very specific planting techniques and a well-coordinated post-planting maintenance regime. Additionally, each planting plan is site dependent and designed to augment existing populations of native plants, rather than introducing plants that are not already established in that area. All of the trees and shrubs used for Coos Watershed
Association restoration planting projects were sourced from or prepared for planting at our Matson Creek Native Plant Nursery. Riparian fencing is commonly installed to provide ease of access to streams for deer, elk, and other wildlife while keeping livestock in designated areas.

Coos Watershed Association riparian restoration program leaders and partners are provided with indispensable program labor by Dave Nelson’s all-season adult field crew and an eight-member Oregon Youth Conservation Corps Summer Restoration Youth Crew. In 2016, the restoration team implemented: ~10 acres of riparian restoration and invasive species control on Wren Smith and Ross Slough; maintained ~24 acres of riparian plantings; conducted invasive species control and rare plant monitoring, constructed fencing, and brush removal on eight acres of BLM lands; and maintained a more than 10,000-native plant nursery at Matson Reserve.

**Matson Creek wetland Reserve** -
Previously a dairy, the Matson Creek Wetland Reserve is 165 acres of brackish and freshwater wetlands and uplands east of Coos Bay. The property was purchased in 2000 through an Oregon Watershed Enhancement Board/US Fish and Wildlife Service grant to the Coos Watershed Association. The property title was quickly turned over to The Wetlands Conservancy (TWC) in July 2000; and the Association, TWC, and the North Bend/Coos Bay Water Board have co-managed the property ever since.

The Matson Creek Reserve is on its way back to becoming a functioning wetland. The lower region of the Reserve contains a recently restored 110-acre tidal wetland, which was once drained for pasture use. The upland valley is in the beginning stages of being transformed from pasture to meandered stream and wetland. The Reserve is an excellent site to learn about ongoing watershed restoration, and to witness plant and animal recolonization of altered habitats. The Matson Reserve also houses a historic barn and our new native plant nursery, making it a perfect home base for our education programs.

In 2016, specific activities conducted at the Matson Reserve included: (1) completion of a new greenhouse, (2) expansion of the plant nursery and a doubling of our native tree, shrub, and herbaceous native plant stocks, (3) invasive species control throughout the Reserve, (4) aquatic habitat surveys and fish monitoring, (5) riparian plant monitoring, (6) facility maintenance and upkeep, and (7) expansion of our existing watering system. We will continue to use the facility for a wide range of outreach activities, including education activities for our four local youth programs—two during the school year and two during the summer. The facility provides an excellent arena for teaching and training members of the youth program.
**Invasive species management** - Alexis Brickner launched the Coos Watershed Association's noxious weed program shortly after her arrival in 2012. She has led the program ever since, working alongside Dave Nelson and his field crews on a wide variety of prevention, early detection and rapid response, control, and management projects in the watershed, and beyond.

For the past four years, Association staff have focused on the control of four key riparian invasive plant species: the knotweeds, gorse, purple loosestrife, and policeman's helmet using an integrated pest management strategy—manual, chemical, mechanical, and biological control methods. The program has engaged with more than 100 private and public landowners over the past few years, including 2016.

In addition, Alexis Brickner has come to play a significant leadership role on locally-led invasive plant management teams. She was instrumental in the creation of the Gorse Action Group and its Cooperative Weed Management Area, as well as functioning as their coordinator. She also serves on the Coos County Weed District Advisory Board and collaborates with many weed management organizations and agencies.

In 2017, the Coos Watershed Association will participate in the Oregon Solutions Gorse Project Team with the Wild Rivers Coastal Alliance and 26 other Gorse Action Group partners.
2016 Restoration Project Highlights

2016 was an exceptional year for the Association’s restoration program. Only after many years of preparation—data collection, planning, partnership building, acquisition of sufficient funding, and building internal capacity and expertise—were Association staff able to implement three large-scale and highly-innovative projects: the Stulls Falls Fish Passage Project, the East Fork Millicoma Oxbow Reconnection and Habitat Restoration Project, and the Ross Slough Re-meander Project.

Stulls Falls Fish Passage Project - Stulls Falls is a two-step falls at River Mile 16 on the West Fork of the Millicoma River. The falls have a total elevational differential of over 20 feet. There are nearly 60 miles of habitat with good to excellent intrinsic potential upstream of the falls for coho, fall Chinook, and winter steelhead. For a variety of reasons—human alterations and impassable flow rates—the falls have always posed a notable restriction for adult fish passage and a significant migration constraint or complete barrier for native fishes.

In partnership with the private landowner, Oregon Department of Forestry, Oregon Department of Fish and Wildlife, Oregon Department of Fish and Wildlife Restoration and Enhancement Program, Trout Unlimited, and a private contractor, the Coos Watershed Association implemented a bedrock trench cutting project as an alternative technique to enhance adult fish passage at Stulls Falls in 2016. Three low-flow trench channels (~2’ wide x 1.5’ deep x 80’ long) were designed and carved into the bedrock ledge of the upper falls, which now provide routes through the falls and allow adult salmonid passage over a wider range of flows. Post-project monitoring conducted upstream of the falls in October and November 2016 confirmed an immediate response of Chinook passage and spawning (18 female, 8 males, and 22 Chinook redds were documented as far upstream as 16 miles above the falls) and nearly 150 coho were seen holding in large pools nearly 13 miles upstream of the falls. Needless to say, we are very proud of these results!
**Ross Slough Channel Re-Meander Project** - Ross Slough is a historic tidal wetland and tributary of Catching Slough, situated in a narrow valley. The tributary supports fall Chinook, coho, winter steelhead, and resident and sea-run cutthroat trout. Before settlement of the valley, Ross Slough was sinuous and marshy, providing highly productive rearing habitat for juvenile salmon. The Slough’s condition changed when, in an effort to create contiguous agricultural pasture in the whole valley, the main channel was moved into a diversion ditch on the east side of the valley. The ditch was straight, contained no large woody debris, and had few pools and very little riparian vegetation. To drain winter rains that accumulated in the valley, a series of cross-ditches were constructed to intercept and convey flow to the main ditches. Without a connected floodplain to deposit suspended sediments, sand transported in Ross Creek deposited in the ditch. Over time, the ditch filled in and the floodplain subsided, resulting in frequent periods of standing water in the valley, loss of agricultural production, and undesirable anadromous salmonid spawning and rearing habitat.

This project involved two very willing and excited landowners—Oliver Sorenson and Lee Webster. During the 2016 In-Water Work Season, the following major restoration project components were implemented:

- Creation of nearly two miles of new channel was established in the approximate location of the historic stream bed, which is now completely open to fish passage and reconnected to the entire floodplain at flood-flows.
- Two bridges were designed and one was installed, to replace undersized culverts on the landowners’ private driveways and to create fish passage for the new channel.
- Both sides of the new channel were fenced, enclosing 15 acres of wetland and riparian habitat.
- Five hardened crossings made of geotextile fabric and 4” rock were constructed in the new channel to help move livestock through the fields.
- ~1,500 native plants and shrubs were planted in the riparian buffer along the stream.
- Native wetland plant seed was spread in the 4.6-acre wetland area that was set aside by the landowners.

Future project plans include:

- Sorenson Property - Fencing in the lower field and regrading of surfaces in portions of the lower and middle fields in spring/summer 2017; and the planting of the remaining ~3,500 native trees and shrubs in 2017 and 2018.
- Webster Property - New channel in the upper field: installation of the upstream fish passage bridge, construction of the remaining fencing, and final plantings will be completed in the next two years.
- Project partners have developed a project plan to replace the undersized culvert on Old Wagon Road with a channel-spanning bridge within two years.
- This project has sparked the interest of additional downstream landowners in Ross Slough. Association staff will help develop fencing and planting plans for interested parties. We are also working with Oregon Department of Fish and Wildlife and the Ross Slough Drainage District to develop a plan to replace the Ross Slough tide gate—located at the confluence with Catching Slough. It is an old wooden, top-hinged tide gate that is undersized and restricts drainage throughout the basin in the winters, particularly during heavy rains.
**East Fork Millicoma River Oxbow Reconnection Project**

The East Fork Millicoma River is the largest tributary to the Millicoma River in the Coos River Basin. It has the potential to provide important habitat for fall Chinook, chum, coho, steelhead, cutthroat trout and other important aquatic species. Unfortunately, historic land practices have degraded the quality of stream habitats throughout the basin and have impeded fish passage to the upper reaches of the river. Originally, two trestle bridges spanned the river at Mile 7 on the Weyerhaeuser Allegany Mainline Road, where the East Fork Millicoma River made a tight meander bend around a resistant ridgeline and crossed under the Mainline Road twice within 500 feet. When the road was rebuilt in 1958, (1) the ridge was blasted to create the “Bypass Chute” that channelized the entire flow of the river parallel to the road, and (2) the trestle bridges were removed and plugged, cutting off the meander bend and creating the man-made channel. The effective stream reach was reduced from the 0.6 miles (Oxbow channel) to under 0.1 miles, with a river drop of ~20 feet in elevation. Since 1958, increased streamflow velocities over the stepped bedrock chutes substantially impeded adult salmonid passage and truncated all juvenile passage through the chute to the 16 miles of habitat upstream of the project site.

Collaborations between the Association, Weyerhaeuser, and Oregon Department of Fish and Wildlife began in 2006. In 2008 and 2012, the Association was awarded Oregon Watershed Enhancement Board technical assistance grants to analyze project alternatives to improve fish passage through the reach. Through these grants, the Oxbow Reconnection project was developed. Main elements of the project included:

- Two historic bridge replacements,
- Filling in the Bypass Chute,
- Diversion of the East Fork Millicoma River back through the 0.6 mile historic Oxbow channel,
- Reconnection of 0.6 miles of original habitat to the East Fork Millicoma River and a channel grade change from 6% over nearly 200 feet to under 1% over 0.6 miles, and
- Improved adult and juvenile passage to nearly 16 miles of habitat upstream of the Bypass Chute.

In 2015, funding was secured for the implementation phase of the project. Contractors broke ground on both bridges in early April 2016 and completed their work in July 2016, just in time for the start of the In-Water Work period. 60,000 cubic yards of earth was moved from under the newly constructed bridges and placed in the Bypass Chute to construct an engineered channel plug. On August 22, water pumps ran for 24 hours to pre-wet the Oxbow channel, establishing a base flow downstream of the project site; this step was needed to avoid desiccation of the downstream river channel prior to reconnection, and also allowed 30 volunteers to conduct a fish salvage operation as part of the reconnection the next day. On August 23, the entire flow of the East Fork...
Millicoma River was diverted into the Oxbow, and within 38 hours, the East Fork Millicoma River was fully connected and freely flowing through the historic channel. All construction was completed by September 14, 2016.

**Future Project Plans** – The Coos Watershed Association has teamed up with the Oregon Department of Fish and Wildlife to develop a six-year monitoring program to evaluate the effectiveness of the project. There is a long history of spawning and snorkel survey data collection throughout the basin, including two standard Oregon Adult Salmonid Inventory and Sampling (OASIS) survey reaches established above and below the project site. Project partners will conduct spawning and snorkel surveys above and below the Oxbow site to determine if there has been a shift in adult salmonid distribution and juvenile salmonid populations basin wide. In addition, Association staff are applying results from our recent habitat and road surveys/assessments to new basin-wide restoration project planning for the East Fork Millicoma River. We will implement the first phase of our in-stream habitat, road sediment reduction, and fish passage improvement restoration projects in summer 2017 in the upper reaches of the basin.

**Administration**

The Coos Watershed Association is governed by a Board of Directors and is administered by an Executive Director and an Office Manager/Bookkeeper. Alexis Brickner functioned as the Interim Executive Director from January through October 2016, and Amrha Wimer was our Office Manager from April through December 2016. Aimee Evans, our exceptional and long-time Office Manager, also assisted periodically with bookkeeping and grants management during 2016.

The Association has a staff of nine full-time employees and operates with a portfolio of 30 to 50 different funding sources for our various projects. Effectively managing this portfolio takes tremendous staff cooperation and efficiency, which was a challenge for most of 2016 due to administrative staff turnover.

During 2015/2016, a special committee of the Board of Directors conducted a nation-wide search for a new Executive Director. Liz Galli-Noble was hired and started work for the Coos Watershed Association on November 1, 2016.
Partners & Donors

The Coos Watershed Association is truly grateful to the many people, businesses, agencies, and organizations for supporting our work and our team.

Friends of the Coos Watershed Association

We are proud to list our Friends of Coos Watershed Association donors. In 2016, the Association received $8,800 in donations through our annual campaign. Thank you for helping the Association make a difference in the Coos Watershed and beyond!

Brad Carlson & Margaret Ann Anderson
Mike Babcock
Dennis & Janet Beetham
Reese Bender
Bert Brundige
Cedar Electric & Construction
Jill Christiana
Jim & Nancy Clarke
Melissa Colman
Confederated Tribes
Eric & Cheryl Davies
Jenni & Adrian DeLeon
Bill Delmont
Johanna & Bob Billard
Dyer Partnership Engineers
Jay & Linda Farr
Jamie Fereday & Margie Ryan
Mary Fields
Dave Ford
Marty Giles
Brian Gould
Mike Graybull
Gary & Martha Gregor
Jennifer Groth
Else Hamner
Kevin & Kimberly Hendricks
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Honda World
IFA Nurseries
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LA Logging, Inc.
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Mark Pasternak, M.D.
Pony Village Mall
Prof. Reforestation of OR
Qualman Oyster Farms
Jason & Megan Richardson
Sause Brothers
Patty Scott
Randy & Doris Smith
Richard Smith
Sol Coast Construction
Al Solomon
Doug & Pam Smiles
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Greg Stone
Barbara Taylor
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West Coast Contractors
Weyerhaeuser Company
Jenni & Adrian DeLeon
Honda World
Pony Village Mall
West Coast Contractors
Bill Delmont
IFA Nurseries
Prof. Reforestation of OR
Weyerhaeuser Company
Johanna & Bob Billard
Coquille Watershed Association
Curry Watershed Partnership
Golders Associates
Gorse Action Group
Knife River

Partnerships & collaborations

The Coos Watershed Association values its partnerships with numerous landowners, agencies, businesses, and organizations. The following individuals, agencies, and stakeholder groups worked with us in 2016 to create meaningful opportunities for community enhancement and watershed stewardship and restoration:

AFS - Hutton Junior Fisheries Biology Program
Bonneville Environmental Foundation
Blue Ridge Timber Cutting
Bureau of Land Management
City of Coos Bay
Coos Bay/North Bend Water Board
Coos Bay Timber Operators
Coos County
Coos & Curry Counties Soil & Water Conservation Districts
Confederated Tribes of Coos, Lower Umpqua, & Siuslaw Indians
Destinations Academy (Harding)
Don Porior
Coquille Watershed Association
Curry Watershed Partnership
Golders Associates
Gorse Action Group
Knife River
Laird Norton Foundation
LBA Contract Cutting, Inc.
Marshfield High School
McGee Engineering, Inc.
Messerle & Sons
National Fish & Wildlife Foundation
National Oceanic & Atmospheric Administration
Natural Resources and Conservation Service
Oregon Dept of Forestry
Oregon Dept of Fish and Wildlife, and Restoration & Enhancement Program
Oregon Dept of Environmental Quality
Oregon Dept of Transportation
Oregon Parks & Recreation Dept
Oregon Institute of Marine Biology
Oregon State University
Oregon Watershed Enhancement Board
Oregon Youth Conservation Corps
Oregon Coast Community Action Partnership for Coastal Watersheds
Plum Creek Foundation
Salmon Trout Enhancement Program (STEP)
Southwestern Oregon Community College
Strain Excavating & Trucking, Inc.
The Ford Family Foundation
The Nature Conservancy
The Wetland Conservancy
Trout Unlimited
University of Oregon
US Environmental Protection Agency
US Fish and Wildlife Service
US Forest Service
Weyerhaeuser
West Coast Contractors
Wild Rivers Coastal Alliance
Financial report

The information presented is based on audited figures from Fiscal Year 2016. Copies of all financial documents are available upon request at the Coos Watershed Association office at 186 N. 8th Street, Coos Bay, OR 97420.

Statement of Activities
for the year ending December 2016

Revenues
Grants 1,851,335
Contributions 8,669
Other income 213,513
Total unrestricted revenue $2,073,517

Expenses
Program services 1,963,973
Support services 173,457
Total expenses $2,137,430

Net assets, beginning of year 492,583
Net assets, end of year 428,670
Change in assets $63,913

Statement of Financial Position
December 31, 2016

Assets
Cash and cash equivalents 241,660
Grants receivable 1,505,022
Prepaid insurance 4,148
Office and field equipment 111,401
Less accumulated depreciation <97,035
Total Assets $1,765,196

Liabilities
Accounts payable 1,153,426
Accrued payroll taxes and benefits 12,941
Accrued vacation 20,249
Deferred grant advances 149,910
Total liabilities $1,336,526

Equity
Restricted 66,333
Unrestricted 362,337
Total Equity 428,670
Total liabilities and equity $1,765,196
Board of Directors

The Coos Watershed Association is governed by a 16 to 21-member Board of Directors that exercises our corporate powers, and manages or directs the affairs of the Association. These individuals collectively represent the types of water-dependent livelihoods, types of land ownership, or other “at large” interest in the Coos Estuary Watershed.

2016 Officers

- **Don Yost**, President, Member at large (2001-2016)
- **Jason Richardson**, Vice President, Weyerhaeuser (2007-2016)
- **Randy Smith**, Secretary, Oregon Department of Forestry (2010-2016)
- **Elise Hamner**, Treasurer, Southwestern Oregon Community College (2008-2016)
- **Marty Giles**, Past President, Tourism (2003-2016)

2016 Members

- **Reese Bender**, South Coast Anglers STEP Association (2003-2016)
- **Gary Cooper**, South Slough National Estuary Research Reserve (2014-2016)
- **Jeff Hill**, Sause Brothers (2012-2016)
- **Joan Mahaffy**, Agriculture (1993-2016)
- **Paul Merz**, Fisheries and Aquaculture (2005-2016)
- **Dave Messerle**, Agriculture: small woodland owner and cattle grazer (2000-2016)
- **Joe Metzler**, Cape Arago Audubon (2016)
- **Ashley Russell**, Confederated Tribes of Coos, Lower Umpqua, & Siuslaw Indians (2016)
- **Dr. Al Solomon**, Member at large (2011-2016)
- **Greg Stone**, small woodland owner (2004-2016)
- **Jennifer Wirsing**, City of Coos Bay (2011-2016)
Staff

Professional Staff
Alexis Brickner, Restoration Program Leader, Interim Executive Director (2012-2016)
Alexa Carleton, Education Program Leader (2013-2016)
Daniel Draper, Fish Habitat Specialist (2003-2016)
Aimee Evans, Bookkeeper/Grants Manager (2006-2016)
Liz Galli-Noble, Executive Director (11/2016)
Ed Hughes, Fisheries Monitoring Program Leader (2014-2016)
Dave Nelson, Riparian Program Field Leader (2007-2016)
Freelin Reasor, Water Quality Program Leader (2004-2016)
Allison Tarbox, In-stream Restoration Program Leader (2015-2016)
Amrha Wimer, Office Manager (2016)

AmeriCorps Volunteer
Clea Harrelson (2016)

Field Crew
Heidi Baer
Lexi Snell
James Orr
Robert Boyle
Caden Comstock
Zach Acord
Dustin Campbell
Georgia Elam
Joshua Hosack
Anthony Hutton
Katie Maine
Kati Mattox
Cherish Michael
Ryan Pitcher
Bill Sigler
Joel Soto-Arias
Andrew Tetrick
Amber Yardley

Interns
Clay McKeon
Gabriela Guaiumi
Steven Downing
Joel Kraski