

Horizons

Autumn 2015

SERVING BENTON COUNTY SINCE 1956

2014-2015 Annual Report

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Upcoming Events

OCTOBER

10/29 BSWCD Annual Meeting

NOVEMBER

11/21 BSWCD Native Plant Sale Ordering Begins

DECEMBER

12/1 Pollinators in Decline Lecture at Corvallis Library

12/31 Native Plant Sale paper order deadline

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No Dust on This Plan

In May of 2015 the BSWCD board adopted its first-ever strategic plan. Our staff and directors, community leaders, interested residents, and partner organizations all helped shape the plan. Unlike the impressively long aging process of a fine Oregon Pinot Noir, this five year strategic plan is destined to have a very short life on the shelf! It is already being used to help us set direction and priorities, simplify decision-making, and communicate our message.


We consider the newly-minted plan to be a work in progress as we solicit and use feedback from our community of stakeholders to improve programs. Now that the overarching mission, vision, goals, and strategies have been developed, we still have a lot of work ahead. We will focus on prioritizing specific actions, timelines, and roles. We will revisit the plan annually to maximize our strategic success in key areas defined by the plan. A link to the plan is available on our homepage.

The development of annual themes is one way we are using the plan to shape our programs. This year we placed an emphasis on work that supports the Willamette River. This Annual Report reflects the river focus and describes how our efforts support Benton County's stretch of the Willamette. Thank you to all our volunteers, partner organizations, and supporters for helping to make our work so rewarding!

—Holly Crosson, Executive Director

Our River and How We View It

187 miles is the length of the Willamette mainstem.

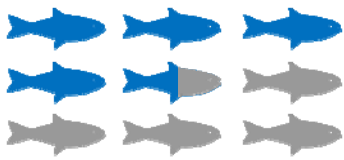



The Willamette River


The Willamette River Basin is one of the most fertile agricultural regions in North America. The country's thirteenth largest river by volume, the Willamette is home to 36 native fish species, including Chinook salmon, steelhead and bull trout, all listed as threatened under the Endangered Species Act. Since the mid-19th century, urbanization and agriculture in the Willamette Valley have led to an 80% decline in riparian forests and a 44% overall reduction in channel length. Less than 1% of the Valley's historic wet prairie remains intact. At least 50 bridges and 20 major dams intersect with the Willamette. In 2006 the Willamette was identified as one of the country's most endangered rivers. Many groups and individuals are working to maintain this gem of the Pacific Northwest, including landowners, watershed councils, conservation districts, state and federal agencies, land trusts, non-profits, and foundations. One indicator of improvement is the recent delisting of Oregon chub, the first fish to be recovered under the Endangered Species Act.

52%

Only about half of the fish species in the Willamette are native.




70% of Oregonians live in the Willamette Basin.




How We View the River

In the fall of 2014, Davis, Hibbits & Midghall Inc. (DHM Research) released summaries of two surveys that help us gain an understanding of Oregonians' water values and awareness. According to DHM, the Willamette is considered to have average health by Portland Metro and Willamette Valley residents. When thinking about the river, the top thing that came to mind for 28% of respondents is "dirty/polluted." The pollutant of greatest concern is sewage overflow. Respondents feel only a moderate connection to the river. The respondents valued fish and wildlife habitat on the Willamette the most, followed by water for growing agricultural crops, outdoor education opportunities for children, riverside cycling and walking trails, clean water for drinking, and a gathering place for picnics and celebrations. Respondents were most willing to take action to benefit the river in the following ways: 1) reducing the use of products with harmful chemicals (84%) and 2) learning more about changes in the care and management of their home or property (82%). Sixty-nine percent of respondents could not name an organization whose main purpose is to protect and improve the health of the Willamette River. Fortunately, another survey shows that water quality and health are the top two environmental concerns of Pacific Northwest residents. To read the full Willamette River Baseline Survey results, search willametteriverinitiative.org for the report.



Oregonians' Top Local Environmental Concerns



DRINKING WATER QUALITY

28%

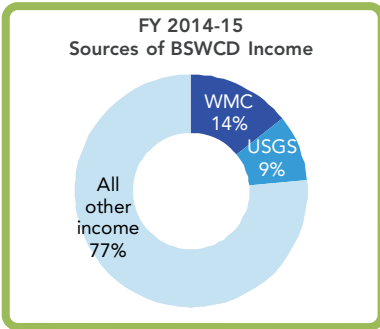


HEALTH OF LOCAL WATERWAYS

22%

www.conserveh2o.org, search for "Public Opinion Research"

Our Work Supports Our River



Interest Sparks Funding



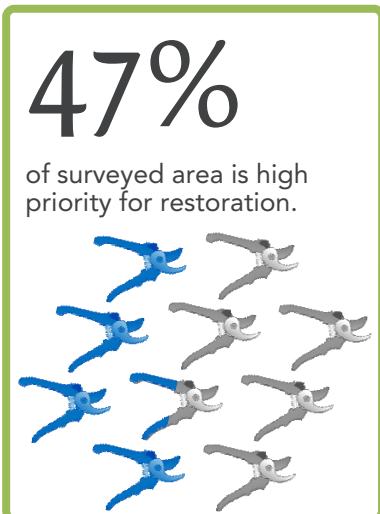
The Willamette Mainstem Cooperative (WMC) is a group of landowners, organizations, and volunteers working together to improve stewardship across all landownerships along the mainstem of the Willamette River with a focus on the Corvallis to Albany river reach. The mission of the WMC is to promote, facilitate, and foster long-term stewardship of natural resources along the river, through the collaborative efforts of individual landowners and interested organizations. The WMC steering committee includes partners from Benton SWCD, Bonneville Environmental Foundation, Calapooia Watershed Council, Greenbelt Land Trust, Kenagy Family Farm, Inc., Linn SWCD, Oregon State Parks & Recreation Department, and OSU Extension Service.

The WMC, coordinated by Crystal Durbecq of Benton SWCD, is funded through the generous support of Bonneville Power Administration, Meyer Memorial Trust, Oregon Department of Agriculture– Oregon State Weed Board, and Oregon Watershed Enhancement Board. In FY 2014-15, Crystal Durbecq secured \$438,333 in grants for WMC efforts. This funding will be allocated over the next three years. Grant funding supplied Benton SWCD with \$106,970 during FY 2014-15. We are also the fiscal agent for the US Geological Survey’s geomorphic mapping project, another Willamette River effort funded by Meyer Memorial Trust. Together these river-centric projects accounted for 23% of Benton SWCD’s income during the last fiscal year.

Funder	Grant Award Year/Amount
MMT - Willamette River Initiative	2014/ \$141,245
OWEB - Willamette Special Investments Partnership	2015/ \$221,643
ODA - Oregon State Weed Board	2015/ \$36,604
BPA - Habitat Technical Team	2015/ \$38,841



Willamette Survey Findings



Between 2012 and 2014, close to 3,000 acres on both sides of the Willamette River between Corvallis and Albany were surveyed for the Willamette Mainstem Cooperative by Carex Working Group. The survey provided the focus for the riparian and aquatic habitat restoration work WMC has initiated. Fifteen percent of the area surveyed was determined to be high quality habitat, mostly located in the interior of large tracts of forest that are not heavily influenced by edge effects of agricultural fields, roadsides, and trails. False brome, ivy, and old man’s beard are common in the project area, but present in low density populations that can still be controlled. Of the area surveyed, 1,419 acres were designated as high priority for restoration, with ivy and primrose-willow as the species in greatest need of management. Currently, over 1,000 of these high priority acres are in contract for habitat restoration work.

Our River Protection Efforts

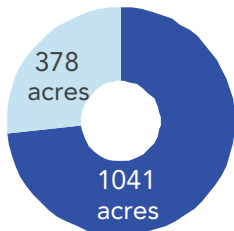
Working to Improve

the quality of drinking water and wildlife habitat provided by the Willamette River.



73%

of the area identified as high priority for weed management is currently under contract.



2



workshops for aquatic weed identification.

4

volunteer weed pulls on the river.



Integrated Pest Management

We are working on several of the sites identified during the river surveys (see page 3) to reduce the pressure of invasive plants on native ecosystems, with a special focus on aquatic weeds such as primrose-willow (*Ludwigia hexapetala*) and yellow floating heart (*Nymphoides peltata*), which grow rapidly and form dense mats of vegetation that crowd out native plant species and other vegetation.

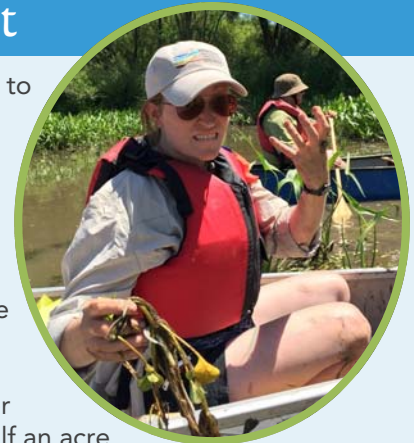


These plants have the ability to take over shallow, open water habitat and interfere with the survival of species such as waterfowl, western pond turtles, beavers, muskrats, mink and river otters that depend on open water to feed, travel, and reproduce. Fish and amphibians are also impacted by *Ludwigia*, which reduces the amount of dissolved oxygen in the water as its abundant plant matter decays.

By removing these plants we can increase the quantity and quality of open water habitat these native fish and wildlife species need to survive. Treatments consist of hand-pulling (see article below) and herbicide control methods. Herbicide applications are carried out by licensed professionals using the most up to date and proven methods, with the lowest impact to non-target species. All required permits and licenses are in place well before the treatments begin. To date we have treated over 50 acres for *Ludwigia* and *Nymphoides* between Corvallis and Albany.

Volunteer Weed Management

One goal of our work with aquatic invasive weeds is to spread awareness about their impacts and give people the tools to do something about them. Working with Willamette Riverkeeper, Benton SWCD staff, interns, and volunteers participated in river surveying and primrose-willow pulling by canoe. They paddled the Corvallis to Albany stretch of the mainstem Willamette in July of 2014 and June of 2015. Concerned citizens from as far away as Portland attended the weed pulls. During the past year, over 50 volunteers participated in on-the-water weed pulls, and we were able to hand-pull about half an acre of *Ludwigia*.



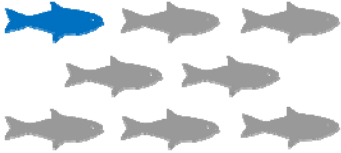
Another group that attended the weed pulls were the Teen Weed Spotters; students from tenth through twelfth grades who learn about the environmental and economic impacts of weeds. They also discuss and practice techniques for weed prevention, surveying, and management. Teen Weed Spotters is a cooperative program of Benton SWCD and OSU Extension 4-H, Benton County.

Volunteers focused their efforts on small patches close to or on the mainstem. These patches have a high likelihood of spreading and starting new infestations downstream if left unchecked. The volunteers had to paddle past several populations that were too large to remove using manual methods. These large populations are slated for future, more effective management techniques.

River Monitoring

1 of 8

species observed was native.



1,060 Fish Observed

Species	% of total
largescale sucker <i>(the only native)</i>	0.1
black crappie	0.1
bluegill	4.4
common carp	0.1
largemouth bass	0.5
western mosquitofish	94.3
yellow bullhead	0.1
yellow perch	0.4

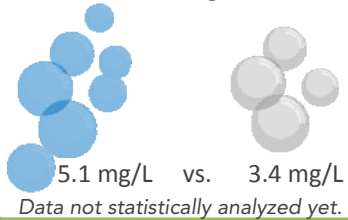
Fish Monitoring

Monitoring of project sites is ongoing throughout the duration of each project. Photos are taken before and after each treatment, at set locations, to determine success and document site changes. Aerial maps and ground surveys are used to track changes in plant density and distribution.

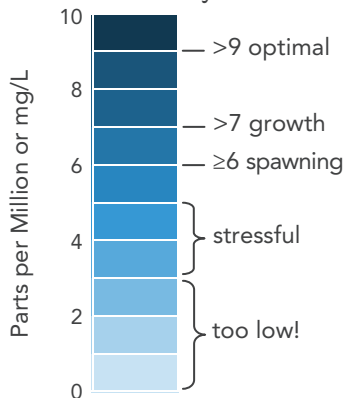


Fish species diversity is a new parameter we've begun monitoring this summer. Oregon Department of Fish and Wildlife staff offered to help by shocking fish at one of our *Ludwigia* project sites. This site was a gravel pond left from an old mining operation. Shocking is calibrated to stun but not harm the fish so they can be captured, inventoried, and returned to the water. Shocking occurred before treatment, and will be repeated next year to see if there was a noticeable impact on the species present in the pond. The pond was full of non-native and invasive fish species, though one native species was found, a large-scale sucker. See the complete list of species observed at left. Bluegill (3) and yellow bull head (1) pictured at right, above.

1.5 times as much oxygen when *Ludwigia* is absent.



Range of Dissolved Oxygen Tolerated by Fish



from www.water-research.net

Water Quality Monitoring



Water quality monitoring is another important component of this program. The purpose of monitoring is to track changes to water quality parameters as the *Ludwigia* is removed from each site. These parameters were collected at each site: dissolved oxygen, temperature, specific conductivity (an indicator of nutrient load), and pH.

Consultants were hired to develop a monitoring protocol and collect samples at four locations before and after treatment of *Ludwigia*. Sites with varying infestation levels were chosen, including one site that was not yet treated. So far, the most noteworthy finding is that dissolved oxygen is much lower in water with high *Ludwigia* cover (>95%), when compared to water with little to no *Ludwigia* present.

Other Conservation and Outreach

13



The number of projects in the Jackson Frazier Focus Area during FY 14-15 .

Project	Acres
Conservation Incentive Program Riparian Tree Plantings	1
Wetland Restoration	1.5
Efficiently Irrigated Cropland	400
Oak Woodland Restoration	80
Wetland & Riparian Planting	25+
Drainage Way Erosion Control	2 fields

Jackson-Frazier Focus Area

In 2013, the Oregon Department of Agriculture required conservation districts to focus their Agricultural Water Quality outreach efforts to landowners within smaller geographical areas termed focus areas. By concentrating on a smaller scale, we can better assess how landowner actions affect water quality improvements. We chose the Jackson-Frazier Watershed as our focus area, a 3,700 acre drainage basin on the north side of Corvallis (in blue on map). Typical streamside restoration involves planting trees and shrubs to decrease water temperature and soil erosion. However, vegetation maps derived from 1850s survey data indicate that the focus area was primarily wetland and upland prairie. Therefore, we will promote agroforestry and alternative benefits of streamside vegetation, such as wildlife and pollinator habitat and prevention of geese predation of cropland.



Map of Benton County Watersheds

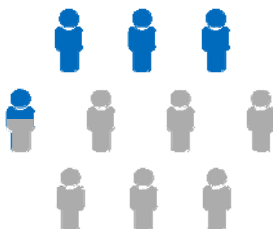
29%

of Benton County is farmland.



35%

of our 658 soil education contacts were students.



Soil Health

If the Earth's total water supply is represented by a 55 gallon drum, groundwater is equal to about 5 cups of that water. The moisture in unsaturated soil is equal to about one fourth of an ounce. While these soil water components are relatively small, the fact that water moves into and through the soil is vitally important for several reasons. Soil water is loaded with nutrients that are recycled from wastes by soil creatures. Plants take up those nutrients to produce life-sustaining food and fiber. The recycling process cleans the water that eventually recharges drinking water and irrigation sources. The soil's ability to store and clean water is directly related to how we manage the soil.



The BSWCD Soil Quality Project provides soil health assessments that encourage land managers to improve soil function and protect water resources. During FY2015, we collected 29 soil samples for soil health assessment. We also managed an Oregon/Washington educational program to *Reduce Agricultural Risk through Soil Health Education*. Read about another soil health project, The Soil Quality Network, in the Winter 2014 issue of Western SARE's newsletter, *Simply Sustainable*.

Soil health education activities were supported by generous grants from USDA-Western Sustainable Agriculture Research and Education and USDA-Risk Management Education Partnerships Program.

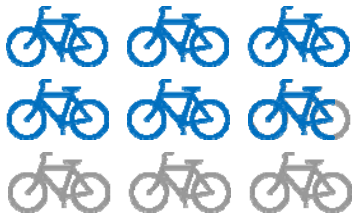
Efforts Support River Health

165 

years ago the Mill Race was first used to power industry in Corvallis.

52 people attended the Mill Race Tour in South Corvallis in May.

65% toured by bike.



Flour Power: The Mill Race Urban Creek Tour

The Mill Race of South Corvallis made its debut in the Urban Creek Tour rotation this spring. The Mill Race is the most industrial creek we have toured. Before 1850, the Mill Race was a wet prairie drainage way between the Marys and the Willamette Rivers. In 1850 it was deepened and used to power a sawmill belonging to Joseph Avery. Over the years, the Mill Race powered many other mills and was used as a log pond.



The dam on the Marys that diverted flow into the Mill Race is no longer intact, and the Mill Race is no longer used for industrial purposes, but evidence of its past utility are abundant. These days, greater value is placed on the ecosystem services that urban waterways provide. A number of organizations and individuals are taking steps to improve and protect the Mill Race and its aquatic inhabitants. Because of this heightened interest in urban waterways, an abundance of information about the Mill Race, past and present, can be found on the internet. Start your search on our website by entering the search term "Mill Race." The Mill Race Creek Tour was sponsored by Benton SWCD, Marys River Watershed Council, Corvallis Sustainability Coalition Water Action Team, and the City of Corvallis Stormwater Program.

Support and Revenue for Fiscal Year 2014-15

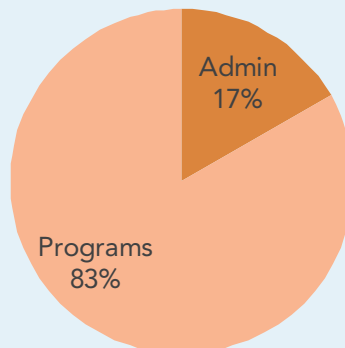
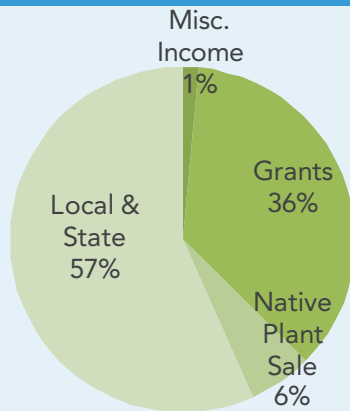
\$745,925

Audit not complete at printing

In FY 14-15, BSWCD income benefited...

- 1 educator 
- 6 interns 
- 6 employees 
- 9 landowners 
- 15 contractors 

Financial Report for Fiscal Year 2014-2015



Beginning Balance 7/1/2014	\$309,085
Support & Revenue	
Local & State	\$429,784
Grants	\$271,728
Native Plant Sale	\$44,413
Misc. Income	\$11,339
Total	\$745,925
Expenditures	
Admin	\$119,664
Programs	\$599,730
Total	\$719,394
Net Income	\$26,531



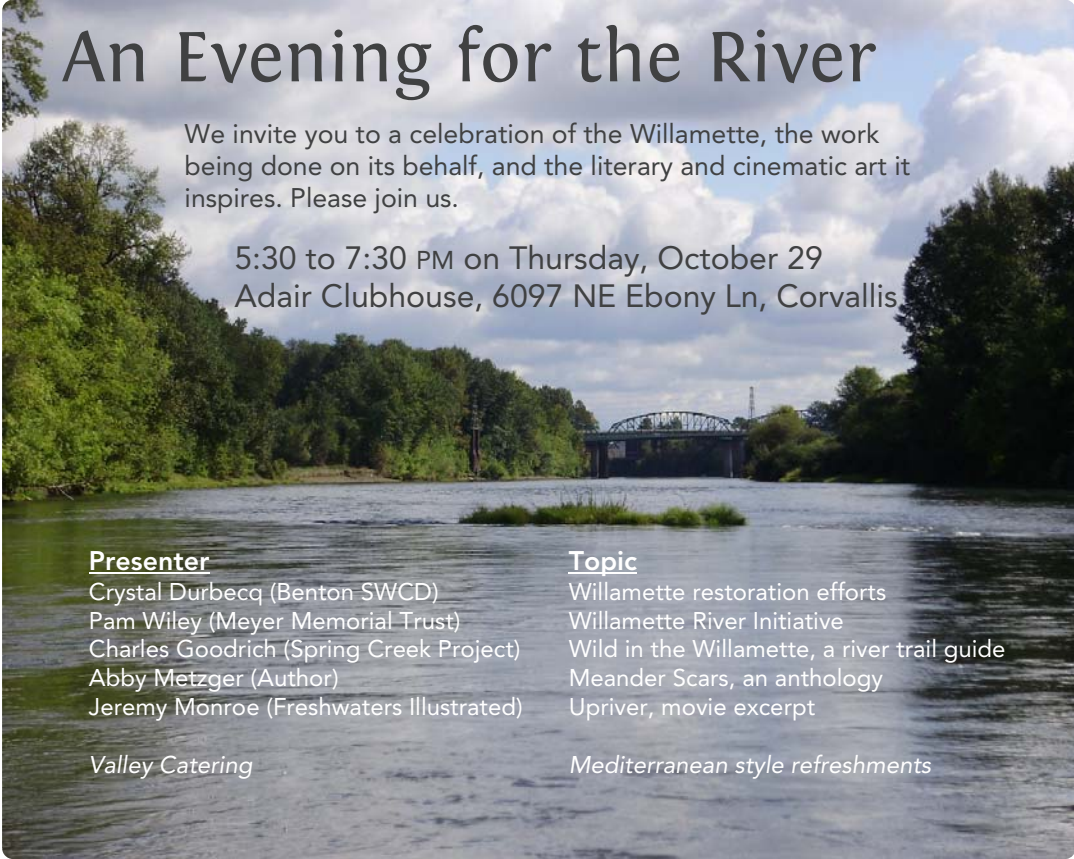
456 SW Monroe Avenue Suite 110
 Corvallis, Oregon 97333
 541-753-7208

Board of Directors (Zone)

- Pat Malone (1)
- Marvin Gilmour (2)
- Cliff Hall, Chair (3)
- Grahm Trask (4)
- Heidi Goracke (5)
- Jerry Paul, Treasurer (At Large)
- Henry Storch, Vice Chair (At Large)
- Tim Dehne (Associate)
- Rana Foster (Associate)
- Mark Taratoot (Associate)

Staff

- Holly Crosson
Executive Director
- Crystal Durbecq
River Restoration Coordinator
- Heath Keirstead
*Communications, Youth Education
& Invasives Program Coordinator*
- Teresa Matteson
Soil Health Coordinator
- Donna Schmitz
Resource Conservationist
- Tom Snyder
NRCS District Conservationist



An Evening for the River

We invite you to a celebration of the Willamette, the work being done on its behalf, and the literary and cinematic art it inspires. Please join us.

5:30 to 7:30 PM on Thursday, October 29
 Adair Clubhouse, 6097 NE Ebony Ln, Corvallis

Presenter

- Crystal Durbecq (Benton SWCD)
- Pam Wiley (Meyer Memorial Trust)
- Charles Goodrich (Spring Creek Project)
- Abby Metzger (Author)
- Jeremy Monroe (Freshwaters Illustrated)

Valley Catering

Topic

- Willamette restoration efforts
- Willamette River Initiative
- Wild in the Willamette, a river trail guide
- Meander Scars, an anthology
- Upriver, movie excerpt

Mediterranean style refreshments