

BENTON
SOIL AND WATER



CONSERVATION
DISTRICT



ANNUAL URBAN CREEK TOUR

Catalyst for stream stewardship.
Corvallis, Oregon



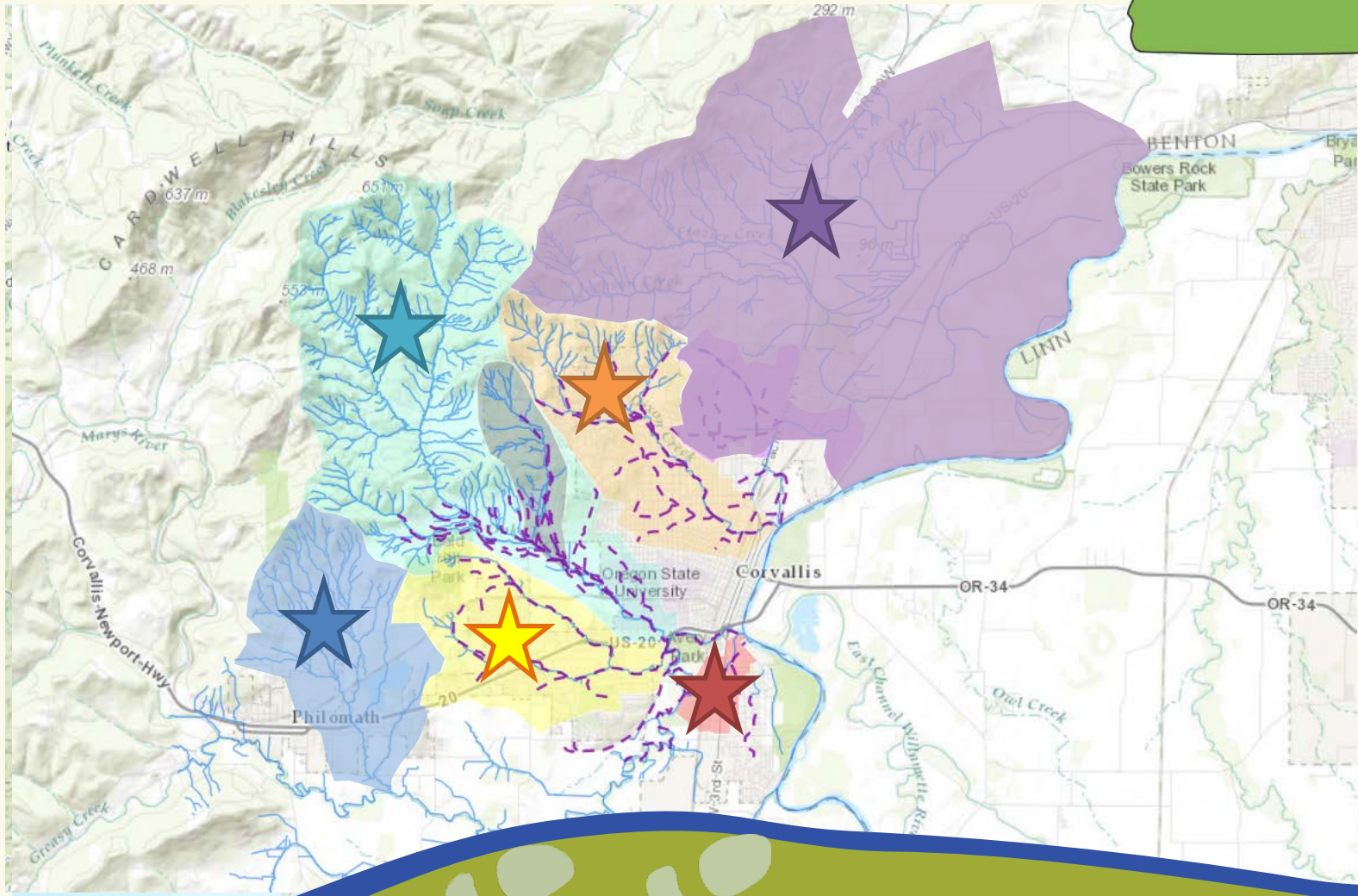
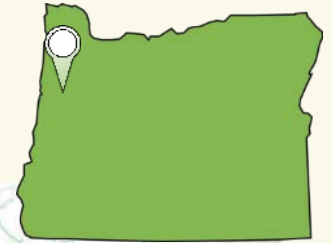
Urban Creek Tour Presentation
Prepared for NACD Urban Conservation Webinar Series
June 16, 2016, by Heath Keirstead

OVERVIEW



- Location
- Logistics
- Topics
- Example Tour
- Evaluation
- Actions

BENTON COUNTY, OREGON



PARTNERS

Corvallis Sustainability Coalition

City of Corvallis

Marys Peak Group of the Sierra Club

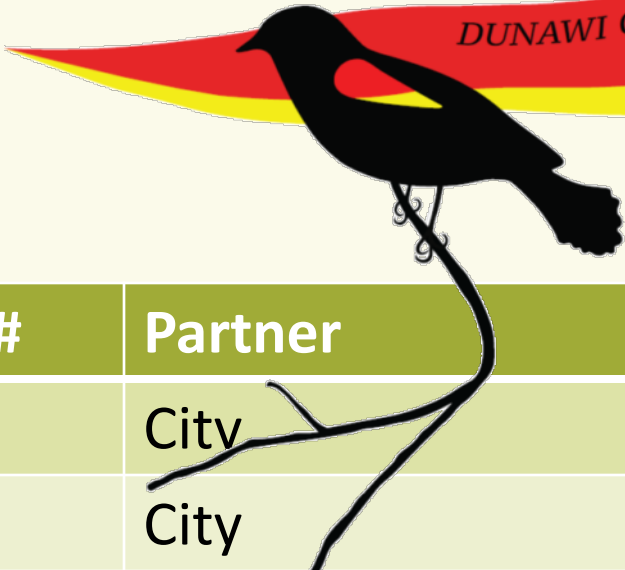
Marys River Watershed Council



BUDGET

DUNAWI CREEK BRANCHES OF LIFE
Urban Stream Tour 2016

9th Tour - 2016



Item	Cost/#	Partner
Newspaper Ad	\$250	City
Trolley	n/a	City
T-shirts	\$635	City
Art	\$100	(varies)
Brochures	\$50	BSWCD
Staff time	80+ hrs	City, BSWCD, MRWC,
Intern	varies	2008, 2009, 2011, 2012, 2015
Volunteer hrs	40+ hrs	Community, Sierra Club

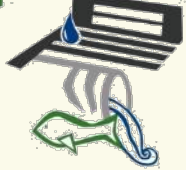
BENTON
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DISTRICT



Only Rain Down the Drain



City of Corvallis
Stormwater Program

VOLUNTEERS

Photography

Bike sweep

Stop attendant

Bike watcher

Signage



BROCHURES

① Bald Hill Field

Dunawi Creek begins on the north east and south sides of Bald Hill. The City plans to reconnect the upper and lower portions of the North Fork through the field at Bald Hill's base.

② Shopping Center

An early example of stormwater remediation during development from the 1990s. Asphalt and shopping center roof tops prevent rain water from infiltrating soil before entering the waterway.

LEGEND

North Fork Dunawi Creek

South Fork Dunawi Creek

DUNAWI CREEK BRANCHES OF LIFE
Urban Stream Tour 2016

Tree of Life, which fills with its dead and broken branches the crust of the earth, and covers the surface with its ever-branching and beautiful ramifications.

-Charles Darwin

④ Confluence

The area where Dunawi Creek enters the Marys River has very steep banks, and represents one of many barriers to fish passage.

③ Sunset Park

The Dunawi watershed still has significant wetland acreage. Sunset Park is a restored wetland where ducks, beavers, and other wildlife find shelter and raise their young.

5474 ft

www.bentonswcd.org/tag/brochures/

BROCHURES

Dunawi Creek Branches of Life Tour

Before 1850, many headwater streams originating from low elevation hills, such as Bald Hill and Country Club Hill, contributed to Dunawi Creek. This stream was one of the Kalapuya Indian tribe's main travel routes between summer and winter camping areas, and a source of staple foods such as camas lilies. This relatively flat creek still retains many acres of important wetlands, including the County's wetland mitigation by the fairgrounds and the City's restored wetland at Sunset Park. Wetlands support life in so many ways; they offer flood protection, water purification, and critical habitat for birds, fish, and wildlife. As development continues, Dunawi wetlands may be sacrificed.

Saturday, June 4, 2016

The Dunawi Creek watershed contains over 2,300 acres—just over one fourth of the total acreage of Corvallis. Dunawi Creek drains southwestern Corvallis from Bald Hill to the Marys River. The north and south forks of Dunawi Creek converge between Research Way and 35th Street, and the confluence with the Marys River is about one mile east of Ashbrook. Today the largest land use along Dunawi is residential, but interesting features, including restored wetlands and riparian restorations, are found along its recreational and commercial reaches. Our tour will introduce you to the many branches of life supported by Dunawi Creek.



1. BALD HILL FIELD

Midge Cramer Trail, SW corner of Benton County Fairgrounds Parking Lot off Reservoir Rd.

Trolley: 1:00 PM

Cyclists: 1:30 PM

Close to the headwaters of Dunawi Creek's North Fork, this location represents the intersection of recreation, development, and agricultural impacts on an urban stream. The initial upstream lowlands of this creek has been tilled, sprayed, planted with commercial grass seed and harvested every year right over the stream. The City is working in partnership with the Corvallis Sustainability Coalition's Water Action Team to stop these practices on City land and to reconnect the upper and lower portions of the creek.

Closer to the fairgrounds parking lot, a road realignment project has altered the shape of the waterway and efforts, such as a fish-friendly culvert, have been made to improve ecological integrity. Depending on weather conditions at the time of your visit, you may be able to see water actively draining from the fields west of the fairgrounds right into the creek.

Presenters: David Zahler and John Gabriel of the Dunawi Creek Regeneration Project

2. SHOPPING CENTER

South entrance of shopping center off Technology Loop Road, east of BiMart, near All Family Vision Care

Trolley: 1:40 PM

Cyclists: 2:15 PM

This South Fork Dunawi Creek site was developed in the late 1990's when Corvallis land development codes were just beginning to protect stream corridors. The site development required a buffer of 50 feet on both sides of the creek for the stream corridor. Large areas of impervious pavement and rooftops throughout the shopping center prevent rainwater from soaking into the ground where pollutants would be naturally filtered.

If this site were to be developed today, current land development and wetland protection codes would require water detention and water quality facilities to treat and slow stormwater runoff into the stream corridors. The area would be wet longer and promote wetland functions. Wider buffers and wetland protection would preserve more of the area in a natural state. Expanded floodplain in natural areas help protect downstream areas from rapid stormwater runoff. Wider buffers also provide more space for wildlife habitat and native vegetation.

Presenters: Grant Livingston and Bruce Moser of the City of Corvallis

3. SUNSET PARK

Sunset Park parking lot located off 45th Street on north side of Country Club Drive

Trolley: 2:20 PM

Cyclists: 2:55 PM

The Sunset Park wetland helps protect the surrounding communities from flooding. These wetlands are designed to improve water quality by collecting the adjacent ball field's nutrient-rich runoff instead of allowing the runoff to enter the stream directly where it could cause algal blooms and low oxygen conditions. The boardwalk encourages visitors to keep their shoes/paws dry and the ecosystem undamaged. The stream and wetlands have a thriving beaver population and a host of native wetland plants, many of which are used in Kalapuya basket making.

ODFW sampled Dunawi Creek fish populations in Sunset Park in 2012 and 2013. They found native Oregon chub, three-spined stickleback, reddsides, and sculpin. The biomass of the site was dominated by western mosquitofish, a nonnative invasive species. Nonnative predatory bluegill were present as well.

Presenter: Brian Bangs of Oregon Department of Fish & Wildlife

4. CONFLUENCE

Meet at parking area SW of Brookline Dr. and Philomath Blvd. intersection, then cross over Brookline on foot.

Trolley: 2:55 PM

Cyclists: 3:35 PM

The last stop on the tour is at the confluence of Dunawi Creek and the Marys River. The water may seem much more energetic at this stop than at previous stops, partly because of the increase in flow as small tributaries and groundwater enter the creek, and partly because of the steeper elevation change at this location. The channel is deeply incised, or downcut into the valley floor, allowing the creek little opportunity to interact with its floodplain.

Channel simplification upstream concentrates winter stormwater runoff into a single channel, increasing stream power and causing incision. In the summer, Dunawi Creek likely contributes warm water and fecal coliform (bacteria) to the Marys. Therefore, our stewardship of Dunawi Creek is not only important for maintaining a habitat for aquatic organisms, but also for the well-being of all the people living in Corvallis and in the communities located downstream.

Presenter: Jon Pywell of City of Corvallis



recreation and agriculture



stormwater runoff



wetlands



fish passage barriers

www.bentonswcd.org/tag/tours/

THEMES AND ART



Oak Creek

*A Bridge Through Time
2014 Urban Stream Tour*

7th Tour - 2014

THEMES AND ART



6th Tour - 2013

THEMES AND ART



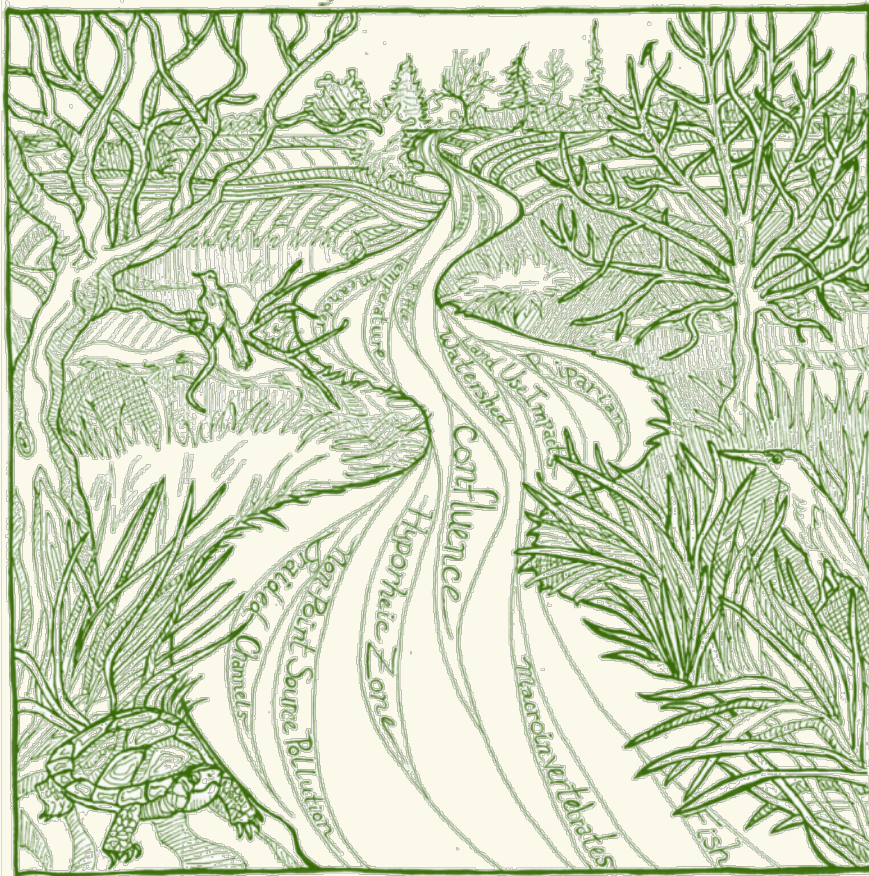
8th Tour - 2015

TRANSPORTATION



JACKSON FRAZIER CREEKS

stream of consciousness tour



TOPICS

- Youth education
- Stormwater
- Wetlands
- Water quality
- Fish and wildlife
- Native & invasive species
- Land use and development

5th Tour - 2012

YOUTH EDUCATION



STORMWATER



WETLANDS



WATER QUALITY



Parent volunteer with sculpin



FISH & WILDLIFE



NATIVE & INVASIVE SPECIES



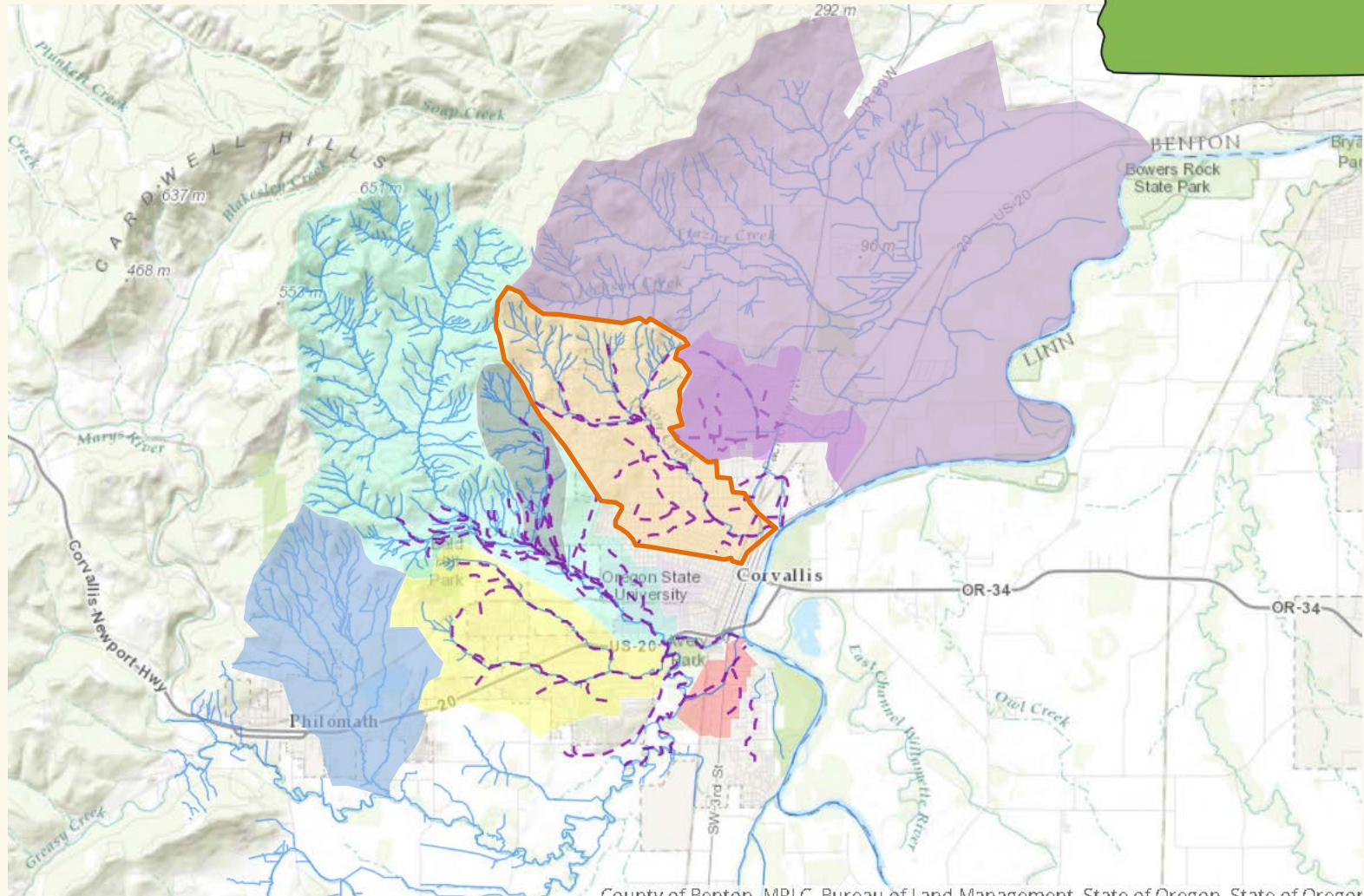
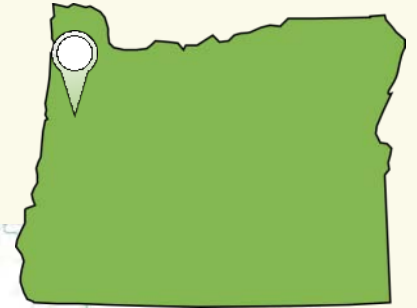
Lupine at Sunset Park boardwalk

LAND USE & DEVELOPMENT

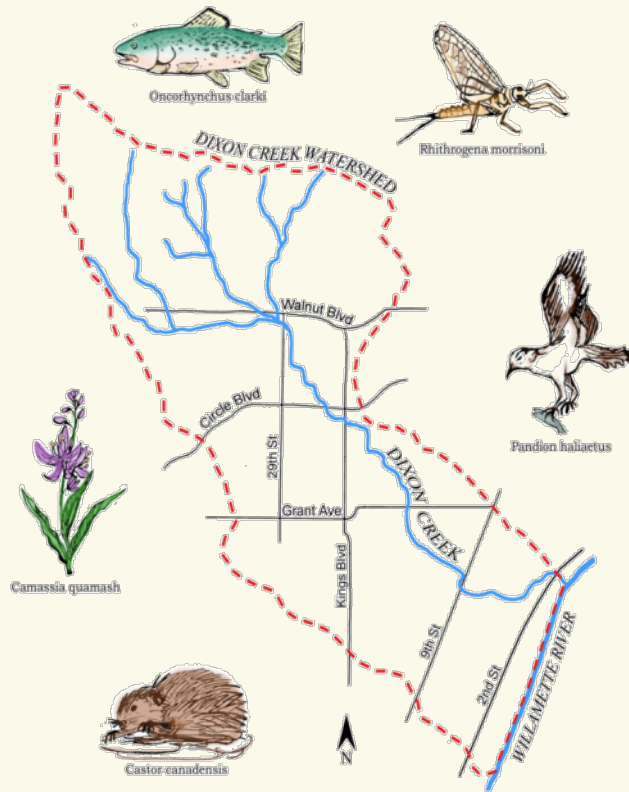


Urbanization of upland prairie and forest

BENTON COUNTY, OREGON



DIXON CREEK TOUR



HEADWATERS TO
MOUTH

INAUGURAL TOUR: 2008



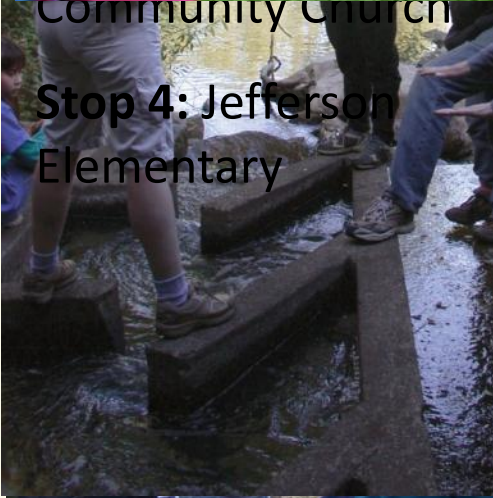
- Eight stops
- Over 70 tourists
- 18 students
- 16 adult volunteers

DIXON TOUR 2008



Community Church

Stop 4: Jefferson Elementary



Stop 5: Porter Park

Stop 6: Corvallis High School

Stop 7: The Sleep Center Business

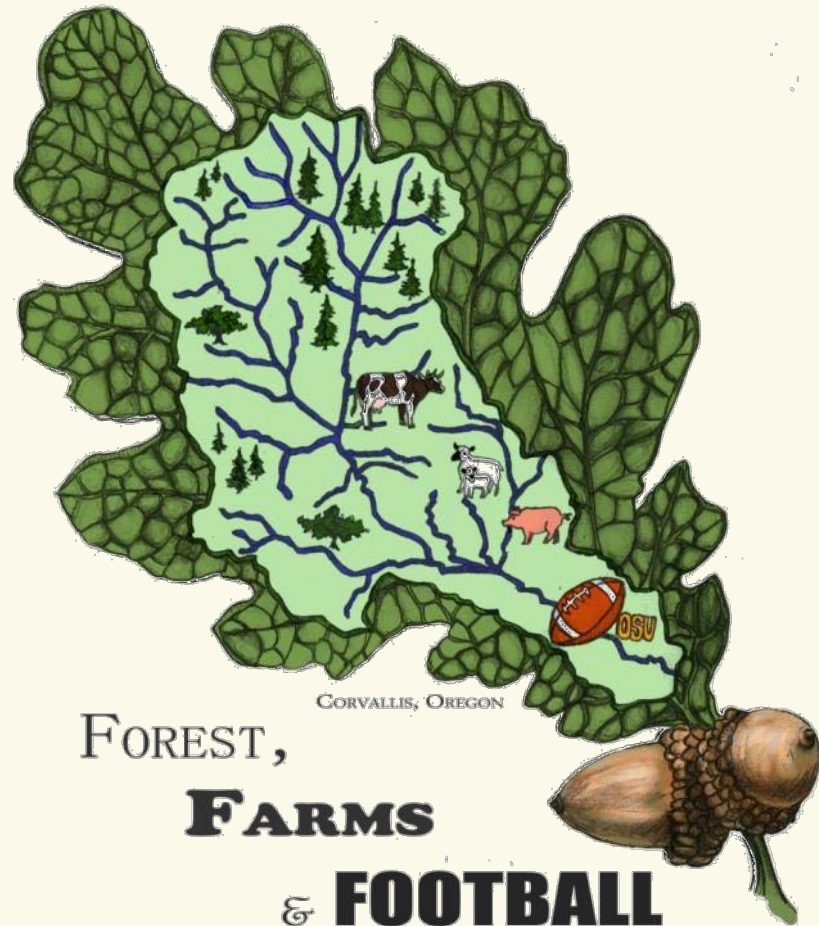


Stop 8: Waste Water Treatment Plant



FEEDBACK

OAK CREEK



“Impressed with the organization.”

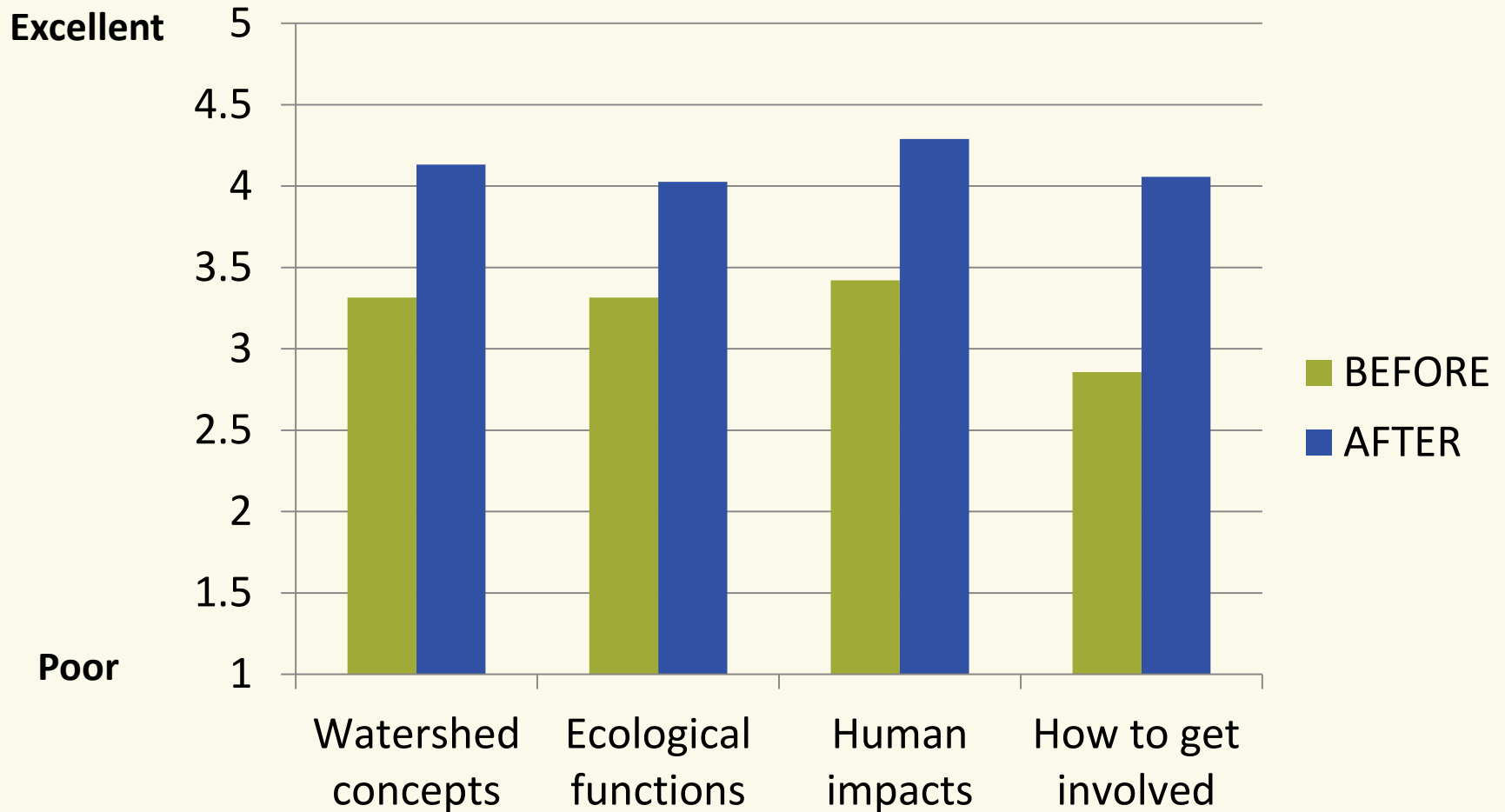
“We learned a lot.”

“Getting kids excited about environmental issues is crucial.”

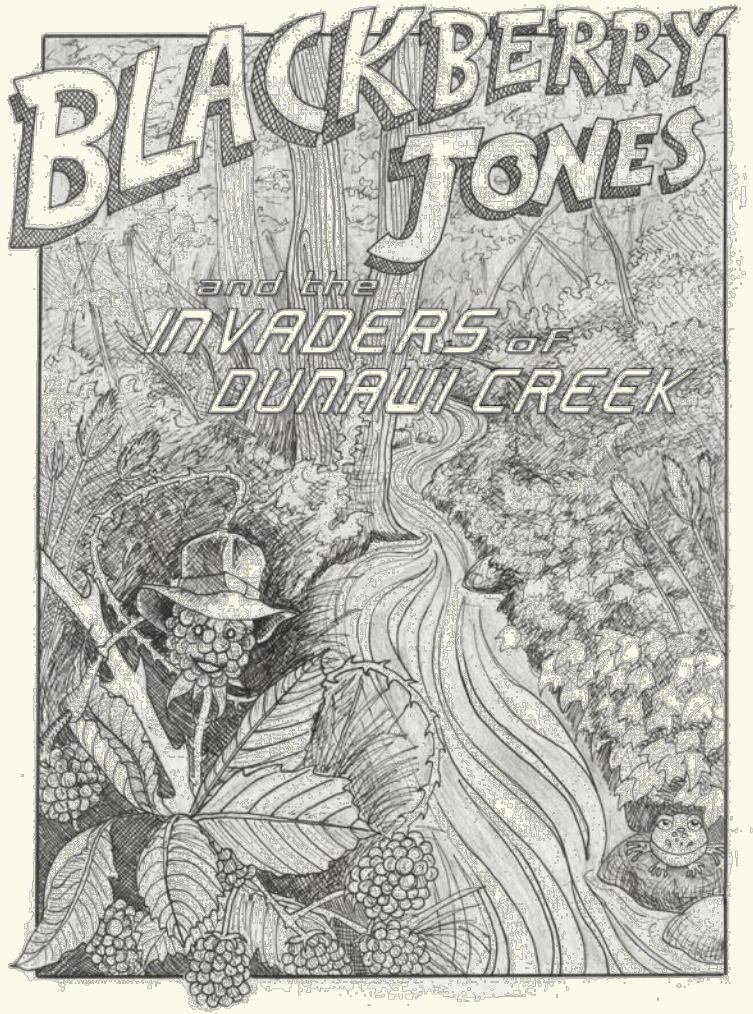
“It should be shorter.”

2nd Tour - 2009

EVALUATION



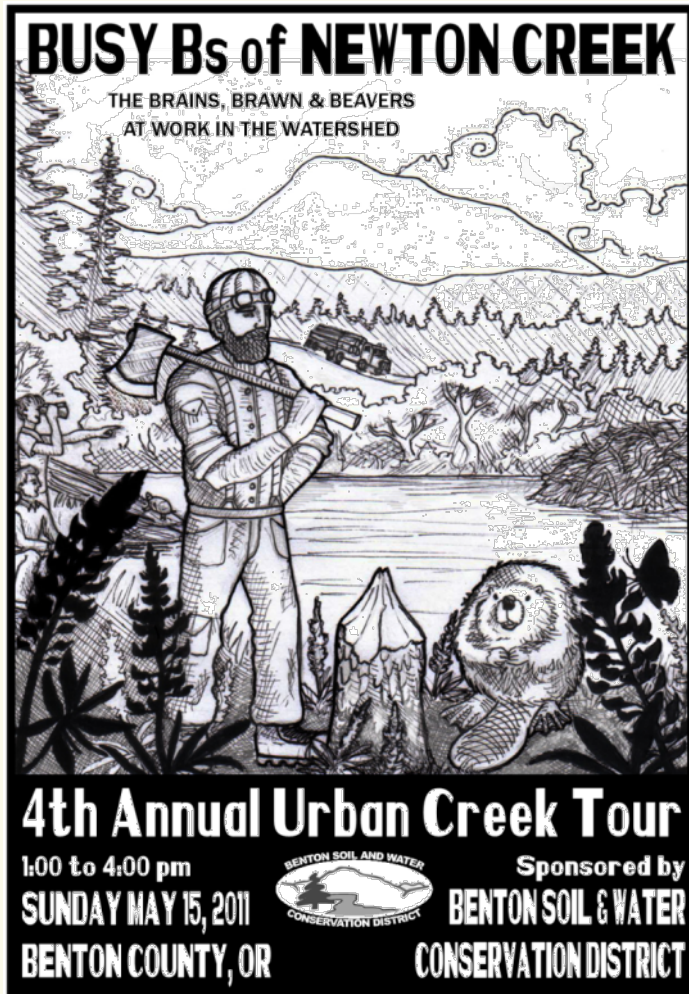
LESSONS LEARNED



- Start planning early
- Cohesive themes and objectives
- Presenters to fit themes
- 3 month marketing plan

3rd Tour - 2010

LESSONS LEARNED



- Include a map
- Fewer tour stops
- Stick to the time frame
- Offer water
- Include restroom stop

4th Tour - 2011

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Only Rain Down the Drain



City of Corvallis
Stormwater Program

CATALYST FOR ACTION

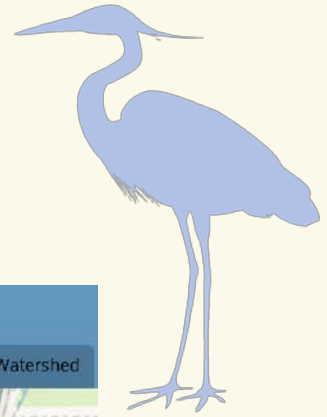
- Bi-monthly presentation series
- Hikes to the headwaters
- Canoe trips
- OSU studying creeks



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CATALYST FOR ACTION

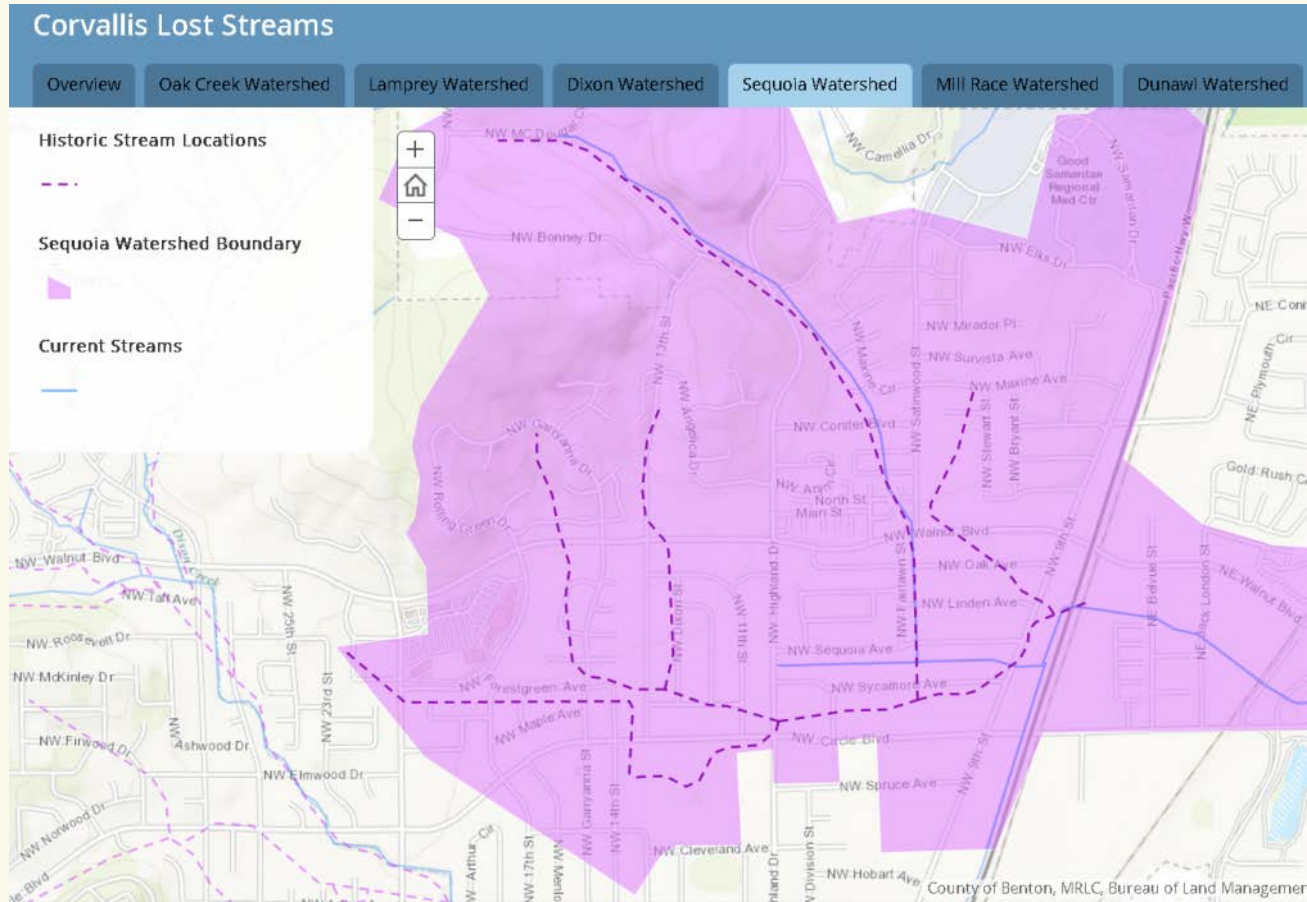
Discovering lost creeks



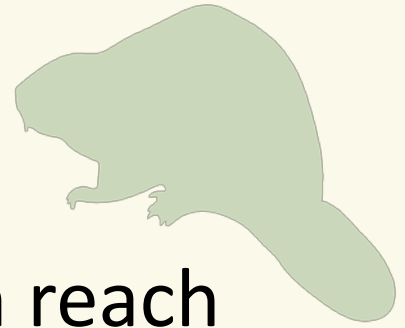
Only Rain Down the Drain



City of Corvallis
Stormwater Program



CATALYST FOR ACTION

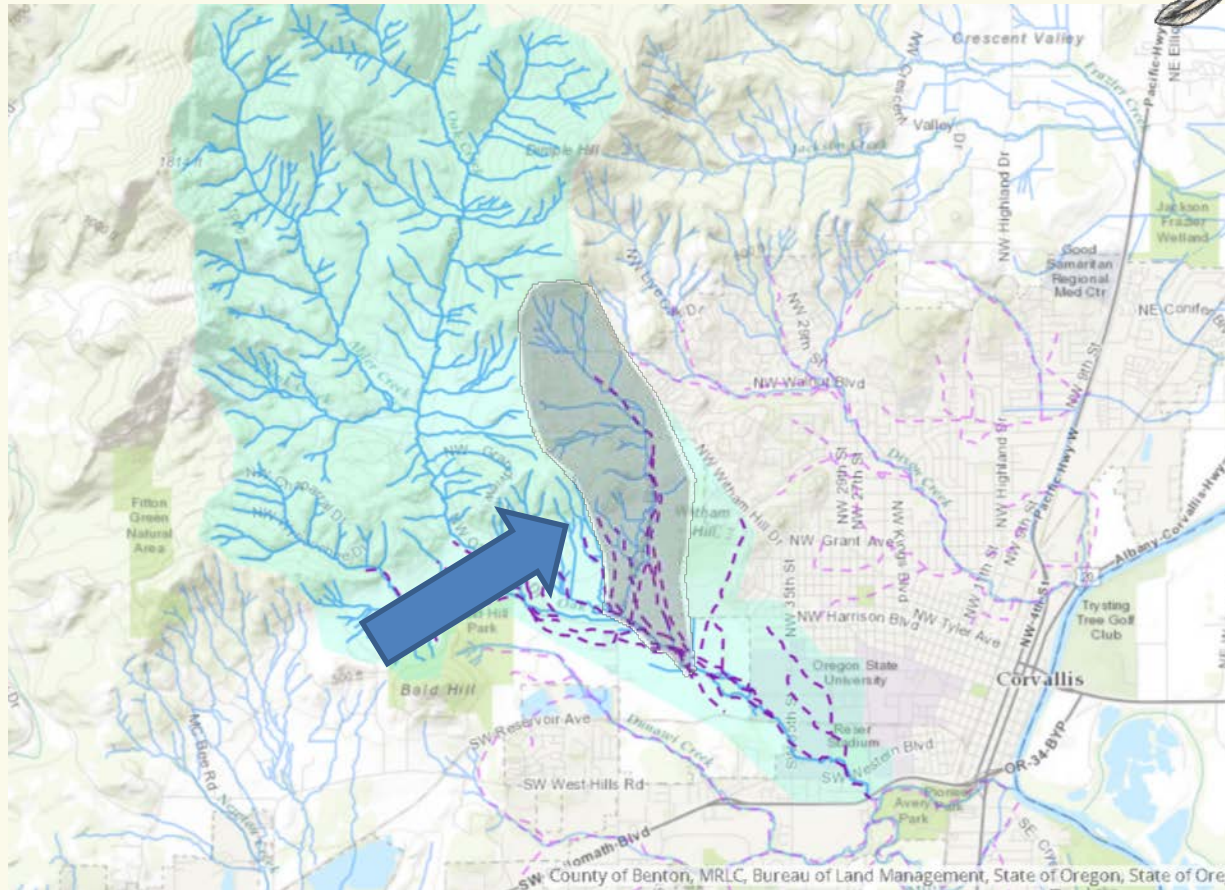
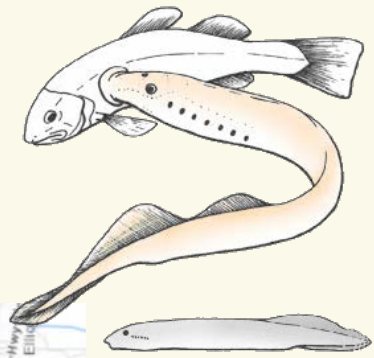


Regeneration of missing stream reach



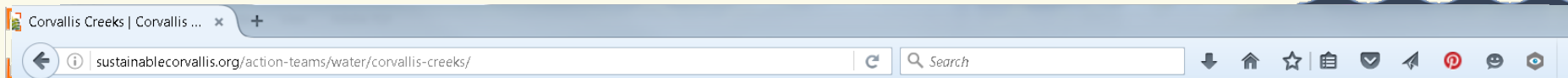
CATALYST FOR ACTION

The naming of Lamprey Creek



CATALYST FOR ACTION

Multiple locations through
information
and maps about our local creeks.

[About Us](#)[Action Plan](#)[Action Teams](#)[Get Involved](#)[News & Events](#)[Contact](#)[Donate](#)

[Corvallis Sustainability Coalition](#) > [Action Teams](#) > [Water](#) > [Corvallis Creeks](#)

Corvallis Creeks

Projects

- Research local creeks
- Lead stream tours, give presentations and provide information at events
- Initiate and manage on-the-ground projects to revive life in the creeks
- Produce outdoor displays, brochures and non-print media



The Creeks

We are working on six Corvallis creek systems. Click on the creek name for more information.

1. **Dixon Creek:** North central Corvallis from Dimple Hill past the wastewater treatment plant to the Willamette River
2. **Oak Creek:** West Corvallis from McDonald Forest through the OSU campus to the Marys River
3. **Lamprey Creek:** West Corvallis from Skyline West neighborhood through MLK Jr Park to Oak Creek near the intersection of Walnut and Harrison Blvd
4. **Dunawi Creek:** Southwest Corvallis from Bald Hill to the Marys River
5. **Jackson Creek:** North Corvallis from Dimple Hill through Crescent Valley to Jackson-Erazier

Water

VISION: Water conservation efforts decrease the amount of water city residents use, and our creeks are clean and clear.

- › [About This Action Team](#)
- › [Projects](#)
 - › [Three Waters Program](#)
 - › [Corvallis Creeks](#)
- › [Meetings & Events](#)
- › [Resources](#)
- › [Contact Us](#)

[Volunteer Application](#)

Action Teams

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SOIL AND WATER



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QUESTIONS?

heathk@bentonswcd.org

541-753-7208

www.bentonswcd.org



TOGETHER
WE CAN MAKE GREAT STRIDES FOR CONSERVATION.



URBAN STREAM SYNDROME

flashier hydrograph

altered channel morphology

↑ nutrients and contaminants

↓ biotic richness

↑ tolerant species



Walsh et al., 2005

cfpub.epa.gov/si/si_public_record_report.cfm?dirEntryId=135328