

McKENZIE MEANDERINGS

A Newsletter of the McKenzie Watershed Council



Winter 1999

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Watershed Council Welcomes New Education Coordinator

In September the McKenzie Watershed Council hired Kate Ferschweiler as its new Education Coordinator. Kate has a long and diverse career in natural resources education; her degree is from OSU's School of Forestry in Natural Resources Recreation Management with a minor in Environmental Education. She spent many years working as a park ranger with BLM and National Park Service. (Ask her sometime about working on Alcatraz Island!).

Kate has lived in Springfield for 15 years now, working with outdoor education programs through the Lane ESD, and working with U.S. Forest Service at the McKenzie Ranger District. During the last six years, Kate has been a Natural Resources Education Consultant, splitting her time between raising two little girls and developing watershed curricula.



As the council's Education Coordinator, Kate Ferschweiler will be working on watershed education in local schools and stewardship projects with residents and community groups.

Kate's job is divided in half, with 50% of her time working with students and teachers on watershed education. Under the student watershed education program, Kate is developing an overall K-12 watershed education plan. Specific programs will be developed for elementary, middle and high school students.

The elementary program (K-5) emphasizes basic watershed awareness; the middle school program (6-8) focuses on identification of aquatic insects as part of the watershed ecosystem; and the high school program (9-12) concentrates on water quality.

The other portion of Kate's time is devoted to educational outreach projects with residents and communities within the watershed. Kate is working to engage adults in stewardship projects beneficial to the watershed. The stewardship approach involves providing education about watershed processes, and coordinating volunteer/stewardship opportunities.

Kate will spend the next year working with local clubs and community members, up and down the McKenzie Valley. If you are involved with a club and have an idea or project in mind, contact Kate at 741-5235 and she would be more than happy to talk with you!

Two Reports Focus on Water Quality of the McKenzie River



The McKenzie River near the I-5 bridge is one of the DEQ's water quality monitoring sites.

Oregon's Department of Environmental Quality (DEQ) has released its 1998 McKenzie Basin Water Quality Report. The report describes DEQ's monitoring work in the McKenzie Watershed, summarizes results from the monitoring, and outlines areas of concern.

DEQ, working under contract with the watershed council, monitors seven sites on the McKenzie River (see map on Page 5 for location of sites) nine times each year. At each site, water samples are collected and analyzed for several indicators of water quality such as water temperature, dissolved oxygen, pH, *E. coli*, and others.

In addition to the seven fixed monitoring sites, monitors which collect continuous information about water temperature were placed at three sites in the Mohawk River, where temperatures have

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Partner Organizations

- City of Eugene*
- City of Springfield*
- East Lane Soil and Water Conservation District*
- Eugene Water & Electric Board*
- HMT Technology*
- Lane County*
- McKenzie Flyfishers*
- McKenzie Valley Residents' Association*
- Mohawk Community Council*
- Oregon Department of Fish and Wildlife*
- Oregon Division of State Lands*
- Springfield Utility Board*
- University of Oregon Outdoor Program / McKenzie River Trust*
- U.S. Army Corps of Engineers*
- U.S. Bureau of Land Management*
- U.S. Forest Service*
- Weyerhaeuser Company*

Our Mission

“to foster better stewardship of the McKenzie River watershed resources, deal with issues in advance of resource degradation, and ensure sustainable watershed health, functions and uses”

Newsletter Editor: Renee Davis-Born

Board Tackles Restoration of the Willamette

The Willamette Restoration Initiative is a new effort seeking to promote, integrate and coordinate efforts to protect and restore the health of the Willamette Basin watershed. Designed as a public/private partnership, the Initiative will work closely with state and federal agencies, while bringing a new focus to exploring the restoration interests and capabilities of businesses, landowners, non-profit organizations, local governments, and watershed councils in the basin.



Land use impacts on water quality will be addressed by the restoration initiative.

One of the first tasks of the Initiative will be to lead the development of the “Willamette chapter” of the Oregon Plan for Salmon and Watersheds. This effort, guided by a citizen board representing key interests in the basin, will focus on a coordinated strategy to restore fish and water quality in the Willamette Basin.

Local representatives are Randy Berggren, Eugene Water & Electric Board; John Runyon, McKenzie Watershed Council; and Rich Winingar, Weyerhaeuser Company.

For more information about the Initiative call 503/986-034, or look it up on the Web at:
www.econ.state.or.us/wvlf/willinit/willrest.htm.

Mohawk Minute

by Penny Englert and Pat Thompson,
 Mohawk Watershed Planning Group

The Mohawk Watershed Planning Group (MWPG) continues to promote its theme of “Community Education through Seeking Common Ground.” We had an amazing influx of new interest following the publication of the first issue of our newsletter (funded by the Bureau of Land Management), which invited folks to the second annual community meeting at Shotgun Creek Park. In attendance were 52 community members, including our new school superintendent and science teacher who are collaborating with us in developing a hands-on Natural Resources program at our beautiful new Mohawk High School.

Fueled by energetic volunteer support the MWPG recently:

- ✓ Gathered money and resources for the second issue of the newsletter
- ✓ Brought new life to the arboretum project
- ✓ Began a naturesscaping effort at the new school
- ✓ Participated in a macroinvertebrate workshop and field study sponsored by the McKenzie Watershed Council
- ✓ Implemented a community water quality training and an active citizen-based water quality monitoring group.

Underlying all of these projects is an ongoing building of community. If you're interested in learning more, contact Penny Englert at 933-2864, or Pat Thompson at 933-3318. Who knows what the future may bring?!

Water Quality Reports

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exceeded DEQ's standards in the past.

The report includes both good and bad news about water quality in the McKenzie River. Based on the Oregon Water Quality Index, a measure of stream quality relative to all other streams in Oregon, the McKenzie River is one of the highest quality waterways in the state. Five of the 10 DEQ monitoring sites with the best water quality were found in the McKenzie Watershed.

However, this praise is tempered by some cautions. The McKenzie River at Coburg Road and Mohawk River at Hill Road sites both exceeded dissolved oxygen and temperature standards during the summer and fall months.

Three upriver sites recorded temperatures that exceeded the standard set for areas inhabited by bull trout, a fish that is thought to prefer relatively cold water.

DEQ concluded its report with several comments and recommendations. First, the agency noted that point and nonpoint pollution is impacting water quality in the lower McKenzie and Mohawk rivers.



Samples collected at DEQ's monitoring site between Koosah Falls and Clear Lake consistently show high water quality.

Second, DEQ recommended that the U.S. Army Corps of Engineers install temperature control devices on Cougar and Blue River dams to reduce adverse impacts to salmon and bull trout populations.

Finally, DEQ recommended the development of a "surface water temperature management plan."



The 1998 water quality report includes recommendations for temperature control devices to be installed at Cougar Dam.

A U.S. General Accounting Office (GAO) study of water quality in the McKenzie, and five other municipal watersheds in western Oregon, was completed recently. The February and November 1996 floods generated concern that land use activities, especially federal forestry practices, reduced water quality by increasing the amount of fine sediments flowing into and being suspended in the water (commonly called turbidity). At the request of Senator Ron Wyden's office, the GAO study examined the role of land use practices on increased turbidity.

The GAO released a report of its findings which describes (1) the human activities that may have contributed to the high turbidity levels during and following the 1996 storm and (2) the efforts under way by federal, state, local, and private land managers and owners, as well as affected cities, to ensure safe drinking water during future storms.



Scenes like this one of the McKenzie River in 1996 raised concerns about the safety of drinking water during storm events.

The report concluded that increased turbidity during storms is a natural process. The process is caused by high levels of precipitation that result in increased erosion.

These naturally high levels of turbidity can be increased even more by various land use activities, such as roads, agriculture, forestry and urbanization. Rain falling on compacted, paved, or cleared soil can runoff into streams and increase turbidity levels.

The report states that ongoing federal and non-federal efforts have reduced the impact of land use activities on increased turbidity and other water quality indicators. For example, forest roads on federal and private lands must be constructed to minimize contributions of sediment to streams. The state is working with private landowners and farmers on a voluntary basis (see article on Page 6) to reduce rural and agricultural contributions to water quality problems.

The report comments that collaborative efforts, such as the McKenzie Watershed Council, that address watershed issues and concerns across all land uses can be effective at limiting the human impact on water quality. Contact the watershed council at 741-5235 if you would like to receive a copy of the GAO report.

Efforts Abound to Protect Cedar Creek

What do elementary students, a public utility, and a neighborhood association have in common? In the Thurston area, these groups, and others, are taking part in an effort to monitor Cedar Creek.

Beginning in the hills above Cedar Flats, Cedar Creek is a small tributary of the McKenzie River that flows through Thurston, just outside of Springfield's urban growth boundary. Cedar Creek is a unique stream: it receives water diverted from the McKenzie during summer months for irrigation, and the South Fork of Cedar Creek is the destination for three of Springfield's stormwater drainage areas. Surface water from Cedar Creek helps to recharge the aquifer that feeds some of Springfield Utility Board (SUB)'s most productive wellfields, so it is very important to monitor water quality in the creek.

SUB, in cooperation with the McKenzie Watershed Council and the City of Springfield, sponsors a water-quality monitoring program on Cedar Creek. Since the Summer of 1997, citizen volunteers from the Rural Thurston Association and staff from the watershed council have collected data about water quality once per month, rain or shine.

During the first year of the Cedar Creek monitoring program, we collected baseline data to learn what the conditions are in Cedar Creek. We pinpointed areas of concern in the South Fork of Cedar Creek, and identified additional needs for monitoring. Based on this information, the City of Springfield contributed funding to add monitoring sites at the three stormwater ditches which drain into Cedar Creek.

In addition, we added sites near the headwaters of the creek, at the diversion channel from the McKenzie River, and at Billings Lane, before Cedar Creek splits into two forks. Ongoing evaluation of the data from these 10 sites will help to focus education and streamside restoration efforts in the Cedar Creek area.

Students at Thurston Elementary, Middle, and High Schools are also working together to learn more about the health of Cedar Creek. As part of the *Bugs & Biology* program, elementary and middle school students will learn about and monitor aquatic insects and other water quality indicators. This program is possible thanks to generous contributions from the Diack Ecology Education and the Springfield Education foundations.

High school students will play a key role in monitoring Cedar Creek. Members of Thurston High's environmental club will serve as leaders for the *Bugs and Biology* program, assisting teachers on field trips. In addition, students from the school's advanced biology class will analyze water quality samples from a continuous monitor in Cedar Creek as part of the watershed council's storm event monitoring (see article on Page 5). Look for updates about these and other monitoring programs in future editions of *McKenzie Meanderings!*



Discharge from storm drains and other sources may add pollutants to Cedar Creek.

Groundwater: Another Piece in the Cedar Creek puzzle

by Dave Downing, East Lane Soil and Water Conservation District

In the previous article about Cedar Creek, you learned the importance of the groundwater/surface water relationship, especially to the drinking water we obtain from wells. My job, as a groundwater technical specialist, is to work with property owners to evaluate management strategies used on their land and provide alternative strategies that will help to prevent contamination of groundwater.

East Lane Soil and Water Conservation District provides this type of technical assistance to landowners who are interested in solving problems they have related to conservation. We are not a regulatory agency; instead our goal is to be a buffer between property owners and government agencies.

I recently completed a project with SUB and the OSU Extension Service, to provide an information booklet to landowners who live outside the urban growth boundary in Springfield and within the recharge zones of Springfield's well fields. This booklet provides information about the soils on each each property, an analysis of chemicals that might be used on the property, and the potential for leaching, or infiltration, of these and other pollutants into the underlying aquifer. We also included suggestions for chemical storage and tips for septic system maintenance.

If you have questions about groundwater in your area, give me a call at 465-6436 ext. 3. I'd be glad to help!

Monitoring Water Quality in the McKenzie Watershed

by John Runyon, McKenzie Watershed Council Coordinator

The quality of water is important — for fish, for drinking, and for recreation. To get a sense for the quality water in the McKenzie River and its tributaries the Council has developed a comprehensive monitoring program. The monitoring program includes three components which all fit together to provide a better understanding of the quality of water throughout the McKenzie Watershed. This issue will describe the monitoring program; future issues will describe what we are discovering about water quality and the health of the McKenzie watershed.

General Long-term Monitoring
Part of the water quality program involves long-term sampling at seven sites spread along the McKenzie river and key tributary streams (see Water Quality article on Page 1). This approach is used for monitoring the overall condition of the river system, determining long-term water quality trends, and detecting the general areas of the watershed that may be the sources of water quality problems.

In the Summer of 1998, the Council began to monitor aquatic insects, or macroinvertebrates, at twelve sites in the watershed. The macroinvertebrate monitoring program, done with the assistance of local volunteers, Oregon Trout and the Xerces Society, determines the type and abundance of indicator species.

The program will continue to collect samples that will, over time, provide a picture of what aquatic insects are present in the watershed and assess long-term trends in water quality and watershed health.

Storm Event Monitoring
The focus of this monitoring is periods of high rainfall when stream flow increases. Monitoring during storms, especially high flow events, is important because storms can flush pollutants into streams that may impact domestic water supplies and fish spawning and rearing (again, see Water Quality article on Page 1). The goal of the storm event monitoring is to characterize water quality during storms throughout the watershed.

Monitoring water quality during storms is very challenging because the McKenzie Watershed is complex. In order to get a handle on this complexity, more than fifty sites along the McKenzie River and tributary streams are monitored during different times of the year

(fall, winter and spring) when streams are high.

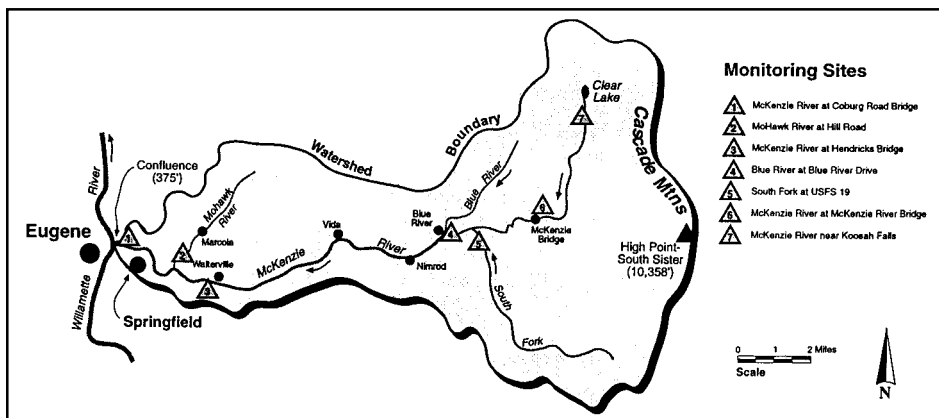
Turbidity, a measurement of the clarity of the water, is monitored at all sites and bacteria, nutrients and heavy metals are sampled at a few selected sites in the watershed.

To date we have monitored three storm events and, although it will take many monitoring periods to fully characterize the system, we are beginning to get a picture of water quality during storms.

Special Monitoring Studies
This part of the monitoring program is used to pinpoint or quantify any potential water quality issues which are uncovered through the general long-term monitoring.

An example of a special monitoring effort is the ongoing water temperature assessment in the Mohawk Watershed. The ongoing Department of Environmental Quality monitoring station at the lower end of the Mohawk River identified water temperatures that exceeded the state standard. In order to understand the scope of the water temperature problem, the watershed council, in cooperation with the Mohawk Watershed Planning Group, added water temperature monitoring sites at other locations in the watershed during the summers of 1997 and 1998.

This information will provide a better understanding of the water temperature patterns throughout the Mohawk Watershed and ways to possibly address the issue through stewardship and enhancement projects.



Location of seven fixed sites for long-term water quality monitoring in the McKenzie Watershed.

Funding Available for Community-Based Watershed Projects

Have an idea for a project that will help to protect or restore the McKenzie Watershed, but no money to complete it? Then the McKenzie Watershed Council has an opportunity for you!

The McKenzie Watershed Council invites proposals from community-based groups for watershed projects and administration. Watershed projects include those activities that enhance McKenzie Watershed resources, such as riparian tree planting and improvement of drainage systems to reduce runoff into streams. Administration includes organizational development activities related to watershed projects, such as supplies and materials, and watershed education, including newsletter production and copying.

Funding for projects ranges from \$300 to \$500. Projects that show in-kind matches (such as volunteer labor) for watershed council funds, or use these funds as a match for other grants are preferred. Projects that may be completed with other available funds will be given lower priority.

A short (less than two pages) proposal should include the following information about the project requesting funding: 1) explanation of need or problem being addressed by the project; 2) goal and objectives

of the project, and how these relate to one or more of the Council's priority areas: fish and wildlife habitat, water quality, recreation, and human habitat; 3) who is proposing the project and how will the organization contribute to the project's successful completion, 4) tasks and products associated with the project; 5) time line, and 6) budget.

Proposals should be submitted to the McKenzie Watershed Council, P.O. Box 53, Springfield, Oregon 97477. There is no deadline for proposal submission. Proposals will be accepted until all designated funds have been disbursed. Please note that funding is limited this year. Contact John Runyon or Renee Davis-Born at 541/741-5235 or e-mail to mwc@pond.net if you have any questions or would like more information about the criteria developed to select projects.

Good luck and happy proposal writing!



Streamside fencing and other enhancement projects may improve water quality throughout the McKenzie Water-

State and Federal Monies Help to Restore Oregon's Rivers and Wetlands

by Juan Welsh, East Lane Soil and Water Conservation District

The U.S. Department of Agriculture and the State of Oregon have joined together in a new initiative to help restore freshwater streams which provide habitat for salmon and trout listed under the federal Endangered Species Act. The program, called the Conservation Reserve Enhancement Program (CREP), began with \$250 million available in Oregon to assist landowners with implementing conservation practices focused on riparian and wetland restoration. These funds will also provide annual rental payments (determined by soil productivity) to participants who sign 10-15 year contracts to convert environmentally sensitive land to approved conservation uses.

Nearly all streams within the McKenzie Watershed are eligible for the program. The sign-up period is continuous, and all agricultural landowners within the McKenzie Watershed who may be interested are encouraged to contact either the Lane County Farm Service Agency, Natural Resources Conservation Service, or East Lane Soil and Water Conservation District, all located at 1600 Valley River Drive, Suite 230 in Eugene; or call 465-6436 Ext. 2.



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