

Streamlines

News About the Clackamas County Service District No. 1 (CCSD#1) Surface Water Management Program
Winter 2002/03

AN UPDATE ON 2002 PROJECTS

Dam Removal Project a Success This summer CCSD#1, with the assistance of a \$100,000 grant from the National Oceanic and Atmospheric Administration (NOAA), removed an earthen dam on Mt. Scott Creek near SE 122nd. The goal of the project was to correct two problems created by the dam: to reduce the water temperature of Mt. Scott Creek by removing the reservoir, which was shallow and exposed to the sun all day; and, to remove the dam barrier, restoring fish passage for salmon and steelhead in Mt. Scott Creek.

When water temperatures become too high, salmon and trout suffer effects ranging from decreased spawning success to death. High water temperatures contribute to excessive algal growth in waterways, which can put natural ecosystems out of balance, harming water-life and animals. Algal growth can also affect human uses of water for purposes such as drinking, recreation, stock water and irrigation. Temperature sensors were placed in the water upstream and downstream of the project location in March 2002. The sensors collect hourly water temperature data. We analyzed this information in October 2002, after the initial phase of the dam removal project was completed and the natural creek flow was restored. We are pleased to report that the water temperature in the creek was reduced by 5° F after the dam was removed. In terms of benefits to water quality, this is a significant decrease in water temperatures.

Fish passage has been restored and large resident cutthroat trout have been spotted. It is hoped that, with completion of additional fish passage improvements downstream at I-205, anadromous salmon and steelhead will return to this area of the creek. We will be able to continue to monitor and evaluate habitat quality and fish presence through a study currently underway with the Oregon Department of Fish and Wildlife.

To further help in shading the creek and keeping water temperatures low, trees will be planted along Mt. Scott Creek on February 1 and February 22, 2002. Volunteers are still needed for this event, and if you are interested, please call the Friends of Trees at 503-282-TREE, or log onto www.friendsoftrees.org. Refer to the Mt. Scott Creek at "Spring Mountain" restoration project, in Clackamas. Questions? Please call Karen Streeter, Water Environment Resource Specialist, at 503-353-4597.

Happy Valley Subregional Detention and Water Quality Facility Construction of the Happy Valley Park Subregional Stormwater Facility was recently completed in the northeastern portion of the City of Happy Valley. The project consists of 2 detention ponds, 2 bioswales, a water quality manhole, and 4500 lineal feet of storm sewer pipe. The facilities serve a drainage basin of approximately 200 acres. Because roughly half of this area is already developed, CCSD#1 will fund half of the project cost from its SWM Capital Improvement Projects budget. The remainder of the cost will be recovered from future development through the collection of "in lieu of" fees, which allow developers to utilize our subregional system, rather than constructing separate onsite treatment and detention facilities. The economies of scale offered by subregional systems reduce land and

construction costs, as well as reduce ongoing maintenance costs for CCSD#1. The total project cost was approximately \$1.2 million.

The project included wetland mitigation for the impact of one of the detention ponds, as well as for previous County road improvements. Over 7.5 acres of wetland will be enhanced through invasive species removal and replacement with native wetland vegetation. Planting is scheduled for completion by December 31st of this year.

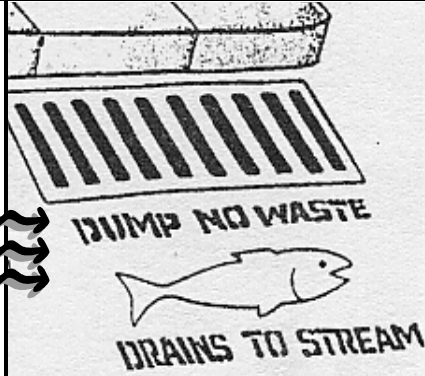
In addition to the stormwater facilities, coordinating partners Clackamas County Department of Transportation and Development and the City of Happy Valley constructed half-street improvements, a public parking lot, baseball field improvements, and pedestrian trails through the park. The baseball field improvements allowed CCSD#1 to dispose of excess cut material onsite, instead of paying to have it hauled offsite. If you have questions about the project, please contact Project Manager John Cramer, 503-353-4569.

Storm System Improvements in Clackamas Clackamas County's Department of Transportation and Development (DTD) has nearly completed the road improvements on SE 135th Ave. and SE Jennifer Street in Clackamas. Clackamas County Service District No. 1 coordinated with DTD to include sanitary sewers and subregional stormwater detention and water quality treatment facilities in the project.

The new stormwater facilities include a water quality manhole, bioswale, and a detention pond located on property owned by Portland General Electric (PGE) near the southeast corner of SE Jennifer Street and SE 130th Avenue. The facilities will serve approximately 19 acres of property adjacent to SE 135th Avenue and roughly 17 acres of PGE property. The cost of the facilities will be recovered through "in lieu of" fees as the properties served continue to develop. The District will also collect special monthly fees from these properties for the maintenance of the facilities. The total cost of the stormwater facilities is approximately \$170,000, which is very economical for the size of the basin to be served. This project is a "win-win-win" for CCSD#1, DTD, and the properties within the service area. Please call Mike Nacrelli, 503-353-4595, if you have questions.

OUR RIVER STARTS HERE

- Please dispose of pet waste properly. Rain can wash pet waste into our storm drains. This pollutes our waterways.
- Leaking oil from our cars goes from the street into the storm drain and into our rivers. So please, fix oil leaks.



The graphic shows a storm drain cover with a fish and the text "DUMPS NO WASTE" and "DRAINS TO STREAM".

REPORT PROBLEMS! Reports from our customers enable us to respond to and correct more water pollution, spill, erosion and drainage issues. Call Surface Water Management at 503-353-4567.

CCSD#1'S SURFACE WATER MONITORING PROGRAM

Water Environment Services administers a Surface Water Monitoring Program within the borders of Clackamas County Service District No. 1. The Surface Water Monitoring Program's services include monthly water quality sample collection, monthly streamflow assessment, maintenance of several continuous surface water and flow monitoring stations, laboratory analysis of water samples, data management, and data reporting for regulatory purposes.

Water quality and flow data is collected to

- gauge the effectiveness of the community's efforts to improve water quality;
- guide future expenditures of surface water funds;
- enhance our understanding of the watersheds in CCSD#1; and
- ensure that CCSD#1 remains in compliance with state and federal regulations.

The Program's monitoring locations provide a representative view of overall water quality in CCSD#1. The locations are spread throughout the service district and are situated downstream from lands which are zoned for all of the land uses found in CCSD#1, including industrial, commercial, agriculture, open space, and low, medium, and high-density residential areas.

Sixteen locations in CCSD#1 are monitored on a monthly basis. Ten of these points are in the Clackamas River watershed and six are in the Kellogg-Mt. Scott Creek watershed. The sampling points are shown as ▲ on the map below. The following parameters are evaluated on a monthly basis at all monthly monitoring locations: temperature, pH, dissolved oxygen, flow (at select sites), total dissolved solids, conductivity, ammonia, nitrate, total phosphate, orthophosphate, E. coli (bacteria), six different metals (chromium, cadmium, copper, lead, nickel, zinc), total suspended solids, and oil & grease.

In addition, four creeks in CCSD#1 are monitored on a continuous basis. In March 2002, CCSD#1 began operating and maintaining permanent continuous surface water monitoring stations on creeks in CCSD#1. These stations continuously collect water quality and flow data (24 hours/day and 7 days/week). Quality control and quality assurance procedures are currently being performed on the continuous monitoring network, and data from these continuous monitoring stations is not yet available for publication.

It is important to note that a small part of CCSD#1 lies within the Johnson Creek watershed. To maximize the value of CCSD#1's limited water quality and flow monitoring funds, the Service District has, where possible, elected to participate in watershed-wide water quality and flow monitoring efforts to yield high-quality data in a coordinated, cost-effective manner. Recent coordinated projects in the Johnson Creek watershed include: 1) A study to collect storm event-driven and routine instream water quality data from the Johnson Creek watershed during 2002 and, 2) the operation of five permanent continuous water quality and flow monitoring stations in the Johnson Creek watershed during 2002.

Water Environment Services has been routinely collecting water quality data from streams and storm sewer systems within CCSD#1 since 1994. This data has been submitted in annual reports to Oregon's Department of Environmental Quality (DEQ). Call Surface Water Technician Andrew Swanson at 503-353-4567 with questions, for more information, or for a copy of a recent water quality monitoring report.

