



Willamette River south of Newberg

Photo Credit: Karen Tarmichael City
of Newberg Public Works

TDML Implementation Plan
City of Newberg
Year 1 Annual Report November 2008 to December 2009

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INTRODUCTION

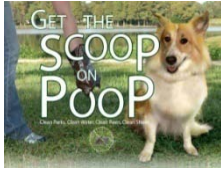
Through the Clean Water Act (1977), the USEPA directed the Oregon Department of Environmental Quality (DEQ) to develop water quality standards for water bodies in the State of Oregon. Under Section 303(d) of the Clean Water Act, monitoring data as well as other information is to be used by the State to develop a list of "water-quality limited segments," i.e., waters that will not meet water-quality standards even after technology-based permits are in place.

For 303(d)-listed Oregon waters, the DEQ developed TMDLs, or Total Maximum Daily Loads, for the constituents that still exceeded water-quality standards. In 2006, the Oregon DEQ set TMDLs for the Willamette River. As a component of the plan to manage the Willamette River TMDLs, Newberg was asked to compile a list of best management practices that would decrease levels of bacteria, mercury, and temperatures in the urban stormwater and streams that flow within the boundaries of the city and ultimately discharge to the Willamette River. In March 2008, the city submitted a management plan to the DEQ and a final plan was approved in October 2008. This is the first annual report summarizing the progress of Newberg's management plan and it encompasses the months from November 2008 to December 2009. A matrix of benchmarks for the current management plan is included as Appendix A along with a proposed revised matrix that considers the current economic downturn.

There are 3 watersheds draining into the Willamette that are affected by the urbanization of Newberg; from west to east they are Chehalem Creek, Hess Creek, and Springbrook Creek. Chehalem Creek has the largest drainage area with 10 to 11 miles of stream channel. The lower 3 miles of Chehalem Creek may be affected by urbanization, however most of the Chehalem Creek drainage lies within an agricultural land-use designation.

The Hess Creek drainage lies mostly within the Newberg city limits with the upper reaches either outside of city limits or in undeveloped land within the city. In this respect, Hess Creek is unique because it can provide the greatest measure of the effect of urbanization and Newberg's best management practices. The lower 2 miles of Hess Creek lie outside of the city limits and it combines with Springbrook Creek for its last river mile before flowing into the Willamette.

Newberg lies within only 3 of the approximately 8 river miles of Springbrook Creek and the Chehalem Glenn Golf Course is in the middle of those river miles. Of the 5 river miles outside of the city limits, the upper reaches are either at the urban-rural interface or are rural; the bottom 4 miles are rural.



BACTERIA

Sources of bacteria in an urban-rural watershed such as the Chehalem Valley include pet feces, street debris, septic systems, wild animals, and agricultural operations. Because Newberg removed all stormwater-sewer cross-connections in the 1980's, it does not have overflow problems that plague larger cities such as Portland. Newberg has very little control over bacteria entering the watershed from outside its city limits; however it can decrease bacteria within the city limits by appropriately disposing of catch basin and street debris collected by the Maintenance Division. It can further decrease bacteria by educating the public about the effect pet feces have on the watershed.



MERCURY

In Newberg, sources of mercury are thermostats, thermometers and fluorescent lamps, laboratories, dental offices, health care facilities, and atmospheric deposition. Most of the Newberg dental offices capture and dispose of mercury using procedures outlined in the Oregon Dental Association Best Management Practices for Mercury. With the exception of air-borne mercury, sources can be decreased through public education and hazardous waste roundups. By reducing erosion, Newberg will be able to decrease sedimentation and prevent most soil-bound mercury, if any is present, from entering waterways and transforming to the bioavailable methyl mercury.



TEMPERATURE

Higher stream temperatures primarily affect aquatic species because they live in a relatively narrow temperature range. Solar radiation, one of the leading causes of elevated stream temperatures, is increased through over-grazing in riparian areas and tree removal during construction. Erosion and sedimentation also increase temperatures by destroying riparian habitat and decreasing stream depth. While Newberg has a substantial tree canopy along the riparian areas, the city will continue to encourage tree planting, work with partners to restore riparian habitat, and increase public education in order to keep stream temperatures at normal limits within the city.



MEASURE #1 – PUBLIC EDUCATION

PE-1 Implement Stormwater Educational Activities

→ PE-1(a) Ongoing Public Education Activities

Newberg presented information on rain gardens to the Yamhill Basin Council in March 2009. During Public Works Day in May, city employees spoke to residents about compost which can be used to amend soils and allow for greater stormwater infiltration. Free compost packets, created by the Operations Division and rated as a Class A product, were handed out to residents so they could try it. Residents were also given the opportunity to take ladybugs home after speaking with employees from the Maintenance Division about the advantages of natural pest control versus chemicals in their gardens.

→ PE-1(b) Prepare an annual educational insert for inclusion in bills (Appendix B1)

An educational newsletter was included in the June 2009 utility bills. It contained information on rain gardens, storm drain marking, and the Water-Wise Demonstration Garden. The Water-Wise Demonstration Garden highlights low-impact development techniques, water conservation, and is an organically-maintained wildlife habitat. The demonstration garden was toured by many groups ranging from local garden groups to city officials from neighboring counties and it received the Julian Prize for sustainability excellence from the American Public Works Association.

→ PE-1(c) Use City website to include stormwater quality tips and information

Starting in September 2009, weekly stormwater ideas and information have been available on the city website (see Appendix B2). The TMDL Implementation Plan is available for the public to download from the city website.

A 2010 Calendar is available for download on the city website (see Appendix B3). Each month contains a picture of Newberg and an appropriate stormwater suggestion that can be implemented during the month. In addition, the cover contains 10 easy ideas for increasing the quality of our stormwater.

→ PE-1(d) Periodic News Releases

There were no news releases in 2009.

PE-2 Participate in the Yamhill Basin Council (see Appendix C)

→ PE-2(a) Assure representation at Yamhill Basin Council Meetings

Newberg attended 10 of the last 14 monthly Yamhill Basin Council (YBC) meetings. The YBC convened a steering committee in November 2009 and Newberg was present

for those meetings. The YBC also has a water-quality subcommittee which has been meeting monthly since September 2009 and attended by Newberg.

The YBC has been through a transitional year; since September 2009, YBC changed its coordinator, administrator, vice-chairperson, and chairperson. In August 2009, Newberg helped twice with water-quality monitoring. In October, Newberg helped YBC write an OWEB grant. Newberg will continue to champion water-quality issues in the Chehalem Valley and assist with the YBC's long-term water-quality monitoring strategy. The city will also continue to lead by example.

→ ***PE-2(b) Contribute \$1,000 to the Yamhill Basin Council annually as funds are available.***

Newberg donated \$1,000 to the Yamhill Basin Council in July 2009.

PE-3 Provide Environmental Marking for Storm Drains (see Appendix D)

There were 96 storm drains marked to inform the public that stormwater is not treated before discharging to the streams. Catch basins were marked throughout the city to educate as many citizens as possible and many of the catch basins were in high profile areas such as along Springbrook Road.



MEASURE #2 – PUBLIC INVOLVEMENT

PI-1 Continue with Public Participation in Reviewing the Stormwater Utility Fee

The Citizen's Rate Review Committee reviews and recommends rates for the water, wastewater and stormwater utilities. They meet every 2 years from September to February of the following year to set the stormwater rates. The Citizen Rate Review Committee was presented with information about stormwater rates from September 2007 to February 2008 so there have been no changes in the stormwater utility fee for the time period covered by this report.

The committee met with the Public Works Director, Finance Director, Mayor, and interested citizens in December 2009 and January 2010 to review the stormwater utility rate and discuss the implementation of a stormwater credit for residents. The meetings were publicized in the Newberg Graphic, a utility bill insert, on the city website and through a letter sent to every Newberg resident (see Appendix E). There were 3 citizens who attended the December 9 meeting and 1 citizen who attended the December 16 meeting.

PI-2 Public Participation in Ordinance and Program Development

An Erosion and Sediment Control ordinance is currently in draft form and will soon undergo internal review. Public input will be solicited once it is approved internally.

PI-3 Use the City's Website for Education and Reporting of Stormwater Concerns

The city website provides an email address and a 24-hour telephone line that citizens can call if they have a stormwater complaint. If the call is not answered by stormwater personnel because they are working in the field, a message directs the citizens to either call 911 or leave a message that will be acted upon as soon as possible.

Staff is trained to respond to stormwater complaints by contacting, listening to, and answering any questions from citizens when they arrive on the scene. Training for responding to citizen complaints was not tracked by the city in 2009.

PI-4 Establish Hotline to Receive Complaints from the Public.

Because of the city's size and budget constraints, it is not economically feasible to provide a 24-hour monitored hotline for stormwater complaints. There is, however, a 24-hour telephone line that citizens can use to register a stormwater complaint. The procedure for the 24-hour telephone line was discussed in Section PI-3.



**MEASURE #3 - ILLICIT DISCHARGE DETECTION
AND ELIMINATION (IDDE)**

ID-1 Develop Illegal Discharge Detection and Elimination (IDDE) Plan***→ ID-1(a) Respond to spills and illegal dumps***

The Maintenance Division, Code Enforcement, and the Fire Department respond to spills and illegal discharges. The Fire Department did not respond to any reportable spills during the time period covered by this report. Code Enforcement investigated 4 calls related to illegal discharge or disposal; see Table 1.

→ ID-1(b) Develop plan to detect illicit discharges

The city currently has a rough draft of an illicit discharge ordinance that will be undergoing internal review by June 2010. The stormwater outfalls have been inventoried and a map showing the approximate locations is attached as Appendix F of this report. There are 150 outfalls in the city.

Table 1. Illegal Discharge Investigations and Resolutions

Date	Category	Situation	Resolution
Jan 2009	Oil Discharge	Truck leaking oil in street.	Homeowner removed vehicle off street and contained leak. Resolved 1/09.
Oct 2009	Oil Discharge	Full oil pans with no lid overflowing during rain events.	Homeowner removed oil pans from yard and properly disposed of oil. Resolved 10/09.
November 2009	Hazardous Materials	Creosote-laden railway ties being thrown into resident's yard.	Homeowner asked for and received contact information for the railroad from the city. Resolved 12/09.
December 2009	Herbicide Discharge	Company cleaning moss off roofs suspected by resident of using chemicals that were being discharged to storm drain.	City supervised company during their operations. No chemical was being used during operations. Company was properly collecting and following proper disposal methods for the moss. Resolved December 2009.

ID-2 Train City Employees to Implement IDDE

Stormwater staff is provided annual training using purchased software that focuses on best management practices for stormwater pollution prevention. As part of this training, they are taught how to look for and remedy illicit discharges.

ID-3 Implement IDDE Plan

Benchmarks for this best management practice were not due in 2009.

ID-4 Hazardous Waste Collection Program

Yamhill County Solid Waste offers a hazardous waste roundup every May and October (see Appendix G). Roundups are held in Newberg in May and in McMinnville in October. Residents of the entire county are allowed to participate in the roundup and, while they are asked for their zip code when they unload, the hazardous waste is not catalogued according to zip codes due to time constraints.

Marion County partners with Yamhill County Solid Waste to promote the re-use of paint. After the county sends its used paint to Marion County, they re-mix it and send it back to be used by Yamhill County residents. The program is a success as demonstrated by the 48,000 pounds of recycled paint used by residents last year.

In 2009, there was a total of 39 tons of hazardous waste removed from the county. The majority of the waste was paint, flammables, and pesticides such as diazinon and methyl carbamate. There was 487 pounds of waste containing mercury disposed in the spring and 15 pounds disposed in the fall of 2009. Based on the data in Appendix G, the residents are well-informed about the roundups and tend to save their waste rather than disposing of it down the drain or in the landfill.



MEASURE #4 - CONSTRUCTION SITE STORMWATER RUNOFF CONTROL

CS-1 Develop Ordinance to Control Construction Site Runoff for less than one acre

→ *CS-1(a) Use biobags, wattles, hay bales, and other construction practices on construction sites*

The City continues to require biobags, wattles, and bales of hay or straw to reduce erosion coming from construction sites. Because the city does not have an erosion control code, it does not formally track the number of projects with erosion control measures. Starting in 2010, procedures are being developed to track the number of construction projects with erosion controls.

→ *CS-1(b) Develop an erosion control ordinance*

Newberg has a rough draft ordinance for erosion control that will soon undergo internal review. While drafting the erosion control ordinance, staff selected manuals from other organizations to use for a city-specific manual.

CS-2 Train City Employees Regarding Construction Site Controls

Building Division staff is required to take classes to maintain their plumbing inspection certifications; however these classes may or may not include erosion control. Tracking procedures are being developed to track the content, dates and number of employees attending stormwater runoff control classes.

CS-3 Conduct Plan Reviews, Inspections, and Enforcement for Construction Sites

There were no complaints and notices of non-compliance in 2009.



MEASURE #5 - POST-CONSTRUCTION STORMWATER RUNOFF CONTROL

DS-1 Develop Ordinance to Control Runoff from New and Redevelopment

This best management practice is not due until August 2010.

DS-2 Train City Employees Regarding New Development Standards

The city offers stormwater staff in the Maintenance Division training opportunities with APWA's programs which include topics such as private water-quality facilities management, green streets, stream stability and scouring, confined space safety, and environmental BMPs. City staff was also encouraged to attend classes on Low Impact Development during 2009.

DS-3 Conduct Plan Reviews, Inspections, Enforcement for New Development

There were 5 pre-construction conferences from November 2008 to December 2009 where the project affected stormwater. The city did not formally track the number of water quality facilities that were installed for new development; however, the city is developing procedures to formally track them in 2010.

**MEASURE #6 - POLLUTION PREVENTION IN MUNICIPAL OPERATIONS****OM-1 Develop a Water Quality Sensitive Operations and Maintenance Manual**

Newberg keeps litter and other trash out of the stormwater system by installing trash racks in priority areas. Last year, they inspected and cleaned grates and inlets 251 times to prevent flooding caused by debris clogging the stormwater system.

The existing operations and maintenance practices are a working document and the city strives to adopt practices that are both practical and either sustain or increase water quality. As the economy improves, the city may be able to hire more employees so that a comprehensive procedures manual can be created for training new employees. In 2009, employees used a checklist and maps to ensure that proper inspections occurred for catch basins and storm drains in the city. Catch basins and storm drains were inspected more frequently if they were in historical areas of concern.

OM-2 Train City Employees Regarding Revised O&M Practices

Stormwater staff is provided internal annual training using software that focuses on best management practices for stormwater pollution prevention. They are given additional training opportunities through the Oregon Environmental Services Advisory Council and APWA's programs which include topics such as Private Water Quality Facilities Management, Green Infrastructure - Green Streets, Stream Stability and Scour at Highway Bridges, Confined Spaces: Risks and Responsibilities, and Environmental BMPs.

In 2009, Maintenance staff wrote some procedures for an O&M manual and use the Oregon Municipal Stormwater Toolbox for Maintenance Practices. The Maintenance Division is understaffed and the majority of the stormwater staff's time is spent in the field

either maintaining or renovating the current stormwater system so the city does not have a city-specific manual of procedures.

OM-3 Conduct Catch Basin and Storm Drain Cleaning (see Appendix H)

→ *OM-3(a) Catch basin cleaning*

Catch basins are cleaned using a truck that is shared among the water, sanitary, and stormwater sections of the Maintenance Division. During the 14 months covered by this report, there were 78 catch basins cleaned, 6 installed, and 10 repaired or refurbished.

→ *OM-3(b) TV, inspect, and clean storm drains*

The Maintenance Division uses a truck that is shared among the water, sanitary, and stormwater sections to inspect, tele-video, and clean the storm lines. From November 2008 to December 2009, the city inspected 5,691 feet of stormwater line and cleaned 18,807 feet of line. They installed new stormwater manholes to streamline the process for cleaning and inspection.

→ *OM-3(c) Repair pipe and culverts*

There are several ditches that convey stormwater throughout the city and most are maintained and owned by citizens or private associations. From November 1998 to December 1999, the Maintenance Division removed brush and litter from 3,251 feet of city-maintained stormwater ditches. There are 40 grated inlets and outfalls within city limits; high maintenance areas are inspected and cleaned weekly during the fall and winter. In 2009, the Division inspected and cleaned 251 grates and inlets. The city did not replace any storm line in 2009; however it replaced 80 feet between November and December 2008. The city installed 333 feet of new storm line.

→ *OM-3(d) Optimize catch basin maintenance practices for water quality*

Newberg has implemented several new practices to sustain or increase the water quality of streams that discharge to the Willamette River. In order to improve its stormwater system, the city is upgrading its catch basins to larger grates and outfitting them with a 12" or greater sump. Two detention basins were renovated to decrease volume and velocity in the stormwater system. Areas downstream of the detention basins that have historically flooded remained flood-free this year. The Maintenance and Engineering Divisions will meet again this year to discuss other opportunities to upgrade the stormwater system.

Due to budget constraints and limited stormwater staff, there is not a methodical catch basin inspection and cleaning program. However, known areas of concern are checked frequently, especially during storm events, and employees utilize a checklist to track the inspection and cleaning of the remaining catch basins.

OM-4 Conduct Street Sweeping (see Appendix H)**→ *OM-4(a) Street sweeping***

The Maintenance Division ensures that all city streets are swept every 6 weeks. During the time period covered by this report, the city spent 1,196 hours sweeping 5,242 curb miles. There were 1,342 cubic yards of debris removed from city streets creating an average of 7 cubic foot of debris removed for every curb mile swept by the Division. On average, 374 miles of streets were swept every month. Months in which snow and ice events or the annual leaf fall occurred were noticeably higher for debris collected and miles of sweeping.

The city does not have a leaf collection program for residents due to budget constraints. Residents are, however, encouraged to use the yard waste container provided by Waste Management (formerly Newberg Garbage and Recycling) for their leaves. Leaves in the street are collected by the Maintenance Division to prevent blockages of the stormwater system.

→ *OM-4(b) Optimize street sweeping practices for water quality*

City streets are swept every 6 weeks with additional sweeping occurring after snow and ice events. By sweeping streets on a systematic rotational basis every 6 weeks, the city minimizes debris entering the stormwater system.



ADAPTIVE MANAGEMENT

Measure 1: Public Education

The city met most of the benchmarks required in this measure. There are public events at different venues in the region where the city can provide public education but where it is difficult to take attendance as required by the performance measures of this goal. The city proposes broadening the scope of public education to include these venues as a way to meet the public education requirement of the TMDL Implementation Plan.

Measure 2: Public Involvement

The city is currently drafting code required by the TMDL Implementation Plan and will offer a public comment period after the internal review. The city proposes changing the 24-hour hotline requirement with the current 24-hour telephone line that allows residents to either call 911 or leave a message which is sent to the Maintenance Division's email. Work orders created through this system will be tracked for 2010. For the training requirement, the city proposes all training venues be considered as meeting this benchmark instead of confining it to webcasts.

Measure 3: Illicit Discharge Detection and Elimination

The city meets the benchmarks requiring training, spill response, outfall maps, and hazardous waste collections. The city is currently drafting code required by the TMDL Implementation Plan and will offer a public comment period after the internal review. The city proposes all training venues be considered as meeting this benchmark instead of confining it to webcasts.

Measure 4: Construction Site Stormwater Runoff Control

The city is currently drafting code required by the TMDL Implementation Plan and will offer a public comment period after the internal review. Formally tracking the number of construction projects with erosion control measures was not completed; however procedures are being developed to track these performance measures for 2010. As part of the training requirement, the city proposes all training venues be considered instead of confining it to webcasts.

Measure 5: Post-Construction Stormwater Control

Staff from the Maintenance Division is trained annually in stormwater best management practices and are encouraged to attend APWA seminars and conferences on stormwater control. The city proposes that these training venues be considered as meeting the training requirement of this measure instead of confining it to webcasts. There were 5 pre-construction conference during this report period. Formal procedures are being developed to track the installation of water quality facilities for new development.

Measure 6: Pollution Prevention in Municipal Operations

Maintenance Division staff have worked on several projects to upgrade and repair the city's stormwater system in the last year. Partly due to this work, some of the benchmarks were not met for this measure. The city proposes to inspect 25% of its catch basins per year with a minimum threshold of cleaning at least 10% of them until they are able to purchase a dedicated truck for stormwater activities and hire additional stormwater staff.

Summary

The city has met many of the 2009 benchmarks in the TMDL Implementation Plan or is well on its way to meeting them. The Maintenance Division has done extremely well with keeping the stormwater system maintained and running smoothly. They have been proactive and creative in finding economical solutions to stormwater concerns.

Newberg is preparing for its stormwater future by installing low-impact stormwater facilities on public projects and encouraging their use on private projects. Work has been completed on a bioswale for the new Animal Shelter which performed efficiently during this season's storm events. The Water-Wise Demonstration Garden was created through one employee's initiative which blossomed into a multi-faceted consortium of people willing to donate materials and time to provide an educational display for Newberg's citizens. It is the city's willingness to listen to and foster innovative ideas that will ultimately be the key to increasing the quality of the stormwater entering the Willamette River.