BEFORE THE METRO COUNCIL

APPROVING METRO'S 2008 TMDL IMPEMENTATION PLAN AND DIRECTING THE CHIEF OPERATING OFFICER TO SUBMIT IT TO THE OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY	)))))))	RESOLUTION NO. 08-3898 Introduced by Councilor Carl Hosticka, with the concurrence of Council President David Bragdon

WHEREAS, the Oregon Department of Environmental Quality (DEQ) is charged with implementing the federal Clean Water Act on behalf of the Environmental Protection Agency; and

WHEREAS, to implement the Clean Water Act DEQ is required to establish Total Maximum Daily Loads (TMDLs) for streams segments which do not meet water quality standards; and

WHEREAS, TMDLs take into account pollution from all sources, including discharges from industry and sewage treatment facilities, runoff from farms, forests and urban areas, and natural sources; and

WHEREAS, DEQ implements the Clean Water Act by identifying known water quality pollutants in a given watershed and issuing a TMDL rule that identifies sources of said pollutants and the level of pollutants that a water body can absorb and still meet water quality standards; and

WHEREAS, in 2006 the DEQ issued a TMDL rule for the entire Willamette Basin (the "Willamette TMDL"), which identified pollutants including mercury, temperature and bacteria; and

WHEREAS, the Willamette TMDL rule also identified pollutants for the Lower Willamette sub-basin, including the pesticides DDT and dieldrin; and

WHEREAS, the Willamette TMDL rule also identified pollutants for the Johnson Creek watershed, including excess nutrients relating to pH, dissolved oxygen and chlorophyll *a*, DDT, PCBs, DDE, dioxin and lead; and

WHEREAS, in 2001 the DEQ issued a TMDL rule for the Tualatin sub-basin, which identified pollutants including excess nutrients relating to pH, dissolved oxygen and chlorophyll *a*; and

WHEREAS, DEQ identified Metro as a Designated Management Agency for the Willamette TMDL in a letter dated October 24, 2006; and

WHEREAS, DEQ has indicated that Metro should address all TMDL documents that fall within Metro's jurisdictional boundary plus Metro-owned properties outside that boundary; and

WHEREAS, each Designated Management Agency must produce and submit a TMDL Implementation Plan to DEQ by March 31, 2008; and

WHEREAS, each Designated Management Agency must annually produce and submit a TMDL Implementation Plan update and must submit a major plan update every five years; and

WHEREAS, Metro activities and policies affect water quality in a variety of ways including water quality benefits from Metro's natural area acquisition and restoration program, implementation of land use policy choices such as Titles 3 and 13 of the Urban Growth Management Functional Plan, and programs and activities at various Metro-owned facilities; and

WHEREAS, documenting these activities and, when necessary, describing recommended activities that may increase Metro's positive contributions to the region's water quality will aid TMDL implementation;

WHEREAS, Metro staff has prepared a TMDL Implementation Plan for submission to DEQ in compliance with DEQ's Willamette TMDL, attached as Exhibit B to this resolution;

now therefore

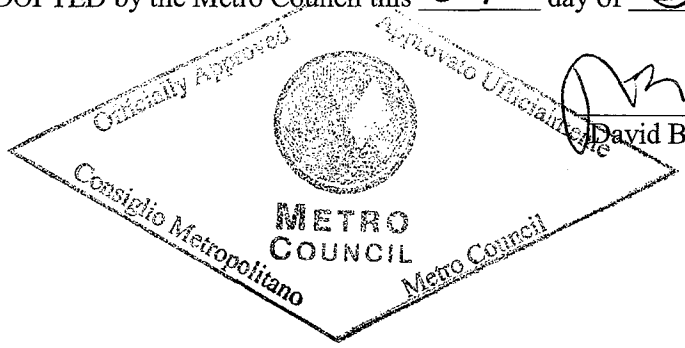
BE IT RESOLVED that the Metro Council hereby approves the TMDL Implementation Plan attached hereto as Exhibit B and directs the Chief Operating Officer to:

1. Submit Metro's 2008 TMDL Implementation Plan, in a form substantially similar to that attached hereto as Exhibit B, to DEQ in accordance with the requirements of the Willamette TMDL;

2. If necessary, address any questions or concerns posed by DEQ regarding Metro's 2008 TMDL Implementation Plan, revise the plan as appropriate, and provide the amended document to DEQ (with a copy provided to the Metro Council for review); and

3. Annually submit a Metro TMDL Implementation Plan update to DEQ, describing the activities that Metro has undertaken to comply with the Willamette TMDL.

ADOPTED by the Metro Council this 24th day of January, 2005.



David Bragdon, Council President

Approved as to Form:

Daniel B. Cooper, Metro Attorney

EXHIBIT A TO RESOLUTION NO. 08-3898

DEQ's letter assigning Metro as a Designated Management Agency for the Willamette TMDL

Oregon
Theodore R. Kulongoski, Governor

Department of Environmental Quality
Northwest Region Portland Office
2020 SW 4th Avenue, Suite 400
Portland, OR 97201-4987
(503) 229-5263
FAX (503) 229-6945
TTY (503) 229-5471

October 24, 2006

Michael Jordan, Chief Operating Officer
600 NE Grand Ave
Portland, OR 97232-2736

Re: Issuance of Willamette Basin TMDL and Water Quality Management Plan

Dear Mr. Jordan:

On September 21, 2006, the Department of Environmental Quality (DEQ) issued the Willamette Basin Total Maximum Daily Load (TMDL) as an Order, and submitted the TMDL to the Environmental Protection Agency (EPA) for approval. This is a huge milestone and comes after many years of working closely with the Willamette TMDL Council and other basin partners to develop a TMDL that was approved by EPA on September 29, 2006. When implemented, it will result in a cleaner, healthier Willamette River for current and future generations.

The Willamette River and numerous tributaries do not currently meet several water quality standards including bacteria, mercury and temperature. These standards assure that beneficial uses of the river and tributaries, such as swimming, fish consumption and fish rearing, are protected. When water quality standards are not met, the federal Clean Water Act requires a TMDL to be established. A TMDL determines how much pollution can be added to the river without exceeding water quality standards.

This letter is intended to provide you with notification that the TMDL has been issued as an order and that the summary of responses to comments is available as directed under OAR 340-042-0050 to 0070. Copies of the final TMDL, Water Quality Management Plan (WQMP) and Response to Comments are available on the DEQ Website at http://www.deq.state.or.us/wq/tmdls/willamettebasin.htm

Water quality improvements will depend on the actions of Willamette Basin communities, businesses and citizens. DEQ has named certain federal, state and local governments and agencies, including cities, counties and special districts, as Designated Management Agencies (DMA), as these governments and agencies have authority to manage and regulate sources of pollutants listed in the TMDL. Metro has been identified as a DMA. Upon issuance, the TMDL is an order that requires Metro to develop and carry out its own implementation plan outlining actions Metro will take to meet the requirements of the TMDL on lands under Metro's jurisdiction. The

implementation plan must be submitted to DEQ within 18 months of September 21, 2006, unless that timeline is extended by the Department.

These implementation plans will describe the actions that municipalities and agencies will undertake to reduce pollution in order to help restore and protect water quality. You may already have plans or strategies in place that help prevent or control water pollution, such as Storm Water Management Plans or riparian protection, but these plans may not address all of the TMDL pollutants. The Implementation Plan will be built upon these efforts and may include additional steps that will be taken over time to improve water quality.

DEQ will work in partnership with you to provide assistance and support in development of the implementation plan. Manette Simpson (503-229-5294), DEQ's basin coordinator for the Lower Willamette, is available to provide you and your staff with technical assistance for plan development.

We look forward to working with you to improve water quality in the Willamette Basin. If you have any questions about the TMDL overall or would like to request a copy/CD of the TMDL/WQMP, please call Andy Schaedel in our Portland office at 503-229-6121, or Mike Wolf in our Eugene Office at 541-686-7848.

Sincerely,

Andrew T Schaedel

for Dick Pederson, Administrator
Northwest Region

Encl

Cc: Andy Cotugno, Planning Director
Christine Deffebach, Planning Manager
Jim Morgan, Natural Resource Manager

EXHIBIT B TO RESOLUTION NO. 08-3898

Metro's 2008 TMDL Implementation Plan

Metro's Total Maximum Daily Load Implementation Plan

Submitted March 2008
by Lori Hennings
Senior Natural Resource Scientist
Nature in Neighborhoods
Regional Parks and Greenspaces
Metro Regional Government
Portland, Oregon
Exhibit A to Metro Council Resolution 08-3898

METRO

PEOPLE PLACES
OPEN SPACES

OREGON

Metro
People places • open spaces

Clean air and clean water do not stop at city limits or county lines. Neither does the need for jobs, a thriving economy and good transportation choices for people and businesses in our region. Voters have asked Metro to help with the challenges that cross those lines and affect the 25 cities and three counties in the Portland metropolitan area.

A regional approach simply makes sense when it comes to protecting open space, caring for parks, planning for the best use of land, managing garbage disposal and increasing recycling. Metro oversees world-class facilities such as the Oregon Zoo, which contributes to conservation and education, and the Oregon Convention Center, which benefits the region's economy

Metro representatives

Metro Council President – David Bragdon
District 1– Rod Park
District 2– Carlotta Collette
District 3– Carl Hosticka
Districk 4– Kathryn Harrington
District 5– Rex Burkholder
District 6– Robert Liberty
Auditor – Suzanne Flynn

Metro's web site:
www.metro-region.org

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Metro's Role as a Designated Management Agency

Metro is the directly elected regional government serving nearly 1.4 million residents in Clackamas, Multnomah and Washington counties and the 25 cities in the Portland metropolitan area (Table 1).

Metro's jurisdictional boundary covers 463 square miles – from the Columbia River to farmlands just south of the Willamette River near Wilsonville, and from the foothills of the Coast Range near Forest Grove to the banks of the Sandy River at Troutdale. In addition, Metro owns several natural area properties near, but outside of its jurisdictional boundary.

Metro manages the urban growth boundary, guides the region's transportation and land-use planning through the ***2040 Growth Concept***[1], sets regional transportation funding priorities, and plans and manages the region's solid waste system. Metro is funded primarily through solid waste tipping fees.

Metro programs and planning tools help protect the region's air and water quality. Metro works to keep nature in neighborhoods by acquiring and restoring natural areas, protecting fish and wildlife habitat, providing parks and natural areas, supporting volunteer stewardship, encouraging natural gardening, and operating the Oregon Zoo.

Table 1. Cities within Metro's jurisdictional boundary, by county

Clackamas County	Multnomah County	Washington County
Damascus	Fairview	Beaverton
Gladstone	Gresham	Cornelius
Happy Valley	Lake Oswego*	Durham
Johnson City	Maywood Park	Forest Grove
Lake Oswego*	Portland	Hillsboro
Milwaukie	Troutdale	King City
Oregon City	Wood Village	Lake Oswego*
Rivergrove*		Rivergrove*
Tigard		Sherwood
Tualatin*		Tualatin*
West Linn		Wilsonville*
Wilsonville*		

*County lines run through cities

In 2006 the Oregon Department of Environmental Quality (DEQ) completed and issued a ***Total Maximum Daily Load (TMDL)*** report for the entire Willamette Basin. TMDLs limit the total amount of specific pollutants that may be discharged to a given water body. The Willamette TMDL report highlights temperature, bacteria and mercury as the primary pollutants to address at this time.

1 Terms in ***bold-italics*** are defined in the glossary of terms.

DEQ identified Metro as a ***Designated Management Agency (DMA)*** for the Willamette TMDL. DMAs include federal, state or local governmental agencies with legal authority of a sector or source contributing pollutants (Appendix 1). In urban areas this most commonly includes cities and counties, but may also apply to other agencies or organizations that manage significant tracts of land within TMDL boundaries or are otherwise identified as having a significant role in achieving water quality improvements. Metro's TMDL-related activities range from regulatory authority to facilities and parks, programs and DEQ permits.

The Willamette TMDL applies to numerous water bodies located in watersheds that are wholly or partly within Metro's jurisdictional boundary. Several additional TMDLs within Metro's boundary are already in place. The flowchart in Appendix 2 documents each TMDL and its major pollutants by watershed.

Metro's implementation plan will address the following TMDLs within its boundary and for Metro-owned properties outside its jurisdictional boundary:

- Willamette (temperature, mercury and bacteria)
- Johnson Creek / Lower Willamette (***DDT*** and ***dieldrin***)
- Columbia Slough (nutrient-related – pH, dissolved oxygen and chlorophyll a; DDT, ***DDE***, ***PCBs***, ***dioxin***, and lead)
- Tualatin (nutrient-related)
- Sandy (temperature and bacteria)

DEQ has formally identified Metro as a DMA only for the Willamette TMDL. Metro's Willamette TMDL implementation plan, however, addresses the Willamette TMDL pollutants for all water bodies within Metro's jurisdiction plus all Metro-owned properties outside of its boundary. Metro has voluntarily included information in its implementation plan regarding water bodies and properties that are not covered in the Willamette TMDL, although it is under no obligation to do so, in order to facilitate comprehensive planning and maximize water quality improvements in the region. The map in Appendix 3 shows Metro's jurisdictional boundary and all natural area properties currently owned by Metro. Metro's organizational chart is in Appendix 4.

Metro's water quality improvement activities

Metro has identified four primary categories through which the agency addresses water quality. These include policy, facilities, programs and DEQ water quality permits. This section summarizes Metro's water quality related activities by category. **Unless otherwise indicated, the activities described in this report are fully funded through existing programs or grants. Relevant sections provide general budget information.**

REGIONAL POLICIES

Title 3 – Water Quality and Floodplain Protection
Metro's Urban Growth Management Functional Plan Title 3: Water Quality and Floodplain Protection was created to implement Oregon Statewide Planning Goal 6 (air, water and land resources quality) and Goal 7 (natural hazards).

Adopted in 1998, Title 3 requires local jurisdictions to meet regional performance

standards relating to water quality and floodplain management. Title 3 is designed to protect the beneficial water uses and functions and values of resources within Water Quality and Flood Management Areas by limiting or mitigating the impact on these areas from development activities and protecting life and property from dangers associated with flooding.

Title 3 was created as part of Metro's broader plan to address regional growth management issues through the functional plan. The functional plan is a regional guidance document that contains binding requirements and recommendations on the region's cities and counties. In general the plan is structured so that local jurisdictions may choose either performance standard requirements or prescriptive requirements. The intent is to assure that cities and counties have a significant amount of flexibility as to how they meet the requirements.

Performance standards

Title 3 protects streams and floodplains by establishing performance measures. These measures are specific, quantifiable regional standards that local jurisdictions must meet. Performance measures related to water quality include:

- protection of vegetation along rivers, streams and wetlands
- preservation, enhancement and restoration of native vegetation
- prevention of soil erosion and negative impacts to streams
- prevention of uncontained uses of hazardous materials as defined by DEQ along rivers and streams
- a procedure that demonstrates that no practicable alternative to the requested development exists which will not disturb the resource.

Performance measures for floodplains include:

- limiting development in the floodplains of the region's rivers and streams
- any development excavation and fill shall maintain or increase flood storage and conveyance capacity and not increase design flood elevations
- balanced cut and fill (no net increase in fill within the floodplain)
- minimum finished floor elevations for new habitable structures shall be at least one foot above the design flood elevation
- uncontaminated areas of hazardous materials as defined by DEQ shall be prohibited.

Application

Title 3 only applies to new development and large redevelopment projects. Title 3 does not apply to work necessary to protect, repair, maintain or replace existing structures, utility facilities, roadways, driveways, accessory uses and exterior improvements in response to emergencies. Metro identified and mapped two categories of the land that is regulated under Title 3 – Water Quality and Flood Management. They are defined in the functional plan as areas that require regulation in order to mitigate flood hazards and to preserve and enhance water quality. They have been mapped to generally include the following: stream or river channels, known and mapped wetlands, areas with flood-prone soils adjacent to the streams, floodplains and sensitive water areas. The sensitive areas are generally defined as 50 feet from top of bank of streams for areas less than 25 percent slope, 200 feet from top of bank on either side of the stream for areas greater than 25 percent slope, and 50 feet from the edge of a mapped wetland.

Title 3 includes implementation tools to assist local governments in their efforts to protect stream corridors and floodplains. These tools include:

- density transfers to allow higher density in areas outside the water quality and floodplain protection areas in order to avoid development on areas adjacent to waterways or in floodplains
- variance provisions to avoid any parcel being considered unbuildable through application of the overlay zone
- conservation easements that will protect resources in the water quality and floodplain protection areas
- providing for restoration and enhancement of degraded water quality resource areas through conditions of approval when development is proposed, or through incentives or other means.

Title 3 does not prohibit development in sensitive riparian areas, but helps create site-specific environmentally friendly practices to ensure protection for streams, rivers and wetlands through the implementation of mandatory native vegetative corridors.

Compliance

Cities and counties within Metro's jurisdiction shall comply with Title 3 in one of the following ways:

1. Amend their comprehensive plans and implementing ordinances to adopt all or part of the Title 3 model ordinance or code language that substantially complies with the performance standards and intent of Title 3, and adopt either the Metro Water Quality and Flood Management Areas Map or a map that substantially complies with the Metro map.
2. Demonstrate that existing city and county comprehensive plans and implementing ordinances substantially comply with the performance standards and intent of Title 3.
3. Any combination of (1) and (2) above that substantially complies with all the performance standards.

The 24 cities (Damascus was not incorporated at the time) and three counties within Metro's jurisdiction were required to comply with Title 3 by Jan. 31, 2000. Currently all but three jurisdictions (Lake Oswego, West Linn and the Oak Lodge Sewer District of Clackamas County) have complied with all of the components of Title 3. The City of Damascus is currently developing its comprehensive plan and implementing ordinances, which must be in compliance with Title 3.

Appendix 5 includes more information about Metro's water quality policies.

Title 13 – Nature in Neighborhoods

Metro's Urban Growth Management Functional Plan (functional plan) Title 13: Nature in Neighborhoods was created to implement Oregon Statewide Planning Goal 5 (natural resources, scenic and historic areas and open spaces) and Goal 6 (air, water and land resources quality). Title 13, adopted by Metro Council in September 2005, requires local jurisdictions to meet regional performance standards relating to riparian and upland wildlife habitat. Title 13 is a primary component of Metro's Nature in Neighborhoods program, which was created at the same time Title 13 was adopted. The purpose of this program is twofold:

- conserve, protect and restore a continuous ecologically viable streamside corridor

system, from the stream's headwaters to their confluence with other streams and rivers, and with their floodplains in a manner that is integrated with upland wildlife habitat and with the surrounding urban landscape
- control and prevent water pollution for the protection of public health and safety, and maintain and improve water quality throughout the region.

The program will achieve its purpose through conservation, protection and appropriate restoration of riparian and upland fish and wildlife habitat through time, using a comprehensive approach that includes voluntary, incentive based, educational and regulatory elements. The program includes provisions to:

- monitor and evaluate program performance over time to determine whether the program is achieving its objectives and targets
- determine whether cities and counties are in compliance (see Appendix 5)
- provide sufficient information to determine whether to amend or adjust the program in the future.

In addition, the program establishes minimum requirements and is not intended to repeal or replace existing requirements of city and county comprehensive plans and implementing ordinances to the extent those requirements already meet Title 13's minimum requirements. Title 13 is not intended to prohibit cities and counties from adopting and enforcing protection and restoration programs that exceed the requirements of Title 13.

Prior to Metro's adoption of Title 13, Metro created two maps that form the basis of its fish and wildlife habitat protection and restoration program. The Regionally Significant Fish and Wildlife Habitat Inventory Map (Inventory Map, Exhibit A in Title 13[2]) identifies the areas that have been determined to contain regionally significant fish and wildlife habitat. The habitat is divided into two general categories, riparian and upland wildlife, and further differentiates each habitat category into low, medium and high value habitats. The Habitat Conservation Area Map (Conservation Area Map) identifies the areas that are subject to performance standards and best management practices to the extent a local jurisdiction chooses to comply with Title 13 through reliance upon its comprehensive plans and implementing ordinances.

Performance standards

Title 13 performance objectives include preserving and improving streamside, wetland, and floodplain habitat and connectivity; preserving large areas of contiguous habitat; preserving and improving connectivity for wildlife between riparian corridors and upland habitat; and preserving and improving special habitats of concern. Related implementation objectives include increasing the use of habitat-friendly development practices and increasing restoration and mitigation actions to accommodate for adverse effects of new and existing development.

Metro will monitor the region's progress toward meeting the vision of conserving, protecting and restoring fish and wildlife habitat and by producing monitoring and program evaluation reports beginning in December 2006 and every two years thereafter. Metro will summarize and append these reports in the appropriate TMDL updates. In addition, Title 13 states cities and counties shall report to Metro no later than Dec. 31,

2 Title 13's full text and attachments are available through Metro Council office or online at www.metro-region.org/article.cfm?articleid=13806.

2007 and every two years thereafter on their progress in using voluntary and incentive-based education, acquisition, and restoration habitat protection efforts. These reports will also be summarized in Metro's TMDL implementation plan updates. However, Metro will coordinate timing of these reporting requirements with TMDL reporting to reduce jurisdictions' duplication of efforts. Metro will periodically update its Inventory Map for use in program monitoring and evaluation.

Application

Title 13 regulations apply only to high-value (Class I and II) riparian areas within the urban growth boundary at the time Metro Council adopted the ordinance. However, some upland habitat protections will be required in future urban growth boundary expansions. The standards will vary depending on the economic potential of the property. For example, regulatory requirements may be reduced in areas with the greatest economic importance to the region, or for regionally significant facilities such as universities and some hospitals. The Inventory Map is subject to local field verification.

Title 13 builds on Title 3. Title 3's existing water quality and floodplain regulations remain in effect in the region's cities and counties. However, Title 13's regulatory area is more site-specific and in some areas, greater in extent compared to Title 3. As with Title 3, Title 13 strives to conserve and protect fish and wildlife habitat and water quality through an avoid-minimize-mitigate standard, not to prohibit development in sensitive areas. This reflects an intended balance between watershed health, property rights and the importance of maintaining a compact urban form. Title 13 presents additional design standards to help protect habitat and water quality and specifically addresses tree canopy conservation, erosion control and ways to develop property with the lowest impacts to the water and habitat quality.

Compliance

Each city and county within Metro's jurisdiction shall comply with Title 13 by Jan. 5, 2009 in one of the following ways:

1. Amend its comprehensive plan and implement ordinances to adopt the Title 13 model ordinance and the Conservation Areas Map.
2. Demonstrate that its existing or amended comprehensive plan and existing, amended, or new implementing ordinances substantially comply with the Title 13 performance standards and best management practices and the Conservation Areas Map.
3. Demonstrate that it has implemented a program based on alternative approaches that will be substantially comparable with the protection and restoration that would result from complying under either of the first two options.
4. Adopt one or more district plan(s) that apply over portions of a city or county, and demonstrate that for the remainder of its jurisdiction the city or county has a program that complies either of the first two options.
5. A city or county that is a member of the Tualatin Basin Natural Resources Coordinating Committee (TBNRCC)[3] shall amend its comprehensive plans and implementing ordinances to comply with the maps and provisions of the TBNRCC Goal 5 Program, subject to the intergovernmental agreement between Metro and the TBNRCC. TBNRCC member jurisdictions are required

3 TBNRCC members include Washington County and the cities of Beaverton, Cornelius, Durham, Forest Grove, Hillsboro, King City, Sherwood, Tigard and Tualatin.

to implement their program within 60 days of the Land Conservation and Development Commission's acknowledgement of Metro's Title 13, which occurred on Jan. 5, 2007.

Currently Washington County, Forest Grove, Hillsboro, Beaverton, Tualatin, Tigard and Sherwood have demonstrated compliance with Title 13.

Appendix 5 includes more information about Metro's water quality policies.

FACILITIES

Metro owns and operates many facilities and properties in the region. These include Metro Regional Center, the Oregon Convention Center, the Portland Exposition Center, the Oregon Zoo, and several landfills and solid waste transfer stations. Each facility strives to maintain excellent water quality standards, as documented in Appendix 6. Selected facilities' water quality related activities are summarized below.

Metro Regional Center
Metro Regional Center (MRC) houses Metro's Administrative, Planning, Solid Waste and Recycling, and Regional Parks and Greenspaces departments. Some of the regional center's water quality related activities include the following:

Facility and Administrative Services Department

Adopted FY 2007-08 Budget - $8 million

Includes property services, facility and asset management.

Figures represent approximations

In 2005 Metro installed a 2,500 square foot eco-roof on the MRC fourth floor as a pilot project to prevent stormwater runoff and improve water quality. Currently Metro is comparing the amount of stormwater runoff and water quality from the eco-roof versus the remaining traditional rock ballast/concrete roof. Metro is researching the benefits and cost of replacing the remainder of the regional center's traditional roof with an eco-roof.

In 2002 and 2003 Metro replaced two of the nine fleet vehicles with Toyota Prius Hybrid cars to reduce emissions, which include the by-product mercury. These cars also have other environmental benefits that coincide with Metro's commitment to maintaining sustainable and environmentally conscious business practices.

Metro Regional Center strives to create a sustainable work place and has a 60 percent recycling rate for paper, containers and plastic film. MRC also recycles old computer monitors, which can have on average 3 to 4 pounds of leaded glass each. This keeps lead out of landfills and in turn, out of the ground and surface water. MRC also recycles spent light bulbs that contain mercury. Metro Regional Center is establishing a plan to expand its food-recycling program started in 2006 in its MetroKids childcare center, which will help MRC reach an overall recycling rate of approximately 60 to 70 percent.

ENACT
Formed in 2000, the Metro Environmental Action Team (ENACT) meets monthly to coordinate environmental efforts, including water resource protection, resource conservation, toxics reduction and recycling and buying recycled products, at all Metro facilities. Representatives from five Metro facilities and seven departments serve on the team.

The committee has developed recommendations for an in-house sustainability program for Metro facilities. The guiding vision for the program is that Metro's business practices be sustainable within one generation (by 2025).

Metro Regional Government

Includes ENACT, alternative commuting options for employees and office recycling policies.

These programs span across facilities and are included in each overall budget

ENACT is in the process of developing a Toxics Reduction Strategy for Metro facilities and activities. The Toxics Reduction Strategy will outline how Metro will manage its toxic products use with the goal of identifying the most toxic chemicals used and working on eliminating these by finding alternatives in order to protect water and environmental quality. To begin this process ENACT funded a baseline chemical inventory in 2004, which provided a general understanding of current products being used.

In order to create a Toxics Reduction Strategy and build upon the previous chemical inventory, every Metro facility was first inventoried for consumable toxic products. A durable toxic goods inventory will be completed at a later date. Consumables are products such as pesticides or solvents and durables are products such as fluorescent bulbs or computers. The consumables inventory includes the digital collection of all material safety data sheets (MSDS) for these products. Metro will manage this inventory through either a web based program (such as the OHSU Center for Research on Occupational and Environmental Toxicology's CROET [Chemical Risk Information Service]) or in-house through the intranet. This component of the Toxics Reduction Strategy is targeted for completion by the end of the FY 2007-08. The overall plan is targeted for review and completion by the end of the FY 2008-09.

Oregon Convention Center and Expo Center

Metro installed water catch basins and rain gardens at the Oregon Convention Center and Expo Center, designed to reduce stormwater runoff, capture sediments and floating debris, and prevent these pollutants from running off into surface waters. Oil/water separators are used in conjunction with the catch basins to keep oil and other chemical run off from the area waterways. The Expo Center drains to the Columbia Slough, and these activities help address Slough TMDLs such as lead and mercury.

Metropolitan Recreation and Exposition Center

Adopted FY 2007-08 Budget - $37 million

Includes all related operations at both Oregon Convention Center and Expo Center.

Figures represent approximations

Oregon Zoo

In 2006 the Oregon Zoo installed a rain barrel water collection system to conserve water and reduce stormwater runoff. One system, at the Washington Park Train station, collects stormwater and releases it slowly to the ground instead of directing rainwater to the city sewer system. This reduces stormwater, sediment and pollution to ground and surface water. In 2007 the City of Portland completed construction on a separated stormwater line along Highway 26. The zoo's separated stormwater line can now connect to a separated stormwater main, reducing combined-sewer outflow to the Willamette River.

This also helps to sequester water during storm events to prevent erosion, etc. The zoo conducts both onsite and offsite composting for its herbivore fecal matter, pre-

and post-consumer food waste. The first part is the on-site animal waste composting program. Due to the nature of the animals at the zoo, a large amount of waste is generated, averaging more than million pounds of manure per year. All of that waste plus the pre-consumer food waste from the kitchen is composted at the two structures with two 20x20 open bins with in-ground aeration systems. The zoo offers a large volume to be used on the beds of Washington Park's Rose Gardens, as well as other parks in the region.

Oregon Zoo

Adopted FY 2007-08 Budget - $24.4 million

Includes conservation, conservation education and related operations at the facility.

Figures represent approximations

The zoo uses three Earth-Tubs to process waste generated by the animal commissary. The three separate yard bins are each capable of processing over 150 pounds of material per day. This waste is composted onsite along with the fecal matter. In the first 18 months of operation, an estimated more than 50 tons of waste were diverted from the waste system.

The post consumer food waste program is known as "Portland Compost's" and is a partnership between Metro and the City of Portland Office of Sustainable Development. This post-consumer waste program allows the zoo to collect and divert food waste from the kitchens, bussing and dishwashing stations around the zoo. Currently the zoo has collection points at two main food service areas, two other smaller snack areas and the picnic lawn area for catered events.

Solid Waste transfer stations

At Metro's two solid waste transfer station facilities catch basins are used to capture sediment and floating debris, preventing a wide variety of TMDL and other pollutants from entering nearby ground and surface water. The transfer stations use vegetation to stabilize soil, retain stormwater and provide shade, reducing temperature and toxic inputs to water. A voluntary truck washing station prevents potentially toxic truck residues and sediments from entering waterways.

Solid Waste and Recycling

Adopted FY 2007-08 Budget - $25.8 million

Includes all related operations at the transfer stations and landfills.

Figures represent approximations

Landfill

Metro's St. Johns landfill uses a pumping station to prevent contaminated ***leachate*** from infiltrating groundwater. The pumping station removes leachate from the collection system under the landfill and diverts it to sanitary sewer. A liner over the landfill prevents stormwater from contacting solid waste, reducing leachate production. Sediment basins allow landfill runoff retention and trap sediments, reducing toxics and slowing runoff to nearby ground and surface water, including the Columbia Slough.

As with the solid waste transfer stations, Metro's landfill operations use plants to stabilize soil, retain stormwater runoff and provide shade. The landfill is under consent decree with Oregon DEQ; for more information see Appendix 8.

Appendix 6 provides more detail on Metro's efforts to improve facility water quality and reduce toxics.

PROGRAMS

Metro implements dozens of programs that directly or indirectly help maintain or improve water quality. Appendix 7 provides program descriptions. Several key programs are summarized below.

Regional Transportation Options
The Regional Travel Options (RTO) Program is the region's transportation demand management strategy for increasing awareness and use of alternatives to the automobile and reducing emissions. The RTO reduces 44 million vehicle miles traveled annually in the Metro region, preventing a corresponding amount of toxics from entering surface and groundwater including oil and oil breakdown products, lead and mercury. The RTO also significantly reduces air pollution.

Planning Department

Adopted FY 2007-08 Budget - $21 million

Includes Regional Framework Plan/ functional plan and update, Transit-oriented development and centers implementation, Regional Travel Options, Metropolitan Transportation Improvement Program, Regional Transportation Plan, Metropolitan Planning Organization, Green Streets, Title 3 and Title 13.*

**Planning and Regional Parks and Greenspaces cover Title 3 and 13 in respective budgets*

Figures represent approximations

The RTO implements programs that increase the percentage of trips by carpool, vanpool, transit, bike, walking, and telecommuting. RTO programs consist of:

- services (e.g. carpool partner matching, vanpools, traveler information)
- marketing (e.g. household and community-based marketing and employer outreach)
- small capital investments for end-of-trip facilities (e.g. bike parking).

RTO partners use an umbrella marketing campaign called "Drive Less/Save More." Drive Less/Save More is a unique public awareness initiative developed by the Oregon Department of Transportation, Metro, TriMet, Washington County, the City of Vancouver and many other public and private partners.

The campaign informs the public about transportation choices and encourages simple, convenient actions that people can take to save time and money. The primary campaign tools are paid media, news media, word-of-mouth communications and considerable grassroots communications. It is modeled after Oregon's anti-tobacco and recycling campaigns that successfully address individual behavior change.

As a result of the RTO more people take transit, carpool, bike, walk and take fewer car trips, all benefiting water and air quality. Fewer vehicle miles equal less pollution direct or indirect (air-derived) runoff into area waterways.

Nature in Neighborhoods
The regulatory aspects of Metro's Title 13 (Nature in Neighborhoods) were described in the regional policies section. In addition to Nature in Neighborhood's jurisdictional compliance aspects, the program includes several other key elements designed to improve water quality and wildlife habitat. For example, Nature in Neighborhoods includes:

- conservation education, such as seminars and educational materials to encourage builders to increase habitat-friendly development practices, natural gardening

techniques and a new citizen "Site Steward" program
- small grants through the Nature in Neighborhoods Restoration and Education grant program, which has awarded $980,682 to support 48 nonprofits, community groups, schools, businesses and local government agencies for 53 projects in 2006 and 2007, valued at $4.6 million including partner matches
- the Integrating Habitats Design Competition, which challenge entrants to work across disciplines in collaborative teams to create designs for conceptual sites typical of the Metro region, emphasizing successful and innovative site designs that blend open space access, site planning, and environmental preservation and restoration in construction and development.

Regional Parks and Greenspaces Department

Adopted FY 2007-08 Budget - $52 million

Includes Parks design and construction, regional trails planning and implementation, environmental education and interpretation, natural areas acquition, Science and Stewardship Team, Natural Gardening, Nature in Neighborhoods, parks community involvement, parks and natural areas management, parks volunteer services, Title 3 and Title 13.*

**Planning and Regional Parks and Greenspaces cover Title 3 and 13 in respective budgets*

Figures represent approximations

In addition, the Nature in Neighborhoods program includes an ecosystem monitoring component to measure Title 13's success and help inform adaptive management strategies.

The Nature in Neighborhood team works to identify natural resource needs, acquire funding and increase local capacity to meet such needs. For example:
- In 2003, with funding from a U. S. Fish & Wildlife Service grant, Metro studied water quality in and near the new City of Damascus to establish baseline conditions and help inform concept planning. The City used this data to inform its new natural resource inventory and comprehensive planning process.
- In 2005 DEQ awarded Metro a 319 grant that funded a stream shade analysis in Richardson and Rock Creeks in Clackamas County. The results are helping local watershed councils and jurisdictions address the temperature TMDL.
- In 2007 DEQ awarded Metro a 319 grant that will fund stream bank restoration along at least one mile of streams in high-priority areas identified under the 2005 319 grant. Metro will contract with Clackamas River Basin Council to restore these areas. This grant also includes funds to help local jurisdictions identify and remove code and other barriers to nature-friendly development practices.

Natural Areas Acquisition and Restoration

In 1995, Metro region voters approved a regional $135.6 million bond measure, which led the largest natural area acquisition in the U. S. in several decades – more than 8,000 acres and 74 miles of stream and river frontage. Metro is actively working to stabilize, restore and open some of these properties to the public. In 2006, Metro Council received support from the voters of a $227.4 million bond measure initiative to purchase from willing sellers between 3,500 and 4,000 acres of natural areas in 27 specifically identified target areas to protect and enhance habitat and water quality. The target areas emphasize protection of natural areas in urban areas or in areas where development is likely to occur. These voter-approved bond measures safeguard the region's water quality and quantity while managing the impacts of growth and maintaining the area's quality of life for future generations.

The 2006 bond measure allocates $44 million to local cities, counties and park providers to complete more than 100 projects that protect water quality, improve parks and natural areas, preserve wildlife habitat and provide greater access to nature for people all over the region.

Additionally, since 1997 Metro has restored approximately 5.9 miles (31,000 linear feet) of stream and banks with native trees and shrubs for shading, habitat enhancement and bank stability. This restoration work will continue over the next fiscal year with approximately 5,000 additional linear feet restored. From 1999 to 2006, Metro converted approximately 560 acres of agricultural floodplain land to native habitat. Metro plans to restore an additional 190 acres in the FY 2007-08.

Metro also created two cold-water salmon refugia habitat systems in the region. One, located on the mainstream of the Clackamas River, is a 4,200-foot system that includes two side channels. One channel only has water in medium to high flows, providing off-channel refugia and in particular, rearing pools. The second side channel, next to the first, is groundwater-fed to provide cold-water refugia when temperatures increase in the mainstream. The second system, located on Clear Creek, is a smaller version of the mainstream Clackamas system. Current monitoring indicates all of these channels are being used by endangered and threatened fish species.

It is important to find the right sites to create refugia. The site must be a former or remnant channel, or an area of the stream/river's floodplain that can provide the desired characteristics. For cold-water refugia, the site must have hyporheic or groundwater flow available to enter the created refugia.

The 2006 bond measure allocates another $15 million to a capital grants program to fund projects that preserve or enhance natural features and their ecological functions on public lands in urban areas, and help ensure that neighborhoods in every community enjoy clean water and nature as an element of their character and livability. Schools, neighborhood associations, community groups and other nonprofit organizations, cities, counties and public park providers have been invited to apply, starting in fall 2007.

Solid waste reduction

The Solid Waste and Recycling Department is responsible for regional solid waste management. The primary goals of the department are to reduce the toxicity and amount of solid waste generation and disposal and develop an efficient, economical, and environmentally sound solid waste disposal system. In carrying out its mission and primary goals, the department:

- manages Metro's two transfer stations, operates two hazardous waste facilities and a latex paint recycling facility and contracts for disposal of the region's solid waste and commercially exempt hazardous waste
- develops and administers the solid waste management plan for the region
- certifies, licenses, and franchises private solid waste facilities
- maintains and monitors the region's largest inactive solid waste landfill

Solid Waste and Recycling Department

Adopted FY 2007-08 Budget - $21.5 million

Includes disposal services, hazardous waste reduction, illegal disposal, landfill stewardship, latex paint recycling, private facility regulation, solid waste reduction, waste reduction education and outreach.

Figures represent approximations

- disseminates regional recycling and garbage disposal information through the Recycling Information Center
- promotes the sustainable management of resources through education and grant programs.

These program elements are described in more detail in Appendix 7.

PERMITS

Currently Metro holds the following NPDES stormwater permits:

- 1200-Z permit at each of the two transfer stations
  Metro holds DEQ permits for Metro Central and Metro South. Water quality is tested for different parameters, none of which are TMDL pollutants. However, for runoff from Metro South into the Clackamas River, an impaired water body, DEQ requires Metro to complete a comprehensive plan to minimize impacts of discharge for any runoff into the Clackamas River within 180 days of permit approval.
- 1200-COLS permit at St. Johns Landfill
  This permit, approved in September 2006, expires in August 2011. Metro must test runoff for certain pollutants, including bacteria. The St. Johns Landfill lies within the Columbia Slough.
- Oxbow Park on the Sandy River has a special DEQ septic permit to protect water quality.

Solid Waste and Recycling

Adopted FY 2007-08 Budget - $25.8 million

Includes all related operations to comply with DEQ permits.

Figures represent approximations

These permits are described in more detail in Appendix 8.

Monitoring and adaptive management strategies

Adaptive management is the practice of regularly collecting and monitoring data to review and update goal-oriented management strategies. Monitoring results can be analyzed and evaluated to identify specific geographic areas and activities to improve water quality. Adaptive management can provide more dynamic and informed decision-making, resulting in more rapid ecological changes. Metro will use the monitoring process described below in an adaptive management process to track changes in watershed health over time and inform Metro's management and policy decisions relating to water quality and environmental health.

Ecosystem monitoring
Metro's Title 13 created a monitoring strategy to track watershed conditions over time, providing a means to identify the most important watershed areas and activities to improve the health of the Metro region's watersheds. The biennial report establishes a suite of repeatable ecological measures to assess watershed health, identify where enhancement efforts are working and pinpoint where more work is needed. The results are intended to help Metro Council assess Title 13's effectiveness and to help watershed

councils, planners and other natural resource audiences in their efforts to conserve and restore water quality and wildlife habitat. Metro Council's goal is to assist the region in maintaining or improving watershed health over time.

Title 13 designated objectives and targets and provided a list of potential indicators to measure watershed health. Performance objectives and indicators addressed in the report are summarized in Table 2.

Table 2. Summary of Title 13 objectives and indicators to be used in the biennial watershed monitoring report.

Performance Objective	Indicator
Preserve and improve streamside, wetland and flood area habitat connectivity.	1. % vegetation within 50 feet of streams and wetlands 2. % forest within 50 feet of streams and wetlands 3. % vegetation within 51-150 feet of streams and wetlands 4. % forest within 51-150 feet of streams and wetlands 5. Number of acres of Class I and II high value riparian habitat 6. Number of acres of developed flood-plain
Preserve large areas of contiguous habitat and avoid fragmentation.	7. Number of acres of Class A and B high value upland habitat Number of acres of interior habitat
Preserve and improve special habitats of concern.	8. Number of acres and categorical types of special or at-risk habitats.

Indicators 1-8 relate to water quality. Indicator 1, which measures the trees and other vegetation within 50 feet of streams and wetlands, is closely tied to TMDL parameters because vegetation provides shade to cool water and controls erosion and sediment inputs to surface water. Such sediments are a means of transporting mercury and bacteria to waterways.

Stream reach water quality model

Metro's studies in Clackamas County indicate that land use near streams can help predict water quality. Metro and Clackamas County Water Environment Services worked together to create a model for predicting water quality at the stream-reach scale (1,500-m stream reaches), based on Geographic Information Systems (GIS) and field-collected measures. This pilot model used water quality and land use data from the Damascus-Boring area in Clackamas County. The model measures land use and land cover within 200 meters of each side of the stream reach and correlates it with water quality measures.

Metro refined the pilot model in 2007. The results of the pilot model indicate that water quality, as measured by benthic invertebrates or specific conductance, can be predicted based on the amounts of urban land cover, high quality habitat (Class I riparian plus Class A upland), percent impervious cover and percent forest cover.

Metro is currently collecting the data needed for such an analysis for the entire region and will present results in the 2008 monitoring report. Metro will track and report on stream reach conditions every other year in its TMDL implementation plan updates. The results can help Metro, DEQ and local jurisdictions and watershed groups identify areas where restoration would most benefit water quality.

Long-term monitoring map
As part of the TMDL reporting Metro will create and maintain a map of long term water quality monitoring sites, to be updated with each annual TMDL report. The map will be maintained in a GIS layer and will include sites from USGS, DEQ, local jurisdictions and other resources. The GIS layer will include information on the monitoring party, water quality parameters measured and how to obtain the data, but will not include actual data.

Regional Environmental Information Network (www.rein.org)
Metro developed the Regional Environmental Information Network (REIN) online mapping tool to collect and share information on restoration, monitoring, natural area acquisition, environmental education and other environmental projects around the region. The tool, online at *www.rein.org*, was made public in January 2007. Any agency, organization, nonprofit or citizen group can enter their projects on the REIN tool. Currently the program includes information on nearly 800 projects from a wide variety of organizations.

Www.rein.org is a virtual gathering place in the Portland, Oregon–Vancouver, Washington region for information sharing and networking among the people, community groups, government agencies and nonprofit organizations that are working to protect, restore and monitor the region's natural resources. Information collected via *www.rein.org* enables Metro to track the region's ecological health over time and encourages strategic coordination and collaboration across the region.

Summary of non-regualtory activities by jurisdiction
Title 13 requires local jurisdictions to report their restoration, environmental education and natural area acquisition activities to Metro at the end of every odd-numbered year. Beginning in 2009, Metro's TMDL report will include a report of these activities by jurisdiction.

A note on Metro's TMDL performance measures
Metro is currently conducting a major evaluation on programmatic performance standards. This will affect monitoring and evaluation of programs, facilities and policies, resulting in changes in the monitoring and reporting standards presented in Appendix 5-8. Metro's 2009 TMDL report will update these measures. Certain activities, such as water quality monitoring related to permits and eco-roofs, will not change.

Summary

This TMDL implementation plan describes Metro's role as a Designated Management Agency. This report also summarizes Metro's water quality improvement activities including regional policies, facilities, programs and permits. Appendices 5-8 provide more detailed descriptions of these activities. In addition it describes Metro's monitoring strategy, including biennial watershed-based GIS monitoring and a finer scale assessment

of stream reach conditions; creating and maintaining a GIS map of the region's long term water quality monitoring sites; and tools to gather and summarize information on water quality improvement projects throughout the region, coupled with efforts to identify where restoration would most improve water quality.

Metro Council will consider this TMDL implementation plan for adoption in January 2008. Staff will provide Council with annual updates on TMDL implementation progress. Metro Council makes decisions by inviting jurisdictions and advisory committees to the table, including extensive input from citizens and environmental groups. TMDLs will become part of this conversation and decision-making process.

The Metro region is much changed from the historic setting and will probably never again resemble pre-settlement conditions. The region strives for a balance of urban land uses interspersed with natural areas. Tree cover and water quality within the urban growth boundary can be improved, but is also limited by the need to maintain a compact urban form to prevent sprawl and more widespread ecological damage. Metro works extensively with local jurisdictions and others to mitigate urban influences by purchasing and restoring natural areas, providing environmental education to citizens and nature-friendly development practices to developers, policy choices and through many other means.

Titles 3 and 13 provide regulatory protection to the most critical areas near streams and wetlands. In addition, Metro's extensive non-regulatory programs are designed to improve water quality and environmental health through activities on Metro properties and encouraging such activities on all lands in the region. Metro is committed to working with the region to address TMDL and other water quality issues and is pleased to enter this partnership with DEQ to help meet the federal Clean Water Act.

Commitments & recommendations

The preceding sections outline current or planned activities through which Metro intends to help maintain or improve water quality in the Willamette Basin. Appendices 5-8 provide a more comprehensive list of these activities. In addition, Metro will provide information on the following items to DEQ in the 2009 implementation plan update:

- Update the status of items in Appendices 5-8 as needed, including:
  - Follow progress on Toxics Reduction Strategy from agency-wide ENACT team
  - Track progress on connection to separated storm sewer at the Oregon Zoo
  - Track execution of Solid Waste and Recycling's plan to plant 2,600 native plants throughout the facilities
  - Track the number and types of natural area acres Metro restores
  - Update restoration plans for each subsequent year
  - Report on number of natural area acres purchased under the 2006 bond measure
  - Track number and identity of jurisdictions in compliance with Title 13
  - Report on compliance status of Metro water quality-related DEQ permits
  - Integrate Metro's new performance measures (currently under development) as appropriate
  - Update on Blue Lake Parks' water quality improvement efforts and associated monitoring

- Create and maintain a long-term water quality monitoring site map for use by Metro, DEQ and others
- Provide biennial watershed monitoring reports (due at the end of even years) as appendices to implementation plan updates
- Provide list and, if feasible, map of local jurisdiction's non-regulatory activities including restoration, environmental education and natural areas acquisition/ easements (due at the end of odd years)

While writing the TMDL implementation plan, staff identified several potential opportunities within the agency that may help further Metro's contribution to water quality improvements:

- Solid Waste Transfer Stations – track voluntary truck washing to identify effectiveness and potential incentives to improve participation
- Expo Center – track non-Metro water quality monitoring results in the Vanport Wetlands to assess the need to develop adaptive management strategies or monitoring program
- Oregon Zoo – create and execute a plan to implement the stormwater study recommendations
- Metro South transfer station – implement plan to regularly check stormwater detention ponds to evaluate need for dredging or other maintenance
- Agency-wide – assess which facilities' planting plans do not specify native plants when feasible; ask relevant facilities to change requirements unless natives are infeasible
- Agency-wide – provide regular updates of ENACT activities to Metro employees

Metro will provide DEQ with an update on recommendation outcomes in the 2009 report.

Glossary of terms

Terms ***bold-italicized*** in the body of the text are defined below.

2040 Growth Concept – This innovative blueprint for the future, intended to guide growth and development for the next 50 years, is based on a set of shared values that continue to resonate throughout the region: thriving neighborhoods and communities, abundant economic opportunity, clean air and water, protecting streams and rivers, preserving farms and forestland, access to nature, and a sense of place.

Bioaccumulation – This occurs when an organism absorbs a toxic substance at a rate greater than that at which the substance is lost. Thus, the longer the biological half-life of the substance the greater the risk of chronic poisoning, even if environmental levels of the toxin are very low.

Condensate – Condensate is a concentrated form of leachate (see below) that condenses out of the landfill gas as it cools while traveling along the pipeline. Typical condensate includes relatively high proportions of chlorides, ammonia nitrogen and phenols.

Designated Management Agency (DMA) – A DMA is a federal, state or local governmental agency or organization that has legal authority of a sector or source

contributing pollutants. This most commonly includes cities, counties, U.S. Forest Service, and U.S. Bureau of Land Management, but may also apply to other DMAs that manage significant tracts of land within TMDL boundaries or are otherwise identified as having a significant role in achieving water quality improvements.

Dichloro-Diphenyldichloro-Ethylene (DDE) – DDE is a common, toxic breakdown product of DDT that bioaccumulates. It can be excreted in breast milk.

Dichloro-Diphenyl-Trichloroethane (DDT) – DDT is a pesticide that bioaccumulates. Most uses of DDT were banned in the US in 1972. Its breakdown products are toxic.

Dieldrin – Dieldrin is a toxic chlorinated hydrocarbon insecticide that bioaccumulates.

Dioxin - Dioxin is the name generally given to a class of toxic, organic chemicals, the chlorinated dioxins and furans, formed as a by-product of the manufacture, molding, or burning of organic chemicals and plastics that contain chlorine.

Leachate – Leachate is the liquid that drains or 'leaches' from a landfill; it varies widely in composition regarding the age of the landfill and the type of waste that it contains. It can usually contain both dissolved and suspended material and may include significant toxics.

Polycyclic aromatic hydrocarbons (PAHs) – PAHs are widespread organic point source (a person can directly find the exact cause) or non-point source (the exact cause is undefined or unable to be pinpointed) pollutants. Some PAHs are known or suspected carcinogens, and are linked to other health problems. They are primarily formed by incomplete combustion of carbon-containing substances.

Polychlorinated biphenyls (PCB) – PCBs are persistent organic compounds banned in the 1970s due to the high toxicity. PCBs were used as coolants and insulating fluids for transformers and capacitors, stabilizing additives in flexible PVC coatings of electrical wiring and electronic components, pesticide extenders, cutting oils, flame retardants, hydraulic fluids, sealants, adhesives, paints, de-dusting agents, and in carbonless copy paper.

Total Maximum Daily Load (TMDL) – A TMDL is the calculated pollutant amount that a water body can receive and still meet Oregon water quality standards.

Appendices

Appendix 1 – Designated Management Agency Letter from Oregon DEQ
Appendix 2 – Watershed TMDL Flow Chart
Appendix 3 – Metro Region Map
Appendix 4 – Metro Organizational Flow Chart
Appendix 5 – Metro Policy Detail Table
Appendix 6 – Metro Facilities Detail Table
Appendix 7 – Metro Program Detail Table
Appendix 8 – Metro Permit Detail Table

Appendix 1 – Designated Management Agency (DMA) letter from DEQ

Oregon
Theodore R. Kulongoski, Governor

Department of Environmental Quality
Northwest Region Portland Office
2020 SW 4th Avenue, Suite 400
Portland, OR 97201-4987
(503) 229-5263
FAX (503) 229-6945
TTY (503) 229-5471

October 24, 2006

Michael Jordan, Chief Operating Officer
600 NE Grand Ave
Portland, OR 97232-2736

Re: Issuance of Willamette Basin TMDL and Water Quality Management Plan

Dear Mr. Jordan:

On September 21, 2006, the Department of Environmental Quality (DEQ) issued the Willamette Basin Total Maximum Daily Load (TMDL) as an Order, and submitted the TMDL to the Environmental Protection Agency (EPA) for approval. This is a huge milestone and comes after many years of working closely with the Willamette TMDL Council and other basin partners to develop a TMDL that was approved by EPA on September 29, 2006. When implemented, it will result in a cleaner, healthier Willamette River for current and future generations.

The Willamette River and numerous tributaries do not currently meet several water quality standards including bacteria, mercury and temperature. These standards assure that beneficial uses of the river and tributaries, such as swimming, fish consumption and fish rearing, are protected. When water quality standards are not met, the federal Clean Water Act requires a TMDL to be established. A TMDL determines how much pollution can be added to the river without exceeding water quality standards.

This letter is intended to provide you with notification that the TMDL has been issued as an order and that the summary of responses to comments is available as directed under OAR 340-042-0050 to 0070. Copies of the final TMDL, Water Quality Management Plan (WQMP) and Response to Comments are available on the DEQ Website at http://www.deq.state.or.us/wq/tmdls/willamettebasin.htm

Water quality improvements will depend on the actions of Willamette Basin communities, businesses and citizens. DEQ has named certain federal, state and local governments and agencies, including cities, counties and special districts, as Designated Management Agencies (DMA), as these governments and agencies have authority to manage and regulate sources of pollutants listed in the TMDL. Metro has been identified as a DMA. Upon issuance, the TMDL is an order that requires Metro to develop and carry out its own implementation plan outlining actions Metro will take to meet the requirements of the TMDL on lands under Metro's jurisdiction. The

implementation plan must be submitted to DEQ within 18 months of September 21, 2006, unless that timeline is extended by the Department.

These implementation plans will describe the actions that municipalities and agencies will undertake to reduce pollution in order to help restore and protect water quality. You may already have plans or strategies in place that help prevent or control water pollution, such as Storm Water Management Plans or riparian protection, but these plans may not address all of the TMDL pollutants. The Implementation Plan will be built upon these efforts and may include additional steps that will be taken over time to improve water quality.

DEQ will work in partnership with you to provide assistance and support in development of the implementation plan. Manette Simpson (503-229-5294), DEQ's basin coordinator for the Lower Willamette, is available to provide you and your staff with technical assistance for plan development.

We look forward to working with you to improve water quality in the Willamette Basin. If you have any questions about the TMDL overall or would like to request a copy/CD of the TMDL/WQMP, please call Andy Schaedel in our Portland office at 503-229-6121, or Mike Wolf in our Eugene Office at 541-686-7848.

Sincerely,

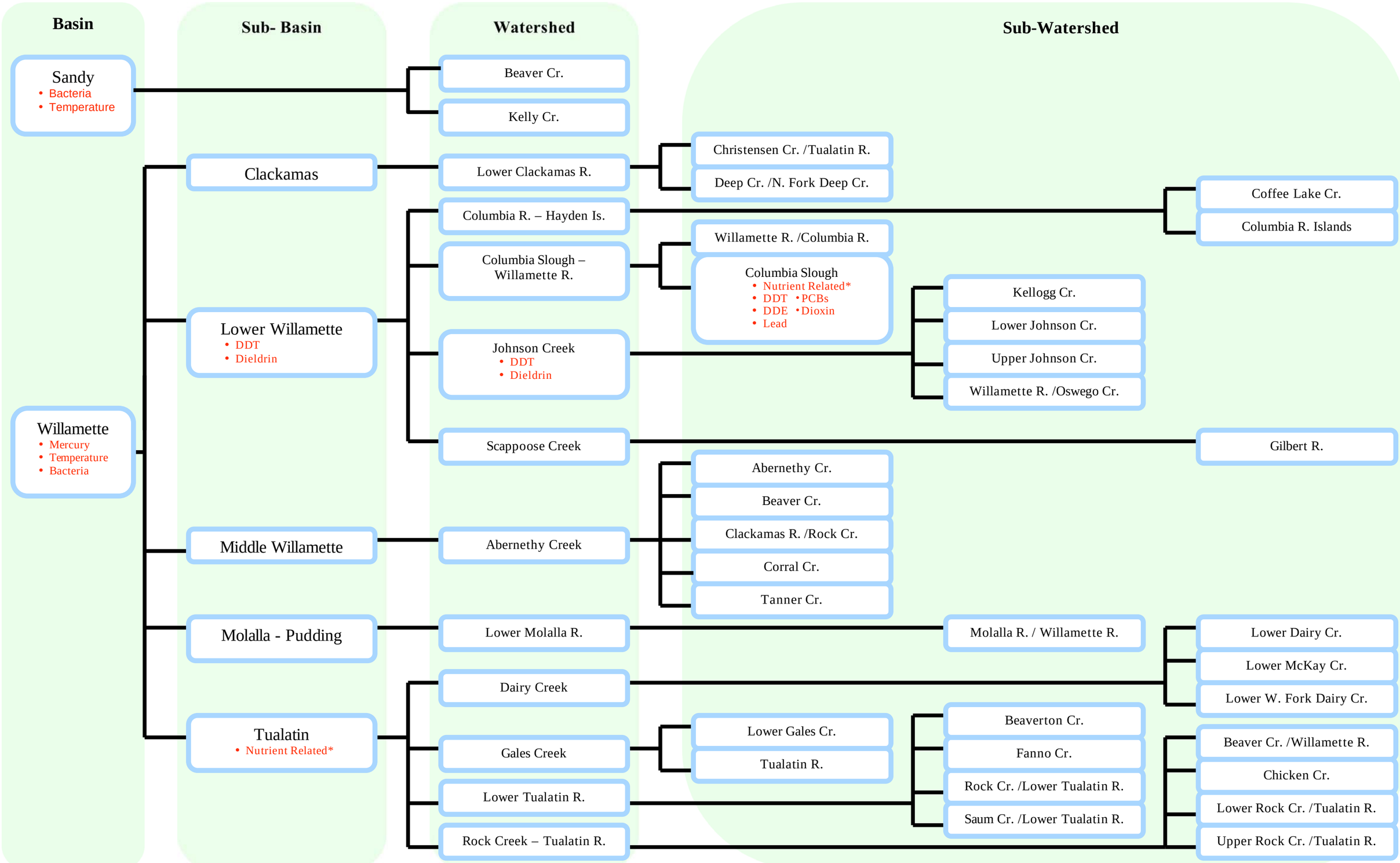
Andrew T Schaedel

for Dick Pederson, Administrator
Northwest Region

Encl

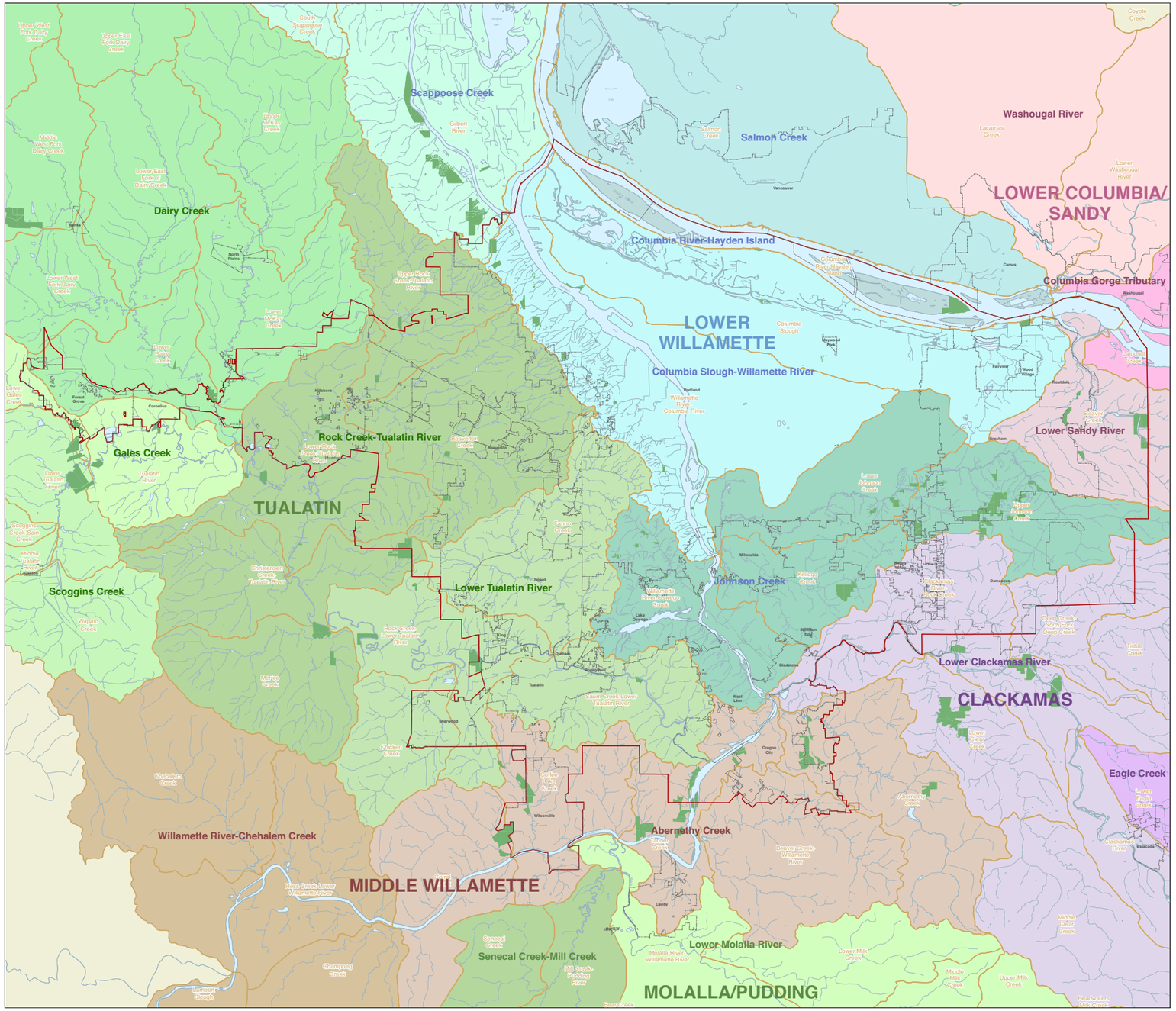
Cc: Andy Cotugno, Planning Director
Christine Deffebach, Planning Manager
Jim Morgan, Natural Resource Manager

Appendix 2 – Watershed TMDL flowchart



Pollutant that affects basin, sub-basin, watershed, sub-watershed listed in red. *Nutrient Related refers to pH, Dissolved Oxygen and Chlorophyll *a*.

Appendix 3 – Metro Region Map



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R L I S
REGIONAL LAND INFORMATION SYSTEM

Nature in Neighborhoods

Hydrologic Unit Boundaries

5th field watershed
6th field sub-watershed

- City boundary
- Metro jurisdictional boundary
- Openspace acquisitions
- HUC 6: Subwatersheds

HUC 5: Sub-basin name, Watershed name

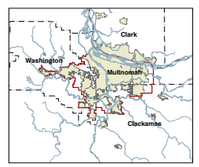
- Clackamas, Eagle Creek
- Clackamas, Lower Clackamas River
- Lower Columbia-Sandy, Columbia Gorge Tributary
- Lower Columbia-Sandy, Lower Sandy River
- Lower Columbia-Sandy, Salmon River
- Lower Columbia-Sandy, Washougal River
- Lower Willamette, Columbia River-Hayden Island
- Lower Willamette, Columbia Slough-Willamette River
- Lower Willamette, Johnson Creek
- Lower Willamette, Scappoose Creek
- Lower Willamette, Salmon Creek
- Middle Willamette, Abernethy Creek
- Middle Willamette, Willamette River-Chehalem Creek
- Molalla-Pudding, Lower Molalla River
- Molalla-Pudding, Senecal Creek-Mill Creek
- Tualatin, Dairy Creek
- Tualatin, Gales Creek
- Tualatin, Lower Tualatin River
- Tualatin, Rock Creek-Tualatin River
- Tualatin, Scoggins Creek

TUALATIN
SUB-BASIN NAME

GALES CREEK
WATERSHED NAME

Tualatin River
Sub-Watershed Name

1 inch = 1.25 Miles
0 0.5 1 2 3 4 Miles



Location Map

METRO
METRO DATA RESOURCE CENTER
600 NORTHEAST GRAND AVENUE | PORTLAND, OREGON 97232-2736
TEL (503) 797-1742 | FAX (503) 797-1909
drc@metro.dst.or.us | www.metro-region.org

Appendix 4 – Metro Organizational Flow Chart

Council

Metro CEO
Michael Jordan

Metro Regional Center
Michael Jordan - COO

Programs

Finance & Administrative Services
Bill Stringer - CFO

- Property Services

Information Technology
Scott Robinson - CIO

- Information Technology

Planning
Andy Cotugno - Director

- Regional Framework Plan / Functional Plan and update
- Transit-oriented Development & Centers Implementation
- Regional Travel Options
- Metropolitan Transportation Improvement Program
- Regional Transportation Plan
- Metropolitan Planning Organization

Regional Parks & Greenspaces
Jim Desmond - Director

- Parks Design & Construction
- Regional Trails Planning & Implementing
- Environmental Education & Interpretation
- Natural Areas Acquisition
- Science and Stewardship Team
- Natural Gardening
- Nature In Neighborhoods
- Parks Community Involvement
- Parks & Natural Areas Management
- Park Volunteer Services

Solid Waste & Recycling
Michael Hoglund - Director

- Disposal Services
- Hazardous Waste Reduction
- Illegal Disposal
- Landfill Stewardship
- Private Facilities Regulation
- Solid Waste Reduction
- Waste Reduction Education and Outreach
- Facility & Asset Management

Oregon Zoo
Tony Vecchio - Director

- Conservation
- Conservation Education

Metropolitan Exposition-Recreation Commission
David Wolson – Executive Officer

Oregon Convention Center
Jeff Blosser – Executive Director

Expo Center
Chris Bailey - Director

Appendix 5 – Metro Policy Detail Table

Appendix 5 -- Metro Policy Detail Table

Ordinance / Best Management Practice or Activity	Performance Measure	Commitment	Example Annual Report Information: Status and Additional Goals, Fiscal Year 2007-08	Example: Proposed Adaptive Management, Fiscal Year 2008-09	Clackamas Co.	Multnomah Co.	Washington Co.	Beaverton	Cornelius	Damascus	Durham	Fairview	Forest Grove	Gladstone	Gresham	Happy Valley	Hillsboro	Johnson City	King City	Lake Oswego	Maywood Park	Milwaukie	Oregon City	Portland	Rivergrove	Sherwood	Tigard	Troutdale	Tualatin	West Linn	Wilsonville	Wood Village
Policy items govern all areas within Metro's Jurisdictional boundary and all are required to comply within the time frame established in the policy.																																
An "X" in the columns indicates that the Count/city is in compliance with the policy																																
TITLE 3 - Water Quality and Floodplain Protection Plan																																
Purpose: To protects streams and floodplains by establishing performance measures. These measures are specific, quantifiable regional standards that local jurisdictions must meet before future development.																																
	Is jurisdiction in compliance?	January 31, 2000	Number of jurisdictions in compliance	Work with local jurisdictions not yet in compliance; emphasize Title 13 over Title 3 if not in compliance with either	X*	X	X	X	X		X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X		X	X
TITLE 13 - Nature in Neighborhoods																																
Purpose: To protect the region's highest value streamside habitat, which has been designated as "habitat conservation areas," while also encouraging protection of other valuable habitat through a combination of incentives and voluntary efforts.																																
	Is jurisdiction in compliance?	January 5, 2009	Number of jurisdictions in compliance	Work with local jurisdictions not yet incompliance			X	X					X				X								X	X	X		X			
	Has jurisdiction reviewed code for habitat-friendly development barriers?		Number of jurisdictions that have reviewed code	Work with local jurisdictions not yet incompliance			X	X	X		X		X				X		X							X	X		X			
	Has jurisdiction revised code to address issues identified in code review?	January 5, 2008	Number of jurisdictions that have removed code barriers	Work with local jurisdictions not yet incompliance																												
	Is jurisdiction meeting Title 13 reporting requirements?	Local jurisdictions must report on non-regulatory efforts for habitat restoration, environmental education and acquisition / conservation easements.	By December 31, 2007 and each following odd year, jurisdictions report on voluntary and incentive based education, acquisition and restoration habitat protection efforts. Number of jurisdictions that have met reporting requirements of each type. Metro will defer the deadline for this requirement to coordinate with TMDL reporting.												X																	

* Oak Lodge Sewer District of Clackamas Co. is not in compliance

Appendix 6 – Metro Facilities Detail Table

Appendix 6 -- Metro Facilities Detail Table

Best Management Practice or Activity	Commitment	Monitoring / Performance Measure	Example Annual Report Information: Status and Additional Goals, Fiscal Year 2007-08	Example: Proposed Adaptive Management, Fiscal Year 2008-09	Pollutant											Watershed					
					Mercury	*Bacteria*	*Temperature*	*Pesticides*[1]	*Nutrient Related*[2]	*Fossil Fuels*[3]	*Storm water*	*Energy Conservation*	*Materials reduction*	*Water Conservation*	*Toxics use and handling*	*Willamette / Region wide*	*Lower Willamette*	*Tualatin*	*Johnson Creek*	*Columbia Slough*	*Sandy*
Checkmark in the Pollutant column(s) indicates that the BMP effectively reduces Metro's contribution to the TMDL pollutant.																					
Checkmarks in the Watershed column indicate that the BMP is conducted in that basin.																					
FACILITY #1 **METRO REGIONAL CENTER - 600 NE Grand Ave., Portland, OR 97232**																	X				
Lady Bugs for Pest control	**Program Commitment:** Release 5,000-10,000 lady bugs in street trees as a form of pest control, instead of using pesticides.	Each spring staff assesses the need for lady bugs; if there is leaf drop or aphid residue on leaves, lady bugs are released.	Not necessary in 2007; will assess need in Spring 2008.	ongoing				X							X		X				
Use of "green" herbicides and pesticides	**Program Commitment:** Decrease the run-off of harmful chemicals into the storm drains.	None; part of regular best management practices for facility.	ongoing	ongoing				X							X		X				
Planting native plants and using natural gardening techniques	**Program Commitment:** Using native plants reduces the amount of water, fertilizer and pesticides needed to maintain plant health; reduce erosion, thereby reducing run-off and bacteria and toxic loads to water; and cool air and water.	None; part of regular best management practices for facility.	ongoing	ongoing			X	X	X		X			X	X		X				
Installation of multi-function printing, copying and scanning machines	**Program Commitment:** By using all-in-one machines, paper and energy use will be decreased. Indirectly reduces temperature (dams for energy) and potential toxics loads.	None; part of regular best management practices for facility.	ongoing	ongoing								X	X				X				
Replace lighting fixtures / recycle bulbs	**Program Commitment:** Replace quartz with LED lights	Periodic check / replacement of bulbs as old bulbs burn out.	Number of bulbs replaced and recycled.	ongoing	X							X	X				X				
	Program Commitment: Replace 150-watt bulbs in 75 parking structure fixtures with 35 watt induction lights. These new bulbs have no mercury and use less energy.				X							X	X				X				
	Program Commitment: Recycle all replaced bulbs. All bulbs are sent to Earth Protection Services.	Metro recycles on average 30 to 40 fluorescent bulbs and 14 compact fluorescent bulbs per month at present.			X							X	X				X				
Installed Variable Frequency Drive controls on parking structure exhaust fans	**Program Commitment:** Reduced energy consumption by installing new VFD fans while maintaining same level of air quality.	None	Metro reduced energy consumption by approx. 50 percent after VFD controls were installed.	None								X					X				

Appendix 6 -- Metro Facilities Detail Table

Best Management Practice or Activity	Commitment	Monitoring / Performance Measure	Example Annual Report Information: Status and Additional Goals, Fiscal Year 2007-08	Example: Proposed Adaptive Management, Fiscal Year 2008-09	Pollutant											Watershed					
					Mercury	*Bacteria*	*Temperature*	*Pesticides*[1]	*Nutrient Related*[2]	*Fossil Fuels*[3]	*Storm water*	*Energy Conservation*	*Materials reduction*	*Water Conservation*	*Toxics use and handling*	*Willamette / Region wide*	*Lower Willamette*	*Tualatin*	*Johnson Creek*	*Columbia Slough*	*Sandy*
Facility-wide recycling	**Program Commitment:** Reduce, re-use and recycle all possible materials used in the facility. Metro has already reached a 2009 goal of 58% recycling.	After implementation of MetroKids food scraps recycling program, Metro hopes to reach 60 or 70 percent recycling. This reduces Metro's impact on the environment by decreasing the load taken to the landfill and the potential pollutants being released in to the environment.	MRC plans to expand the food recycling program to the rest of the building early in 2008.									X	X				X				
ENACT Team	**Program Commitment:** Ongoing team of all Metro-owned and managed facilities, tasked with identifying and implementing green practices to reduce Metro's impact on the environment. The ENACT program has been in place since 2000.	In the past the ENACT team has awarded nearly $150,000 to fund more than 30 projects at Metro facilities that are related to solid waste or recycling. This money has helped purchase low-flow toilets at MRC and use goats instead of chemicals at Metro natural area to prepare sites for native plant restoration.	New activities recommended and/or implemented through the year.		X	X	X	X	X	X	X	X	X	X	X		X				
Green Roof / plaza planters	**Program Commitment:** Reduce stormwater runoff and energy use. Cools and cleans air. Green roof materials are comprised of 30% recycled content. Installed in 2005. Approx. 2,500 sq. ft. of roof is covered, about 6% of overall roof space.	Stormwater retention and water quality are measured continually and compared to runoff and water quality to a portion of the rock-ballasted conventional roof. There are no current plans to expand the eco-roof because the current roof has five more years of life.	Figures will be available for the 2009 TMDL update.				X	X			X	X	X		X		X				
	Program Commitment: Plaza planters situated on top of Metro employee parking garage reduce stormwater runoff and erosion. Native plants reduce water, fertilizer and pesticide use.	Approx 6,900 sq. ft. of the plaza is covered by planters that help retain stormwater and reduce energy consumption by the parking garage below the plaza.					X	X			X	X			X		X				
FACILITY #2																					
TRANSFER STATIONS AND HOUSEHOLD HAZARDOUS WASTE FACILITIES *(see each station for address)*																	X				
Transfer Station and Household Hazardous Waste Facility #1 - METRO SOUTH - 2001 Washington, Oregon City, OR 97405																	X				

Appendix 6 -- Metro Facilities Detail Table

Best Management Practice or Activity	Commitment	Monitoring / Performance Measure	Example Annual Report Information: Status and Additional Goals, Fiscal Year 2007-08	Example: Proposed Adaptive Management, Fiscal Year 2008-09	Pollutant											Watershed					
					Mercury	*Bacteria*	*Temperature*	*Pesticides*[1]	*Nutrient Related*[2]	*Fossil Fuels*[3]	*Storm water*	*Energy Conservation*	*Materials reduction*	*Water Conservation*	*Toxics use and handling*	*Willamette / Region wide*	*Lower Willamette*	*Tualatin*	*Johnson Creek*	*Columbia Slough*	*Sandy*
Compost Filter	**Program Commitment:** Leaf compost adsorbs metal and organic contaminants from the stormwater.	Regularly, visually inspected to determine when sediment should be removed. Sediment will plug the filter causing stormwater to flood or overflow the filter and bypass filtering through the compost.	Number of times, if any, that stormwater flooded / overflowed the filter. No plugs or overflows have occurred to date. If floods or overflows occur in the future, consider producing a plan to correct the problem.	ongoing	X	X		X	X	X	X			X			X				
Detention Pond	**Program Commitment:** The detention pond slows the flow of stormwater. This reduces suspended solids by allowing time to settle. There are six out fall areas around Metro South. They are comprised of approx. 7.2 acres of impervious surfaces that drain to the catch basins, oil/sediment traps, grass lined ditches, a compost filter and a detention pond. The types of surfaces that drain are building roofs, impervious parking surfaces and pervious landscape surfaces.	None	ongoing	ongoing					X	X	X						X				
Sediment filters in catch basin	**Program Commitment:** Filters were installed in catch basins to reduce the amount of solids entering the stormwater collection system. There are six out fall areas around Metro South. They are comprised of approx. 7.2 acres of impermeable surfaces that drain to the catch basins, oil/sediment traps, grass lined ditches, a compost filter and a detention pond. The types of surfaces that drain are building roofs, impermeable pavement surfaces and permeable landscape surfaces.	Follow a Stormwater Pollution Control Plan that includes monitoring stormwater leaving those sites four times per year that is reported to DEQ.	Include brief summary of findings from related water quality monitoring.	If monitoring identifies significant problem(s), adjust Stormwater Pollution Control Plan to address the issue.					X	X	X						X				

Appendix 6 -- Metro Facilities Detail Table

Best Management Practice or Activity	Commitment	Monitoring / Performance Measure	Example Annual Report Information: Status and Additional Goals, Fiscal Year 2007-08	Example: Proposed Adaptive Management, Fiscal Year 2008-09	Pollutant											Watershed					
					Mercury	*Bacteria*	*Temperature*	*Pesticides*[1]	*Nutrient Related*[2]	*Fossil Fuels*[3]	*Storm water*	*Energy Conservation*	*Materials reduction*	*Water Conservation*	*Toxics use and handling*	*Willamette / Region wide*	*Lower Willamette*	*Tualatin*	*Johnson Creek*	*Columbia Slough*	*Sandy*
Catch basins with Oil Separators	**Program Commitment:** Basins are designed to capture sediment and floating debris and oil. There are six out fall areas around Metro South. They are comprised of approx. 7.2 acres of impermeable surfaces that drain to the catch basins, oil/sediment traps, grass lined ditches, a compost filter and a detention pond. The types of surfaces that drain are building roofs, impermeable pavement surfaces and permeable landscape surfaces.	Follow a Stormwater Pollution Control Plan that includes monitoring stormwater leaving those sites four times per year.	Include brief summary of findings from related water quality monitoring.	If monitoring identifies significant problem(s), adjust Stormwater Pollution Control Plan to address the issue.					X	X	X					X					
Truck Wash	**Program Commitment:** Commercial garbage haulers wash out their transport containers to prevent contaminants from depositing on local roads or into stormwater.	None, usage is voluntary	ongoing	ongoing	X	X			X	X						X					
Vegetation / Planting & Permeable Surface	**Program Commitment:** Plants stabilize soil, retain rain water and provide shade. Plants only require watering during the dry season and occasional watering through out the year. Integrated pest program in place. The permeable surface allows stormwater to drain into the ground surface. It also reduces temperature and filters. Permeable surface around the facility is approx. 2.1 acres and is spread through out the facility.	Some of the permeable surfaces require pruning, mowing, watering and some weed control.	Through out the next year Solid Waste and Recycling plans to plant 2,600 plants through out the landfill and two transfer stations.	ongoing			X				X			X			X					
Pumping Stations and Trapped Manholes	**Program Commitment:** Keep contaminants from stormwater. Trapped manholes are manholes where the volume is below the outlet to allow for solids to settle and be trapped and may have a screen, baffle or outlet fitting that holds back floating debris. There are two pumping stations and two trapped manholes. Pumping station #1 pumps into the piping system that flows into the detention pond and pumping station #2 pumps into the piping system that flows into the ditch along Washington Street.	None	ongoing	ongoing	X				X	X	X						X					
Site Sweeping	**Program Commitment:** Keep contaminants from stormwater	None	ongoing	ongoing						X	X						X					

Appendix 6 -- Metro Facilities Detail Table

Best Management Practice or Activity	Commitment	Monitoring / Performance Measure	Example Annual Report Information: Status and Additional Goals, Fiscal Year 2007-08	Example: Proposed Adaptive Management, Fiscal Year 2008-09	Pollutant											Watershed					
					Mercury	*Bacteria*	*Temperature*	*Pesticides*[1]	*Nutrient Related*[2]	*Fossil Fuels*[3]	*Storm water*	*Energy Conservation*	*Materials reduction*	*Water Conservation*	*Toxics use and handling*	*Willamette / Region wide*	*Lower Willamette*	*Tualatin*	*Johnson Creek*	*Columbia Slough*	*Sandy*
Transfer Station and Household Hazardous Waste Facility #2 - METRO CENTRAL - 6161 NW 61st., Portland, OR 97210																	X				
Truck Wash	**Program Commitment:** Commercial garbage haulers wash out their transport containers to prevent contaminants from depositing on local roads or into stormwater.	None usage is voluntary.	ongoing	ongoing	X	X		X	X	X	X						X				
Sediment filters in catch basin	**Program Commitment:** Filters were installed in catch basins to reduce the amount of solids entering the stormwater collection system.	Follow a Stormwater Pollution Control Plan that includes monitoring stormwater leaving those sites four times per year that is reported to DEQ.	Include brief summary of findings from related water quality monitoring.	If monitoring identifies significant problem(s), adjust Stormwater Pollution Control Plan to address the issue.	X			X									X				
Catch basins with Oil Separators	**Program Commitment:** Basins are designed to capture sediment and floating debris and oil.	Follow a Stormwater Pollution Control Plan that includes monitoring stormwater leaving those sites four times per year.	Include brief summary of findings from related water quality monitoring.	If monitoring identifies significant problem(s), adjust Stormwater Pollution Control Plan to address the issue.	X			X									X				
Special filters in catch basins	**Program Commitment:** Special filters reduce sediment and some organic and metal contaminants.	Follow a Stormwater Pollution Control Plan that includes monitoring stormwater leaving those sites four times per year that is reported to DEQ.	ongoing	ongoing	X			X									X				
Vegetation / Planting	**Program Commitment:** Plants stabilize soil, retain rain water and provide shade. Plants only require watering during the dry season and occasional watering through out the year. Integrated pest program in place.	None	Through out the next year Solid Waste and Recycling is looking to plant 2,600 plants through out the landfill and two transfer stations.	ongoing	X		X		X	X	X			X	X		X				
Pumping Stations and Trapped Manholes	**Program Commitment:** Keep contaminants from stormwater	None	ongoing	ongoing	X				X	X	X						X				
Site Sweeping	**Program Commitment:** Keep contaminants from stormwater	None	ongoing	ongoing	X					X	X						X				

Appendix 6 -- Metro Facilities Detail Table

Best Management Practice or Activity	Commitment	Monitoring / Performance Measure	Example Annual Report Information: Status and Additional Goals, Fiscal Year 2007-08	Example: Proposed Adaptive Management, Fiscal Year 2008-09	Pollutant											Watershed					
					Mercury	*Bacteria*	*Temperature*	*Pesticides*[1]	*Nutrient Related*[2]	*Fossil Fuels*[3]	*Storm water*	*Energy Conservation*	*Materials reduction*	*Water Conservation*	*Toxics use and handling*	*Willamette / Region wide*	*Lower Willamette*	*Tualatin*	*Johnson Creek*	*Columbia Slough*	*Sandy*
FACILITY #3 **ST. JOHNS LANDFILL - 9363 North Columbia Blvd., Portland, OR 97203**																				X	
Pumping Stations and Trapped Manholes	**Program Commitment:** Keep contaminants from stormwater. Trapped manholes are manholes where the volume is below the outlet to allow for solids to settle and be trapped and may have a screen, baffle or outlet fitting that holds back floating debris.	None	ongoing	ongoing	X				X	X	X									X	
Site Sweeping	**Program Commitment:** Keep contaminants from stormwater	None	ongoing	ongoing	X					X	X									X	
Bank Stabilization	**Program Commitment:** Reduce soil erosion directly into Columbia Slough. So far 1,500 ft. of bank has been stabilized with native plantings from the toe of the bank to the top.	None	ongoing	ongoing	X	X	X	X	X	X	X			X	X					X	
Liner sedimentation basins; leachate collection system	**Program Commitment:** Liner prevents stormwater from contacting garbage. leachate collection prevents contamination of stormwater runoff by pumping it and diverting it to the sanitary sewer system.	None	ongoing	ongoing	X	X	X	X	X	X	X									X	
Cutoff Walls	**Program Commitment:** Prevent seeping of landfill leachate into surrounding surface waters.	None	ongoing	ongoing	X	X	X	X	X	X	X									X	
Native vegetation plantings and maintenance	**Program Commitment:** Prevent erosion and provide shade. Plants only require watering during the dry season and occasional watering through out the year.	None	Through out the next year Solid Waste and Recycling is looking to plant 2,600 plants through out the landfill and two transfer stations.	ongoing	X		X		X	X	X			X	X					X	
Condensate Collection	**Program Commitment:** Condensate is produced in the landfill gas system when water vapor condenses due to changes in temperature and pressure. This liquid is collected at various points in the gas system and is ultimately evaporated on site. This reduces toxics entering ground and surface waters.	Metro records the volume collected and tests the sludge produced after evaporation. The sludge is disposed of in accordance with results of testing.	ongoing	ongoing	X					X	X									X	

Appendix 6 -- Metro Facilities Detail Table

Best Management Practice or Activity	Commitment	Monitoring / Performance Measure	Example Annual Report Information: Status and Additional Goals, Fiscal Year 2007-08	Example: Proposed Adaptive Management, Fiscal Year 2008-09	Pollutant											Watershed					
					Mercury	Bacteria	Temperature	Pesticides[1]	Nutrient Related[2]	Fossil Fuels[3]	Storm water	Energy Conservation	Materials reduction	Water Conservation	Toxics use and handling	Willamette / Region wide	Lower Willamette	Tualatin	Johnson Creek	Columbia Slough	Sandy
FACILITY #4 **METROPOLITAN EXPOSITION-RECREATION COMMISSION - 777 Martin Luther King Jr. Blvd., Portland, OR 97232** ***(see building for address)***																					
Building #1 - EXPO CENTER - 2060 N. Marine Dr., Portland, OR 97217																				X	
Stormceptors	**Program Commitment:** There are three of these on the property. They are essentially boxes in the ground that collects run-off and allows debris, oil and water to separate.	Periodically check to make sure it is running properly	ongoing	ongoing	X					X	X									X	
Oil Water Separator	**Program Commitment:** Catches any oil runoff from loading docks and parking surfaces before it enters the Vamport Wetlands.	None	ongoing	ongoing	X					X	X									X	
Catch basins	**Program Commitment:** Basins are designed to capture sediment and floating debris and keep it from streams.	Viewing the storm drain catch basins for debris and clean as needed	ongoing	ongoing	X			X	X	X	X									X	
Building #3 - METROPOLITAN EXPOSITION-RECREATION COMMISSION / OREGON CONVENTION CENTER - 777 Martin Luther King Jr. Blvd., Portland, OR 97232																	X				
Rain Garden on South side	**Program Commitment:** Filters roof water from expansion side of building before it enters the river. The garden is approximately 318 ft. in length and 6.5 ft. wide. It is planted with native plants that minimize the amount of maintenance needed. The garden is designed to hold 1,000 cubic ft. of water.	None	ongoing	ongoing	X		X				X			X	X		X				
Bioswale along First Ave.	**Program Commitment:** Catches runoff water from loading docks and filters it before it travels into the river. The water drains to the Willamette River. The separators are pumped out as needed by and contractor and the contractor disposes of the material.	Periodically check to make sure it is running properly during periods of rain.	ongoing	ongoing	X			X		X	X						X				
Oil/Water Separators	**Program Commitment:** Catches any oil runoff from loading docks and parking surfaces before it enters the Willamette River.	Oil/Water Separators are checked quarterly and cleaned annually. Information is tracked for LEEDS certification purposes	ongoing	ongoing	X					X	X						X				

Appendix 6 -- Metro Facilities Detail Table

Best Management Practice or Activity	Commitment	Monitoring / Performance Measure	Example Annual Report Information: Status and Additional Goals, Fiscal Year 2007-08	Example: Proposed Adaptive Management, Fiscal Year 2008-09	Pollutant											Watershed					
					Mercury	*Bacteria*	*Temperature*	*Pesticides*[1]	*Nutrient Related*[2]	*Fossil Fuels*[3]	*Storm water*	*Energy Conservation*	*Materials reduction*	*Water Conservation*	*Toxics use and handling*	*Willamette / Region wide*	*Lower Willamette*	*Tualatin*	*Johnson Creek*	*Columbia Slough*	*Sandy*
Clean out parking lot storm drains	**Program Commitment:** Keeps leaves and other debris from flowing into the river.	Viewing the storm drain catch basins for debris	ongoing	ongoing	X				X	X							X				
Irrigation Controllers	**Program Commitment:** Reduces water use on plants and grass area by monitoring precipitation, humidity, and sunlight. Areas are only watered as needed.	Periodically check the irrigation system for proper operation and completing annual start up and shut down of system.	ongoing	ongoing										X			X				
Salmon Safe Certification	**Program Commitment:** Limit pesticide usage that is a threat to aquatic life.	Work with landscaping contractors to use safe pesticides/fertilizers and minimize the amount of pesticides used on property.	ongoing	ongoing				X							X		X				
LEEDS Gold Certification and Water Use Reduction	**Program Commitment:** Using low flow restroom fixtures, irrigation controls, etc. to reduce water consumption.	Periodically checking to make sure water saving devices are working properly.	ongoing	ongoing										X			X				
FACILITY #5 **OREGON ZOO - 4001 SW Canyon Rd., Portland, OR 97221**																	X				
	Stormwater main connection to City system: City of Portland finished construction on a separated stormwater line along Highway 26. The Zoo's separated stormwater sewer line can now connect to a separated stormwater main, minimizing combined sewer outflow to the Willamette River.	Pending	Connection to be created	None	X	X		X	X	X	X						X				
	Stormwater Master Plan: Map the existing storm sewer and sanitary sewer system so that they may be separated as new construction occurs	Each capital construction project documents changes to the stormwater system.	ongoing	ongoing	X	X		X	X	X	X						X				
	Stormwater Projects Study: Identify opportunities to install innovative stormwater control projects and educate the public	After funding is secured, the number of opportunities identified	ongoing	ongoing	X	X		X	X	X	X			X	X		X				

Appendix 6 -- Metro Facilities Detail Table

Best Management Practice or Activity	Commitment	Monitoring / Performance Measure	Example Annual Report Information: Status and Additional Goals, Fiscal Year 2007-08	Example: Proposed Adaptive Management, Fiscal Year 2008-09	Pollutant											Watershed					
					Mercury	Bacteria	Temperature	Pesticides[1]	Nutrient Related[2]	Fossil Fuels[3]	Storm water	Energy Conservation	Materials reduction	Water Conservation	Toxics use and handling	Willamette / Region wide	Lower Willamette	Tualatin	Johnson Creek	Columbia Slough	Sandy
Stormwater Control Projects	**Parking lot flow-through planters:** The planters filter and slow stormwater run-off, prior to entering the City sewer system. This alleviates combined-sewer overflow to the Willamette River. There are two rows of detention planters totaling approx. 2,800 sq. ft. There is also one row of flow through planter, totaling approx. 3,700 sq. ft.	City of Portland Bureau of Environmental Services monitors flow into the City storm sewer	ongoing	ongoing	X					X	X						X				
	Family Farm soakage trenches: Roofs drain to underground soakage trenches. There are two soakage trenches; one for the barn roof, approx. 3,500 sq. ft., plus the area of two viewing structures, approx 224 sq. ft. The roof area for the house is approx 2,600 sq. ft.	City of Portland inspects manholes annually	ongoing	ongoing			X				X			X			X				
	Rain barrel collection system: The system collects stormwater and releases it slowly to the ground instead of directing rainwater to the City sewer system	None	System at train station was installed in 2006, Birds of Preys was installed in Fall 2007 and is ongoing								X			X			X				
	Predators of the Serengeti: Install a stormwater collection system to utilize "grey" water and separate stormwater from the sanitary sewer system. This minimizes sewer inflow into both systems.	Pending installation	Under construction.	Will be under construction - exhibit to open 2009		X			X		X			X			X				
	Orangutan upgrade: Install a stormwater collection to utilize "grey" water and separate stormwater from the sanitary sewer system. This minimizes sewer inflow into both systems.	Pending installation	Construction initiated September 2007	Construction completion scheduled for 2008		X			X		X			X			X				
	Stellar Cove: Exhibit utilizes a closed-loop system of filtration and treatment to minimize water use and discharge to city sanitary sewer system.	None	ongoing	ongoing		X											X				
	Penguinarium: The exhibit has a system of filtration and treatment to minimize water use and discharge to the city sanitary sewer system.	Animal keepers record when the pool is drained in to the city sewer system	ongoing	ongoing		X								X			X				

Appendix 6 -- Metro Facilities Detail Table

Best Management Practice or Activity	Commitment	Monitoring / Performance Measure	Example Annual Report Information: Status and Additional Goals, Fiscal Year 2007-08	Example: Proposed Adaptive Management, Fiscal Year 2008-09	Pollutant											Watershed					
					Mercury	*Bacteria*	*Temperature*	*Pesticides*[1]	*Nutrient Related*[2]	*Fossil Fuels*[3]	*Storm water*	*Energy Conservation*	*Materials reduction*	*Water Conservation*	*Toxics use and handling*	*Willamette / Region wide*	*Lower Willamette*	*Tualatin*	*Johnson Creek*	*Columbia Slough*	*Sandy*
Water Use/ Fecal Matter Reduction:	**Cascade Canyon:** Stormwater runoff from the roof of bear holding building drains to the Marsh Aviary pool to minimize city water use and divert from the storm sewer.	None	ongoing	ongoing							X			X			X				
	Sink motion detectors: Minimizes water consumption and reduces wastewater. Approx. 60% of the faucets are now motion detector faucets.	None	ongoing	ongoing										X			X				
	Toilet valve replacement: Users may make the choice of "flush" level required, minimizing water use and waste water. All new toilets installed are low flow. However some cannot be replaced without extensive remodeling.	None	ongoing	ongoing										X			X				
	Aquatics Life Support Technician: Staff monitors water for animal health and proposes water-saving modifications to life-support systems.	Track proposed system changes	ongoing	ongoing										X			X				
	Zoo Doo Composting: All herbivore fecal matter and food waste is collected and composted on site, decreasing landfill waste load. Bacterial content of the material is managed on site. We have composted off site for many years and started composting on site in 2004. Currently we are at about 99% retention rate for fecal matter.	Waste is measured and compost is shared with other local agencies, such as City of Portland Bureau of Parks. We average composting approx. 84,000 lbs of manure a month	ongoing	ongoing		X		X	X		X		X	X	X		X				
	Food service composting: All food service waster is collected and composted on site. This decreases the waste load taken to the land fill and cuts down bacteria load in landfill drainage. This project started as a pilot project in 2003.	Compost facility for food waste is regularly monitored and measured. We average composting approx. 14,458 lbs. of post-consumer food waste per month.	ongoing	ongoing		X							X				X				

Appendix 6 -- Metro Facilities Detail Table

Best Management Practice or Activity	Commitment	Monitoring / Performance Measure	Example Annual Report Information: Status and Additional Goals, Fiscal Year 2007-08	Example: Proposed Adaptive Management, Fiscal Year 2008-09	Pollutant											Watershed					
					Mercury	Bacteria	Temperature	Pesticides[1]	Nutrient Related[2]	Fossil Fuels[3]	Storm water	Energy Conservation	Materials reduction	Water Conservation	Toxics use and handling	Willamette / Region wide	Lower Willamette	Tualatin	Johnson Creek	Columbia Slough	Sandy
Vegetation Restoration / Protection	**Construction requirements:** All capital construction bid documents have technical specifications that include: erosion & sediment control, existing tree protection, environmental controls and construction waste management (recycling).	All contracted construction work is monitored for compliance with bid documents.	ongoing	ongoing		X					X		X				X				
	Irrigation Controls: Irrigation time clocks are modified so that they are easily switched to "rain mode" to conserve water on rainy days and prevent run-off.	Zoo Horticulture Manager monitors the system controls.	ongoing	ongoing										X			X				
	Planting plans: Planting plans are developed to minimize erosion (stormwater quality and quantity control) and utilize native material that will need less irrigation when mature (stormwater quantity control). New plantings always exceed removed plantings, for construction projects.	Project specific	ongoing	ongoing		X			X		X			X	X		X				
	Pervious Surfaces: Three locations: Eagle Canyon, Cascade Canyon and Family Farm. Water from walking surface is returned to the ground and does not run into a city sewer system.	None	ongoing	ongoing							X						X				
FACILITY #6 **MANAGED PARKS & FACILITIES *(see each specific address)***																					
Managed Park and/or Facility #1 - OXBOW REGIONAL PARK - *3010 SE Oxbow, Gresham, OR 97080*																					X
Septic system and associated pumping	**Program Commitment:** Remove all waste water treatment from Park facilities proximal to the Sandy river and relocate to higher ground, further from the Sandy River.	Outside consultant samples and test quarterly. All reports are submitted to DEQ. We have a permit through DEQ for this.				X								X							X

Appendix 6 -- Metro Facilities Detail Table

Best Management Practice or Activity	Commitment	Monitoring / Performance Measure	Example Annual Report Information: Status and Additional Goals, Fiscal Year 2007-08	Example: Proposed Adaptive Management, Fiscal Year 2008-09	Pollutant											Watershed					
					Mercury	Bacteria	Temperature	Pesticides[1]	Nutrient Related[2]	Fossil Fuels[3]	Storm water	Energy Conservation	Materials reduction	Water Conservation	Toxics use and handling	Willamette / Region wide	Lower Willamette	Tualatin	Johnson Creek	Columbia Slough	Sandy
Managed Park and/or Facility #2 - BLUE LAKE PARK - ***20500 NE Marine Dr., Troutdale, OR 97060***																	X				
Solar Bee installation	**Program Commitment:** Floating solar powered long distance circulating equipment. It accelerates biological cleaning process by pumping 10,800 GPM of water from the lake floor and spreading it across the surface of the lake.	The unit is powered by solar panels and has brushless motor. Unit has a 25-year life expectancy with no regularly scheduled maintenance.	ongoing	ongoing		X			X								X				
Restricted Usage	**Program Commitment:** Park policy changed to bar children under five years of age from lake usage. This greatly reduces the potential for E.coli contamination.	Water samples taken twice a week during the summer high use season and monthly during the winter off season. Results will be analyzed to determine this experimental tool's effectiveness. Metro will provide DEQ with an update in the 2008 TMDL report.	ongoing	ongoing		X			X								X				
Trash Removal from Lake	**Program Commitment:** Manually collected one ton of trash from lake, which results in less contamination.	Monitor and remove trash weekly.	ongoing	ongoing	X												X				

[1] Pesticide relevant parameters include DDT, DDE and Dieldrin.

[2] Nutrient related TMDLs exist for the Columbia Slough only. Relevant parameters include phosphorus, dissolved oxygen, pH, and chlorophyll a.

[3] Fossil Fuel relevant parameters include PCBs, Dioxins and PAHs.

Appendix 7 – Metro Program Detail Table

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Best Management Practice or Activity	Commitment	Monitoring / Performance Measures	Example Annual Report Information: Status and Additional Goals, Fiscal Year 2007-08	Example: Proposed Adaptive Management, Fiscal Year 2008-09	Pollutant: Mercury	Bacteria	Temperature	Pesticides[1]	Nutrient Related[2]	Fossil Fuels[3]	Storm water	Energy Conservation	Materials Reduction	Water Conservation	Toxics use and handling	Watershed: Willamette / Region wide	Lower Willamette	Tualatin	Johnson Creek	Columbia Slough	Sandy
Checkmark in the Pollutant column(s) indicates that the BMP effectively reduces Metro's contribution to the TMDL pollutant.																					
Checkmarks in the Watershed column indicate that the BMP is conducted in that basin.																					
PROGRAM - Parks Design & Construction																					
Enhance Metro's Regional Parks and Greenspaces through investments in parks facilities; site planning, design and engineering, approvals and permits, construction, etc.																					
Includes: Mt. Talbert, Cooper Mountain, Graham Oaks, Willamette Cove, Blue Lake Golf Learning Center and Lone Fir Cemetery	**Program Commitment:** Uses BMPs to protect natural resource value while providing public use	Based on timing of capital improvements and project completion	On-going	On-going			X				X		X	X		X		X			
PROGRAM - Regional Framework Plan and Functional Plan Update and Compliance																					
A Metro program that covers three areas																					
Regional Framework Plan and Functional Plan changes	**Program Commitment:** Support Metro Council requests for considerations of Framework Plan and Functional Plan policies	N/A. Framework is changed as new policies or changes to policies are incorporated, such as Title 13.	On-going	On-going	X	X	X	X	X	X	X	X	X	X	X	X					
Local Compliance and Annual Compliance Report	**Program Commitment:** Local jurisdictions are required to notify Metro of land use actions and allow Metro to review these actions for compliance to Metro requirements. Increases compliance and effectiveness for Metro's environmental policies.	Actions filed with Metro; annual review of local jurisdictions' compliance.	On-going	On-going	X	X	X	X	X	X	X	X	X	X	X	X					
Technical Assistance	**Program Commitment:** Answer questions from local jurisdictions, their attorneys, property owners, and other on a regular basis regarding which of Metro's requirements might apply in a situation and how. Increases compliance and effectiveness for Metro's environmental policies.	Number of calls to Technical Assistance	See monitoring / performance measures	On-going	X	X	X	X	X	X	X	X	X	X	X	X					

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Best Management Practice or Activity	Commitment	Monitoring / Performance Measures	Example Annual Report Information: Status and Additional Goals, Fiscal Year 2007-08	Example: Proposed Adaptive Management, Fiscal Year 2008-09	Pollutant: Mercury	Bacteria	Temperature	Pesticides[1]	Nutrient Related[2]	Fossil Fuels[3]	Storm water	Energy Conservation	Materials Reduction	Water Conservation	Toxics use and handling	Watershed: Willamette / Region wide	Lower Willamette	Tualatin	Johnson Creek	Columbia Slough	Sandy
PROGRAM - Regional Tails Planning and Implementation																					
Planning and Implementation	**Program Commitment:** Focus on feasibility and alignment study, master planning, design development and construction of multi-modal trails that are part of Greenspaces Regional Trail Plan and Regional Trails component of RTP. Metro produced and uses a "Green Trails" handbook. Reduces adverse environmental effects; reduces vehicle miles traveled.	Trail master plans completed; miles of trails constructed.	On-going	On-going	X		X			X	X	X	X			X					
PROGRAM - Transit-oriented Development and Centers Implementation																					
Increase transit and pedestrian trips thought higher density mixed-use development.																					
Includes station communities, Max stops, streetcar lines, frequent bus stops, regional and town centers and main streets	**Program Commitment:** Provide education, advocacy and technical assistance to agencies and members working to implement transit-oriented development centers, programs, plans and projects. Reduces vehicle miles traveled; limits urban extent; reduces infrastructure needs.	Advocacy materials produced, and technical assistance given	On-going	On-going	X	X	X	X	X	X	X	X	X	X	X	X					
PROGRAM - Conservation																					
Identifies and implements in site and ex situ wildlife conservation and research activities that contribute to the Oregon Zoo's conservation mission.																					
Includes direct field work, researching and improving animal husbandry techniques and captive propagation	**Program Commitment:** Motivate community to care and act on behalf of wildlife by providing opportunities for observation, discovery and enjoyment. Encourages habitat preservation and restoration.	Number of visitors to area where messaging is displayed	On-going	On-going			X				X					X					

Appendix 7 -- Metro Program Detail Table					Pollutant												Watershed					
Best Management Practice or Activity	**Commitment**	**Monitoring / Performance Measures**	**Example Annual Report Information: Status and Additional Goals, Fiscal Year 2007-08**	**Example: Proposed Adaptive Management, Fiscal Year 2008-09**	*Mercury*	*Bacteria*	*Temperature*	*Pesticides[1]*	*Nutrient Related[2]*	*Fossil Fuels[3]*	*Storm water*	*Energy Conservation*	*Materials Reduction*	*Water Conservation*	*Toxics use and handling*	*Willamette / Region wide*	*Lower Willamette*	*Tualatin*	*Johnson Creek*	*Columbia Slough*	*Sandy*
PROGRAM - Conservation Education																					
The Oregon Zoo serves as an important conservation, education and cultural resource.																					
Public Education	**Program Commitment:** Provide learning opportunities to people of all ages, communities and different cultures. Inspire and motivate people to care and act on behalf of wildlife by planning experiences for observation, discovery and enjoyment.	Number of visitors to Zoo	On-going	On-going			X				X					X					
PROGRAM - Disposal Services																					
Provide comprehensive solid waste disposal services to commercial haulers and the public																					
Oversight and Contract Management	**Program Commitment:** Provide overall administration of the stations and manage the service contracts for operation, transport, disposal and safety compliance. Reduces toxics and sediment inputs, risk of spills.	Number of contracts filled annually	On-going	On-going	X					X					X	X					
Community Enhancement	**Program Commitment:** Collect a 50-cent fee on each ton of waste delivered to the transfer stations, which is redistributed for rehabilitation, enhancement and mitigation of environmental impact to the host community.	Amount of money raised from the fee	On-going	On-going			X				X						X				
PROGRAM - Environmental Education and Interpretation																					
Inspire the community to enjoy the region's natural areas and understand the importance of creating and protecting a healthy urban ecosystem.																					
Community Outreach	**Program Commitment:** Provide outdoor environmental education for school groups, students and teachers; nature classes and tours.	To be determined.	Number and type of activities; number of people reached	On-going	X	X	X	X	X	X	X	X		X	X	X					

Appendix 7 -- Metro Program Detail Table

Best Management Practice or Activity	Commitment	Monitoring / Performance Measures	Example Annual Report Information: Status and Additional Goals, Fiscal Year 2007-08	Example: Proposed Adaptive Management, Fiscal Year 2008-09	Pollutant											Watershed					
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PROGRAM - Hazardous Waste Reduction																					
Collect hazardous wastes from households and small commercial generators, and manage them in an environmentally sound manner. In addition to maintain collection opportunities at two permanent facilities located at Metro's transfer stations.																					
Permanent Facilities	**Program Commitment:** Collection, analysis, processing and related activities are performed at Metro facilities. Procedures and standards reduce toxics, sediment inputs, risk of spills.	Auditing two contractor disposal sites per year	On-going	On-going	X	X		X	X	X					X	X					
Collection Events / Round-ups	**Program Commitment:** Draw down stockpiles of hazardous wastes that citizens may have accumulated in their residences.	Conduct at lease 33 community-based Round-up events (approximately 60 days in the field), providing education and convenient collection services	On-going	On-going	X	X		X	X	X					X	X					
	Program Commitment: Educate citizens on the dangers of hazardous wastes in the household	Recycle or recover resources from at least 66 percent of the waste received	On-going	On-going	X	X		X	X	X					X	X					
	Program Commitment: Educate residences about alternatives that may be used in the place of hazardous materials	Recycle or recover resources from at least 66 percent of the waste received	On-going	On-going	X	X		X	X	X					X	X					
PROGRAM - Latex Paint Recycling																					
	Program Commitment: Reduce risk of improper disposal of latex paint	Metro tracks amount of paint received	On-going	On-going									X		X	X					
	Program Commitment: Refine and create recycled paint and sell to region in an effort to promote green practices	Metro tracks the amount of pain recovered and sold	On-going	On-going								X	X	X	X	X					
PROGRAM - Illegal Disposal																					
Clean up and prevent illegal dumping of solid waste																					
	Program Commitment: Monitor and surveillance of sites that are known to attract illegal disposal	Number of site and hours spent monitoring	On-going	On-going	X	X		X	X	X					X	X					
	Program Commitment: Gather evidence and pursue prosecution of persons who illegally dispose of solid waste	Number of cases brought to court	On-going	On-going	X	X		X	X	X					X	X					

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	Program Commitment: Clean up illegal dump sites	Acreage clean up	On-going	On-going	X	X		X	X	X					X	X					
	Program Commitment: Coordinating with local and state government officials	Acreage clean up and number of agencies cooperating	On-going	On-going	X	X		X	X	X					X	X					
PROGRAM - Landfill Stewardship																					
Ensure Metro's compliance with various state and local regulations that apply to landfill closure operations.																					
Closure and Maintenance	**Program Commitment:** Construct, operate and maintain environmental improvements at St. John's and Killingsworth Fast Disposal Landfills.	Submit complete reports within required time limits	On-going	On-going	X	X		X		X					X	X				X	
Environmental monitoring	**Program Commitment:** Monitor environmental improvements and environmental quality at the landfills, Smith and Bybee Wetlands Natural Area and other Metro facilities. Also ensure Metro's compliance with permit requirements.	Complete repairs of erosion damage to the surface of the perimeter dike between the buried solid waste and surface water for 1,000 feet of dike on the North Slough	On-going	On-going	X	X		X		X					X	X				X	
Landfill Gas Project	**Program Commitment:** Capture methane gas produced by the landfill for sale to commercial enterprises.	Provided sufficient landfill gas more than 95% of the time that gas is requested by Ash Grove Cement Company	On-going	On-going								X									
D. Restoration to Beneficial Use	**Program Commitment:** At St. John's, implement wildlife habitat and public access projects as needed to meet objectives and policies of the Natural Resources Management Plan for Smith and Bybee Wetlands Natural Area. At Killingsworth Fast Disposal, cooperate with the site owner (City of Portland) as appropriate to develop beneficial uses for the site.	To be determined.	On-going	On-going			X				X					X				X	

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PROGRAM - Natural Areas Acquisition																					
Acquire regionally significant natural areas for protection of riparian and upland habitat and water quality																					
Regional Natural Areas Acquisition Program	**Program Commitment:** Purchase between 3,500 to 4,500 acres of land in identified regional target areas to protect lands around local rivers and streams, preserve significant fish and wildlife habitat, enhance trials and wildlife corridors, and connect urban area with nature.	Acres of land purchased; linear feet or miles of stream / river frontage purchased	On-going	On-going	X	X	X	X	X	X	X	X		X	X	X					
Local Share Program	**Program Commitment:** Local cities, counties and park districts within Metro's jurisdiction will complete more than 100 projects that protect water quality, improve parks, preserve natural areas and provide access to nature for people all over the region.	Reports from cities, counties and park districts about what projects were completed	On-going	On-going	X	X	X	X	X	X	X	X		X	X	X					
Nature in Neighborhoods Capital Grants Program	**Program Commitment:** Fund neighborhood projects that enhance natural features and their ecological functions on public lands.	Reports from the grantees about the projects they are conducting/completing	On-going	On-going	X	X	X	X	X	X	X	X		X	X	X					
PROGRAM - Metro Natural Areas Science and Stewardship Team																					
Metro's science and stewardship team works to protect water quality, reestablish rare habitat and return Metro's newly protected natural areas to their roots.																					
Streamside plantings	**Program Commitment:** Plant and restore streamsides to increase shade to reduce water temperature stabilize stream banks to prevent erosion and channel damage	Between 1997 and July 2007, Metro planted approx. 31,000 linear ft. of stream and riverbanks in native trees and shrubs for shading habitat enhancement and bank stabilization.	For fiscal year of 2008-2009, approx. 5,000 additional linear ft. will be planted; report on actual outcomes.	On-going	X	X	X	X	X	X	X	X		X	X	X					

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Conversion of lands	**Program Commitment:** To adapt agricultural lands in or near the flood plain to native plant communities.	Between 1999 and 2006 approx. 560 acres of agricultural flood plain were planted with native trees and shrubs and restored to native habitat.	For fiscal year 2008-2009, approx.190 more acres of floodplain will be planted; report on actual outcomes.	On-going	X	X	X	X	X	X	X	X		X	X	X					
In stream and channel enhancement	**Program Commitment:** Enhance water quality by reducing erosion and removing sediment from the water column. This enhances fish habitat by providing complexity and cold water refugia.	Use of side channels by salmonids, extent of low temperature refugia, self-sustaining stability and geomorphic functions of channels in high flows.	See monitoring / performance measures	On-going	X	X	X	X	X	X	X	X		X	X	X					
Water control structures	**Program Commitment:** Retain floodwater to mimic historical flood regime; prolonged flooding in selected years suppresses non-native plants and encourages native seed bank emergence. Create greater diversity of habitat types such as emergent wetland, mudflats, scrub/shrub communities.	Percent of native plant cover, significant use by use of anadromous fish smolts, increase in native amphibians.	See monitoring / performance measures	On-going				X			X				X						
Dam Removal	**Program Commitment:** Remove decommissioned dams to decrease solar heating, passage of fish and increase dissolved oxygen.	▪ Stream should be able to maintain a viable pool/riffle sequence reflective of similar stream reached with same gradient.	Report on relevant activities.	On-going			X		X		X					X					
Non-native and invasive removal	**Program Commitment:** Control non-native and invasive plants by controlling flooding regimes that favor native plants, stressing invasive plants by cutting/mowing prior to applying least toxic herbicides, limited spot spray application of non-persistent herbicides, and establish native trees and shrubs to suppress shade-intolerant weeds.	Success is deemed when percent cover by native plants in tree and shrub layers is >95% and in ground cover is >75%	See monitoring / performance measures	On-going	X	X	X	X	X		X				X	X					

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PROGRAM - Natural Gardening																					
Metro offers a wealth of free natural gardening resources, including seminars, publications, demonstration gardens, clinics, tours and more.																					
Toxics Reduction Strategy	**Program Commitment:** In-house sustainability project's goal is to reduce toxics used by all Metro operations.	Inventory existing toxics used at Metro and document substitution of toxics with non-toxics or less toxics.	Report on relevant activities.	On-going				X							X	X					
Toxics Reduction Education	**Program Commitment:** Educate region about methods to reduce illegal or inadvertent contamination of the region.	Round up educators provide toxics reduction education at the Roundups and facilities staff provide it at all facilities. 58,000 households served annually. Metro collects surveys from customers to evaluate program.	Report on relevant activities, including number of customers served annually.	On-going				X							X	X					
Healthy Lawns Project	**Program Commitment:** Reduction of pesticide use and water use by area residents.	3,000 resident contacts by educators with documented reduction in pesticide use and water use by residents. Area streams are tested to verify effectiveness of the program.	Report on relevant activities.	On-going		X		X	X		X	X		X	X	X					
Demonstration Gardens	**Program Commitment:** Educate residents on better gardening practices for positive environment impacts	▪ Monitor attendance; collect surveys to evaluate program.	Report on relevant activities.	On-going		X		X	X			X		X	X	X					
PROGRAM - Nature in Neighborhoods																					
Multi-disciplinary, public involvement-based program offering expert assistance, brokering of data and information, funding and support for restoration activities. Nature in Neighborhoods also has involvement in four other areas: land acquisition under bond measure, Local code compliance with Title 13, restoration on public and private lands and conservation education via coordination with Regional Parks and Greenspaces, waste reduction and natural gardening. However, other groups manages these programs.																					
Monitoring and Reporting	**Program Commitment:** Produce periodic public reports on ecosystem health in the region.	Watershed monitoring report completed by December 31, even years.	Include report as appendix to TMDL updates.	On-going	X	X	X	X	X	X	X	X		X	X	X					

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Development Practices / Private-Sector Outreach	**Program Commitment**: Engage the major local land development entities and practitioners to address "how-to's" and hurdles to habitat-friendly development practices, including innovative storm water BMPs.	Self-reported measures of public investment and involvement in watershed activities with reports from local jurisdictions	Include relevant information in TMDL updates.	On-going	X	X	X	X	X		X	X		X		X					
Community Grants Program	**Program Commitment:** Granting small sums to individuals and groups in the public working on restoration in their neighborhoods.	Dollars awarded, matching funds and number of grants awarded.	See monitoring / performance measures	On-going	X	X	X	X	X	X	X	X		X	X	X					
PROGRAM - Nature in Neighborhoods 10,000 Acre Restoration Initiative																					
Initiative to build a broad coalition of public, private and nonprofit partners to restore 10,000 acres in the next 10 years																					
Develop detailed scope of work and formalize partnership	**Program Commitment:** Identify amount, types of restoration needed; refined work strategy and budget (contractors, volunteers, community building information and process); Identify potential funding sources	Scope of work created	Summarize status and activities.	On-going	X	X	X	X	X	X	X	X		X	X	X					
Frame initiative by creating partnerships and draft products	**Program Commitment:** Establish stakeholder contacts; draft objectives, guiding principles; briefing papers to support technical framework; technical framework; partner convening event; design web site.	Scope of work created	Summarize status and activities.	On-going	X	X	X	X	X	X	X	X		X	X	X					
Convene initial 10,000 Acres Restoration Initiative partnership	**Program Commitment:** Convene policy task force of mayors, civic and business leaders to agree on strategy and roles; publish web site; consultant develops outreach materials; refine and expand framing documents.	Scope of work created	Summarize status and activities.	On-going	X	X	X	X	X	X	X	X		X	X	X					
Outreach	**Program Commitment:** Outreach materials complete; Councilors, Policy Task Force to present to boards of partner organizations, neighborhood and friends of groups, business leaders, media and other stakeholders.	Scope of work created	Summarize status and activities.	On-going	X	X	X	X	X	X	X	X		X	X	X					

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PROGRAM - Parks Community Involvement																					
Encourage citizen participation in events and activities that foster an increased stewardship ethic in the region																					
	Program Commitment: Work with community partners, individuals and the media to build public awareness of the regional greenspaces system and marketing of Metro's Parks and Greenspaces Department's programs and visitor facilities.	TBD	On-going	On-going	X	X	X	X	X	X	X	X		X	X	X					
PROGRAM - Parks and Natural Areas Management																					
Provide efficient and cost effective management of designated parks and natural areas. Includes three regional park facilities, three recreational marine																					
Maintenance	**Program Commitment:** Support and operate the facilities, visitor assistance, enforcement in park facilities, risk management, etc inherent in the management of these facilities. Metro does not allow dogs in its parks.	Number of Visitors	On-going	On-going		X										X					
	Program Commitment: Provide safe, accessible, attractive and well-maintained parks and wildlife areas for the citizens of the region.	Enterprise Revenue	On-going	On-going	X	X	X	X	X	X	X	X		X	X	X					
	Program Commitment: Protect, restore, and enhance the resources and manage natural resources for future opportunities for passive recreation.	Identify future opportunities	On-going	On-going	X	X	X	X	X	X	X	X		X	X	X					
Natural Resources Science and Stewardship	**Program Commitment:** Protect and restore the region's natural resources through science-based assessment, strategic and management planning, and implementation.	Number of Acres restored	Number of acres restored	On-going	X	X	X	X	X	X	X	X		X	X	X					

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PROGRAM - Parks Volunteer Services																					
This is a support program for several other programs, including Environmental Education and Interpretation, Natural Resources Stewardship, Parks and Natural Area Management and Pioneer Cemeteries. These areas support the mission of the Regional Parks and Greenspaces Department, the Greenspaces Master Plan, and Chapter 3 of the Regional Framework Plan.																					
	Program Commitment: Recruit, screen, orient, train and deploy volunteers in support of parks and natural-area related activities and operations.	Volunteer hours recruited. Recognize volunteer service.	Volunteer hours recruited	On-going	X	X	X	X	X	X	X	X		X	X	X					
PROGRAM - Private Facilities Regulation																					
Ensure the operation of privately-owned solid waste facilities meet environmental, regulatory, operational, and fiscal standards.																					
Regulation	**Program Commitment:** Enforce compliance with Metro Code, administrative procedures, performance standards, and Metro-granted authorizations and flow control instruments.	Provide timely review and staff recommendations for all Metro-granted authorizations.	On-going	On-going	X	X		X	X	X	X				X	X					
	Program of Commitment: License and franchise solid waste facilities and administer the flow control agreements.	Provided effective and timely regulatory guidance at regulated facilities	On-going	On-going	X	X		X	X	X	X				X	X					
	Program Commitment: Inspect and audit facilities.	Conduct 125 comprehensive inspections per inspector; conduct financial compliance reviews for at least 6 facilities.	See monitoring / performance measures	On-going	X	X		X	X	X	X				X	X					

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PROGRAM - Regional Travel Options																					
Metro's regional transportation demand strategy for reducing reliance on automobiles.																					
Key components include: Collaborative Marketing program, the Regional Rideshare Program, Transportation Management Association Program, The Metro Regional Travel Options Grant Program, Evaluation and Technical Assistance Program	**Program Commitment:** Emphasize coordination of regional marketing activities and shift the lead role for managing the program from TriMet to Metro.	Increase percentage of work trips made by non-SOV modes. Increase share of non-commute, non-SOV trips in targeted residential areas. Increase public awareness of travel options, continuing Drive Less/Save More marketing campaign. Increase the number of local trips made by a non-SOV modes. Increase ridesharing: self-sustaining vanpools and quality carpool matches.	Report relevant activities or results	On-going	X					X		X	X			X					
PROGRAM - Solid Waste Reduction																					
Ensures opportunity to recycle is provided for all generators of post-consumer waste in the region. Implements Metro's responsibilities under the Regional Solid Waste Management Plan, the state's 1983 Opportunity to Recycle Act, the 1991 Oregon Recycling Act, and related new and amended state legislation.																					
Program Maintenance	**Program Commitment:** Ensure that the extensive investment in regional recycling institutions and infrastructure is maintained, through coordination among service providers in the delivery of the opportunity to recycle.	Regional recovery rate	On-going	On-going						X		X	X	X	X	X					
New Initiatives	**Program Commitment:** Develop new programs for generators and waste streams that expand prevention and recycling opportunities.	Evaluation of new programs	On-going	On-going						X		X	X	X	X	X					
Measuring and Monitoring	**Program Commitment:** Monitor program performance to provide management information, fulfill state reporting requirements, establish technical foundations for New Initiatives, and undertake similar and related tasks.	Evaluate and implement new measurement and monitoring efforts	On-going	On-going						X		X	X	X	X	X					

Appendix 7 -- Metro Program Detail Table

Best Management Practice or Activity	Commitment	Monitoring / Performance Measures	Example Annual Report Information: Status and Additional Goals, Fiscal Year 2007-08	Example: Proposed Adaptive Management, Fiscal Year 2008-09	Pollutant											Watershed					
					Mercury	*Bacteria*	*Temperature*	*Pesticides*[1]	*Nutrient Related*[2]	*Fossil Fuels*[3]	*Storm water*	*Energy Conservation*	*Materials Reduction*	*Water Conservation*	*Toxics use and handling*	*Willamette / Region wide*	*Lower Willamette*	*Tualatin*	*Johnson Creek*	*Columbia Slough*	*Sandy*
PROGRAM - Waste Reduction Education and Outreach																					
Promote opportunities to recycle through education and outreach																					
	Program Commitment: Promote opportunities to recycle through environmental education and information, integrate resource conservation concepts into school curriculum and classroom activities, and directly promote waste prevention through demonstration projects and other approaches.	Implement new database to adequately participate in the 2040 Performance Indicators program; visits to Metro's "Find a Recycler" web page; students reached in elementary and secondary school presentations.	See monitoring / performance measures	On-going	X	X		X	X	X		X	X	X	X	X					
	Program Commitment: Conduct a Recycling Hotline available to public as a call-in Q&A forum to learn about recycling and to assist the public in making good recycling decisions.	Calls are monitored on regular basis	On-going	On-going	X	X		X	X	X		X	X	X	X	X					
PROGRAM - Metropolitan Transportation Improvement Program																					
Federally mandated program to allocate metropolitan transportation funds within the Portland Region																					
	Program Commitment: Allocate funds in a creative, competitive process that is designed to leverage the Region 2040 Growth Concept through strategic transportation investments	Update MTIP solicitation criteria to reflect updated Regional Transportation Plan and Region 2040 policies and implementation strategies. Monitor implementation of MTIP allocations through the 2040 Performance Indicators project to determine effectiveness in meeting policy objectives. Manage implementation of project planning activities funded through MTIP allocations. Participate in implementation of project development activities funded through MTIP allocations.	On-going	On-going	X					X		X				X					

Appendix 7 -- Metro Program Detail Table

Best Management Practice or Activity	Commitment	Monitoring / Performance Measures	Example Annual Report Information: Status and Additional Goals, Fiscal Year 2007-08	Example: Proposed Adaptive Management, Fiscal Year 2008-09	Pollutant											Watershed					
					Mercury	*Bacteria*	*Temperature*	*Pesticides*[1]	*Nutrient Related*[2]	*Fossil Fuels*[3]	*Storm water*	*Energy Conservation*	*Materials Reduction*	*Water Conservation*	*Toxics use and handling*	*Willamette / Region wide*	*Lower Willamette*	*Tualatin*	*Johnson Creek*	*Columbia Slough*	*Sandy*
PROGRAM - Regional Transportation Plan																					
RTP sets the 25-year transportation framework for the region, ranging from regional policies and local development regulations to a program of improvements and programs that implement the RTP vision																					
	Program Commitment: Implement the Region 2040 Growth Concept	Adopt an updated RTP that meets state requirements by 9/09 and federal requirements by 3/08.	On-going	On-going	X					X		X				X					
	Program Commitment: Establish eligibility for any transportation project in the region that seeks to use federal funds	Amend MTIP solicitation criteria to reflect updated RTP policies and implementation strategies	On-going	On-going	X					X		X				X					
		Amend local transportation plans to reflect updated RTP policies and implementation strategies	On-going	On-going	X					X		X				X					
PROGRAM - Green Streets																					
A resource for designing environmentally sound streets that can help protect streams and wildlife habitat.																					
	Program Commitment: Integrate a system of stormwater management within its right of way. Reduce the amount of water that is piped directly to streams and rivers. Be a visible component of a system of "green infrastructure" that is incorporated into the aesthetics of the community. Make the best use of the street tree canopy for stormwater interception as well as temperature mitigation and air quality improvement. Ensure the street has the least impact on its surroundings, particularly at locations where it crosses a stream or other sensitive area.	The design and construction of green streets is one component of a larger watershed approach to improving the region's water quality, and requires a more broad-based alliance for its planning, funding, maintenance and monitoring.	On-going	On-going	X		X			X	X	X	X	X		X					

Appendix 7 -- Metro Program Detail Table

Best Management Practice or Activity	Commitment	Monitoring / Performance Measures	Example Annual Report Information: Status and Additional Goals, Fiscal Year 2007-08	Example: Proposed Adaptive Management, Fiscal Year 2008-09	Pollutant: Mercury	Bacteria	Temperature	Pesticides[1]	Nutrient Related[2]	Fossil Fuels[3]	Storm water	Energy Conservation	Materials Reduction	Water Conservation	Toxics use and handling	Watershed: Willamette / Region wide	Lower Willamette	Tualatin	Johnson Creek	Columbia Slough	Sandy
PROGRAM - Alternative Commuting Options for Metro Employees																					
Provide commute alternatives to employees designed to reduce the number of cars driven to work in Portland and surrounding areas.																					
	Program Commitment: Reduce traffic congestion	Metro employees who carpool (either together or with a licensed driver) at least 80 percent of the calendar month, and who pay to park at Metro employee parking facilities (currently Metro Regional Center only) will receive an $11 reduction in the parking fee. Each additional employee in the carpool results in another $11 reduction.	On-going	On-going	X					X		X				X					
	Program Commitment: Keep the region's air clean	If employees bike or walk to work 80 percent or more of the calendar month, they are eligible for a bicycle/walk certificate redeemable for $22 worth of merchandise from participating area bike and sporting goods shops.	On-going	On-going	X					X		X				X					
	Program Commitment: Encourage health and fitness	▪ Metro offers free annual Tri-Met Passes to all permanent employees	On-going	On-going	X					X		X				X'					

[1] Pesticide relevant parameters include DDT, DDE and Dieldrin.
[2] Nutrient related TMDLs exist for the Columbia Slough only. Relevant parameters include phosphorus, dissolved oxygen, pH, and chlorophyll a.
[3] Fossil Fuel relevant parameters include PCBs, Dioxins and PAHs.

Appendix 8 – Metro Permit Detail Table

Appendix 8 -- Metro Permits Detail Table

Best Management Practice or Activity	Commitment	Performance Measure	Example Annual Report Information: Status and Additional Goals, Permit Year 2007-08	Example: Proposed Adaptive Management, Permit Year 2008-09	Watershed: Willamette / Region wide	Lower Willamette	Tualatin	Johnson Creek	Columbia Slough	Sandy
This table summarizes Metro's DEQ water quality permits. Metro will indicate compliance status in each annual update.										
NPDES STORMWATER PERMITS										
Meet Effluent Limits	Meet effluent limits in permit	Sample effluent and report results to DEQ	All measurements are reported to DEQ	None.						
Conduct Best Management Practices	Implement BMPs listed in SWPCP	Document results of visual inspections; evaluate runoff samples and adaptively manage BMPs; report to DEQ								
Facility - Metro South Transfer Station; July 2007 through June 2012										
STORMWATER PERMIT (1200-Z) NPDES PERMIT										
Water Testing	Test to ensure pollutant levels are at or below required limits set by DEQ	Sample effluent and report results to DEQ	All measurements are reported to DEQ	None.	✓	✓	✓	✓	✓	✓
Site Sweeping	Sweep site 1-10 times per week									
Housekeeping	Manage outdoor storage areas									
Catch basin filters	Inspect catch basin filters at least monthly and maintain as needed									
Catch basin cleaning	Inspect at least monthly and clean as needed									
Training	Provide annual and new employee training									
Storage	Store batteries indoors.									
Bioswale	Maintain vegetated drainage area									
Compost Filter	Use compost filter for contaminant reduction.									
Pond	Maintain pond as wetland/detention									
Facility - Metro Central; July 2007 through June 2012										
STORMWATER PERMIT (1200-Z) NPDES PERMIT										
Water Testing	Test to ensure pollutant levels are at or below required measures set by DEQ	- Sample effluent and report results to DEQ	All measurements are reported to DEQ	None.	✓	✓	✓	✓	✓	✓
Site Sweeping	Sweep site 1-10 times per week									
Housekeeping	Manage outdoor storage areas									
Catch basin filters	Inspect catch basin filters at least monthly and maintain as needed									

Appendix 8 -- Metro Permits Detail Table

Best Management Practice or Activity	Commitment	Performance Measure	Example Annual Report Information: Status and Additional Goals, Permit Year 2007-08	Example: Proposed Adaptive Management, Permit Year 2008-09	Watershed: Willamette / Region wide	Lower Willamette	Tualatin	Johnson Creek	Columbia Slough	Sandy
Catch basin cleaning	Inspect at least monthly and clean as needed									
Training	Provide annual and new employee training									
Storage	Store batteries indoors.									
Facility - St. Johns Landfill; September 2006 through August 2011										
1200COLS Permit										
Water Testing	Test to ensure pollutant levels are at or below required measures set by DEQ	- Sample effluent and report results to DEQ	All measurements are reported to DEQ	None.	✓	✓	✓	✓	✓	✓
Potential spill areas/secondary containment	Secondary containment/storage of fluids inspected monthly									
Control/treatment structures	Inspected/maintained monthly									
Seeding/planting	Inspected and maintained monthly or after major or prolonged storms									
Mulching/matting	Inspected and maintained monthly or after major or prolonged storms									
Straw wattles, wood chip bag barriers	Inspected and maintained monthly or after major or prolonged storms									
Sediment basins	Inspected and maintained monthly									
Interceptor dikes/swales	Inspected and maintained monthly or after major or prolonged storms									
Outlet protection at discharge points	Inspected and maintained monthly or after major or prolonged storms									
Outlet protection near buildings	Inspected and maintained monthly or after major or prolonged storms									
Ditches	Inspected and maintained monthly or after major or prolonged storms									
Culverts	Inspected and maintained monthly									
Training	Provide annual and new employee training									

STAFF REPORT

IN CONSIDERATION OF RESOLUTION NO. 08-3898, FOR THE PURPOSE OF APPROVING METRO'S WILLAMETTE BASIN TMDL WATER QUALITY IMPLEMENTATION PLAN FOR SUBMISSION TO OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY

Date: January 24, 2008 Prepared by: Lori Hennings

BACKGROUND

Oregon Department of Environmental Quality (DEQ) implements the federal Clean Water Act by identifying known water quality pollutants in a given watershed and issuing a Total Maximum Daily Load (TMDL) rule that describes the level of pollutants that a water body can absorb and still meet water quality standards.

In 2006 the Oregon Department of Environmental Quality (DEQ) issued a TMDL Report for the entire Willamette Basin. The Willamette TMDL report highlights temperature, bacteria and mercury as the primary pollutants to address at this time. Other watersheds within the Willamette basin, including Johnson Creek, the Columbia Slough and the Tualatin, also have existing TMDLs relating to specific pollutants. DEQ also previously issued a TMDL for the Sandy River in the Columbia River basin.

DEQ identified Metro as a Designated Management Agency (DMA) for the Willamette TMDL. DMAs include federal, state or local governmental agencies with legal authority of a sector or source contributing pollutants. In urban areas this most commonly includes cities and counties, but may also apply to other agencies or organizations that manage significant tracts of land within TMDL boundaries or are otherwise identified as having a significant role in achieving water quality improvements. Metro's TMDL-related activities relate to facilities and parks, programs, DEQ permits and regulatory authority.

As a DMA, Metro must submit a TMDL Implementation Plan to DEQ with 18 months of the Willamette TMDLs issuance, or by March 31, 2008. The Implementation Plan describes how Metro does or will contribute to reducing TMDL pollutants to acceptable levels. DMAs must also annually produce and submit a TMDL Implementation Plan update and must submit a major plan update every five years.

DEQ has formally identified Metro as a DMA only for the Willamette TMDL. Metro's Willamette TMDL Implementation Plan, however, addresses the Willamette TMDL pollutants for all water bodies within Metro's jurisdiction plus all Metro-owned properties outside of its boundary. Metro has voluntarily included information in its Implementation Plan regarding water bodies and properties that are not covered in the Willamette TMDL, although it is under no obligation to do so, in order to facilitate comprehensive planning and maximize water quality improvements in the region.

Staff identified four primary categories through which Metro addresses water quality: policy, facilities, programs and DEQ water quality permits. Metro's DEQ Implementation Plan summarizes Metro's water quality related activities by category and provides more detail in the report's appendices, lists deliverables for subsequent TMDL Implementation Plan updates, and provides a list of opportunities within the agency that may help further Metro's contribution to water quality improvements.

ANALYSIS/INFORMATION

1. **Known Opposition**

No known opposition.

2. **Legal Antecedents**

Metro's TMDL Implementation plan addresses federal (Environmental Protection Agency) Clean Water Act and state (DEQ) Willamette TMDL Water Quality Management Plan requirements. Metro is required by law to submit a Willamette TMDL Implementation Plan to DEQ by March 31, 2008.

3. **Anticipated Effects**

Council approval will initiate ongoing Metro TMDL implementation efforts.

4. **Budget Impacts**

Metro must produce and submit a TMDL Implementation Plan to DEQ by March 31, 2008, annually submit a TMDL Implementation Plan update, and submit a major plan update every five years. Information from the plan was derived from dozens of sources throughout the agency and required extensive coordination. Sources will need to be contacted again for updates and new water quality-related activities must be identified and documented for future reports. The Implementation Plan's creation required approximately 0.25 fte existing staff (fiscal year 2007-2008) and a 0.25 fte dedicated college graduate intern. The non-budgeted intern costs were shared among five departments. Assisted by the intern, existing staff absorbed the additional unplanned TMDL workload by deferring other work this fiscal year. Two options are available to meet future annual and 5-year TMDL reporting requirements:

1. Eliminate or re-assign existing work tasks to fulfill all TMDL reporting requirements, with an estimated annual 0.25 existing staff investment. The 5-year major plan update may require additional staff investment.
2. Annually hire one, 0.25 fte intern to assist in collecting and compiling data and producing the report, reducing annual TMDL staff investment to approximately 0.1 fte except during 5-year major update years. Under this scenario, existing staff could likely absorb the additional workload without eliminating or re-assigning any major existing work tasks.

RECOMMENDED ACTION

Staff recommends the adoption of Resolution No. 08-3898.