TMDL Implementation Plan Guidance – for State and Local Government Designated Management Agencies

May 2007

State of Oregon
Department of
Environmental
Quality

Disclaimer

The recommendations in this guidance document should not be construed as a requirement of rule or statute. DEQ may deviate from the guidance document in unusual situations that present situations that were not contemplated at the time the guidance document was developed. These excursions from the guidance document should generally be done with the knowledge and approval of the other members of the management team.

Oregon Department of Environmental Quality
Water Quality Division
Watershed Management Section
811 SW Sixth Avenue, Portland, OR 97204
(503) 229-5630

May 2007
Document #07-WQ-004

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Appendices

1. INTRODUCTION

1.1 Purpose

This document provides guidance for agency staff and designated management agencies (DMAs) on the development and implementation of sector or source-specific total maximum daily load (TMDL) implementation plans. These plans are required by Oregon Administrative Rule (OAR) 340-042-0080(3) for nonpoint sources of pollution that are not covered by permits.

DEQ anticipates revising this document occasionally as increased experience with TMDL implementation identifies the most effective approaches. For questions or comments on this document, please contact your DEQ basin coordinator (Appendix A).

1.2 Implementation plan basics (what, who, and when)

What is an implementation plan?

An implementation plan describes the actions that are needed to improve water quality once a TMDL has been established. Generally, a plan includes a list of pollutants of concern and their sources (if known), proposed treatment strategies, a timeline for implementation activities, and proposed methods for monitoring the effectiveness of implementation activities. These plans are necessary because the TMDL only describes what needs to happen and does not set out a schedule for implementing specific improvements.

Who is required to develop and implement a plan?

The TMDL Water Quality Management Plan (WQMP) section of a TMDL identifies the DMAs that are required to develop and implement plans if their TMDL responsibilities are not already addressed through a prescribed approach or ORS 468B.050 permit requirement.

A DMA is a federal, state or local governmental agency 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. These could include irrigation or drainage districts, U.S. Fish and Wildlife Service (wildlife refuges), National Park Service, U.S. Army Corps of Engineers

(federal dams), or Bureau of Reclamation (federal dams, irrigation projects). DEQ may also require TMDL implementation plans from non-governmental entities if their actions are found to be a significant contributor to water quality problems.

Note: The Oregon Departments of Agriculture and Forestry (ODA and ODF, respectively) are exempt from submitting implementation plans because their activities are regulated under other state statutes and rules. Water quality improvements related to agricultural practices (i.e., erosion control, siltation control, animal waste management, and riparian area management) are regulated by Oregon Senate Bill 1010 plans developed under oversight by ODA. Forest practices and timber harvest activities are regulated for sound management of soil, air, water, and fish and wildlife resources by ODF under the Oregon Forest Practices Act (FPA) for private commercial operations, state forest management plans and FPA for state forests, and federal forest plans, resource management plans, and water quality restoration plans for federal forests.

Are exemptions available?

DEQ prefers to work with smaller DMAs to develop a customized TMDL implementation plan suited to the magnitude of their contribution to the problem rather than consider exemptions. However, DEQ also recognizes that the authority and level of effort necessary to prevent water pollution varies greatly from one DMA to the next. As such, DEQ may elect to exempt specific entities from implementation plan requirements. Exemptions may be made: 1) as part of the TMDL development process and specified in the TMDL WQMP, or 2) after the TMDL is adopted if DEQ believes there is sufficient reason to justify an exemption. Note, however, that an exemption from the plan requirement does not negate the responsibility of the DMA to prevent their activities from violating water quality standards.

When are plans due?

The due date for the TMDL implementation plans is described in the WQMP section of each TMDL. Typically, the due date for submitting completed plans is between 12 and 18 months following DEQ's issuance of a TMDL. DEQ is required to notify DMAs, affected parties, and others by letter of the plan due date within 20 days of issuing a TMDL. EPA's timeline for approving a TMDL does *not* affect the TMDL implementation plan timeline. DEQ may extend a deadline required in the WQMP if there is sufficient justification.

What does DEQ do once it receives a plan?

DEQ will acknowledge receipt of the plan and will strive to review it within 60 days. If the plan cannot be reviewed within 60 days, DEQ will let the DMA know when the review will be undertaken.

The plan will be reviewed to ensure that it includes all required components and adequately addresses known or suspected sources of pollution under the DMA's jurisdiction. If the plan is found to be unsatisfactory, DEQ will identify which portions of the plan are considered inadequate, return the plan and identify a timeframe for resubmitting the plan. To the extent possible, DEQ will provide resource materials and technical assistance to those needing help to complete the plan.

After receiving a satisfactory plan, DEQ will send the DMA a letter of approval. The approval letter may also include recommendations for additional actions the DMA should consider or undertake, or DEQ's expectations of things to be addressed in a future update of the plan.

1.3 General considerations during plan development

Build upon other water protection efforts

TMDL implementation plans describe the actions that DMAs will undertake to reduce pollution in order to help restore and protect water quality. Many of the DMAs – municipalities, counties, land managers, ODA, ODF, and others – already have plans or strategies in place that help prevent or control water pollution, such as stormwater management plans or road maintenance plans, but these plans may not address all of the TMDL pollutants or cover all relevant sources of pollution. TMDL implementation plans should *build* upon these efforts, not duplicate or repeat them. Plans should reference existing activities and describe any additional strategies that will be undertaken in order to achieve the pollution reductions described in the TMDL.

The questionnaire in Appendix B can be used to identify planning and management activities already underway that might support the TMDL implementation effort and should be incorporated as actions within the TMDL implementation plan.

Adopt a long term vision

The centerpiece of a TMDL implementation plan is a list of ongoing and planned activities that will be undertaken to achieve the TMDL pollutant reductions. This list is accompanied by a timeline for implementing the actions and methods for assessing effectiveness.

The implementation plan must also indicate how the DMA will continue efforts over the long term to further reduce pollution contributions (if necessary to fully achieve the TMDL requirements) and ensure the desired levels of protection will be maintained. Long term success is largely dependent upon having adequate pollution prevention mechanisms in place [e.g., erosion control best management practices (BMPs), riparian protection strategies, stormwater management strategies] and a well-defined process for adaptive management. Through adaptive management, DEQ expects that the adequacy of these activities will be monitored and modified over time as needed.

Identify appropriate strategies

Depending upon the pollutant source being addressed, the appropriate strategy will vary. Some strategies can be implemented immediately (e.g., changing BMPs for maintaining roadside ditches) while others will require more evaluation before an effective strategy can be determined (e.g., determining whether bacteria is coming from failing septic systems, stormwater runoff, pet wastes, wildlife). Some strategies may require a significant public process (e.g., adopting a new ordinance or including stormwater management facilities in a capital improvement plan) while others can be undertaken relatively quickly (e.g., education and outreach efforts, changes in road maintenance programs).

To the extent possible given staffing levels and the amount of demand, DEQ staff should provide resource materials and technical assistance to those needing help with the identification of management strategies or with the development of their TMDL implementation plan.

DEQ expectations: progress not perfection

DEQ does not expect DMAs to know all the answers when they submit their TMDL implementation plan to DEQ. Many of the water pollution problems being addressed through TMDLs will take several years or decades to be resolved, and it is not always possible to determine exactly what on-the-ground efforts it will take to get there.

For this reason, DEQ does not expect that TMDL implementation plans will describe in great detail how the management strategies will achieve the load allocation for each pollutant. However, DEQ does expect TMDL implementation plans to:

1) Identify known or suspected sources of each pollutant under the DMA's jurisdiction.
2) Identify the actions the DMA is taking, or plans to take, to address each of those sources.
3) Describe how the DMA is going to gauge effectiveness of control efforts over time.

2. COMPONENTS OF AN IMPLEMENTATION PLAN

2.1 Overview of OAR requirements

The required components of a TMDL implementation plan are described in OAR 340-042-0080(3) excerpted below. DEQ expectations for these requirements are explained in the following sections. In addition, a sample outline for a TMDL implementation plan is provided in Appendix C.

OAR 340-042-0080(3):
Persons, including DMAs other than the Oregon Department of Forestry or the Oregon Department of Agriculture, identified in a WQMP as responsible for developing and revising sector-specific or source-specific implementation plans must:

(a) Prepare an implementation plan and submit the plan to the Department for review and approval according to the schedule specified in the WQMP. The implementation plan must:
- *(A) Identify the management strategies the DMA or other responsible person will use to achieve load allocations and reduce pollutant loading;*
- *(B) Provide a timeline for implementing management strategies and a schedule for completing measurable milestones;*
- *(C) Provide for performance monitoring with a plan for periodic review and revision of the implementation plan;*
- *(D) To the extent required by ORS 197.180 and OAR chapter 340, division 18, provide evidence of compliance with applicable statewide land use requirements; and*
- *(E) Provide any other analyses or information specified in the WQMP.*

(b) Implement and revise the plan as needed.

2.2 Identification of management strategies

Explanation of OAR 340-042-0080(3)(a)(A)

Identify the management strategies the DMA or other responsible person will use to achieve load allocations and reduce pollutant loading.

A TMDL implementation plan must indicate how the DMA will reduce pollution in order to address load allocations. DMAs required to submit a plan are not responsible for pollution arising from land management activities that occur outside of their jurisdictional authority.

Where to start

Prior to selecting management strategies, the DMA should review the TMDL WQMP for a list of management strategies that could be used to control sources of pollution. Typically, this list is not meant to be prescriptive or comprehensive, but should provide some ideas to stimulate thinking about potential management strategies. DEQ will also be available to provide assistance in identifying sources as well as potential management strategies. In some instances, the WQMP will direct certain DMAs to address specific measures (e.g., the Willamette TMDL requires certain DMAs to include specific stormwater control measures in the Implementation Plans to address bacteria and other pollutants).

Prioritize and fund strategies

In some instances it may be necessary for DMAs to prioritize among the strategies if resources are limited. This may mean addressing some sources of pollution before others or focusing implementation efforts in a particular geographic area. To the extent possible, the selection of priorities should be driven by the greatest opportunities for achieving pollutant reductions.

DMAs will also need to conduct a fiscal analysis to determine what additional resources are necessary to develop, implement, and maintain the management strategies, and how these resources will be obtained. The results of this analysis should be briefly described in the implementation plan. In some cases, incorporation of these results into the implementation plan will be required by the TMDL WQMP (see section 2.6, *Additional requirements, p.* 11).

Information needed for plan

The following information should be provided in an implementation plan:

1) List of TMDL pollutants applicable to DMA activities.
2) Suspected or known sources of pollutants.
3) Management strategy for each source of pollutant.
4) Timeline for implementation and appropriate milestones.
5) Methods to be used for monitoring progress or effectiveness.

The last two elements listed above are discussed in greater detail in the following sections.

Available DEQ resource

The matrix in Appendix D is intended to guide a DMA through the process of identifying strategies and resource needs, establishing success measures and implementation timelines (including expected completion dates for major milestones), and tracking of implementation status. DEQ encourages the use of this matrix for organizing the implementation plan and tracking progress of the management measures. Additional details on each strategy can be included in a narrative portion of the plan.

2.3 Timeline for strategies and measurable milestones

Explanation of OAR 340-042-0080(3)(a)(B)

Provide a timeline for implementing management strategies and a schedule for completing measurable milestones.

These timelines are targets based upon best professional judgment; they are not intended to be enforceable compliance points. Where appropriate, a schedule for completing measurable milestones should be included. For example, if the adoption of an ordinance is proposed to require pet owners to pick up their pet waste, measurable milestones may include dates for public review of the proposed ordinance and ordinance adoption.

2.4 Performance monitoring and periodic plan review/revision

OAR 340-042-0080(3)(a)(C)

Provide for performance monitoring with a plan for periodic review and revision of the implementation plan.

Overview of performance monitoring

Two types of performance monitoring can be addressed in TMDL implementation plans:

1) Implementation monitoring (i.e., *Were specified management strategies implemented?*); and

2) Effectiveness monitoring (i.e., *Are the selected strategies effectively reducing pollutant loading?*).

These two types of performance monitoring are discussed in more detail below. DEQ expects DMAs to monitor and report on the implementation of their management strategies, but not every DMA is expected to implement its own water quality monitoring program. This is particularly true for smaller jurisdictions.

Implementation monitoring

DMAs must monitor implementation of management strategies by tracking the progress and accomplishments of each activity. The TMDL implementation tracking matrix in Appendix D is an example of a tool that could be used to monitor implementation of management strategies by filling in the "status" column. The matrix presented in Appendix C is intended as a sample and not for duplication. A blank matrix is available on the DEQ's TMDL Implementation webpage (http://www.deq.state.or.us/wq/TMDLs/implementation.htm). The management strategies included in the matrix should be linked to the specific pollutant sources relevant to that particular DMA.

Submittal of this matrix to DEQ with the most updated information will also satisfy the annual reporting requirement. See Section 3, *Plan Implementation and Reporting Requirements*, p. 13.

Effectiveness monitoring

DMAs should consult with DEQ to ensure that their monitoring and evaluation strategies are adequate and do not duplicate other efforts or involve unnecessary data collection. For practical reasons, there is not a one-size-fits-all expectation for monitoring effectiveness. DEQ will be available to work

directly with DMAs to establish a mechanism for monitoring effectiveness. As mentioned previously, DEQ does not expect each DMA, particularly smaller jurisdictions, to implement its own water quality monitoring program. DMAs that are not able to undertake an evaluation of effectiveness on their own are expected to participate in discussions with DEQ and other entities in the area (e.g., watershed councils, Soil and Water Conservation Districts, other municipalities). These discussions will help identify effectiveness monitoring needs and discuss how resources could be pooled to implement an effectiveness evaluation strategy for the area.

Quantitative vs. qualitative effectiveness monitoring

Many larger DMAs are already analyzing water quality and evaluating the effectiveness of their pollution reduction efforts by conducting laboratory analyses of water samples. These quantitative activities may have been undertaken voluntarily or required as part of an NPDES permit or other regulatory requirement. These jurisdictions are expected to describe the effectiveness of their TMDL implementation efforts in reducing pollutant loads.

While quantitative monitoring methods are preferred in most cases, qualitative methods may provide an effective measurement of implementation progress in some instances. Examples may include photo documentation of improvement in stream bank vegetation/cover for residential properties or vegetated stormwater containment/collection swales (i.e., photos before planting, shortly after planting, and after plant maturation), or the documentation of relative sediment volume (i.e., high, medium, or low) collected from detention ponds or filters in stormwater treatment systems. While these methods do not provide quantitative information on the effectiveness of the projects, they do illustrate progress and can be combined with other monitoring efforts to show success of implementation activities.

Periodic plan review and revision

All DMAs are expected to review and, if necessary, revise their implementation plan following submittal. The review is to be conducted as specified in the TMDL WQMP. If there is no frequency specified in the WQMP, the review should occur once every five years.

This review does not require additional monitoring or measurements. Rather, the review should use existing data and other information to evaluate plan effectiveness relative to pollution reduction goals. The review report should describe what information was used in the evaluation, the outcome of the evaluation and the basis for this reasoning. If the evaluation indicates that the plan is not likely to be adequate to meet the pollution reduction goals, the DMA must describe how they will modify their plan or undertake other efforts to achieve these goals and the timeline for accomplishing this.

DMAs are also expected to review and revise their TMDL implementation plan as needed following DEQ reevaluation of the TMDL.

2.5 Compliance with land use requirements

Explanation of OAR 340-042-0080(3)(a)(D)

To the extent required by ORS 197.180 and OAR chapter 340, division 18, provide evidence of compliance with applicable statewide land use requirements.

To provide evidence that a TMDL implementation plan is in compliance with local land use requirements, in most cases the plan should:

1) Identify applicable acknowledged local comprehensive plan provisions and land use regulations, and

2) Explain how the implementation plan is consistent with these local planning requirements or what steps will be taken to make the local planning requirements consistent with the implementation plan.

This will ordinarily require cooperation with the planning officials with jurisdiction over the area if the DMA is not a city or county. In rare cases, the DMA may need to work with DEQ staff to prepare land use planning goal findings.

2.6 Additional requirements

OAR 340-042-0080(3)(a)(E)

Provide any other analyses or information specified in the WQMP.

If DEQ identifies any additional requirements for DMAs in the WQMP, these requirements must be addressed in the DMA's TMDL implementation plan. For example, the Willamette TMDL WQMP requires that DMAs:

1) Conduct a fiscal analysis to determine what additional resources are necessary to develop, implement, and maintain the management strategies, and how these resources will be obtained. The results of this analysis must be briefly described in the implementation plan.

2) Include citation and brief descriptions in the implementation plan of legal authorities used to carry out the management strategies. For example, cite

and describe the ordinances that prohibit illegal dumping to the storm drainage system, require erosion control for grading projects, etc.

3) If located along the mainstem Willamette River from river mile 50 downstream to the confluence with the Columbia River, address cold water refugia in the implementation plan. This would be accomplished by identifying these areas and exploring opportunities to restore or enhance these areas whenever feasible. The results of this effort should be summarized in the plan.

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3. PLAN IMPLEMENTATION AND REPORTING REQUIREMENTS

3.1 Plan implementation

Implementation responsibilities

All DMAs required to submit a TMDL implementation plan are expected to "implement and revise the plan as needed" [OAR 340-042-0080(3)(b)]. DEQ will make every attempt to work collaboratively with DMAs to help them achieve compliance. If this does not occur, however, DEQ has the regulatory authority to take enforcement action to compel the DMA to do so.

Accommodating plan changes

DEQ expects that the strategies and timelines in a TMDL implementation plan will ultimately be successful in meeting the pollution reduction goals. DEQ recognizes, however, that pollution prevention is an uncertain science and the pathway to implementing some of these strategies may also be uncertain due to availability of funds, level of public support, etc. As such, DEQ expects that the DMA will implement the plan to the best of its abilities but acknowledges that reasonable and prudent judgment will make adjustments or revisions necessary from time to time. The DMA should keep DEQ apprised of the changes. In most instances, it will be adequate to wait for the next 5 year review of the plan to revise it to reflect the changes.

3.2 Reporting requirements

What needs to be reported?

Generally, two reports are required to be submitted to DEQ on a regular basis:

1) Progress report
   This report tracks implementation of each management strategy. Results of implementation and effectiveness monitoring are to be included as discussed in Section 2.4, *Performance monitoring,* p. 9, above.

2) Implementation plan review report
   All DMAs are expected to review and, if necessary, revise their implementation plan following submittal. This report is discussed in Section 2.4 under *Periodic plan review and revision,* p. 10.

When are the reports due?

Typically, the TMDL WQMP specifies the frequency of reporting. If there is no frequency specified in the WQMP, a progress report should be submitted to DEQ once a year and a review report once every five years.

Appendix A: DEQ Basin Coordinators (May 2007)

Basin or Watershed	Basin Contact	Telephone Number and E-mail
Columbia River	Agnes Lut	(503) 229-5247 Portland; lut.agnes@deq.state.or.us
Clackamas	Manette Simpson	(503) 229-5294 Portland; simpson.manette@deq.state.or.us
Deschutes (Upper) Basin	Bonnie Lamb	(541) 388-6146 x239 Bend; lamb.bonnie@deq.state.or.us
Goose and Summer Lake Basin	Steve Kirk	(541) 388-6146 x235 Bend; kirk.steve@deq.state.or.us
Grande Ronde Basin	Tonya Dombrowski	(541) 278-4615 Pendleton; dombrowski.tonya@deq.state.or.us
Hood Basin	Bonnie Lamb	(541) 388-6146 x239 Bend; lamb.bonnie@deq.state.or.us
John Day Basin	Don Butcher	(541) 278-4603 Pendleton; butcher.don@deq.state.or.us
Klamath Basin	Steve Kirk	(541) 388-6146 x235 Bend; kirk.steve@deq.state.or.us
Malheur River Basin	John Dadoly	(541) 278-4616 Pendleton; dadoly.john@deq.state.or.us
Malheur Lake Basin	Bonnie Lamb (Alvord only)	(541) 388-6146 x239 Bend; lamb.bonnie@deq.state.or.us
Mollala-Pudding Subbasin	Nancy Gramlich	(503) 378-5073 Salem; gramlich.nancy@deq.state.or.us
North Coast / Lower Columbia (Tillamook)	Bruce Apple	(503) 842-3038 Tillamook; apple.bruce@deq.state.or.us
	York Johnson	(503) 322-2222 Tillamook; johnson.york@deq.state.or.us
Powder/Burnt	Mitch Wolgamott	(541) 278-4619 Pendleton; wolgamott.mitch@deq.state.or.us
Owyhee Basin	John Dadoly	(541) 278-4616 Pendleton; dadoly.john@deq.state.or.us
Rogue Basin	Bill Meyers	(541) 776-6010 x253 Medford; meyers.bill@deq.state.or.us
Sandy (Lower Columbia)	Karen Williams	(503) 229-6254 Portland; williams.karen@deq.state.or.us
Snake River / Hells Canyon	Mitch Wolgamott	(541) 278-4619 Pendleton; wolgamott.mitch@deq.state.or.us
South Coast Basin	Pam Blake	(541) 269-2721 Coos Bay; blake.pam@deq.state.or.us
South Steens Subbasin	Eric Nigg	(541) 388-6146 x251 Bend; nigg.eric@deq.state.or.us
Tualatin Subbasin	Dennis Ades	(503) 229-6351 Portland; ades.dennis@deq.state.or.us
Umatilla Basin	Don Butcher	(541) 278-4603 Pendleton; butcher.don@deq.state.or.us
Umpqua Basin	Paul Heberling	(541) 440-3338 x224 Roseburg; heberling.paul@deq.state.or.us
Walla Walla Subbasin	Don Butcher	(541) 278-4603 Pendleton; butcher.don@deq.state.or.us
Wallowa Subbasin	Mitch Wolgamott	(541) 278-4619 Pendleton; wolgamott.mitch@deq.state.or.us
Willamette Basin Implementation Team	North: Nancy Gramlich	(503) 378-5073 Salem; gramlich.nancy@deq.state.or.us
	South: Jared Rubin	(541) 687-7437 Eugene; rubin.jared@deq.state.or.us
	Coast Fork and South Santiam: Pamela Wright	(541) 686-7719 Eugene; wright.pamela@deq.state.or.us
	Lower Willamette: Manette Simpson	(503) 229-5294 Portland; simpson.manette@deq.state.or.us
Yamhill Subbasin	Nancy Gramlich	(503) 378-5073 Salem; gramlich.nancy@deq.state.or.us

Appendix B: Inventory of Water Resource Management Activities

The following questions are intended to help local governments identify things they are already doing that may help address some of the Implementation Plan requirements.

PLANNING

1. Identify which part(s) of your Comprehensive Plan address water quality, non-point source pollution, stormwater, riparian zones, or water pollution control.

2. What steps has your jurisdiction taken to enact and/or comply with Statewide Land Use Planning Goals 5 and 6?

3. What zoning ordinances and/or overlays has your jurisdiction enacted that relate to water quality? This may include, but is not limited to, ordinances that address any of the following:
   - ☐ Erosion and/or sediment control requirements at construction sites
   - ☐ Retention of vegetation and/or re-planting requirements at construction sites
   - ☐ Impervious surfaces limitations for new development
   - ☐ Development limitations in floodplains
   - ☐ Septic system inspection and maintenance requirements
   - ☐ Riparian area protections

4. Has your jurisdiction participated in any of the following planning efforts?
   - ☐ Source Water Assessment
   - ☐ Drinking Water Protection Plan
   - ☐ Watershed Management Plan (may be in partnership with a local watershed council)
   - ☐ Other--Please Specify: _____

STORMWATER

1. Does your jurisdiction have an NPDES municipal separate storm sewer system (MS4) permit?

2. Does your jurisdiction have any underground injection control (UIC) facilities (e.g., sumps)? If so, are they covered under a UIC general or individual permit?

3. Does your jurisdiction have any stormwater treatment facilities? If yes, what kind and how many?

4. Has your jurisdiction completed a stormwater management plan?

5. Has your jurisdiction's public works or parks department constructed any swales, detention or retention ponds/basins, or artificial wetlands for managing stormwater? If yes, please specify.

6. Does your jurisdiction encourage or require private developers to construct swales, detention ponds/basins, or artificial wetlands?

POLLUTION CONTROL

1. Does your jurisdiction have any voluntary or mandatory inspection or maintenance programs for onsite septic systems?

2. Does your jurisdiction have a program to detect illegal discharges into waterways?

3. Has your jurisdiction implemented any projects intended to help control nonpoint source pollution?

OUTREACH AND EDUCATION

1. What resources does your jurisdiction provide that encourages pet owners to "pick up" after their pets (waste bags, educational materials, dog parks in environmentally-friendly areas)?

2. What guidance or training programs exist for municipal employees that address pollution prevention in regards to municipal sources, i.e. maintenance of vehicles, buildings, roads, parks and open space or the stormwater system?

3. Does your jurisdiction offer yard waste collection services and/or recycling programs?

REGIONAL COORDINATION

Which watershed councils, soil and water conservation districts (SWCDs), or other groups do you work with to address watershed restoration needs? Describe the types of cooperative efforts undertaken with them.

MONITORING

Does your jurisdiction monitor water quality (surface water, groundwater or stormwater)? Has the data been analyzed?

Appendix C: Sample Outline for TMDL Implementation Plan

A. BACKGROUND AND IMPLEMENTATION PLAN GOALS

(Not required by OAR)

Where can this information be found?

This information can be drawn directly from the TMDL and customized for the DMA's jurisdiction.

Why should this be included?

Although not required, it is helpful to provide this context so that the people who read the plan understand what it is for.

EXAMPLE (based on the Willamette TMDL WQMP):

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 Total Maximum Daily Load (TMDL) to be established. A TMDL determines how much pollution can be added to the river without exceeding water quality standards.

On September 21, 2006, the Oregon Department of Environmental Quality (DEQ) issued the Willamette Basin TMDL as an Order, and submitted the TMDL to the Environmental Protection Agency (EPA) for approval. As part of the Willamette TMDL, DEQ developed a Water Quality Management Plan (WQMP) to describe the overall framework for implementing the Willamette Basin TMDL. The WQMP includes a description of activities, programs, legal authorities and other measures for which ODEQ and other designated management agencies (DMAs) have regulatory responsibility.

A DMA is "a federal, state or local governmental agency that has legal authority of a sector or source contributing pollutants, and is identified as such by the Department of Environmental Quality in a TMDL." TMDL implementation activities will be carried out under existing regulatory authorities, programs and water quality restoration plans as well as by TMDL implementation plans that certain DMAs will develop in fulfillment of the requirements of this TMDL.

Along with other cities and agencies in the Willamette Basin, [name of DMA) has been named by ODEQ as a Designated Management Agency in that it has legal authority over a sector or source contributing pollutants on the XXX acres within the City's limits, and in that it operates a sewage treatment plant with a permit to discharge treated effluent into the XXX River, which flows for about XX miles through the length of the City. The XX River is currently listed as a water quality limited river due to [e.g. elevated summer temperatures, elevated bacteria levels]. As such, [name of DMA] is required to develop a TMDL

implementation plan for review and approval by ODEQ.

TMDLs, the WQMP, and associated implementation plans and activities are designed to restore water quality to comply with water quality standards. In this way designated beneficial uses, such as aquatic life, drinking water supplies, and water contact recreation, will be protected. When implemented, the TMDL will result in a cleaner, healthier Willamette river for current and future generations.

B. WATER QUALITY ASSESSMENT

(Not required by OAR)

What information should be provided?

1. List of waterbodies within or near the DMA's jurisdiction that may be affected by activities within the jurisdiction, including waterbodies receiving runoff from the jurisdiction.
2. List of TMDL pollutant(s) and potential source(s) that are under the DMA's jurisdiction, including a description of why these pollutants are of concern.

Why should this be included?

Including this information in the plan will help to explain the selection of management strategies and prioritization of these strategies.

Where can this information be found?

This information can be drawn from the TMDL Water Quality Management Plan (WQMP) and other assessments of water quality resources for the area in question. The WQMP will list the specific pollutants that need to be addressed and potential sources of those pollutants. However, the list of sources may not cover all source categories that fall within the DMA's jurisdiction therefore it is important to assess whether other sources are likely to exist.

EXAMPLE (based on the Willamette TMDL):

<u>Water Quality Limited 303(d) Listings Addressed by TMDLs</u>
The Coast Fork of the Willamette River is currently listed by ODEQ as water quality limited due to elevated summer temperatures, elevated bacteria levels, and mercury. The watersheds are drained by X,Y, and Z. City stormwater drains to all these waterbodies and the wastewater treatment plant discharges to X.

The table below identifies waterbodies within or near the [name of DMA] that may be affected by activities within the [name of DMA]'s jurisdiction, and also indicates the river miles affected, the TMDL parameter, and the season affected by the listing.

Subbasin	Waterbody Name	River Miles	Parameter	Season
Coast Fork	Coast Fork Willamette R.	0 to 31.3	Temperature	Summer
Coast Fork	Coast Fork Willamette R.	0 to 31.3	Fecal Coliform	W/S/F
Coast Fork	Coast Fork Willamette R.	0 to 31.3	Fecal Coliform	Summer
Coast Fork	Coast Fork Willamette R.	0 to 31.3	Mercury	All year

TMDL Pollutants and Potential Sources of Pollutants within [name of DMA's] Jurisdiction

TMDL pollutants in the vicinity of [name of DMA]'s jurisdiction as well as the primary suspected sources of the pollutants are:

- *Warmer Instream Temperatures: Caused by historic removal of shade-producing vegetation along streams.*
- *Fecal Coliform: Likely sources include domestic animal waste carried in stormwater runoff and illicit cross connections between sanitary and wastewater systems.*
- *Mercury: Found in sediments; likely source is erosion from construction sites not covered by DEQ permit (i.e., sites with disturbed ground surface area of less than 1 acre).*

Concerns Associated with Pollutants

- *Temperature*
  At times, the Willamette River and its tributaries are too warm to support healthy salmon and trout. Some of these cold waster fish including lower Columbia coho, spring Chinook, winter steelhead, and bull trout are threatened with extinction and elevated stream temperatures have contributed to their decline. Warm water interferes with adult salmon and trout migration and spawning. Warm water also decreases chances of juvenile survival, affects egg and embryo development, alters juvenile fish growth rates, and decreases their ability to compete with temperature-tolerant fish species for habitat and food. Salmon and trout are also more susceptible to disease when water temperatures are warmest.

- *Bacteria*
  People can be affected by bacteria present in water when enjoying water activities such as swimming, wading, wind surfing, water skiing, boating, or fishing. Ingestion or contact with water contaminated with bacteria can cause skin and respiratory ailments, gastroenteritis and other illnesses in humans.

- *Mercury*
  The accumulation of mercury in fish is a well recognized environmental problem throughout the United States. Mercury is a potent toxin that can cause damage to the brain and nervous system. Small children and the developing fetus are most sensitive to mercury's toxic effects. The primary way that humans are exposed to mercury is through the consumption of fish or seafood containing elevated levels of mercury.

C. MANAGEMENT STRATEGIES

[Required by OAR 340-042-0080(3)(a)(A)&(B)]

Note: DEQ recommends using the matrix in Appendix D as a framework for fulfilling the requirements of this section.

What should be included?

Description of how the DMA will manage the known or suspected sources of pollution. *Note:* The DMA is not responsible for pollution arising from activities that occur outside of the DMA's jurisdiction. At a minimum, the following should be provided:

1. List of pollutants, sources of pollutants, and management strategy for each source.
2. Timeline for implementing strategy, and, where appropriate, a schedule for completing measurable milestones. For example, if the adoption of an ordinance to require pet owners to pick up their pet waste, measurable milestones may include dates for public review of the proposed ordinance and ordinance adoption. Note: These timelines are targets based upon best professional judgment. They are not intended to be enforceable compliance points.

Where to start

Prior to selecting management strategies, the DMA should review the TMDL WQMP for a list of management strategies that could be used to control sources of pollution. Typically, this list is not meant to be prescriptive or comprehensive, but should provide some ideas to stimulate thinking about potential management strategies. DEQ will also be available to provide assistance in identifying sources as well as potential management strategies. In some instances, the WQMP will direct certain DMAs to address specific measures (e.g., the Willamette TMDL requires certain DMAs to include specific stormwater control measures in the Implementation Plans to address bacteria and other pollutants).

Prioritize and fund strategies

In some instances it may be necessary to prioritize among the strategies if resources are limited. This may mean addressing some sources of pollution before others or focusing implementation efforts in a particular geographic area. To the extent possible, the selection of priorities should be driven by the greatest opportunities for achieving pollutant reductions.

DMAs will also need to conduct a fiscal analysis to determine what additional resources are necessary to develop, implement, and maintain the management strategies, and how these resources will be obtained. The results of this analysis should be briefly described in the implementation plan. In some cases, incorporation of these results into the implementation plan will be required by the TMDL WQMP (see section 2.6, *Additional requirements, p.* 11).

Available tools

The matrix in Appendix D is a tool designed to guide a DMA through the process of identifying strategies and establishing timelines, benchmarks, etc. DEQ encourages the use of this matrix as a framework for organizing and summarizing management strategies.

Additional detail on management strategies can be included in a narrative portion of this section.

EXAMPLE:
See Appendix D: TMDL Implementation Tracking Matrix for Willamette TMDL bacteria example.

D. PERFORMANCE MONITORING [Required by OAR 340-042-0080(3)(a)(C)]

What information should be included?
Performance monitoring includes two types of monitoring:

1. Implementation monitoring
   For implementation monitoring, a description of the progress of management strategies should be included. The TMDL implementation tracking matrix in Appendix C is an example of a tool that may be used to monitor implementation of management strategies by filling in the "status" column.

2. Effectiveness monitoring
   If applicable, a description of how the effectiveness of TMDL implementation efforts in reducing pollutant loads will be assessed should be included. DMAs that are not able to undertake an evaluation of effectiveness on their own are expected to participate in discussions with DEQ and other entities in the area (e.g., watershed councils, Soil and Water Conservation Districts, other municipalities), and describe those discussions here. These discussions should help identify effectiveness monitoring needs and opportunities to pool resources to implement an effectiveness evaluation strategy for the area.

DMAs should consult with DEQ to ensure their monitoring and evaluation strategies do not duplicate other efforts or involve unnecessary data collection.

E. PLAN REVIEW, REVISION, AND REPORTING REQUIREMENTS [Required by OAR 340-042-0080(3)(a)(C) and WQMP]

What information should be included?
Description of DMA's intention to review its implementation plan and report to DEQ on the frequency specified in the TMDL WQMP. Generally, the implementation plan review should be conducted once every five years and results of that review submitted to DEQ. In addition, a report should be submitted to DEQ on an annual basis describing the progress of the DMA's management strategies.

EXAMPLE:
[Name of DMA] will track TMDL implementation activities and report to DEQ annually by December 31 on progress and accomplishments.
Note: If a DMA uses the matrix in Appendix D to describe their TMDL implementation activities, one simple way to satisfy the reporting requirement is to fill in the "status" column for each strategy and submit the spreadsheet to DEQ.

[Name of DMA] will evaluate this Implementation Plan every five years following submittal. The evaluation will include a review of existing water quality data and other information to evaluate the effectiveness of the Plan relative to the pollution reduction goals. The report will describe what information was used in the evaluation, findings of the evaluation, and the basis for this reasoning. If the evaluation indicates that the Plan is not likely to be adequate to meet the pollution reduction goals, we will describe how we will modify the Plan or undertake other efforts to achieve these goals, and the timeline for accomplishing this.

In addition, [name of DMA] will review and revise this Implementation Plan as needed following DEQ reevaluation of the TMDL.

F. EVIDENCE OF COMPLIANCE WITH LAND USE REQUIREMENTS [Required by OAR 340-042-0080(3)(a)(D)]

What information should be included?
The following information provides evidence of compliance with land use requirements:
1. Identification of applicable acknowledged local comprehensive plan provisions and land use regulations, and
2. Explanation how the implementation plan is consistent with these local planning requirements or what steps will be taken to make the local planning requirements consistent with the implementation plan.

EXAMPLE:
All of the strategies outlined here and listed in the matrix are consistent with [name of DMA's] land use plans. [Name of DMA] will evaluate and maintain consistency with local and statewide land use laws in any future actions related to TMDL implementation.

G. ADDITIONAL REQUIREMENTS AS INDICATED IN THE WQMP [Only if required in WQMP; OAR 340-042-0080(3)(a)(E)]

If DEQ identifies any additional requirements for DMAs in the WQMP, these requirements

must be addressed in the TMDL Implementation Plan. For example, the Willamette TMDL WQMP requires that DMAs:

1. Conduct a fiscal analysis to determine what additional resources are necessary to develop, implement, and maintain the management strategies, and how these resources will be obtained. The results of this analysis must be briefly described in the implementation plan.

2. Include citation and brief descriptions in the implementation plan of legal authorities used to carry out the management strategies. For example, cite and describe the ordinances that prohibit illegal dumping to the storm drainage system, require erosion control for grading projects, etc.

3. If located along the mainstem Willamette River from river mile 50 downstream to the confluence with the Columbia River, address cold water refugia in the implementation plan. This would be accomplished by identifying these areas and exploring opportunities to restore or enhance these areas whenever feasible. The results of this effort should be summarized in the plan.

Appendix D: TMDL Implementation Tracking Matrix

This matrix is a tool for describing, tracking and reporting on TMDL implementation efforts. Some DMAs may want to include more detailed information about how each strategy will be implemented elsewhere in their plan.

Use of this matrix or a similar matrix has a number of advantages and will:

1) Guide DMAs through development of the management strategies section of their implementation plan by providing a simple framework for organizing the required information.

2) Serve as a framework for reporting on implementation activities (e.g., a DMA can fill in a "Status" column for each management strategy and submit that to DEQ to fulfill the annual reporting requirements).

3) Make it easier for DEQ to review TMDL implementation plans and reports by having the information organized in a comprehensive yet concise manner.

4) Make it easier for DEQ to summarize the information to produce a report on TMDL implementation activities throughout a basin or across the state.

The basic matrix table, including explanations of what each column heading means, is shown in the following example. To provide a better idea of how it could be used, the matrix has been filled in with an example of how a municipality might address bacteria.

POLLUTANT: Bacteria						**City of Example: TMDL Implementation Tracking Matrix**	
SOURCE *What sources of this pollutant are under your jurisdiction?*	**STRATEGY** *What is being done, or what will you do, to reduce and/or control pollution from this source?*	**HOW** *Specifically, how will this be done?*	**FISCAL ANALYSIS** *What is the expected resource need? Are there existing resources budgeted? If not, where will the resources come from?*	**MEASURE** *How will you quantitatively or qualitatively demonstrate successful implementation or completion of this strategy?*	**TIMELINE** *When do you expect it to be completed?*	**MILESTONE** *What intermediate goals do you expect to achieve, and by when, to know progress is being made?*	**STATUS** *Include summary and date.*
1. Failing septic systems	a. Ensure repair of failing systems	i. Respond to reports of failing systems; work with homeowner to set a timeline for repair	Already funded; see specific program budget	Track # of reports, outcome of inspection (failing or not) and date of follow-up that confirmed repairs were made	Ongoing	NA	
	b. Educate homeowners about system maintenance and how to detect failures	i. Mail DEQ info. to X homeowners	$X	Number of brochures mailed	Once every two years by May 1	NA	
		ii. Provide info at city's booth at community festival	No additional resources needed	Number of contacts	July of each year	NA	
2. Bacteria carried to waterways in storm runoff	a. Address runoff problems from farms via SB 1010 plans (ODA)	i. Contact ODA when problems are identified	No additional resources needed.	Track # of referrals	Ongoing	NA	
	b. Prevent pet waste from reaching waterways	i. Erect signage and provide poop bags in parks	$X borrowed from park tree planting budget	Check bag supply weekly;	Ongoing thru end of 2008; evaluate effectiveness based upon rate of use	NA	
		ii. Get article in local paper to raise awareness	No additional resources needed; newspaper donating column space	Article in paper	Summer 2008	NA	
		iii. Adopt ordinance requiring owners to clean up after their pets		Adopted ordinance	2008	• Convene Advisory Committee by 12/06 • Draft rule by 6/07 • Adoption by 2/08	