



Oregon's TMDL Priorities and Schedule

Based on Oregon's final 2004/2006 Section 303(d) list of Category 5: Water Quality Limited Waters Needing a TMDL, Oregon's TMDL priorities and schedule are revised and updated according to Table 1. The TMDLs will generally address all listed parameters unless other control or management strategies are determined to be appropriate. For watersheds where a TMDL was recently completed and all listed parameters were not addressed or additional parameters are listed, TMDLs for the remaining parameters will be scheduled upon completing this cycle of TMDLs. The sequence for developing TMDLs reflects Oregon's priorities and, and the target date for completion is DEQ's goal.

Oregon established a prioritization process which was used to set TMDL priorities and schedules in 1998 and 2002. This process is included in Appendix 1. The 2004/2006 TMDL Priorities and Schedule update priorities identified by that process.

Table 1
2004/2006 TMDL Priorities and Schedule

Priority	3 rd or 4 th Field HUC	Name	Start Date for TMDL Development	Target Date for Completing TMDLs	Listed Parameters - To be addressed in scheduled TMDLs	2004/2006 Listed Parameters - To be addressed after completing scheduled TMDLs
	170900	<i>Willamette</i>				
I	17090001	Middle Fork Willamette	In development	2006	Temperature	Dissolved oxygen
I	17090002	Coast Fork Willamette	In development	2006	Temperature, mercury	Dissolved oxygen, iron
I	17090003	Upper Willamette	In development	2006	Temperature, bacteria, mercury	Arsenic, copper, dichloroethylenes, dissolved oxygen, iron, lead, manganese, pH, tetrachloroethylene, trichloroethylene, turbidity
I	17090004	Mckenzie	In development	2006	Temperature	Iron, manganese,
I	17090005	North Santiam	In development	2006	Temperature	Dissolved oxygen

(*TMDLs typically take 2 to 3 years from start of development to completion.)

Priority	3rd or 4th Field HUC	Name	Start Date for TMDL Development	Target Date for Completing TMDLs	Listed Parameters - To be addressed in scheduled TMDLs	2004/2006 Listed Parameters - To be addressed after completing scheduled TMDLs
I	17090006	South Santiam	In development	2006	Temperature	
I	17090007	Middle Willamette	In development	2006	Temperature, bacteria, mercury	Dieldrin, dissolved oxygen, heptachlor, iron
I	17090011	Clackamas	In development	2006	Temperature, bacteria	
I	17090012	Lower Willamette	In development	2006	Temperature, bacteria, mercury	Aldrin, ammonia, aquatic weeds or algae, biological criteria, chlorophyll a, DDE, DDT, dieldrin, iron, manganese, PCB, pentachlorophenol, pH, PAHs
<i>170601 Lower Snake</i>						
I	17060102	Imnaha	In development	2006	Temperature	
I	17060105	Wallowa	In development	2006	Temperature, dissolved oxygen, bacteria, pH, sedimentation	
I	17060106	Lower Grande Ronde	In development	2006	Temperature, dissolved oxygen, sedimentation	
<i>170701 Middle Columbia</i>						
I	17070104	Willow	In development	2006	Temperature, bacteria, pH	
I	17070105	Middle Columbia Hood	In development	2008	Temperature, sedimentation	Arsenic, beryllium, chlopyrifos, copper, Guthion, iron, manganese, pH
<i>170800 Lower Columbia</i>						

(*TMDLs typically take 2 to 3 years from start of development to completion.)

Priority	3 rd or 4 th Field HUC	Name	Start Date for TMDL Development	Target Date for Completing TMDLs	Listed Parameters - To be addressed in scheduled TMDLs	2004/2006 Listed Parameters - To be addressed after completing scheduled TMDLs
I	17080003	Lower Columbia-Clatskanie	In development	2006 (Completed 2003 - Temperature, bacteria)	Dissolved oxygen	
I	17080006	Lower Columbia	In development	2006 (Completed 2003 - Temperature)	Dissolved oxygen	Aquatic weeds or algae, chromium, copper, bacteria, iron, manganese, zinc
	<i>171003</i>	<i>Southern Oregon Coastal</i>				
I	17100301	North Umpqua	In development	2006	Temperature, aquatic weeds or algae, pH	Arsenic, beryllium, copper, dissolved oxygen, iron, lead, manganese, mercury, total dissolved gas
I	17100302	South Umpqua	In development	2006	Ammonia, aquatic weeds or algae, bacteria, biological criteria, chlorophyll a, dissolved oxygen, pH, phosphorus, temperature	Arsenic, cadmium, copper, iron, manganese, mercury, nickel, sedimentation, zinc
I	17100303	Umpqua	In development	2006	Biological criteria, bacteria, pH, temperature	Beryllium, copper, dissolved oxygen, iron, lead, manganese
I	17100306	Sixes	In development	2007	Aquatic weeds or algae, dissolved oxygen, pH, temperature	

(*TMDLs typically take 2 to 3 years from start of development to completion.)

Priority	3rd or 4th Field HUC	Name	Start Date for TMDL Development	Target Date for Completing TMDLs	Listed Parameters - To be addressed in scheduled TMDLs	2004/2006 Listed Parameters - To be addressed after completing scheduled TMDLs
I	17100307	Upper Rogue	In development	2007	Bacteria, dissolved oxygen, pH, sedimentation, temperature	
I	17100308	Middle Rogue	In development	2007	Bacteria, sedimentation, temperature	
I	17100310	Lower Rogue	In development	2007	Bacteria, temperature	
I	17100311	Illinois	In development	2007	Temperature	
I	17100312	Chetco	In development	2007	Dissolved oxygen, bacteria, pH, temp	
180102		<i>Klamath</i>				
I	18010204	Lost	In development	2006	Ammonia, chlorophyll a, dissolved oxygen, pH, temperature	
I	18010206	Upper Klamath	In development	2006	Ammonia, biological criteria chlorophyll a, dissolved oxygen, pH, , sedimentation, temperature	
170702		<i>John Day</i>				
II	17070201	Upper John Day	In development	2007	Bacteria, biological criteria, dissolved oxygen, temperature	

(*TMDLs typically take 2 to 3 years from start of development to completion.)

Priority	3 rd or 4 th Field HUC	Name	Start Date for TMDL Development	Target Date for Completing TMDLs	Listed Parameters - To be addressed in scheduled TMDLs	2004/2006 Listed Parameters - To be addressed after completing scheduled TMDLs
II	17070202	North Fork John Day	In development	2007	Biological criteria, dissolved oxygen, sedimentation, temperature	
II	17070203	Middle Fork John Day	In development	2007	Temperature	
II	17070204	Lower John Day	In development	2007	Biological criteria, temperature	
	170703	Deschutes				
II	17070301	Upper Deschutes	In development	2007	Chlorophyll a, dissolved oxygen, pH, sedimentation, temperature, turbidity	
II	17070302	Little Deschutes	In development	2007	Dissolved oxygen, temperature	
II	17070303	Beaver-South Fork	In development	2007	Temperature	
II	17070304	Upper Crooked	In development	2007	Temperature, pH	
II	17070305	Lower Crooked	In development	2007	Temperature, pH, total dissolved gas	
II	17070306	Lower Deschutes	In development	2007	Sedimentation, temperature	
II	17070307	Trout	In development	2007	Chlorophyll a, pH, Sedimentation, temperature	
	170501	Middle Snake-Boise				
II	17050115	Middle Snake Payette	2007	*	Bacteria	

(*TMDLs typically take 2 to 3 years from start of development to completion.)

Priority	3 rd or 4 th Field HUC	Name	Start Date for TMDL Development	Target Date for Completing TMDLs	Listed Parameters - To be addressed in scheduled TMDLs	2004/2006 Listed Parameters - To be addressed after completing scheduled TMDLs
II	17050116	Upper Malheur	2007	*	Bacteria, chlorophyll a, DDT, dieldrin, dissolved oxygen, temperature	
II	17050117	Lower Malheur	2007	*	Bacteria, chlorophyll a, DDT, dieldrin, dissolved oxygen, temperature	
II	17050118	Bully	2007	*	Chlorophyll a, bacteria	
II	17050119	Willow	2007	*	Bacteria, chlorophyll a, temperature	
	<i>170900</i>	<i>Willamette</i>				
II	17090008	Yamhill	2007	*	Chlorophyll a, chlorpyrifos, dissolved oxygen, bacteria, iron, manganese, temperature	
II	17090009	Molalla-Pudding	2007	*	Arsenic, chlordane, DDT, dissolved oxygen, bacteria, iron, manganese, nitrates, temperature	
	<i>171003</i>	<i>Southern Oregon Coastal</i>				

(*TMDLs typically take 2 to 3 years from start of development to completion.)

Priority	3 rd or 4 th Field HUC	Name	Start Date for TMDL Development	Target Date for Completing TMDLs	Listed Parameters - To be addressed in scheduled TMDLs	2004/2006 Listed Parameters - To be addressed after completing scheduled TMDLs
II	17100304	Coos	2007	*	Aquatic weeds or algae, dissolved oxygen, bacteria, iron, manganese, pH, temperature	
II	17100305	Coquille	2007	*	Chlorophyll a, dissolved oxygen, bacteria, iron, temperature	
<hr/>						
	<i>170502</i>	<i>Middle Snake-Powder</i>				
III	17050201	Brownlee Reservoir	2008	*	Temperature	
III	17050202	Burnt	2008	*	Chlorophyll a, dissolved oxygen, bacteria, sedimentation, temperature	
III	17050203	Powder	2008	*	Bacteria, temperature, turbidity	
<hr/>						
	<i>171002</i>	<i>Northern Oregon Coastal</i>				
III	17100204	Siletz-Yaquina	2008	*	Chlorophyll a dissolved oxygen, bacteria, pH, sedimentation, temperature	
III	17100205	Alsea	2008	*	Aquatic weeds or algae, chlorophyll a, dissolved oxygen, bacteria, temperature	

(*TMDLs typically take 2 to 3 years from start of development to completion.)

Priority	3 rd or 4 th Field HUC	Name	Start Date for TMDL Development	Target Date for Completing TMDLs	Listed Parameters - To be addressed in scheduled TMDLs	2004/2006 Listed Parameters - To be addressed after completing scheduled TMDLs
III	17100206	Siuslaw	2008	*	Biological criteria, dissolved oxygen, bacteria, sedimentation, temperature	
III	17100207	Siltcoos	2008	*	Aquatic weeds, temperature	
	<i>160402</i>	<i>Black Rock Desert</i>				
IV	16040201	Upper Quinn	2009	*	Temperature	
	<i>170501</i>	<i>Middle Snake-Boise</i>				
IV	17050107	Middle Owyhee	2009	*	Arsenic, mercury, temperature	
IV	17050108	Jordan	2009	*	Arsenic, mercury	
IV	17050110	Lower Owyhee	2009	*	Arsenic, bacteria, chlorophyll a, copper, DDT, dieldrin, iron, lead, manganese, mercury, temperature	
	<i>171200</i>	<i>Oregon closed basins</i>				
V	17120001	Harney-Malheur Lakes	2010	*	Temperature	
V	17120002	Silvies	2010	*	Dissolved oxygen, temperature	
V	17120003	Donner Und Blitzen	2010	*	Beryllium, iron, manganese, temperature	

(*TMDLs typically take 2 to 3 years from start of development to completion.)

Priority	3 rd or 4 th Field HUC	Name	Start Date for TMDL Development	Target Date for Completing TMDLs	Listed Parameters - To be addressed in scheduled TMDLs	2004/2006 Listed Parameters - To be addressed after completing scheduled TMDLs
V	17120004	Silver	2010	*	Temperature	
V	17120005	Summer Lake	2010	*	Temperature	
V	17120006	Lake Abert	2010	*	Biological criteria, temperature	
V	17120007	Warner Lakes	2010	*	Arsenic, biological criteria, dissolved oxygen, pH, silver, temperature	
V	17120008	Guano	2010	*	Temperature	
	<i>180200</i>	<i>Upper Sacramento</i>				
V	18020001	Goose Lake	2010	*	Biological criteria, iron, temperature	
	<i>170900</i>	<i>Willamette</i>				
	17090010	Tualatin	To be scheduled	* (Completed 2001 – Temperature, bacteria, dissolved oxygen, ammonia, chlorophyll a, pH, phosphorus)		Chromium, copper, dieldrin, dissolved oxygen, iron, lead, manganese, silver, zinc
	<i>170701</i>	<i>Middle Columbia</i>				
	17070103	Umatilla	To be scheduled	* (Completed 2001 - Temperature, sedimentation, turbidity, pH, aquatic weeds and algae)		Iron, manganese, nitrates
	<i>180102</i>	<i>Klamath</i>				

(*TMDLs typically take 2 to 3 years from start of development to completion.)

Priority	3 rd or 4 th Field HUC	Name	Start Date for TMDL Development	Target Date for Completing TMDLs	Listed Parameters - To be addressed in scheduled TMDLs	2004/2006 Listed Parameters - To be addressed after completing scheduled TMDLs
	18010201	Williamson	To be scheduled	* (Completed 2002 – Temperature)		Dissolved oxygen
	18010202	Sprague	To be scheduled	* (Completed 2002 – Sprague River dissolved oxygen and pH)		Bacteria
	171002	<i>Northern Oregon Coastal</i>				
	17100203	Wilson-Trask-Nestucca	To be scheduled	* (Completed 2002 – Temperature, sediment, bacteria for Nestucca Bay)		Dissolved oxygen, iron
	17100201	Necanicum	To be scheduled	* (Completed 2003 – Temperature, bacteria)		Aquatic weeds or algae, iron
	17100202	Nehalem	To be scheduled	* (Completed 2003 – Temperature, bacteria)		Dissolved oxygen
	170800	<i>Lower Columbia</i>				
	17080006	Lower Columbia	To be scheduled	* (Completed 2003 - Temperature)		Aquatic weeds or algae, chromium, copper, bacteria, iron, manganese, zinc
	171003	<i>Southern Oregon Coastal</i>				
	17100309	Applegate	To be scheduled	* (Completed 2004 – Temperature)		Dissolved oxygen
	170701	<i>Middle Columbia</i>				

(*TMDLs typically take 2 to 3 years from start of development to completion.)

Priority	3rd or 4th Field HUC	Name	Start Date for TMDL Development	Target Date for Completing TMDLs	Listed Parameters - To be addressed in scheduled TMDLs	2004/2006 Listed Parameters - To be addressed after completing scheduled TMDLs
	17070102	Walla Walla	To be scheduled	* (Completed 2005 - Temperature)		Iron

(*TMDLs typically take 2 to 3 years from start of development to completion.)

Appendix 1
PRIORITIZATION PROCESS USED for Oregon's
2002 303 (d) List of Water Quality Limited Water bodies
January 2003

INTRODUCTION: Section 303(d) of the Clean Water Act provides an important building block for managing the quality of the Nation's waters. Sections 303(d) and 303(e), used in conjunction with water quality standards, provided the tools to establish water quality goals in any geographic area, to assess the condition of those waters, to identify areas needing special attention, and to develop and implement plans which remedy problems. Specifically, the Section 303(d) process consists of:

1. Identifying waters where required pollution controls are not expected to attain or maintain water quality standards (this is the 303(d) List);
2. Setting priorities and targeting resources for use in developing Total Maximum Daily Loads (TMDLs) for addressing point and nonpoint source pollutants; and
3. Establishing TMDLs.

This paper describes the process used by the Oregon Department of Environmental Quality (DEQ) to prioritize resources for use in developing Total Maximum Daily Loads (TMDLs). This prioritization process is based on that originally developed for the 1994/96 303(d) list. The same prioritization process was used for the 1998 303(d) list.

BACKGROUND: After States develop lists as required under Section 303(d), they are required to prioritize and submit the list of waters to EPA for review and approval. Section 303(d) states that each "State shall establish a priority ranking for such waters, taking into account the severity of the pollution and the uses to be made of such waters." As part of the ranking, each state is expected to identify which "high" priority waters will be targeted for TMDL development within two years following the listing process. The list and priority ranking are to be updated every two years (by April 1 of even numbered years).

A priority ranking is necessary to establish a work plan for the state to develop Total Maximum Daily Loads during the listing cycle. DEQ considers all listed waters to be important resources to the state. However, with hundreds of stream segments listed, many for multiple parameters, it is clear that not all TMDLs can be developed at the same time. The amount of staff time and resources required for TMDL development may vary widely depending on the amount of existing information, complexity, type of pollutant, number of point and non point sources, resources available and other issues.

EPA's Clean Water Strategy document addresses this problem. "Where all water quality problems cannot be addressed immediately, EPA and States will, using multi-year approaches, set priorities and direct efforts and resources to maximize environmental benefits by dealing with the most serious water quality problems and the most valuable and threatened resources first."

The DEQ priorities for TMDL development should be viewed as a work plan in which DEQ will focus staff resources. A high or low priority ranking does not necessarily mean

that the river or lake is more important or less important, but rather that it is a water body selected for TMDL development for reasons identified in the prioritization process. The priority ranking also should not be viewed as a comprehensive prioritization for value of water bodies in the state. The priority ranking is limited in its scope to only water bodies that are listed on the 303(d) list. Also, it is only a priority ranking for where DEQ will commit staff resources to develop a TMDL. DEQ will continue to perform its work in all river basins in the state in such areas as monitoring water quality, working with permit holders and enforcing the state's environmental regulations.

DEQ uses a multi-step process for priority ranking and targeting. Generally, DEQ develops TMDLs on a subbasin (US Geological Survey 4th field) scale. Once this geographic area has been targeted for TMDL development, DEQ may apply further criteria (second tier criteria) to identify the high priority areas within the sub basin. These criteria are explained below.

ASSUMPTIONS: DEQ used the following basic assumptions to develop criteria for prioritizing water bodies listed on the 2002 303(d) list.

1. All streams, rivers and estuaries on the 303(d) list are important and valuable resources. It is important for DEQ to develop Total Maximum Daily Loads (TMDLs) for all listed streams, as required by federal law, as quickly as resources allow.
2. The criteria used to prioritize the streams should be as objective as possible, but allow some flexibility through the "targeting" process to meet state and local needs and priorities.
3. In most cases, the geographic area was an entire sub-basin unless specific pollutants that affected an impaired beneficial use could be addressed uniquely on a smaller level (e.g. toxics affected a single water body such as one lake within a sub-basin). In that case, the specific watershed or other defined area related to the beneficial use would be ranked separately from the remainder of the sub-basin. Within a sub-basin, dissimilar water bodies could be ranked separately if listed for unrelated parameters. For example, bays and lakes listed for bacteria may be separated from the rest of a sub-basin that is listed for other parameters affecting fish.
4. DEQ will use beneficial uses, looking at severity of impairment and severity of pollution, to determine the priority. An example of this is a "Threatened and Endangered Species" listing or Health Advisory would be given a higher priority based on the severity of impairment or pollution.
5. DEQ will re-examine criteria used for prioritizing and targeting TMDL development in each listing cycle.

RANKING METHODOLOGY: All 4th field sub-basins which had water bodies listed on the 1994/1996 303(d) list were ranked in "First Tier" priority categories of 1 through 4 (where 1 is high priority and 4 is lower priority) as described below. Where multiple uses within a sub-basin are limited by impaired water quality, the sub-basin would be ranked using the highest priority. A "Second Tier" set of criteria are suggested that can be used

to further develop priorities or set targets within a sub-basin. The “Second Tier” priorities were not used to further define priorities at this time and will be the subject of further refinement by the Department.

Sub-Basins (hydrologic units) were ranked as Priority 1 through 4 based on the ranking scheme described below:

FIRST TIER CRITERIA:

Priority 1:

Endangered Fish Species:

Spawning and rearing water bodies for federally listed threatened or endangered species or species addressed under the Oregon Plan.

Parameters of Concern: Biological Criteria, Dissolved Oxygen, Flow Modification, Habitat Modification, pH, Sedimentation, Temperature, Total Dissolved Gas, Toxics, Turbidity

Health Advisories:

Streams and Lakes where the Oregon Health Division has issued a fish consumption advisory.

Parameters of concern: Toxics (tissue)

Drinking Water:

Public and Private Domestic water supply where standard pretreatment technology (filtration and disinfection) is inadequate to meet drinking standards.

Parameters of Concern: Total Dissolved Solids, Toxics (water column)

Priority 2:

Candidate Fish Species:

Spawning and rearing water bodies for fish species that are candidates or proposed for federal listing as threatened or endangered species or listed as critical on the Oregon Sensitive species list.

Parameters of Concern: Biological Criteria, Dissolved Oxygen, Flow Modification, Habitat Modification, pH, Sedimentation, Temperature, Total Dissolved Gas, Toxics, Turbidity

Shellfish:

Water bodies that experience periodic closures for not meeting standards for shellfish growing waters.

Parameters of concern: Bacteria, Toxics

Water Contact Recreation:

Water bodies that experience chronic dry weather exceedences which corresponds with higher recreational usage (generally June through September).

Parameters of concern: bacteria

Priority 3:

Salmonid habitat:

Water bodies designated for salmonid spawning and rearing that do not meet appropriate water quality standards.

Parameters of Concern: Biological Criteria, Dissolved Oxygen, Flow Modification, Habitat Modification, pH, Sedimentation, Temperature, Total Dissolved Gas, Toxics, Turbidity

Water Contact Recreation:

Water bodies that experience chronic wet weather exceedences which correspond with lower recreational usage (generally October through May) or non-health related (aesthetic) concerns.

Parameters of concern: bacteria, aquatic weeds or algae, chlorophyll a, nutrients, turbidity

Wild & Scenic Rivers and State Scenic Waterways:

Federally or State designated Wild & Scenic waters not meeting water quality standards that relate to aesthetics or other recreational water use.

Parameters of Concern: aquatic weeds or algae, chlorophyll a, nutrients, turbidity

Industrial Water Supply:

Waters designated for industrial water supply where standard pretreatment technology is inadequate to meet standards.

Parameters of concern: Total Dissolved Solids, Turbidity

Priority 4:

Livestock Watering

Waters designated for livestock watering that do not meet appropriate water quality standards.

Parameters of concern: Chlorophyll a or algae

Other Resident Fish and Aquatic Life:

Water bodies not designated for salmonid spawning and rearing that do not meet appropriate water quality standards.

Parameters of Concern: Biological Criteria, Dissolved Oxygen, Flow Modification, Habitat Modification, pH, Sedimentation, Temperature, Total Dissolved Gas, Toxics, Turbidity

Aesthetics:

Other waters (not federally or State designated Wild & Scenic waters) not meeting water quality standards that relate to aesthetics or other recreational water use.

Parameters of Concern: aquatic weeds or algae, chlorophyll a, nutrients, turbidity

SECOND TIER CRITERIA (to be used within the “first tier” priorities):

Once the list is ranked into Priorities 1 through 4, a “Second Tier” of priorities could be used to further rank, refine priorities or target resources within a sub-basin. A sub-basin may be too large of an area for development of management plans (for example, federal agencies have been working at a watershed or sub-watershed scale when developing Watershed Assessments).

Second Tier criteria could include:

- Oregon Department of Fish & Wildlife (ODFW) Identified Core Area: These are reaches or watersheds within individual sub-basins that ODFW has judged to be of critical importance to the sustenance of salmon populations that inhabit those basins.
- Likelihood of Success: Examples include: areas where local groups are ready to start developing a management plan or where cost effective and reasonable efforts are likely to resolve the problem at least to a level that partially supports the use.
- Drinking Water Withdrawals: Higher priority could be given where water is used for drinking water and limited by criteria affecting drinking water.
- Wild and Scenic Rivers: These river segments could rank a higher priority than others for certain parameters (such as bacteria and algae) that affect the use of water for recreation or affect the aesthetic of such waters.
- Water Quality Trending: A higher priority could be assigned where there is a declining trend in water quality or a lower priority could be assigned where there is an improving trend in water quality.
- Weighted based on types of pollutants and severity of use impairment: Pollutants could be weighted based on impact on beneficial use. For example, a stream segment may be impaired for several parameters that affect salmon but certain parameters may be major limiting factors to fish production and need to be dealt with first so that improvements in other factors would be more beneficial (e.g. temperature of a stream may need to be addressed so that fish have access to habitat which may also be limiting).
- Economic Development: Higher priority could be assigned where economic development is a local priority or where a sewage treatment plant needs increased capacity.