Oregon Department of Environmental Quality

Appendix I: Applicable Temperature TMDL Requirements

The Total Maximum Daily Load, or clean water plan, is a science-based approach to cleaning up polluted water so that it meets state water quality standards. A TMDL is a numerical value that represents the highest amount of a pollutant a surface water body can receive and still meet the standards.

As noted in Section 8.4 of the fact sheet, this appendix provides a summary of TMDLs that were reviewed for temperature requirements. These TMDLs are in alphabetical order by basin then subbasin and/or watershed. DEQ maintains an integrated report mapping tool and database that can be used to determine which TMDL applies to a discharge location. The EPA approved integrated report is available on DEQ's web page at https://www.oregon.gov/deq/wq/Pages/epaApprovedIR.aspx. TMDLs are located on this DEQ web page https://www.oregon.gov/deq/wq/tmdls/Pages/default.aspx.

Permit limits that address these TMDLs are contained in Schedule A of the 100-J permit.

Contents

1) Columbia and Lower Snake Rivers– US EPA

Name of TMDL	Mainstem Columbia and Lower Snake River TMDL
Documents for TMDL	Columbia and Lower Snake Rivers Total Maximum Daily Load (TMDL): https://www.epa.gov/system/files/documents/2022-06/tmdl-columbia-snake-temperature-errata-update-05102022.pdf
EPA approval date	August 13, 2021
Wasteload Allocation Timeframe	June 1 – October 31 for all facilities discharging to the Columbia and Snake rivers upstream of Columbia River mile 141.5 June 1 – September 30 below Columbia River mile 141.5
New/Future sources	New/future sources require reserve capacity. General permit coverage is not provided. Applicants may seek permit coverage under an individual permit.
Effluent Limit Needed to Address WLA	Not applicable for new/future sources (see above).

2) Closed Lake Basin

Name of TMDL	Alvord Lake Subbasin TMDL
Documents for TMDL	Alvord Lake Subbasin Total Maximum Daily Load (TMDL) & Water Quality Management Plan (WQMP): https://www.oregon.gov/deq/FilterDocs/clALVtmdl.pdf
EPA approval date	February 11, 2004
Wasteload Allocation Timeframe	June through October
Wasteload Allocation for Existing Sources	No additional requirements for existing 100J sources.
New/Future sources	A new/future source is required to meet no measurable increase. No measurable increase means no temperature increase above 0.14°C (0.25°F) at 25% mix above site potential.
Effluent Limit Needed to Address WLA	$Q_e * (0.14*S_{25} - T_{SP}) * 3.78541$, or $Q_e * 0.14 * [(Q_a*0.25+Q_e*1.5472)/(Q_e*1.5472)] - T_{SP} * 3.78541$ Where S_{25} = dilution with 25% mix. $S_{25}=(Q_a*0.25+Q_e*1.5472)/(Q_e*1.5472)$; Q_a is critical ambient flow in cfs, Q_e is critical effluent flow in mgd, and T_{SP} is the applicable system potential temperature

3) Coquille Basin

Name of TMDL	South Fork Coquille River TMDL
Documents for TMDL	South Fork Coquille River Total Maximum Daily Load (TMDL): https://www.oregon.gov/deq/FilterDocs/scFStmdl.pdf
EPA approval date	March 23, 2001
Wasteload Allocation Timeframe	June through September
Wasteload Allocation Description	No additional requirements for existing 100J sources.
New/Future sources	New and future sources are required to meet temperature requirements in the permit.
Effluent Limit Needed to Address WLA	No additional limit needed.

4) Grande Ronde Basin

Name of TMDL	Lower Grande Ronde: Wallowa, Imnaha, and Lower Grande Ronde Subbasins TMDL
Documents for TMDL	Lower Grande Ronde Subbasins TMDL, Chapter 2: Stream Temperature: https://www.oregon.gov/deq/FilterDocs/lgrChapter2F.pdf
EPA approval date	September 24, 2010
Wasteload Allocation Timeframe	April – October
Wasteload Allocation Description	No additional requirements for existing 100-J sources.
New/Future Sources	New and future sources are required to meet temperature requirements in the permit.
Effluent Limit Needed to Address WLA	No additional limit needed.

Name of TMDL	Upper Grande Ronde Subbasin TMDL
Documents for TMDL	Upper Grande Ronde River Total Maximum Daily Load (TMDL): https://www.oregon.gov/deq/FilterDocs/ugrtmdl.pdf
EPA approval date	May 3, 2000
Wasteload Allocation Timeframe	June – October
Wasteload Allocation for Existing Sources	Not applicable, see below.
New/Future source WLA description	ETL = 0.14°C increase above system potential temp after mixing with 25% stream. No measurable increase (0.14°C/0.25°F) over site potential water temperatures during the critical temperature period

Effluent Limit Needed to Address WLA	Q_e * (0.14*S_{25} - T_{SP}) * 3.78541, or Q_e * 0.14 * [(Q_a*0.25+Q_e*1.5472)/(Q_e*1.5472)] - T_{SP} * 3.78541 Where: S_{25}=(Q_a*0.25+Q_e*1.5472)/(Q_e*1.5472); S_{25} = dilution with 25% mix. Q_a is critical ambient flow in cfs, Q_e is critical effluent flow in mgd, and T_{SP} is the applicable system potential temperature

5) John Day Basin

Name of TMDL	John Day Basin TMDL
Documents for TMDL	John Day River Basin Total Maximum Daily Load (TMDL) and Water Quality Management Plan (WQMP): https://www.oregon.gov/deq/FilterDocs/jdTMDLwqmp.pdf Addendum #1: https://www.oregon.gov/deq/FilterDocs/jdAddendum20110915.pdf
EPA approval date	December 17, 2010
Wasteload Allocation Timeframe	Year-round
Wasteload Allocation Description	No additional requirements for existing 100-J sources.
New/Future Sources	New and future sources are required to meet temperature requirements in the permit.
Effluent Limit Needed to Address WLA	No additional limit needed.

6) Klamath Basin

Name of TMDL	Upper Klamath and Lake Drainage TMDL and WQMP
Documents for TMDL	Upper Klamath and Lake Drainage Total Maximum Daily Load (TMDL) and Water Quality Management Plan (WQMP): https://www.oregon.gov/deq/FilterDocs/UKtmdlwqmp.pdf
EPA approval date	August 7, 2002
Wasteload Allocation Timeframe	June – October
Wasteload Allocation Description	No additional requirements for existing 100-J sources.
New/Future source WLA	No measurable increase (0.14°C/0.25°F) over system potential water temperatures during the critical temperature period.

Effluent Limit Needed to Address WLA	Q_e * (0.14*S_{25} - T_{SP}) * 3.78541, or Q_e * 0.14 * [(Q_a*0.25+Q_e*1.5472)/(Q_e*1.5472)] - T_{SP} * 3.78541 Where: S_{25} = dilution with 25% mix. S_{25}=(Q_a*0.25+Q_e*1.5472)/(Q_e*1.5472); Q_a is critical ambient flow in cfs, Q_e is critical effluent flow in mgd, and T_{SP} is the applicable system potential temperature

Name of TMDL	Upper Klamath and Lost River Subbasins TMDL
Documents for TMDL	Upper Klamath and Lost Total Maximum Daily Load (TMDL) and Water Quality Management Plan (WQMP): https://www.oregon.gov/deq/wq/tmdls/Pages/uklrTemperature.aspx
EPA approval date	September 30, 2019
Wasteload Allocation Timeframe	Year-round
Wasteload Allocation Description	No additional requirements for existing 100-J sources.
New/Future Sources	New and future sources are required to meet temperature requirements in the permit.
Effluent Limit Needed to Address WLA	No additional limit needed.

7) Malheur Basin

Name of TMDL	Malheur Basin TMDL
Documents for TMDL	Malheur River Basin Total Maximum Daily Load (TMDL) and Water Quality Management Plan (WQMP): https://www.oregon.gov/deq/FilterDocs/MalheurTMDLwqmp.pdf
EPA approval date	December 3, 2010
Wasteload Allocation Timeframe	Redband or Lahontan Cutthroat Trout May 1 – September 30 Bull Trout spawning and juvenile rearing May 1 – October 31
Wasteload Allocation Description	No additional requirements for existing 100-J sources.
New/Future Sources	New/future sources require reserve capacity. General permit coverage is not provided. Applicants must seek permit coverage under an individual permit.
Effluent Limit Needed to Address WLA	Not applicable for new/future sources (see above).

8) Middle Columbia-Hood Basin

Name of TMDL	Western Hood Subbasin TMDL		
Documents for TMDL	Western Hood Subbasin Total Maximum Daily Load: https://www.oregon.gov/deq/FilterDocs/whtmdlTMDL2018.pdf		
EPA approval date	June 20, 2018		
Wasteload Allocation Timeframe	Stream	Critical Period	Criterion (°C)
	Hood River	May 1 – September 30	16
	East Fork Hood River	May 1 – September 30	18
	Trout Creek	May 1 – September 30	18
	Wishart Creek	May 1 – September 30	18
	McGuire Creek	May 1 – September 30	16
	Odell Creek	April 15 – September 30	16
	Neal Creek	May 1 – October 31	18
	Lenz Creek	May 1 – October 31	18
	Ditch in Van Horn area	March 1 – October 31	18
	Clear Branch	Year-round	12
Wasteload Allocation for Existing Sources	No additional requirements for existing 100-J sources.		
New/Future Sources	New/future sources require reserve capacity. General permit coverage is not provided. Applicants must seek permit coverage under an individual permit.		
Effluent Limit Needed to Address WLA	Not applicable for new/future sources (see above).		

Name of TMDL	Middle Columbia-Hood (Miles Creeks) Subbasin TMDL
Documents for TMDL	Middle Columbia-Hood Subbasin TMDL: https://www.oregon.gov/deq/FilterDocs/MilesCreeksTMDLFinal.pdf
EPA approval date	February 5, 2009
Wasteload Allocation Timeframe	July – August
Wasteload Allocation for Existing Sources	No additional requirements for existing 100-J sources.
New/Future Sources	New/future sources require reserve capacity. General permit coverage is not provided. Applicants must seek permit coverage under an individual permit.
Effluent Limit Needed to Address WLA	Not applicable for new/future sources (see above).

9) North Coast Basin and Lower Columbia

Name of TMDL	Lower Columbia-Youngs, Lower Columbia-Clatskanie, Necanicum and Nehalem Subbasin TMDL

Documents for TMDL	North Coast Subbasins Total Daily Maximum Load (TMDL): https://www.oregon.gov/deq/FilterDocs/NCStmdl.pdf Addendum #1 Modifications to North Coast Temperature Wasteload and Load Allocations https://www.oregon.gov/deq/FilterDocs/NCmodtemptmdlwla.pdf
EPA approval date	August 20, 2003
Wasteload Allocation Timeframe	April 15 – November 1
Wasteload Allocation Description	No additional requirements for existing 100-J sources.
New/Future Sources	New and future sources are required to meet 0.3°C at 25% of 7Q10.
Effluent Limit Needed to Address WLA	$Q_e * (0.3*S_{25} - T_c) * 3.78541$, or $Q_e * 0.3 * [(Q_a*0.25+Qe*1.5472)/(Q_e*1.5472)] - T_c * 3.78541$ Where: S_{25} = dilution with 25% of streamflow $S_{25}=(Q_a*0.25+Q_e*1.5472)/(Q_e*1.5472)$; where Q_a is critical ambient flow in cfs, Q_e is critical effluent flow in mgd, and T_c is the applicable BBNC

Name of TMDL	Wilson-Trask-Nestucca Subbasin, Nestucca Bay Watershed TMDL
Documents for TMDL	Nestucca Bay Watershed Total Daily Maximum Load (TMDL): https://www.oregon.gov/deq/FilterDocs/NCnesttmdlwqmp.pdf Addendum #1 Modifications to North Coast Temperature Wasteload and Load Allocations: https://www.oregon.gov/deq/FilterDocs/NCmodtemptmdlwla.pdf
EPA approval date	August 20, 2003
Wasteload Allocation Timeframe	April 15 – November 1
Wasteload Allocation Description	No additional requirements for existing 100-J sources.
New/Future Sources	New and future sources are required to meet 0.3°C at 25% of 7Q10.
Effluent Limit Needed to Address WLA	$Q_e * (0.3*S25 - Tc) * 3.78541$, or $Q_e * 0.3 * [(Q_a*0.25+Qe*1.5472)/(Q_e*1.5472)] - T_c * 3.78541$ Where: S_{25} = dilution with 25% of streamflow $S_{25}=(Q_a*0.25+Q_e*1.5472)/(Q_e*1.5472)$; where Q_a is critical ambient flow in cfs, Q_e is critical effluent flow in mgd, and T_c is the applicable BBNC

Name of TMDL	Wilson-Trask-Nestucca Subbasin, Tillamook Bay Watershed TMDL
Documents for TMDL	Tillamook Bay Watershed Total Daily Maximum Load (TMDL): https://www.oregon.gov/deq/FilterDocs/NCtilltmdl.pdf Addendum #1 Modifications to North Coast Temperature Wasteload and Load Allocations: https://www.oregon.gov/deq/FilterDocs/NCmodtemptmdlwla.pdf
EPA approval date	July 31, 2001
Area where TMDL applies	There are five major rivers in the watershed: the Miami, Kilchis, Trask, Wilson and Tillamook Rivers. All originate in the forested Coast Range Mountains and flow westward to estuary/tidal areas. Two major estuary/bay areas occur: Tillamook Bay and Netarts Bay. The Tillamook Bay is the northernmost and receives the Miami River, Kilchis River, Wilson River, Trask River and Tillamook River.
Wasteload Allocation Timeframe	Year-round
Wasteload Allocation Description	No additional requirements for existing 100-J sources.
New/Future Sources	New and future sources are required to meet 0.3°C at 25% of 7Q10.
Effluent Limit Needed to Address WLA	$Q_e * (0.3*S_{25} - T_c) * 3.78541$, or $Q_e * 0.3 * [(Q_a*0.25+Q_e*1.5472)/(Q_e*1.5472)] - T_c * 3.78541$ Where: S_{25} = dilution with 25% of streamflow $S_{25}=(Q_a*0.25+Q_e*1.5472)/(Q_e*1.5472)$; where Q_a is critical ambient flow in cfs, Q_e is critical effluent flow in mgd, and T_c is the applicable BBNC

10) Rogue Basin

Name of TMDL	Rogue River Basin TMDL
Documents for TMDL	Rogue River Basin TMDL, Chapter 2: Temperature https://www.oregon.gov/deq/FilterDocs/rogueChapter2Temperature.pdf
EPA approval date	December 29, 2008
Wasteload Allocation Timeframe	April 1 – October 31
Wasteload Allocation Description	No additional requirements for existing 100-J sources.
New/Future Sources	New and future sources are required to meet temperature requirements in the permit.
Effluent Limit Needed to Address WLA	No additional limit needed.

Name of TMDL	Applegate Subbasin TMDL
Documents for TMDL	Applegate Subbasin Total Maximum Daily Load (TMDL): https://www.oregon.gov/deq/FilterDocs/rogueappletmdl.pdf
EPA approval date	February 11, 2004
Wasteload Allocation Timeframe	Year-round
Wasteload Allocation description	No additional requirements for existing 100-J sources.
New/Future source WLA	No measurable increase (0.14°C/0.25°F) over system potential water temperatures during the critical temperature period.
Effluent Limit Needed to Address WLA	$Q_e * (0.14*S_{25} - T_{SP}) * 3.78541$, or $Q_e * 0.14 * [(Q_a*0.25+Q_e*1.5472)/(Q_e*1.5472)] - T_{SP} * 3.78541$ Where S_{25} = dilution with 25% mix. $S_{25}=(Q_a*0.25+Q_e*1.5472)/(Q_e*1.5472)$; Q_a is critical ambient flow in cfs, Q_e is critical effluent flow in mgd, and T_{SP} is the applicable system potential temperature

Name of TMDL	Lower Sucker Creek
Documents for TMDL	Lower Sucker Creek Total Maximum Daily Load and Water Quality Management Plan: https://www.oregon.gov/deq/FilterDocs/rogueILtmdl.pdf
EPA approval date	May 30, 2002
Wasteload Allocation Timeframe	June – September
Wasteload Allocation for Existing Sources	No additional requirements for existing 100-J sources.
New/Future source WLA	No measurable increase (0.14°C/0.25°F) over system potential water temperatures during the critical temperature period.
Effluent Limit Needed to Address WLA	$Q_e * (0.14*S_{25} - T_{SP}) * 3.78541$, or $Q_e * 0.14 * [(Q_a*0.25+Q_e*1.5472)/(Q_e*1.5472)] - T_{SP} * 3.78541$ Where S_{25} = dilution with 25% mix. $S_{25}=(Q_a*0.25+Q_e*1.5472)/(Q_e*1.5472)$; Q_a is critical ambient flow in cfs, Q_e is critical effluent flow in mgd, and T_{SP} is the applicable system potential temperature

Name of TMDL	Upper Sucker Creek TMDL
Documents for TMDL	Upper Sucker Creek Total Maximum Daily Load and Water Quality Management Plan: https://www.oregon.gov/deq/FilterDocs/rogueIUtmdl.pdf
EPA approval date	May 4, 1999
Wasteload Allocation Timeframe	June 1 – September 30
Wasteload Allocation for Existing Sources	No additional requirements for existing 100-J sources.
New/Future source WLA	No measurable increase (0.14°C/0.25°F) over system potential water temperatures during the critical temperature period.
Effluent Limit Needed to Address WLA	$Q_e * (0.14*S_{25} - T_{SP}) * 3.78541$, or $Q_e * 0.14 * [(Q_a*0.25+Q_e*1.5472)/(Q_e*1.5472)] - T_{SP} * 3.78541$ Where S_{25} = dilution with 25% mix. $S_{25}=(Q_a*0.25+Q_e*1.5472)/(Q_e*1.5472)$; Q_a is critical ambient flow in cfs, Q_e is critical effluent flow in mgd, and T_{SP} is the applicable system potential temperature

Name of TMDL	Lobster Creek Watershed TMDL

Documents for TMDL	Lobster Creek Watershed Total Maximum Daily Load: https://www.oregon.gov/deq/FilterDocs/rogueLRtmdl.pdf
EPA approval date	June 13, 2002
Wasteload allocation Timeframe	Year-round
Wasteload Allocation for Existing Sources	No additional requirements for existing 100-J sources.
New/Future source WLA	No measurable increase (0.14°C/0.25°F) over system potential water temperatures during the critical temperature period.
Effluent Limit Needed to Address WLA	Q_e * (0.14*S_{25} - T_{SP}) * 3.78541, or Q_e * 0.14 * [(Q_a*0.25+Q_e*1.5472)/(Q_e*1.5472)] - T_{SP} * 3.78541 Where S_{25} = dilution with 25% mix. S_{25}=(Q_a*0.25+Q_e*1.5472)/(Q_e*1.5472); Q_a is critical ambient flow in cfs, Q_e is critical effluent flow in mgd, and T_{SP} is the applicable system potential temperature

Name of TMDL	Bear Creek Watershed TMDL
Documents for TMDL	Bear Creek Watershed TMDL, Chapter 1, Section 2, Temperature: https://www.oregon.gov/deq/FilterDocs/rogueMRtmdlchp1sec12.pdf
EPA approval date	October 2, 2007
Wasteload Allocation Timeframe	Year round
Wasteload Allocation Description	No additional requirements for existing 100-J sources.
New/Future source WLA	General permit coverage is not provided for new/future sources. Applicants must seek permit coverage under an individual permit.
Effluent Limit Needed to Address WLA	Not applicable for new/future sources (see above).

11) Sandy Basin

Name of TMDL	Sandy Basin TMDL
Documents for TMDL	Sandy River Basin Total Daily Maximum Load (TMDL): https://www.oregon.gov/deq/FilterDocs/sandytmdlwqmp.pdf
EPA approval date	April 14, 2005
Wasteload Allocation Timeframe	Late-July –early-August
Wasteload allocation description	No existing 100J sources.
Wasteload Allocation for Existing Sources	Specific requirements for existing 100-J sources.
New/Future source WLA	Ensure no more than 0.3°C at 25% of 7Q10. Any facility with additional heat load must move to individual permit.

Effluent Limit Needed to Address WLA	Q_e * (0.3*S_{25} - T_c) * 3.78541, or Q_e * 0.3 * [(Q_a*0.25+Q_e*1.5472)/(Q_e*1.5472)] - T_c * 3.78541 Where: S_{25} = dilution with 25% of streamflow S_{25}=(Q_a*0.25+Q_e*1.5472)/(Q_e*1.5472); where Q_a is critical ambient flow in cfs, Q_e is critical effluent flow in mgd, and T_c is the applicable BBNC

12) Snake River/Hells Canyon Subbasin

Name of TMDL	Snake River/Hells Canyon Subbasin TMDL
Documents for TMDL	Snake River – Hells Canyon Total Daily Maximum Daily Load (TMDL): https://www.oregon.gov/deq/FilterDocs/tmdlrev.pdf
EPA approval date	September 9, 2004
Wasteload Allocation Timeframe	May – September
Wasteload Allocation Description	No additional requirements for existing 100-J sources.
New/Future source WLA	No measurable increase (0.14°C/0.25°F) over system potential water temperatures during the critical temperature period.
Effluent Limit Needed to Address WLA	Q_e * (0.14*S_{25} - T_{SP}) * 3.78541, or Q_e * 0.14 * [(Q_a*0.25+Q_e*1.5472)/(Q_e*1.5472)] - T_{SP} * 3.78541 Where S_{25} = dilution with 25% of streamflow S_{25}=(Q_a*0.25+Q_e*1.5472)/(Q_e*1.5472); Q_a is critical ambient flow in cfs, Q_e is critical effluent flow in mgd, and T_{SP} is the applicable system potential temperature

13) Umatilla Basin

Name of TMDL	Umatilla Subbasin TMDL
Documents for TMDL	Umatilla River Basin Total Daily Maximum Daily Load (TMDL) and Water Quality Management Plan (WQMP): https://www.oregon.gov/deq/FilterDocs/umatmdl.pdf Coordinating the Temperature Water Quality Standard and Umatilla Subbasin TMDL: Practical Considerations and Cumulative Effects Analysis. Sept. 2007
EPA approval date	May 9, 2001
Wasteload Allocation Timeframe	June – September
Wasteload Allocation Description	No additional requirements for existing 100-J sources.

New/Future Sources	New and future sources are required to meet 0.3°C at 25% of 7Q10. Any facility with additional heat load must move to individual permit.
Effluent Limit Needed to Address WLA	Q_e * (0.3*S_{25} - T_c) * 3.78541, or Q_e * 0.3 * [(Q_a*0.25+Q_e*1.5472)/(Q_e*1.5472)] - T_c * 3.78541 Where: S_{25} = dilution with 25% of streamflow S_{25}=(Qa*0.25+Qe*1.5472)/(Qe*1.5472); where Q_a is critical ambient flow in cfs, Q_e is critical effluent flow in mgd, and T_c is the applicable BBNC

Name of TMDL	Walla Walla Subbasin TMDL
Documents for TMDL	Walla Walla Subbasin Stream Temperature Total Daily Maximum Daily Load and Water Quality Management Plan: https://www.oregon.gov/deq/FilterDocs/umaWWtmdlwqmp.pdf
EPA approval date	September 29, 2005
Basis for Analysis	Natural Thermal Potential
Wasteload Allocation Timeframe	July – August
Wasteload Allocation Description	No additional requirements for existing 100-J sources.
New/Future Sources	New/future sources require reserve capacity. General permit coverage is not provided. Applicants must seek permit coverage under an individual permit.
Effluent Limit Needed to Address WLA	Not applicable for new/future sources (see above).

Name of TMDL	Willow Creek Subbasin TMDL
Documents for TMDL	Willow Creek Subbasin Total Daily Maximum Daily Loads and Water Quality Management Plan: https://www.oregon.gov/deq/FilterDocs/umaWillowwqmp.pdf
EPA approval date	February 19, 2007
Wasteload Allocation Timeframe	July through September
Wasteload Allocation Description	No additional requirements for existing 100-J sources.
New/Future Sources	New/future sources require reserve capacity. General permit coverage is not provided. Applicants must seek permit coverage under an individual permit.
Effluent Limit Needed to Address WLA	Not applicable for new/future sources (see above).

14) Umpqua Basin

Name of TMDL	Umpqua Basin TMDL

Documents for TMDL	Chapter 3: Umpqua Basin Stream Temperature TMDL https://www.oregon.gov/deq/FilterDocs/umpchpt3temp.pdf
EPA approval date	April 12, 2007
Wasteload Allocation Timeframe	June – September
Wasteload Allocation Description	No additional requirements for existing 100-J sources.
New/Future Sources	New and future sources are required to meet temperature requirements in the permit.
Effluent Limit Needed to Address WLA	No additional limit needed.

Name of TMDL	Umpqua Basin, Little River Watershed TMDL
Documents for TMDL	Little River Watershed TMDL https://www.oregon.gov/deq/FilterDocs/umpLRtmdl.pdf
EPA approval date	January 29, 2002
Wasteload Allocation Timeframe	June 1 – September 15
Wasteload Allocation for Existing Sources	No additional requirements for existing 100-J sources.
New/Future Sources	New/future sources require reserve capacity. General permit coverage is not provided. Applicants must seek permit coverage under an individual permit.
Effluent Limit Needed to Address WLA	Not applicable for new/future sources (see above).

15) Willamette Basin

Name of TMDL	Willamette Mainstem TMDL	
Documents for TMDL	Chapter 4: Temperature-Mainstem TMDL and Subbasin Summary https://www.oregon.gov/deq/FilterDocs/chpt4temp.pdf	
EPA approval date	September 29, 2006	
Wasteload Allocation Timeframe	Willamette River Miles 50 to 186 (Yamhill River to the Confluence of The Coast Fork/Middle Fork Willamette): April – October Willamette River Miles 0 to 50 (Mouth Willamette River to Yamhill River): June – September	
Wasteload Allocation for Existing Sources	A limited number of 100-J sources are assigned a “bubble” allocation per segment.	
Mainstem Segment		Total Number of 100-J Bubble Allocations
Lower (Willamette River Mile 0 – 50, Mouth Willamette River - Yamhill River)		13
Middle (Willamette River Mile 50 – 108, Yamhill River - Santiam River)		3

Upper (Willamette River Mile 108 – 186, Santiam River - Confluence of The Coast Fork/Middle Fork Willamette)	6
New/Future Sources	If allocations are available, new/future sources can be assigned to a bubble. If no such allocation is available, general permit coverage is not provided, and applicants must seek individual permit coverage.
Effluent Limit Needed to Address WLA	Bubble allocation that is limited to a certain number of sources per stream segment of the mainstem Willamette River.

Name of TMDL	Willamette Mainstem TMDL (Major Tributaries)
Documents for TMDL	Chapter 4: Temperature-Mainstem TMDL and Subbasin Summary https://www.oregon.gov/deq/FilterDocs/chpt4temp.pdf
EPA approval date	September 29, 2006
Wasteload Allocation Timeframe	Willamette River Miles 50 to 186 (Yamhill River to the Confluence of The Coast Fork/Middle Fork Willamette): April – October Willamette River Miles 0 to 50 (Mouth Willamette River to Yamhill River): June – September It includes the following major river tributaries immediately downstream of a dam or reservoir: Long Tom, Coast Fork, Middle Fork Willamette, McKenzie, South Santiam and North Santiam Rivers and Clackamas.
Wasteload Allocation for Existing Sources	No additional requirements for existing 100-J sources.
New/Future Sources	New and future sources are required to meet temperature requirements in the permit.
Effluent Limit Needed to Address WLA	No additional limit needed.

Name of TMDL	Lower Willamette Subbasin TMDL (Columbia Slough and Fairview Creek watersheds only)			
Documents for TMDL	Chapter 5: Lower Willamette Subbasin TMDL https://www.oregon.gov/deq/FilterDocs/chpt5lowerwill.pdf			
EPA approval date	September 29, 2006			
Wasteload Allocation Timeframe	Year-round			
Wasteload Allocation for Existing Sources	Wasteload allocation for existing sources are provided below.			
Wasteload Allocation for Existing Sources	File No.	Common Name	Maximum Effluent Temperature °F/°C	WLA (Million Kcal/day)
	52638	Herbert Malarkey Roofing Company	76.2 / 24.6	5.77

	103832	Ventura Foods, LLC	76.8 / 24.9	4.03
	65610	Owens-Illinois Glass Container Inc. (formerly Owens Brockway)	90 / 32.2	3.90
	103774	Miller Paint Co Inc	90 / 32.2	1.30
New/Future Sources	New/future sources require reserve capacity. General permit coverage is not provided. Applicants may seek permit coverage under an individual permit.			
Effluent Limit Needed to Address WLA	Not applicable for new/future sources (see above).			

Name of TMDL	Lower Willamette Subbasin TMDL (areas outside of Columbia Slough and Fairview Creek Watersheds)
Documents for TMDL	Chapter 5: Lower Willamette Subbasin TMDL https://www.oregon.gov/deq/FilterDocs/chpt5lowerwill.pdf
EPA approval date	September 29, 2006
Wasteload Allocation Timeframe	Year-round
Wasteload Allocation Description	Existing sources ensure no more than 0.3°C at 25% of 7Q10.
New/Future Sources	New and future sources are required to meet 0.3°C at 25% of 7Q10.
Effluent Limit Needed to Address WLA	$Q_e * (0.3*S_{25} - T_c) * 3.78541$, or $Q_e * 0.3 * [(Q_a*0.25+Q_e*1.5472)/(Q_e*1.5472)] - T_c * 3.78541$ Where: S_{25} = dilution with 25% of streamflow $S_{25}=(Q_a*0.25+Q_e*1.5472)/(Q_e*1.5472)$; where Q_a is critical ambient flow in cfs, Q_e is critical effluent flow in mgd, and T_c is the applicable BBNC

Name of TMDL	Middle Willamette Subbasin TMDL
Documents for TMDL	Chapter 7: Middle Willamette Subbasin TMDL https://www.oregon.gov/deq/FilterDocs/chpt7midwill.pdf
EPA approval date	September 29, 2006
Wasteload Allocation Timeframe	Existing sources ensure no more than 0.3°C at 25% of 7Q10.
Wasteload Allocation Description	New and future sources are required to meet 0.3°C at 25% of 7Q10.
Effluent Limit Needed to Address WLA	$Q_e * (0.3*S_{25} - T_c) * 3.78541$, or $Q_e * 0.3 * [(Q_a*0.25+Q_e*1.5472)/(Q_e*1.5472)] - T_c * 3.78541$ Where: S_{25} = dilution with 25% of streamflow

	$S_{25}=(Q_a*0.25+Q_e*1.5472)/(Q_e*1.5472)$; where Q_a is critical ambient flow in cfs, Q_e is critical effluent flow in mgd, and T_c is the applicable BBNC

Name of TMDL	Upper Willamette Subbasin TMDL
Documents for TMDL	Chapter 10: Upper Willamette Subbasin TMDL https://www.oregon.gov/deq/FilterDocs/chpt10upperwill.pdf
EPA approval date	September 29, 2006
Wasteload Allocation Timeframe	Mid-July – Mid-August
Wasteload Allocation for Existing Sources	Existing sources ensure no more than 0.3°C at 25% of 7Q10.
New/Future Sources	New and future sources are required to meet 0.3°C at 25% of 7Q10.
Effluent Limit Needed to Address WLA	$Q_e * (0.3*S_{25} - T_c) * 3.78541$, or $Q_e * 0.3 * [(Q_a*0.25+Q_e*1.5472)/(Q_e*1.5472)] - T_c * 3.78541$ Where: S_{25} = dilution with 25% of streamflow $S_{25}=(Qa*0.25+Q_e*1.5472)/(Q_e*1.5472)$; where Q_a is critical ambient flow in cfs, Q_e is critical effluent flow in mgd, and T_c is the applicable BBNC

Name of TMDL	Clackamas Subbasin TMDL
Documents for TMDL	Chapter 6: Clackamas Subbasin TMDL https://www.oregon.gov/deq/FilterDocs/chpt6clackamas.pdf
EPA approval date	September 29, 2006
Wasteload Allocation Timeframe	Year-round
Wasteload Allocation Description	Existing sources ensure no more than 0.3°C at 25% of 7Q10.
New/Future Sources	New and future sources are required to meet 0.3°C at 25% of 7Q10.
Effluent Limit Needed to Address WLA	$Q_e * (0.3*S_{25} - Tc) * 3.78541$, or $Q_e * 0.3 * [(Q_a*0.25+Q_e*1.5472)/(Q_e*1.5472)] - T_c * 3.78541$ Where: S_{25} = dilution with 25% of streamflow $S_{25}=(Q_a*0.25+Q_e*1.5472)/(Q_e*1.5472)$; where Q_a is critical ambient flow in cfs, Q_e is critical effluent flow in mgd, and T_c is the applicable BBNC

Name of TMDL	North Santiam Subbasin TMDL
Documents for TMDL	Chapter 8: North Santiam Subbasin TMDL https://www.oregon.gov/deq/FilterDocs/chpt8nsantiam.pdf
EPA approval date	September 29, 2006
Wasteload Allocation Timeframe	Mid-July – Mid-August
Wasteload Allocation Description	Existing sources ensure no more than 0.3°C at 25% of 7Q10. Any facility with additional heat load must move to individual permit.
New/Future Sources	New and future sources are required to meet 0.3°C at 25% of 7Q10. Any facility with additional heat load must move to individual permit.
Effluent Limit Needed to Address WLA	Q_e * (0.3*S_{25} - Tc) * 3.78541, or Q_e * 0.3 * [(Q_a*0.25+Q_e*1.5472)/(Q_e*1.5472)] - T_c * 3.78541 Where: S_{25} = dilution with 25% of streamflow S_{25}=(Q_a*0.25+Q_e*1.5472)/(Q_e*1.5472); where Q_a is critical ambient flow in cfs, Q_e is critical effluent flow in mgd, and T_c is the applicable BBNC

Name of TMDL	South Santiam Subbasin TMDL
Documents for TMDL	Chapter 9: South Santiam Subbasin TMDL https://www.oregon.gov/deq/FilterDocs/chpt9ssantiam.pdf
EPA approval date	September 29, 2006
Wasteload Allocation Timeframe	Mid-July – Mid-August
Wasteload Allocation Description	Existing sources ensure no more than 0.3°C at 25% of 7Q10.
New/Future Sources	New and future sources are required to meet 0.3°C at 25% of 7Q10.
Effluent Limit Needed to Address WLA	Q_e * (0.3*S_{25} - Tc) * 3.78541, or Q_e * 0.3 * [(Q_a*0.25+Q_e*1.5472)/(Q_e*1.5472)] - T_c * 3.78541 Where: S_{25} = dilution with 25% of streamflow S_{25}=(Q_a*0.25+Q_e*1.5472)/(Q_e*1.5472); where Q_a is critical ambient flow in cfs, Q_e is critical effluent flow in mgd, and T_c is the applicable BBNC

Name of TMDL	McKenzie Subbasin TMDL
Documents for TMDL	Chapter 11: McKenzie Subbasin TMDL https://www.oregon.gov/deq/FilterDocs/chpt11mckenzie.pdf
EPA approval date	September 29, 2006

Wasteload Allocation Timeframe	Mid-July – Mid-August
Wasteload Allocation Description	Existing sources ensure no more than 0.3°C at 25% of 7Q10.
New/Future Sources	New and future sources are required to meet 0.3°C at 25% of 7Q10.
Effluent Limit Needed to Address WLA	$Q_e * (0.3*S_{25} - Tc) * 3.78541$, or $Q_e * 0.3 * [(Q_a*0.25+Q_e*1.5472)/(Q_e*1.5472)] - T_c * 3.78541$ Where: S_{25} = dilution with 25% of streamflow $S_{25}=(Q_a*0.25+Q_e*1.5472)/(Q_e*1.5472)$; where Q_a is critical ambient flow in cfs, Q_e is critical effluent flow in mgd, and T_c is the applicable BBNC

Name of TMDL	Middle Fork Willamette Subbasin TMDL
Documents for TMDL	Chapter 12: Middle Fork Willamette Subbasin TMDL https://www.oregon.gov/deq/FilterDocs/chpt12midforkwill.pdf
EPA approval date	September 29, 2006
Wasteload Allocation Timeframe	Mid-July – Mid-August
Wasteload Allocation Description	Existing sources ensure no more than 0.3°C at 25% of 7Q10. Any facility with additional heat load must move to individual permit.
New/Future Sources	New and future sources are required to meet 0.3°C at 25% of 7Q10. Any facility with additional heat load must move to individual permit.
Effluent Limit Needed to Address WLA	$Q_e * (0.3*S_{25} - Tc) * 3.78541$, or $Q_e * 0.3 * [(Q_a*0.25+Q_e*1.5472)/(Q_e*1.5472)] - T_c * 3.78541$ Where: S_{25} = dilution with 25% of streamflow $S_{25}=(Q_a*0.25+Q_e*1.5472)/(Q_e*1.5472)$; Q_a is critical ambient flow in cfs, Q_e is critical effluent flow in mgd, and T_c is the applicable BBNC

Name of TMDL	Coast Fork Willamette Subbasin TMDL
Documents for TMDL	Chapter 13: Coast Fork Willamette Subbasin TMDL https://www.oregon.gov/deq/FilterDocs/chpt13coastforkwill.pdf
EPA approval date	September 29, 2006
Wasteload Allocation Timeframe	Mid-July – Mid-August.
Wasteload Allocation Description	Existing sources ensure no more than 0.3°C at 25% of 7Q10. Any facility with additional heat load must move to individual permit.
New/Future Sources	New and future sources are required to meet 0.3°C at 25% of 7Q10. Any facility with additional heat load must move to individual permit.

Effluent Limit Needed to Address WLA	Q_e * (0.3*S_{25} - Tc) * 3.78541, or Q_e * 0.3 * [(Q_a*0.25+Q_e*1.5472)/(Q_e*1.5472)] - T_c * 3.78541 Where: S_{25} = dilution with 25% of streamflow S_{25}=(Q_a*0.25+Q_e*1.5472)/(Q_e*1.5472); where Q_a is critical ambient flow in cfs, Q_e is critical effluent flow in mgd, and T_c is the applicable BBNC

Name of TMDL	Molalla-Pudding Subbasin TMDL
Documents for TMDL	Molalla-Pudding Subbasin TMDL, Chapter 2: Temperature https://www.oregon.gov/deq/FilterDocs/MoPudChapter2Temperature.pdf
EPA approval date	December 31, 2008
Wasteload Allocation Timeframe	June 1 – September 30 for the Pudding River and May 1 – October 31 for the Molalla River
Wasteload Allocation Description	No additional requirements for existing 100-J sources.
New/Future Sources	New/future sources require reserve capacity. General permit coverage is not provided. Applicants must seek permit coverage under an individual permit.
Effluent Limit Needed to Address WLA	Not applicable for new/future sources (see above).

Name of TMDL	Tualatin Subbasin TMDL			
Documents for TMDL	Tualatin Subbasin Total Maximum Daily Load (TMDL): https://www.oregon.gov/deq/FilterDocs/tmdlwqmp.pdf			
EPA approval date	August 7, 2001			
Wasteload Allocation Timeframe	June – October			
Wasteload Allocation Description	Wasteload allocation for existing sources are provided below. A new/future source is required to meet no measurable increase. No measurable increase means no temperature increase above 0.14°C (0.25°F) at 25% mix above system potential.			
Wasteload Allocation for Existing Sources	File No.	Common Name	System Potential Temperature (°F)	WLA (Million Kcal/day)
	103777	Pacific Foods	62	1.1
	103448	Epson Portland Inc	61.1	0.082
	87628	Tektronix	61.1	0.15

	108322	Analog Devices Inc. (formerly Maxim Wafer Fab Operations)	61.1	0.13
	107618	Henningsen	57.8	0.013
New/Future source WLA	No measurable increase (0.14°C/0.25°F) over system potential water temperatures during the critical temperature period.			
Effluent Limit Needed to Address WLA	$Q_e * (0.14*S_{25} - T_{SP}) * 3.78541$, or $Q_e * 0.14 * [(Q_a*0.25+Q_e*1.5472)/(Q_e*1.5472)] - T_{SP} * 3.78541$ Where: S_{25} = dilution with 25% of stream flow $S_{25}=(Q_a*0.25+Q_e*1.5472)/(Q_e*1.5472)$; Q_a is critical ambient flow in cfs, Q_e is critical effluent flow in mgd, and T_{SP} is the applicable system potential temperature			

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