Appendix C:

Reasonable Potential Analyses and Wasteload Allocations

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Table C-1. Input parameters and results of Reasonable Potential Analysis for the Mount Hood Meadows Wastewater Treatment Plant.
Variables indicated in the second column of this table refer to variables used in Equations 3-6 in the 2018 WHS TMDL Revision. Shaded cells in grey indicate variables and values associated with the most stringent WLA which apply during the critical period (included in Table 13 of the TMDL document).

Mount Hood Meadows WWTP: East Fork Hood River as receiving stream														
	Variable	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	2001 TMDL
		Winter Operations				Summer Operations						Winter Operations		
Fish Use Designation		Salmon & Trout Rearing & Migration												
Critical period						May 1-September 30								June 15 - Sept 30
Applicable Temperature Criterion (^{o}C)	T_C	18.0				18.0						18.0		17.8
Maximum Effluent Temp (^{o}C)	T_E*	13.9	14.1	13.9	14.3	14.6	15.8	18.4	20.1	17.9	17.1	14.4	14.3	
Minimum Stream Flow (cfs)	Q_R*	5.6	5.8	5.6	6.5	9.4	19.4	13.9	6.7	6.9	6.8	7.1	7.2	5^{+}
Effluent Flow (avg. dry-weather design flow) (MGD)	Q_E	0.0375				0.0187					0.0187	0.0375		0.0187
Effluent Flow (avg. dry-weather design flow) (cfs)	Q_E	0.06				0.03					0.03	0.06		
Dilution Ratio with 100% of stream flow	S**	97	101	97	113	326	671	481	232	239	236	123	125	
Human Use Allowance (^{o}C)	HUA_{PS}	N/A	N/A	N/A	N/A	0.18					N/A	N/A	N/A	
Calculated Change in River Temperature under Current Operations (^{o}C)	ΔT_R**	-0.04	-0.04	-0.04	-0.03	-0.01	0.00	0.00	0.01	0.00	0.00	-0.03	-0.03	
Current Thermal Load (gcals/day)	CL**	-0.6	-0.6	-0.6	-0.5	-0.2	-0.2	0.0	0.1	0.0	-0.1	-0.5	-0.5	
Wasteload Allocation Thermal Load (gcals/day)	WLA**	N/A	N/A	N/A	N/A	4.2	8.6	6.1	3.0	3.1	N/A	N/A	N/A	0.45
Load reduction needed to meet WLA (gcals/day, %)		N/A	N/A	N/A	N/A	--	--	--	--	--	N/A	N/A	N/A	
Maximum Allowable Effluent Temperature (^{o}C)	T_{WLA}***	N/A	N/A	N/A	N/A	OAR 340-041-0053(2)(d) #					N/A	N/A	N/A	

* *Measured data*
** *Calculated data*
*** *Calculated maximum effluent temperature that would meet the WLA, assuming design flows and minimum stream flows as presented in this table.*
\# *The calculated maximum allowable effluent temperature under allocated conditions is greater than is physically possible to generate at the facility (>59.8*C). The calculated value of T_{WLA} does not allow a facility to discharge effluent at these high temperatures. T_{WLA} needs to comply with thermal plume limitations in this OAR.*
\+ *25% of this steam flow was used in the 2001 WLA calculations*

Table C-2. Input parameters and results of Reasonable Potential Analysis for the Diamond Fruit Growers Parkdale facility.
Variables indicated in the second column of this table refer to variables used in Equations 3-7 in the 2018 WHS TMDL Revision. Shaded cells in grey indicate variables and values associated with the WLA which apply during the critical period (included in Table 13 of the TMDL document).

Diamond-Parkdale facility: ditch as receiving stream			
	Variable	Design flows	2001 TMDL^{++}
Fish Use Designation		Salmon & Trout Rearing & Migration	
Critical period		May 1-September 30	June 1-September 30
Applicable Temperature Criterion (^{o}C)	T_C	18.0	17.8
Maximum Effluent Temp (^{o}C)	T_E*	21.0	
Minimum Stream Flow (cfs)	Q_R*	0.1	1^{+}
Effluent Flow (avg. dry-weather design flow) (MGD)	Q_E	0.22	0.22
Effluent Flow (avg. dry-weather design flow) (cfs)	Q_E	0.34	
Dilution Ratio with 100% of stream flow	S**	1	
Human Use Allowance (^{o}C)	HUA_{PS}	0.18	
Calculated Change in River Temperature under Current Operations (^{o}C)	ΔT_R**	2.3	
Current Thermal Load (gcals/day)	CL**	2.5	
Wasteload Allocation Thermal Load (gcals/day)	WLA**	0.2	0.08
Load reduction needed (gcals/day)		2.3	
Load reduction needed (%)		92%	
Maximum Allowable Effluent Temperature (^{o}C)	T_{WLA}***	18.2	
Maximum Allowable Effluent Flow to meet WLA (MGD)	Q_{WLA}****	0.004	

* *Measured data*
** *Calculated data*
*** *Calculated maximum effluent temperature that would meet the WLA, assuming design flows and minimum stream flows as presented in this table.*
**** *Calculated maximum effluent discharge flow that would meet the WLA, assuming maximum effluent temperature and minimum stream flows as presented in this table.*
\+ *25% of this steam flow was used in the 2001 WLA calculations*
++ *2001 WHS TMDL was based on Wishart Creek as the receiving stream*

Table C-3. Input parameters and results of Reasonable Potential Analysis for the Parkdale Wastewater Treatment Plant.
Variables indicated in the second column of this table refer to variables used in Equations 3-6 in the 2018 WHS TMDL Revision. Shaded cells in grey indicate variables and values associated with the WLAs which apply during the critical period before and after the facility's upgrade (included in Table 13 of the TMDL document).

Parkdale WWTP: Trout Creek as receiving stream				
	Variable	Current Facility	After Upgrade	2001 TMDL
Fish Use Designation		Salmon & Trout Rearing & Migration		
Critical period		May 1-September 30		June 1-September 30
Applicable Temperature Criterion (^{o}C)	T_C	18.0	18.0	17.8
Maximum Effluent Temp (^{o}C)	T_E*	20.8	20.8	
Minimum Stream Flow (cfs)	Q_R*	2.5	2.5	1[+]
Effluent Flow (avg. dry-weather design flow) (MGD)	Q_E	0.10	0.08	0.10
Effluent Flow (avg. dry-weather design flow) (cfs)	Q_E	0.15	0.12	
Dilution Ratio with 100% of stream flow	S**	17	21	
Human Use Allowance (^{o}C)	HUA_{PS}	0.18	0.18	
Calculated Change in Creek Temperature under Current Operations (^{o}C)	ΔT_R**	0.16	0.13	
Current Thermal Load (gcals/day)	CL**	1.1	0.8	
Wasteload Allocation Thermal Load (gcals/day)	WLA**	1.2	1.2	0.10
Load reduction needed to meet WLA (gcals/day, %)		--	--	
Maximum Allowable Effluent Temperature (^{o}C)	T_{WLA}***	21.1[#]	21.8[#]	

* *Measured data*
** *Calculated data*
*** *Calculated maximum effluent temperature that would meet the WLA, assuming design flows and minimum stream flows as presented in this table.*
\# *When effluent temperatures are greater than 21°C, a thermal plume analysis is required during permit renewal to prevent or minimize adverse effects to salmonids within the mixing zone (OAR 340-041-0053(2)(d)).*
\+ *25% of this steam flow was used in the 2001 WLA calculations*

Table C-4. Input parameters and results of Reasonable Potential Analysis for the East Fork Hood River cumulative effects analysis.
Variables indicated in the second column of this table refer to variables used in Equations 3-5 in the 2018 WHS TMDL Revision.

East Fork Hood River Cumulative Effects Analysis					
	Variable	Before Parkdale WWTP Upgrade		After Parkdale WWTP Upgrade	
		May 16-October 14	October 15-May 15	May 16-October 14	October 15-May 15
Fish Use Designation		Salmon & Trout Rearing & Migration	Salmon & Steelhead Spawning	Salmon & Trout Rearing & Migration	Salmon & Steelhead Spawning
Critical period		May 1-September 30			
Applicable Temperature Criterion (^{o}C)	T_C	18.0	13.0	18.0	13.0
Maximum Effluent Temp (^{o}C)	T_E*	20.9	20.9	20.9	20.9
Minimum Stream Flow (cfs)	Q_R*	42	112	42	112
Effluent Flow (avg. dry-weather design flow) (MGD)	Q_E	0.32	0.32	0.30	0.30
Effluent Flow (avg. dry-weather design flow) (cfs)	Q_E	0.50	0.50	0.46	0.46
Dilution Ratio with 100% of stream flow	S**	86	227	91	242
Human Use Allowance (^{o}C)	HUA_{PS}	0.18	0.18	0.18	0.18
Calculated Change in River Temperature under Current Operations (^{o}C)	ΔT_R**	0.03	0.03	0.03	0.03
Current Thermal Load (gcals/day)	CL**	3.5	9.6	3.3	9.0
Wasteload Allocation Thermal Load (gcals/day)	WLA**	19	50	19	50

* *Measured data*
** *Calculated data*

Table C-5. Input parameters and results of Reasonable Potential Analysis for the Diamond Fruit Growers Odell facility.
Variables indicated in the second column of this table refer to variables used in Equations 3-6 in the 2018 WHS TMDL Revision. Shaded cells in grey indicate variables and values associated with the most stringent WLA which apply during the critical period (included in Table 13 of the TMDL document). Results from the Odell Creek cumulative effects analysis are included in this table and show the less stringent WLA for this facility associated with that analysis.

Diamond-Odell facility: McGuire Creek as receiving stream (permitted discharge) (Scenario 6)																
	Variable*	Jan	Feb	Mar	Apr 1-14	Apr 15-30	May	June^	July^	Aug	Sept	Oct	Nov	Dec	2001 TMDL
Fish Use Designation		Core Cold Water Habitat													
Critical period						April 15-September 30									May 1 - Sept 14
Applicable Temperature Criterion (°C)	T_C	16.0				16.0							16.0		17.8
Maximum Effluent Temp (°C)	T_E*	21.7	18.3	17.8	16.7	16.7	17.2	18.3	18.3	19.4	21.1	22.2	20.0	18.3	
Minimum Stream Flow (cfs)	Q_R*	1.6				1.6							1.6		4^+
Effluent Flow (avg. dry-weather design flow) (MGD)	Q_E	0.03				0.03							0.03		0.03
Effluent Flow (avg. dry-weather design flow) (cfs)	Q_E	0.05				0.05							0.05		
Dilution Ratio with 100% of stream flow	S**	35				35							35		
Human Use Allowance (°C)	HUA_{PS}	N/A	N/A	N/A	N/A	0.18						N/A	N/A	N/A	
Calculated Change in Creek Temperature under Current Operations (°C)	ΔT_R**	0.16	0.06	0.05	0.02	0.02	0.03	0.06	0.06	0.10	0.14	0.17	0.11	0.06	
Current Thermal Load (gcals/day)	CL**	0.6	0.3	0.2	0.1	0.1	0.1	0.3	0.3	0.4	0.6	0.7	0.5	0.3	
Wasteload Allocation Thermal Load (gcals/day)	WLA**	N/A	N/A	N/A	N/A	0.7	0.7	0.7	0.7	0.7	0.7	N/A	N/A	N/A	0.32
Load reduction needed to meet WLA (gcals/day, %)		N/A	N/A	N/A	N/A	--	--	--	--	--	--	N/A	N/A	N/A	
Maximum Allowable Effluent Temperature (°C)	T_{WLA}***	N/A	N/A	N/A	N/A	22.4#						N/A	N/A	N/A	
From Odell Creek cumulative effects analysis (from Table C-7)															
	Variable	Jan	Feb	Mar	Apr 1-14	Apr 15-30	May 1-15	May 16-31	June^	July^	Aug	Sept	Oct	Nov	Dec	
Fish Use Designation		Salmon & Steelhead Spawning						Core Cold Water Habitat								
Critical period						April 15-September 30										
Applicable Temperature Criterion (°C)	T_C	13.0				13.0		16.0					16.0			
Minimum Stream Flow (cfs)	Q_R*	7.1	8.9	11.2	14.1	12.0	11.6	9.8	8.9	8.9	9.1	8.5	4.6	3.2	5.6	
Human Use Allowance (°C)	HUA_{PS}	N/A	N/A	N/A	N/A	0.09							N/A	N/A	N/A	
Calculated Change in Creek Temperature under Current Operations (°C)	ΔT_R**	0.06	0.03	0.02	0.01	0.01	0.02	0.01	0.01	0.01	0.02	0.03	0.06	0.06	0.02	
Current Thermal Load (gcals/day)	CL**	1.0	0.6	0.5	0.4	0.4	0.5	0.1	0.3	0.3	0.4	0.6	0.7	0.5	0.3	
Wasteload Allocation Thermal Load (gcals/day)	WLA**	N/A	N/A	N/A	N/A	2.7	2.6	2.2	2.0	2.0	2.0	1.9	N/A	N/A	N/A	
Load reduction needed to meet WLA (gcals/day, %)		N/A	N/A	N/A	N/A	--	--	--	--	--	--	--	N/A	N/A	N/A	
Maximum Allowable Effluent Temperature (°C)	T_{WLA}***	N/A	N/A	N/A	N/A	OAR 340-041-0053(2)(d) #							N/A	N/A	N/A	

* *Measured data;* ** *Calculated data,* *+ 25% of this steam flow was used in the 2001 WLA calculations*

*** *Calculated maximum effluent temperature that would meet the WLA, assuming design flows and minimum stream flows as presented in this table.*

^ *This plant does not discharge in June or July, but a wasteload allocation was calculated since they are allowed to discharge all months in their permit.*

\# *When effluent temperatures are greater than 21°C, a thermal plume analysis is required during permit renewal to prevent or minimize adverse effects to salmonids within the mixing zone (OAR 340-041-0053(2)(d)). In the CEA, the calculated maximum allowable effluent temperature under allocated conditions is greater than is physically possible to generate at the facility (>32.6*C). The calculated value of T_{WLA} does not allow a facility to discharge effluent at these high temperatures; T_{WLA} needs to comply with thermal plume limitations in this OAR.*

Table C-6. Input parameters and results of Reasonable Potential Analysis for the Odell Wastewater Treatment Plant.
Variables indicated in the second column of this table refer to variables used in Equations 3-7 in the 2018 WHS TMDL Revision. Shaded cells indicate variables and values associated with the most stringent WLA for the Odell WWTP; cells in purple apply during the core cold water habitat season and cells in blue apply during the spawning season The most stringent WLAs for this facility come from the Odell Creek cumulative effects analyses (Scenario 8 with permitted flows for Diamond-Odell or Scenario 10 with cooling water flows for Diamond-Odell); the less stringent WLA associated with the WWTP discharge alone into Odell Creek (Scenario 9) is shown here for comparison. Scenario 8 is included in Table 13 of the TMDL document and Scenario 10 is included in Table 14 of the TMDL document.

From Odell Creek cumulative effects analyses (Scenario 8 [Diamond-Odell permitted flows] and Scenario 10 [Diamond-Odell cooling water flows])^^																
	Variable	Jan	Feb	Mar	Apr 1-14	Apr 15-30	May 1-15	May 16-31	June	July	Aug	Sept	Oct	Nov	Dec	2001 TMDL
Fish Use Designation		Steelhead Spawning						Core Cold Water Habitat								
Critical period						April 15 -September 30										May 1 - Sept 14
Applicable Temperature Criterion (^oC)	T_C	13.0				13.0		16.0					16.0			17.8
Maximum Effluent Temp (^oC)	T_E*	15.3	14.6	14.8	14.7	15.7	17.4	17.8	19.5	21.5	22.5	22.2	21.5	19.5	16.2	
Minimum Stream Flow (cfs)	Q_R*	7.1	8.9	11.2	14.1	12.0	11.6	9.8	8.9	8.9	9.1	8.5	4.6	3.2	5.6	10^+
Effluent Flow (avg. dry-weather design flow) (MGD)	Q_E^^	0.42				0.42							0.42			0.5
Effluent Flow (avg. dry-weather design flow) (cfs)	Q_E^^	0.65				0.65							0.65			
Dilution Ratio with 100% of stream flow	S**	12	15	18	23	19	19	16	15	15	15	14	8	6	10	
Human Use Allowance (^oC)	HUA_{PS}	N/A	N/A	N/A	N/A	0.09							N/A	N/A	N/A	
Calculated Change in Creek Temperature under Current Operations (^oC)	ΔT_R**	0.19	0.11	0.10	0.07	0.14	0.23	0.11	0.24	0.37	0.43	0.44	0.68	0.59	0.02	
Current Thermal Load (gcals/day)	CL**	3.7	2.5	2.9	2.7	4.3	7.0	2.9	5.6	8.7	10.3	9.9	8.7	5.6	0.3	
Wasteload Allocation Thermal Load (gcals/day)	WLA**	N/A	N/A	N/A	N/A	2.8	2.7	2.3	2.1	2.1	2.1	2.0	N/A	N/A	N/A	
Load reduction needed to meet WLA (gcals/day)		N/A	N/A	N/A	N/A	1.5	4.3	0.6	3.5	6.6	8.2	7.8	N/A	N/A	N/A	
Load reduction needed to meet WLA (%)		N/A	N/A	N/A	N/A	35%	61%	20%	62%	76%	79%	80%	N/A	N/A	N/A	
Maximum Allowable Effluent Temperature (^oC)	T_{WLA}***	N/A	N/A	N/A	N/A	14.8	14.7	17.4	17.3	17.3	17.3	17.3	N/A	N/A	N/A	
Maximum Allowable Effluent Flow (MGD)	Q_{WLA}****	N/A	N/A	N/A	N/A	0.27	0.16	0.33	0.15	0.10	0.08	0.08	N/A	N/A	N/A	
Odell WWTP alone: Odell Creek as the receiving stream (Scenario 9)																
Human Use Allowance (^oC)	HUA_{PS}	N/A	N/A	N/A	N/A	0.18							N/A	N/A	N/A	
Calculated Change in Creek Temperature under Current Operations (^oC)	ΔT_R**	0.19	0.11	0.10	0.07	0.14	0.23	0.11	0.24	0.37	0.43	0.44	0.68	0.59	0.02	
Current Thermal Load (gcals/day)	CL**	3.7	2.5	2.9	2.7	4.3	7.0	2.9	5.6	8.7	10.3	9.9	8.7	5.6	0.3	
Wasteload Allocation Thermal Load (gcals/day)	WLA**	N/A	N/A	N/A	N/A	5.6	5.4	4.6	4.2	4.2	4.3	4.0	N/A	N/A	N/A	0.78
Load reduction needed to meet WLA (gcals/day)		N/A	N/A	N/A	N/A	--	1.6	--	1.4	4.5	6.0	5.8	N/A	N/A	N/A	
Load reduction needed to meet WLA (%)		N/A	N/A	N/A	N/A	--	23%	--	24%	52%	58%	59%	N/A	N/A	N/A	
Maximum Allowable Effluent Temperature (^oC)	T_{WLA}***	N/A	N/A	N/A	N/A	16.5	16.4	18.9	18.6	18.6	18.7	18.5	N/A	N/A	N/A	
Maximum Allowable Effluent Flow (MGD)	Q_{WLA}****	N/A	N/A	N/A	N/A	--	0.32	--	0.31	0.19	0.17	0.16	N/A	N/A	N/A	

* *Measured data* ** *Calculated data* *+ 25% of this steam flow was used in the 2001 WLA calculations*
*** *Calculated maximum effluent temperature that would meet the WLA, assuming design flows and minimum stream flows as presented in this table.*
**** *Calculated maximum effluent discharge flow that would meet the WLA, assuming maximum effluent temperature and minimum stream flows as presented in this table.*
^^ *Because of the relatively insignificant amount of flow from either of the Diamond-Odell discharges (permitted or cooling water) relative to the WWTP flow, the WLAs for the Odell WWTP are the same under both Odell Creek cumulative effects analyses (Scenario 8 and Scenario 10).*

Table C-7. Input parameters and results of Reasonable Potential Analysis for the Odell Creek cumulative effects analysis.
Variables indicated in the second column of this table refer to variables used in Equations 3-5 in the 2018 WHS TMDL Revision. This analysis assumed the full design flow for the Diamond-Odell fruit facility. Because the thermal effect of the combined discharges (ΔT_R) was greater than the human use allowance, a subsequent analysis was done by splitting the HUA between the two facilities to evaluate the contribution of each facility. Further details for each facility are provided in Table C-5 (Diamond Fruit - Odell facility) and Table C-6 (Odell WWTP).

Odell Creek Cumulative Effects Analysis (using permitted flows for Diamond-Odell)															
	Variable	Jan	Feb	Mar	Apr 1-14	Apr 15-30	May 1-15	May 16-31	June	July	Aug	Sept	Oct	Nov	Dec
Fish Use Designation		Steelhead Spawning						Core Cold Water Habitat							
Critical period						April 15-September 30									
Applicable Temperature Criterion (^oC)	T_C	13.0				13.0		16						16.0	
Maximum Effluent Temp (^oC)	T_E*	15.7	14.8	15.0	14.8	15.8	17.4	17.8	19.4	21.3	22.3	22.1	21.5	19.5	16.3
Minimum Stream Flow (cfs)	Q_R*	7.1	8.9	11.2	14.1	12.0	11.6	9.8	8.9	8.9	9.1	8.5	4.6	3.2	5.6
Effluent Flow (avg. dry-weather design flow) (MGD)	Q_E	0.45				0.45								0.45	
Effluent Flow (avg. dry-weather design flow) (cfs)	Q_E	0.70				0.70								0.70	
Dilution Ratio with 100% of stream flow	S**	11	14	17	21	18	18	15	14	14	14	13	8	6	9
Human Use Allowance (^oC)	HUA_{PS}	N/A	N/A	N/A	N/A	0.18							N/A	N/A	N/A
Calculated Change in Creek Temperature under Current Operations (^oC)	ΔT_R**	0.24	0.13	0.12	0.08	0.15	0.25	0.12	0.25	0.38	0.45	0.46	0.72	0.63	0.03
Current Thermal Load (gcals/day)	CL**	4.6	3.1	3.4	3.1	4.8	7.5	3.1	5.8	9.0	10.7	10.4	9.4	6.0	0.5
Wasteload Allocation Thermal Load (gcals/day)	WLA**	N/A	N/A	N/A	N/A	5.6	5.4	4.6	4.2	4.2	4.3	4.1	N/A	N/A	N/A
Odell WWTP (included in Table C-6)															
Maximum Effluent Temp (^oC)	T_E*	15.3	14.6	14.8	14.7	15.7	17.4	17.8	19.5	21.5	22.5	22.2	21.5	19.5	16.2
Effluent Flow (avg. dry-weather design flow) (MGD)	Q_E	0.42				0.42								0.42	
Human Use Allowance (^oC)	HUA_{PS}	N/A	N/A	N/A	N/A	0.09							N/A	N/A	N/A
Calculated Change in Creek Temperature under Current Operations (^oC)	ΔT_R**	0.19	0.11	0.10	0.07	0.14	0.23	0.11	0.24	0.37	0.43	0.44	0.68	0.59	0.02
Current Thermal Load (gcals/day)	CL**	3.7	2.5	2.9	2.7	4.3	7.0	2.9	5.6	8.7	10.3	9.9	8.7	5.6	0.3
Wasteload Allocation Thermal Load (gcals/day)	WLA**	N/A	N/A	N/A	N/A	2.8	2.7	2.3	2.1	2.1	2.1	2.0	N/A	N/A	N/A
Load reduction needed to meet WLA (gcals/day)		N/A	N/A	N/A	N/A	1.5	4.3	0.6	3.5	6.6	8.2	7.8	N/A	N/A	N/A
Diamond-Odell facility (included in Table C-5)^															
Maximum Effluent Temp (^oC)	T_E*	21.7	18.3	17.8	16.7	16.7	17.2	17.2	18.3	18.3	19.4	21.1	22.2	20.0	18.3
Effluent Flow (avg. dry-weather design flow) (MGD)	Q_E	0.03				0.03								0.03	
Human Use Allowance (^oC)	HUA_{PS}	N/A	N/A	N/A	N/A	0.09							N/A	N/A	N/A
Calculated Change in Creek Temperature under Current Operations (^oC)	ΔT_R**	0.06	0.03	0.02	0.01	0.01	0.02	0.01	0.01	0.01	0.02	0.03	0.06	0.06	0.02
Current Thermal Load (gcals/day)	CL**	1.0	0.6	0.5	0.4	0.4	0.5	0.1	0.3	0.3	0.4	0.6	0.7	0.5	0.3
Wasteload Allocation Thermal Load (gcals/day)	WLA**	N/A	N/A	N/A	N/A	2.7	2.6	2.2	2.0	2.0	2.0	1.9	N/A	N/A	N/A
Load reduction needed to meet WLA (gcals/day)		N/A	N/A	N/A	N/A	--	--	--	--	--	--	--	N/A	N/A	N/A

* *Measured data*
** *Calculated data*
^ *This plant does not discharge in June or July, but a wasteload allocation was calculated since they are allowed to discharge all months in their permit.*

Table C-8. Input parameters and results of Reasonable Potential Analysis for Mount Hood Forest Products log pond discharge.
Variables indicated in the second column of this table refer to variables used in Equations 3-5 in the 2018 WHS TMDL Revision.

Mt. Hood Forest Products log pond: ditch as receiving stream													
	Variable	January	February	March	April	May	June	July	August	September	October	November	December
Fish Use Designation		Salmon & Trout Rearing & Migration											
Critical period						May 1-October 31							
Applicable Temperature Criterion (^{o}C)	T_C	18.0				18.0						18.0	
Maximum Effluent Temp (^{o}C)	T_E*	7.8	14.4	12.8	12.6	no discharge						11.0	11.0
Minimum Stream Flow (cfs)	Q_R**	1.6	14.5	1.5	1.6	--	--	--	--	--	--	1.0	23.7
Effluent Flow (MGD)	Q_E*	0.01	0.136	0.01	0.001	no discharge						0.009	0.103
Effluent Flow (cfs)	Q_E*	0.02	0.21	0.02	0.00	no discharge						0.01	0.16
Dilution Ratio with 100% of stream flow	S**	104	70	98	1035	--	--	--	--	--	--	73	150
Human Use Allowance (^{o}C)	HUA_{PS}	N/A	N/A	N/A	N/A	--	--	--	--	--	--	N/A	N/A
Calculated Change in Creek Temperature under Current Operations (^{o}C)	ΔT_R**	-0.10	-0.05	-0.08	-0.01	--	--	--	--	--	--	-0.10	-0.05
Current Thermal Load (gcals/day)	CL**	-0.4	-1.9	0.0	0.0	--	--	--	--	--	--	-0.2	-2.7
Wasteload Allocation Thermal Load (gcals/day)	WLA**	N/A	N/A	N/A	N/A	--	--	--	--	--	--	N/A	N/A
Load reduction needed to meet WLA (gcals/day, %)		N/A	N/A	N/A	N/A	--	--	--	--	--	--	N/A	N/A

* *Measured data*
** *Calculated data*

Table C-9. Input parameters and results of Reasonable Potential Analysis for the Terminal Ice and Cold Storage facility.
Variables indicated in the second column of this table refer to variables used in Equations 3-7 in the 2018 WHS TMDL Revision. Shaded cells in grey indicate variables and values associated with the most stringent WLA which apply during the critical period (Scenario 13, included in Table 13 of the TMDL document). Results from the Neal Creek cumulative effects analysis are included in this table and show the less stringent WLA for this facility associated with that analysis.

Terminal Ice Plant: ditch as receiving stream, with Duckwall-Pooley Van Horn discharge (Scenario 13)														
	Variable	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	2001 TMDL++
Fish Use Designation		Salmon & Trout Rearing & Migration												
Critical period				March 1-October 31										May 1 - Sept 30
Applicable Temperature Criterion (°C)	T_C	18.0		18.0								18.0		17.8
Minimum Stream Flow (cfs)	Q_R*	0.0		0.0								0.0		10+
Maximum Effluent Temp (°C)	T_E*	20.0	20.0	20.0	21.1	21.1	20.0	20.0	21.1	21.1	20.0	19.4	20.0	
Effluent Flow (avg. dry-weather design flow) (MGD)	Q_E	0.12		0.12								0.12		0.12
Effluent Flow (avg. dry-weather design flow) (cfs)	Q_E	0.19		0.19								0.19		
Dilution Ratio with 100% of stream flow	S**	1		1								1		
Human Use Allowance (°C)	HUA_{PS}	N/A	N/A	0.09								N/A	N/A	
Calculated Change in Creek Temperature under Current Operations (°C)	ΔT_R**	2.0	2.0	2.0	3.1	3.1	2.0	2.0	3.1	3.1	2.0	1.4	2.0	
Current Thermal Load (gcals/day)	CL**	0.9	0.9	0.9	1.4	1.4	0.9	0.9	1.4	1.4	0.9	0.6	0.9	
Wasteload Allocation Thermal Load (gcals/day)	WLA**	N/A	N/A	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	N/A	N/A	0.79
Load reduction needed to meet WLA (gcals/day)		N/A	N/A	0.9	1.4	1.4	0.9	0.9	1.4	1.4	0.9	N/A	N/A	
Load reduction needed to meet WLA (%)		N/A	N/A	96%	97%	97%	96%	96%	97%	97%	96%	N/A	N/A	
Maximum Allowable Effluent Temperature (°C)	T_{WLA}***	N/A	N/A	18.0								N/A	N/A	
Maximum Allowable Effluent Flow (MGD)	Q_{WLA}	N/A	N/A	##								N/A	N/A	

From Neal Creek cumulative effects analysis (from Table C-14)															
		Jan	Feb	Mar	April	May 1-15	May 16-31	June	July	Aug	Sept	Oct 1-14	Oct 15-31	Nov	Dec
Fish Use Designation		Salmon & Steelhead Spawning				Salmon & Trout Rearing & Migration							Spawning		
Critical period		May 1-October 31													
Applicable Temperature Criterion (°C)	T_C	13.0				13.0	18.0						13.0	13.0	
Minimum Stream Flow (cfs)	Q_R*	12.3	15.8	34.1	37.6	29.6	28.0	20.4	15.7	13.7	17.6	13.4	9.5	6.6	9.1
Dilution Ratio with 100% of stream flow	S**	67	86	185	203	160	152	111	86	75	96	73	52	37	50
Human Use Allowance	HUA_{PS}	N/A	N/A	N/A	N/A	0.045								N/A	N/A
Calculated Change in Creek Temperature under Current Operations (°C)	ΔT_R**	0.10	0.08	0.04	0.04	0.05	0.02	0.02	0.02	0.04	0.03	0.03	0.13	0.18	0.14
Current Thermal Load (gcals/day)	CL**	3.2	3.2	3.2	3.7	3.7	1.4	0.9	0.9	1.4	1.4	0.9	3.2	2.9	3.2
Wasteload Allocation Thermal Load (gcals/day)	WLA**	N/A	N/A	N/A	N/A	3.3	3.1	2.3	1.7	1.5	2.0	1.5	1.1	N/A	N/A

				2001 TMDL++
Wasteload Allocation Thermal Load (gcals/day)	WLA**	N/A	N/A	0.79

* *Measured data* ** *Calculated data*
*** *Calculated maximum effluent temperature that would meet the WLA, assuming design flows and minimum stream flows as presented in this table.*
\+ *25% of this steam flow was used in the 2001 WLA calculations*
++ *2001 WHS TMDL was based on Neal Creek as the receiving stream*
Because the ditch is effluent dominated, effluent temperatures need to be less than T_{WLA} regardless of effluent flow.

Table C-10. Input parameters and results of Reasonable Potential Analysis for the Duckwall-Pooley Fruit Company Van Horn facility.
Variables indicated in the second column of this table refer to variables used in Equations 3-7 in the 2018 WHS TMDL Revision. Shaded cells in grey indicate variables and values associated with the most stringent WLA which apply during the critical period (Scenario 20, included in Table 13 of the TMDL document). Results from the Neal Creek cumulative effects analysis are included in this table and show the less stringent WLA for this facility associated with that analysis.

Duckwall-Pooley Van Horn facility: ditch as receiving stream, with Terminal Ice discharge (Scenario 20)															
	Variable	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	2001 TMDL^{++}
Fish Use Designation		Salmon & Trout Rearing & Migration												
Critical period				March 1-October 31										May 1 - Sept 30
Applicable Temperature Criterion (^{o}C)	T_C	18.0		18.0								18.0		17.8
Minimum Stream Flow (cfs)	Q_R*	0.0		0.0								0.0		10^{+}
Maximum Effluent Temp (^{o}C)	T_E*	20.6	20.9	19.7	22.4	20.9	21.9	22.5	26.6	25.1	22.6	23.1	24.3	
Effluent Flow (avg. dry-weather design flow) (MGD)	Q_E	0.04		0.04								0.04		0.50
Effluent Flow (avg. dry-weather design flow) (cfs)	Q_E	0.06		0.06								0.06		
Dilution Ratio with 100% of stream flow	S**	1		1								1		
Human Use Allowance (^{o}C)	HUA_{PS}	0.09		0.09								0.09		
Calculated Change in Creek Temperature under Current Operations (^{o}C)	ΔT_R**	2.6	2.9	1.7	4.4	2.9	3.9	4.5	8.6	7.1	4.6	5.1	6.3	
Current Thermal Load (gcals/day)	CL**	0.4	0.4	0.3	0.7	0.4	0.6	0.7	1.3	1.1	0.7	0.8	1.0	
Wasteload Allocation Thermal Load (gcals/day)	WLA**	N/A	N/A	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	N/A	N/A	0.78
Load reduction needed to meet WLA (gcals/day)		N/A	N/A	0.2	0.7	0.4	0.6	0.7	1.3	1.1	0.7	N/A	N/A	
Load reduction needed to meet WLA (%)		N/A	N/A	95%	98%	97%	98%	98%	99%	99%	98%	N/A	N/A	
Maximum Allowable Effluent Temperature (^{o}C)	T_{WLA}***	N/A	N/A	18.0								N/A	N/A	
Maximum Allowable Effluent Flow (MGD)	Q_{WLA}	N/A	N/A	##								N/A	N/A	

From Neal Creek cumulative effects analysis (from Table C-14)																
		Jan	Feb	Mar	April	May 1-15	May 16-31	June	July	Aug	Sept	Oct 1-14	Oct 15-31	Nov	Dec	
Fish Use Designation		Salmon & Steelhead Spawning				Salmon & Trout Rearing & Migration							Spawning			
Critical period						May 1-October 31										
Applicable Temperature Criterion (^{o}C)	T_C	13.0				13.0	18.0						13.0	13.0		
Minimum Stream Flow (cfs)	Q_R*	12.3	15.8	34.1	37.6	29.6	28.0	20.4	15.7	13.7	17.6	13.4	9.5	6.6	9.1	10^{+}
Dilution Ratio with 100% of stream flow	S**	200	256	552	608	479	453	330	255	222	285	217	154	108	148	
Human Use Allowance	HUA_{PS}	N/A	N/A	N/A	N/A	0.045								N/A	N/A	
Calculated Change in Creek Temperature under Current Operations (^{o}C)	ΔT_R**	0.04	0.03	0.01	0.02	0.02	0.00	0.01	0.02	0.04	0.02	0.02	0.06	0.09	0.08	
Current Thermal Load (gcals/day)	CL**	1.2	1.2	1.0	1.4	1.2	-0.1	0.6	0.7	1.3	1.1	0.7	1.4	1.5	1.7	
Wasteload Allocation Thermal Load (gcals/day)	WLA**	N/A	N/A	N/A	N/A	3.3	3.1	2.3	1.7	1.5	1.9	1.5	1.1	N/A	N/A	0.78

* *Measured data* ** *Calculated data*
*** *Calculated maximum effluent temperature that would meet the WLA, assuming design flows and minimum stream flows as presented in this table.*
\+ *25% of this steam flow was used in the 2001 WLA calculations*
++ *2001 WHS TMDL was based on Neal Creek as the receiving stream*
Because the ditch is effluent dominated, effluent temperatures need to be less than T_{WLA} regardless of effluent flow.

Table C-11. Input parameters and results of Reasonable Potential Analysis for the Diamond Fruit Growers Central facility.
Variables indicated in the second column of this table refer to variables used in Equations 3-7 in the 2018 WHS TMDL Revision. Shaded cells in grey indicate variables and values associated with the most stringent WLA which apply during the critical period (included in Table 13 of the TMDL document). Results from the Neal Creek cumulative effects analysis are included in this table and show the less stringent WLA for this facility associated with that analysis.

Diamond-Central facility: Lenz Creek as receiving stream

	Variable	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	2001 TMDL
Fish Use Designation		Salmon & Trout Rearing & Migration												
Critical period						May 1-October 31								May 1 - Sept 30
Applicable Temperature Criterion (^{o}C)	T_C	18.0				18.0						18.0		17.8
Minimum Stream Flow (cfs)	Q_R*	0.7	0.2	0.5	0.4	0.4	0.2	0.0	0.1	0.0	0.0	0.0	0.0	1+
Maximum Effluent Temp (^{o}C)	T_E*	12.8	11.4	12.6	17.9	17.5	18.3	18	21.0	19.7	19.3	15.3	19.0	
Effluent Flow (avg. dry-weather design flow) (MGD)	Q_E	0.09				0.09						0.09		0.09
Effluent Flow (avg. dry-weather design flow) (cfs)	Q_E	0.14				0.14						0.14		
Dilution Ratio with 100% of stream flow	S**	6	2	5	4	4	2	1	1	1	1	1	1	
Human Use Allowance (^{o}C)	HUA_{PS}	N/A	N/A	N/A	N/A	0.18						N/A	N/A	
Calculated Change in Creek Temperature under Current Operations (^{o}C)	ΔT_R**	-0.84	-2.8	-1.2	-0.03	-0.14	0.13	-0.3	2.1	1.3	1.3	-2.7	1.0	
Current Thermal Load (gcals/day)	CL**	-1.8	-2.2	-1.8	0.0	-0.2	0.1	-0.1	1.0	0.6	0.4	-0.9	0.3	
Wasteload Allocation Thermal Load (gcals/day)	WLA**	N/A	N/A	N/A	N/A	0.2	0.1	0.1	0.1	0.1	0.1	N/A	N/A	0.08
Load reduction needed to meet WLA (gcals/day)		N/A	N/A	N/A	N/A	--	--	--	0.9	0.5	0.4	N/A	N/A	
Load reduction needed to meet WLA (%)		N/A	N/A	N/A	N/A	--	--	--	91%	86%	86%	N/A	N/A	
Maximum Allowable Effluent Temperature (^{o}C)	T_{WLA}***	N/A	N/A	N/A	N/A	18.7	18.4	18.0	18.3	18.0	18.0	N/A	N/A	
Maximum Allowable Effluent Flow (mgd)	Q_{WLA}****	N/A	N/A	N/A	N/A	--	--	##	0.002	##	##	N/A	N/A	

From Neal Creek cumulative effects analysis (from Table C-14)

	Variable	Jan	Feb	Mar	April	May 1-15	May 16-31	June	July	Aug	Sept	Oct 1-14	Oct 15-31	Nov	Dec
Fish Use Designation		Salmon & Steelhead Spawning				Salmon & Trout Rearing & Migration							Spawning		
Critical period						May 1-October 31									
Applicable Temperature Criterion (^{o}C)	T_C	13.0				13.0	18.0						13.0	13.0	
Minimum Stream Flow (cfs)	Q_R*	12.3	15.8	34.1	37.6	29.6	28.0	20.4	15.7	13.7	17.6	13.4	9.5	6.6	9.1
Dilution Ratio with 100% of stream flow	S**	89	114	246	271	213	202	147	114	99	127	97	69	48	66
Human Use Allowance (^{o}C)	HUA_{PS}	N/A	N/A	N/A	N/A	0.045								N/A	N/A
Calculated Change in Creek Temperature under Current Operations (^{o}C)	T_{WLA}**	0.00	-0.01	0.00	0.02	0.01	0.00	0.00	0.00	0.03	0.01	0.01	0.08	0.05	0.09
Current Thermal Load (gcals/day)	CL**	-0.1	-0.5	-0.1	1.7	0.7	-0.2	0.1	-0.1	1.0	0.6	0.4	2.0	0.8	2.0
Wasteload Allocation Thermal Load (gcals/day)	WLA**	N/A	N/A	N/A	N/A	3.3	3.1	2.3	1.7	1.5	2.0	1.5	1.1	N/A	N/A

* *Measured data* ** *Calculated data* *+ 25% of this steam flow was used in the 2001 WLA calculations*
*** *Calculated maximum effluent temperature that would meet the WLA, assuming design flows and minimum stream flows as presented in this table*
**** *Calculated maximum effluent discharge flow that would meet the WLA, assuming maximum effluent temperature and minimum stream flows as presented in this table.*
Because the ditch is effluent dominated, effluent temperatures need to be less than T_{WLA} regardless of effluent flow.

Table C-12. Input parameters and results of Reasonable Potential Analysis for the Duckwall-Pooley Fruit Company Odell facility.
Variables indicated in the second column of this table refer to variables used in Equations 3-6 in the 2018 WHS TMDL Revision. Shaded cells in grey indicate variables and values associated with the most stringent WLA which apply during the critical period (included in Table 13 of the TMDL document). Results from the Neal Creek cumulative effects analysis are included in this table and show the less stringent WLA for this facility associated with that analysis.

Duckwall-Pooley Odell facility: Lenz Creek as receiving stream														
	Variable	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	2001 TMDL
Fish Use Designation		Salmon & Trout Rearing & Migration												
Critical period						May 1-October 31								May 1 - Sept 30
Applicable Temperature Criterion (^{o}C)**	T_C	18.0				18.0						18.0		17.8
Minimum Stream Flow (cfs)	Q_R*	0.9	0.3	0.6	0.5	0.5	0.3	0.1	0.2	0.2	0.1	0.1	0.1	1^{+}
Maximum Effluent Temp (^{o}C)	T_E*	10.0	11.3	11.8	14.8	16.6	17.0	16.7	16.4	15.9	14.5	13.1	10.7	
Effluent Flow (avg. dry-weather design flow) (MGD)	Q_E	0.25				0.25						0.25		0.25
Effluent Flow (avg. dry-weather design flow) (cfs)	Q_E	0.39				0.39						0.39		
Dilution Ratio with 100% of stream flow	S**	3	2	3	2	2	2	1	2	1	1	1	1	
Human Use Allowance (^{o}C)	HUA_{PS}	N/A	N/A	N/A	N/A	0.18						N/A	N/A	
Calculated Change in Creek Temperature under Current Operations (^{o}C)	ΔT_R**	-2.5	-3.6	-2.4	-1.4	-0.60	-0.55	-1.0	-1.1	-1.4	-2.7	-3.9	-5.9	
Current Thermal Load (gcals/day)	CL**	-7.6	-6.3	-5.9	-3.0	-1.3	-0.9	-1.2	-1.5	-2.0	-3.3	-4.6	-6.9	
Wasteload Allocation Thermal Load (gcals/day)	WLA**	N/A	N/A	N/A	N/A	0.4	0.3	0.2	0.3	0.2	0.2	N/A	N/A	0.08
Load reduction needed to meet WLA (gcals/day, %)		N/A	N/A	N/A	N/A	--	--	--	--	--	--	N/A	N/A	
Maximum Allowable Effluent Temperature (^{o}C)	T_{WLA}***	N/A	N/A	N/A	N/A	18.4	18.3	18.2	18.3	18.3	18.2	N/A	N/A	

From Neal Creek cumulative effects analysis (from Table C-14)															
	Variable	Jan	Feb	Mar	April	May 1-15	May 16-31	June	July	Aug	Sept	Oct 1-14	Oct 15-31	Nov	Dec
Fish Use Designation		Salmon & Steelhead Spawning				Salmon & Trout Rearing & Migration							Spawning		
Critical period						May 1-October 31									
Applicable Temperature Criterion (^{o}C)**	T_C	13.0				13.0	18.0						13.0	13.0	
Minimum Stream Flow (cfs)	Q_R*	12.3	15.8	34.1	37.6	29.6	28.0	20.4	15.7	13.7	17.6	13.4	9.5	6.6	9.1
Dilution Ratio with 100% of stream flow	S**	33	42	89	98	77	73	54	42	36	46	36	26	18	25
Human Use Allowance (^{o}C)	HUA_{PS}	N/A	N/A	N/A	N/A	0.045								N/A	N/A
Calculated Change in Creek Temperature under Current Operations (^{o}C)	T_{WLA}**	-0.09	-0.04	-0.01	0.02	0.04	-0.02	-0.02	-0.03	-0.04	-0.05	-0.10	0.04	0.01	-0.09
Current Thermal Load (gcals/day)	CL**	-2.8	-1.6	-1.1	1.7	2.9	-1.3	-0.9	-1.23	-1.5	-2.0	-3.3	1.0	0.1	-2.2
Wasteload Allocation Thermal Load (gcals/day)	WLA**	N/A	N/A	N/A	N/A	3.3	3.1	2.3	1.8	1.6	2.0	1.5	1.1	N/A	N/A

* *Measured data*
** *Calculated data*
\+ *25% of this steam flow was used in the 2001 WLA calculations*
*** *Calculated maximum effluent temperature that would meet the WLA, assuming design flows and minimum stream flows as presented in this table*

Table C-13. Input parameters and results of Reasonable Potential Analysis for the Lenz Creek cumulative effects analysis.
Variables indicated in the second column of this table refer to variables used in Equations 3-5 in the 2018 WHS TMDL Revision.

Lenz Creek Cumulative Effects Analysis													
	Variable	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Fish Use Designation		Salmon & Trout Rearing & Migration											
Critical period						May 1-October 31							
Applicable Temperature Criterion (^{o}C)	T_C	18.0				18.0						18.0	
Maximum Effluent Temp (^{o}C)	T_E*	10.7	11.3	12.0	15.6	16.8	17.4	17.0	17.6	16.9	15.8	13.7	12.9
Minimum Stream Flow (cfs)	Q_R*	0.7	0.2	0.5	0.4	0.4	0.2	0.0	0.1	0.0	0.00	0.00	0.00
Effluent Flow (avg. dry-weather design flow) (MGD)	Q_E	0.34				0.34						0.34	
Effluent Flow (avg. dry-weather design flow) (cfs)	Q_E	0.53				0.53						0.53	
Dilution Ratio with 100% of stream flow	S**	2	1	2	2	2	1	1	1	1	1	1	1
Human Use Allowance (^{o}C)	HUA_{PS}	N/A	N/A	N/A	N/A	0.18						N/A	N/A
Calculated Change in Creek Temperature under Current Operations (^{o}C)	ΔT_R**	-3.1	-4.9	-3.1	-1.4	-0.70	-0.45	-1.0	-0.36	-1.0	-2.2	-4.3	-5.1
Current Thermal Load (gcals/day)	CL**	-9.4	-8.6	-7.7	-3.1	-1.5	-0.8	-1.3	-0.5	-1.4	-2.8	-5.5	-6.6
Wasteload Allocation Thermal Load (gcals/day)	WLA**	N/A	N/A	N/A	N/A	0.4	0.3	0.2	0.3	0.2	0.2	N/A	N/A

* Measured data
** Calculated data

Table C-14. Input parameters and results of Reasonable Potential Analysis for the Neal Creek cumulative effects analysis.
Variables indicated in the second column of this table refer to variables used in Equations 3-5 in the 2018 WHS TMDL Revision.

Neal Creek Cumulative Effects Analysis															
	Variable	Jan	Feb	Mar	April	May 1-15	May 16-31	June	July	Aug	Sept	Oct 1-14	Oct 15-31	Nov	Dec
Fish Use Designation		Salmon & Steelhead Spawning				Salmon & Trout Rearing & Migration							Spawning		
Critical period						May 1-October 31									
Applicable Temperature Criterion (^{o}C)	T_C	13.0				13.0	18.0						13.0	13.0	
Maximum Effluent Temp (^{o}C)	T_E*	12.3	14.2	14.1	16.3	17.5	17.9	18.3	18.1	19.2	18.6	17.3	17.0	14.7	14.5
Minimum Stream Flow (cfs)	Q_R*	12.3	15.8	34.1	37.6	29.6	28.0	20.4	15.7	13.7	17.6	13.4	9.5	6.6	9.1
Effluent Flow (avg. dry-weather design flow) (MGD)	Q_E	0.654				0.50								0.654	
Effluent Flow (avg. dry-weather design flow) (cfs)	Q_E	1.01				0.77								1.01	
Dilution Ratio with 100% of stream flow	S**	13	17	35	38	39	37	27	21	19	24	18	13	8	10
Human Use Allowance (^{o}C)	HUA	N/A	N/A	N/A	N/A	0.18								N/A	N/A
Calculated Change in Creek Temperature under Current Operations (^{o}C)	ΔT_R**	-0.05	0.07	0.03	0.09	0.11	0.00	0.01	0.00	0.06	0.03	-0.04	0.30	0.23	0.15
Actual Heat Load (gcals/day)	H_E**	-1.7	3.0	2.7	8.2	8.5	-0.2	0.6	0.2	2.3	1.1	-1.3	7.6	4.2	3.7
Wasteload Allocation Heat Load (gcals/day)	H_{WLA}**	N/A	N/A	N/A	N/A	13.4	12.7	9.3	7.3	6.4	8.1	6.2	4.5	N/A	N/A

* *Measured data*
** *Calculated data*

Table C-14 (continued). Input parameters and results of Reasonable Potential Analysis for the Neal Creek cumulative effects analysis.
Variables indicated in the second column of this table refer to variables used in Equations 3-5 in the 2017 WHS TMDL Revision.

Neal Creek Cumulative Effects Analysis (continued)															
	Variable	Jan	Feb	Mar	April	May 1-15	May 16-31	June	July	Aug	Sept	Oct 1-14	Oct 15-31	Nov	Dec
Fish Use Designation		Salmon & Steelhead Spawning				Salmon & Trout Rearing & Migration							Spawning		
Critical period						May 1-October 31									
Applicable Temperature Criterion (^oC)	T_C	13.0				13.0	18.0						13.0	13.0	
Minimum Stream Flow (cfs)	Q_R*	12.3	15.8	34.1	37.6	29.6	28.0	20.4	15.7	13.7	17.6	13.4	9.5	6.6	9.1
Terminal Ice plant															
Human Use Allowance (^oC)	HUA	N/A	N/A	N/A	N/A	0.045								N/A	N/A
Calculated Change in Creek Temperature under Current Operations (^oC)	ΔT_R**	0.10	0.08	0.04	0.04	0.05	0.02	0.02	0.02	0.04	0.03	0.03	0.13	0.18	0.14
Wasteload Allocation Heat Load (gcals/day)	H_{WLA}**	N/A	N/A	N/A	N/A	3.3	3.1	2.3	1.7	1.5	2.0	1.5	1.1	N/A	N/A
Duckwall-Pooley Van Horn plant															
Human Use Allowance (^oC)	HUA	N/A	N/A	N/A	N/A	0.045								N/A	N/A
Calculated Change in Creek Temperature under Current Operations (^oC)	ΔT_R**	0.04	0.03	0.01	0.02	0.02	0.00	0.01	0.02	0.04	0.02	0.02	0.06	0.09	0.08
Wasteload Allocation Heat Load (gcals/day)	H_{WLA}**	N/A	N/A	N/A	N/A	3.3	3.1	2.3	1.7	1.5	1.9	1.5	1.1	N/A	N/A
Diamond Central plant															
Human Use Allowance (^oC)	HUA	N/A	N/A	N/A	N/A	0.045								N/A	N/A
Calculated Change in Creek Temperature under Current Operations (^oC)	ΔT_R**	0.00	-0.01	0.00	0.02	0.01	0.00	0.00	0.00	0.03	0.01	0.01	0.08	0.05	0.09
Wasteload Allocation Heat Load (gcals/day)	H_{WLA}**	N/A	N/A	N/A	N/A	3.3	3.1	2.3	1.7	1.5	2.0	1.5	1.1	N/A	N/A
Duckwall-Pooley Odell plant#															
Human Use Allowance (^oC)	HUA	N/A	N/A	N/A	N/A	0.045								N/A	N/A
Calculated Change in Creek Temperature under Current Operations (^oC)	ΔT_R**	-0.09	-0.04	-0.01	0.02	0.04	-0.02	-0.02	-0.03	-0.04	-0.05	-0.10	0.04	0.01	-0.09
Wasteload Allocation Heat Load (gcals/day)	H_{WLA}**	N/A	N/A	N/A	N/A	3.3	3.1	2.3	1.8	1.6	2.0	1.5	1.1	N/A	N/A
Mt. Hood Forest Products															
Human Use Allowance (^oC)	HUA	N/A	N/A	N/A	N/A	--	--	--	--	--	--	--	--	N/A	N/A
Calculated Change in Creek Temperature under Current Operations (^oC)	ΔT_R**	-0.10	0.02	0.00	0.00	--	--	--	--	--	--	--	--	-0.07	-0.05
Wasteload Allocation Heat Load (gcals/day)	H_{WLA}**	N/A	N/A	N/A	N/A	--	--	--	--	--	--	--	--	N/A	N/A

* *Measured data*
** *Calculated data*