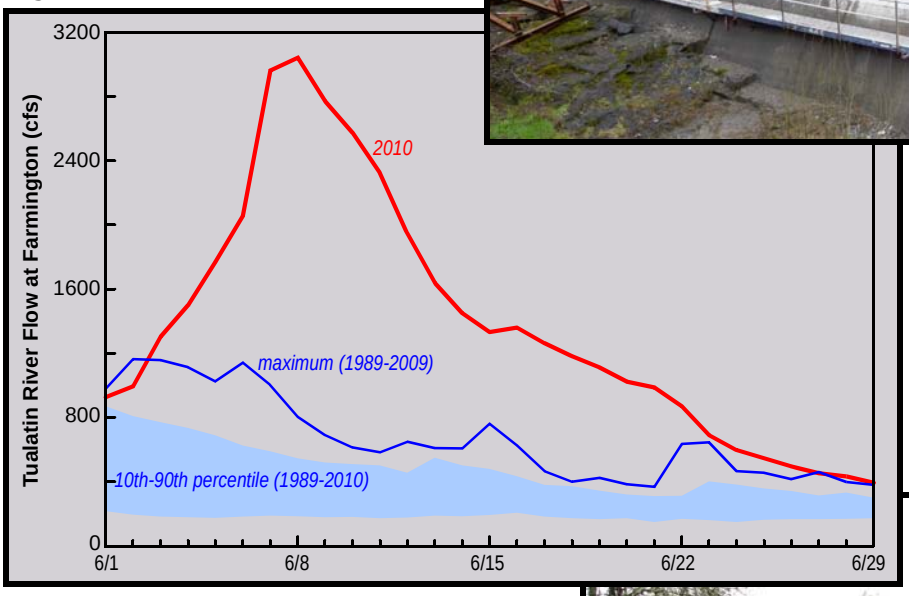
TUALATIN RIVER FLOW MANAGEMENT TECHNICAL COMMITTEE

Lake Oswego was drained and the dam was reconstructed in 2010.

High rainfall caused record June river flows and delayed flow regulation until July.



2010 Annual Report

prepared by
Bernie Bonn for

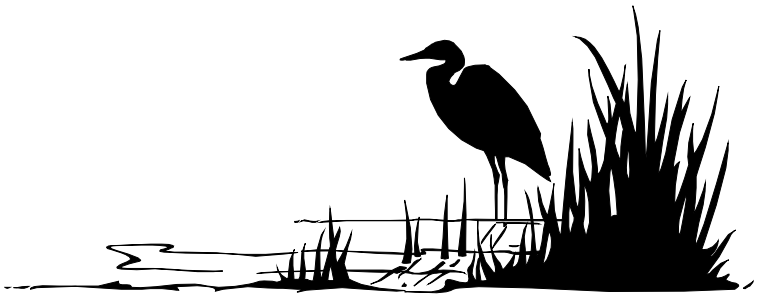
Clean Water Services

A collaborative effort among Flow Management Committee members and the US Fish & Wildlife Service successfully averted summer water quality problems in the Tualatin River after the primary pump at Wapato Lake failed.

Photo Credits:
top: Lake Oswego Dam, Mark Rosenkranz, Lake Oswego Corporation
bottom: Clean Water Services pump at Wapato Lake, Micelis Doyle, USGS, April 2010

TUALATIN RIVER FLOW MANAGEMENT TECHNICAL COMMITTEE

2010 Annual Report



Prepared by:

Bernie Bonn

For:

Clean Water Services

In cooperation with:

Oregon Water Resources Department, District 18 Watermaster

FLOW MANAGEMENT TECHNICAL COMMITTEE MEMBERS

Darrell Hedin, Secretary	*Oregon Water Resources Department*
Kevin Hanway	*City of Hillsboro Water Department*
Niki Iverson	*City of Hillsboro Water Department*
Jan Miller, Chair	*Clean Water Services*
Wally Otto	*Tualatin Valley Irrigation District*
Scott Porter	*Washington County — Emergency Management System*
Mark Rosenkranz	*Lake Oswego Corporation*
Chris Wayland	*Washington County Parks — Hagg Lake*
Randy Smith	*City of Forest Grove*
Jean Woll	*Joint Water Commission*

ACRONYMS USED IN THIS REPORT

FULL NAME	ACRONYM
Facilities	
Spring Hill Pumping Plant	SHPP
Wastewater Treatment Facility	WWTF
Organization	
Barney Reservoir Joint Ownership Commission	BRJOC
Clean Water Services (formerly Unified Sewerage Agency)	CWS
Joint Water Commission	JWC
Lake Oswego Corporation	LOC
Oregon Department of Environmental Quality	ODEQ
Oregon Department of Transportation	ODOT
Oregon Water Resources Department	OWRD
Tualatin Valley Irrigation District	TVID
Tualatin Valley Water District	TVWD
U.S. Bureau of Reclamation	BOR
U.S. Geological Survey	USGS
Other	
Total Maximum Daily Load	TMDL
Wasteload Allocation	WLA

FULL NAME	ACRONYM
Units of Measurement	
Acre-Feet	ac-ft
Cubic Feet per Second	cfs
Micrograms per liter	µg/L
Milligrams per Liter	mg/L
Million Gallons per Day	MGD
Pounds	lbs
River Mile	RM
Water Year	WY
Water Quality Parameters	
Biochemical Oxygen Demand	BOD
Dissolved Oxygen	DO
Sediment Oxygen Demand	SOD

TABLE OF CONTENTS

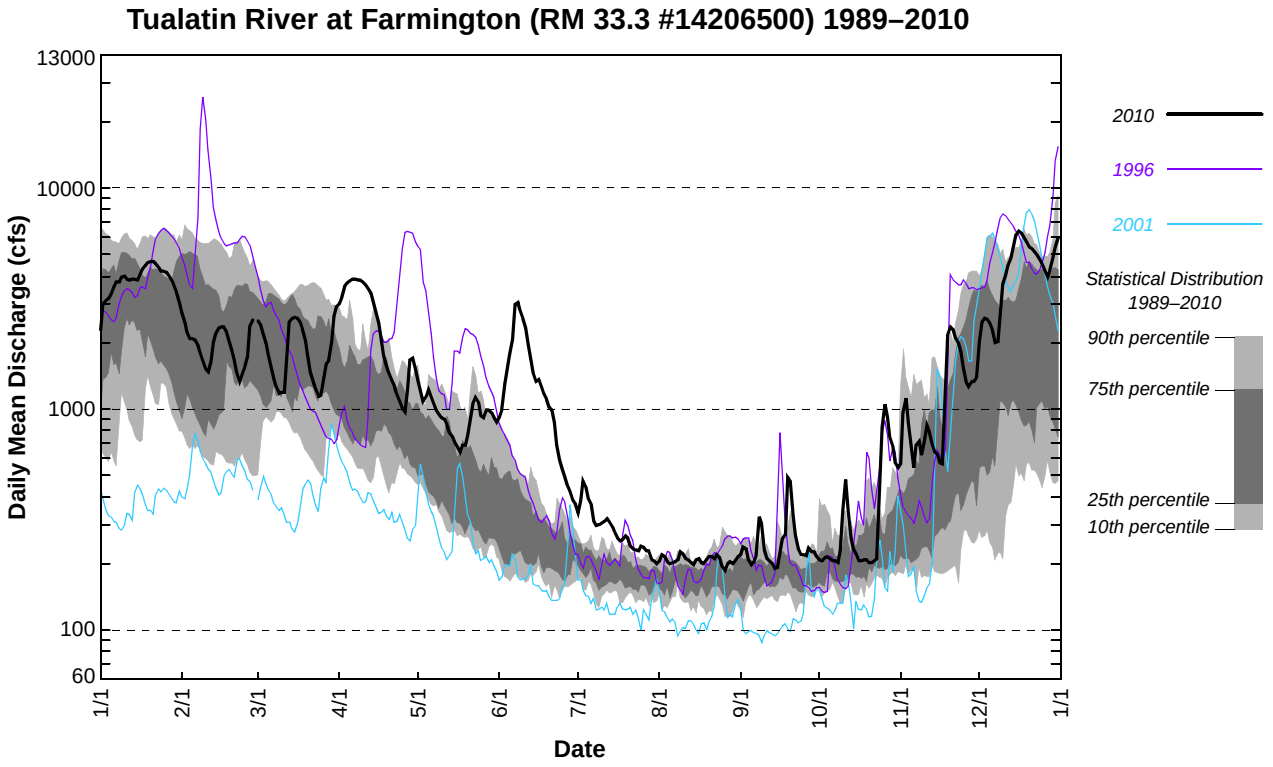
Appendices

2010 SUMMARY

This is the twenty-second year that the Tualatin River Flow Management Technical Committee has prepared an annual report documenting the flow management of the Tualatin River. Members of the committee include Clean Water Services (CWS), Tualatin Valley Irrigation District (TVID), Joint Water Commission (JWC), Lake Oswego Corporation (LOC) and Oregon Water Resources Department (OWRD).

Highlights for 2010 include:

- Both Barney and Scoggins Reservoirs filled.
- Rainfall in April through June resulted in high streamflows in the Tualatin River and its tributaries. In some cases the streamflow in June was nearly an order of magnitude greater than average. Regulation of river flow did not occur until July due to the wet conditions.



- The wet spring affected agricultural activities, causing planting delays, crop changes and some crops not being grown in 2010. Use of irrigation water was the lowest since 2001, when Scoggins Reservoir did not fill and extra conservation measures were implemented.
- High summer flows and cloudy days resulted in lower-than-normal levels of algal growth in the river and only isolated occurrences of dissolved oxygen concentrations above 100% saturation.
- Failure of the large pump at Wapato Lake caused concern that delayed draining of the impounded water would result in water quality problems as in 2008. Heroic measures by Clean Water Services, Joint Water Commission, Tualatin Valley Irrigation District, and US Fish and Wildlife Service averted such problems.
- Lake Oswego was drawn down, the lake bed, canals and bays were dredged, and the dam spillway was rebuilt during the construction of a new sewage interceptor line though the lake.
- Higher than normal minimum releases were maintained in Scoggins Creek to protect the Coho redds that were first reported in November 2006.

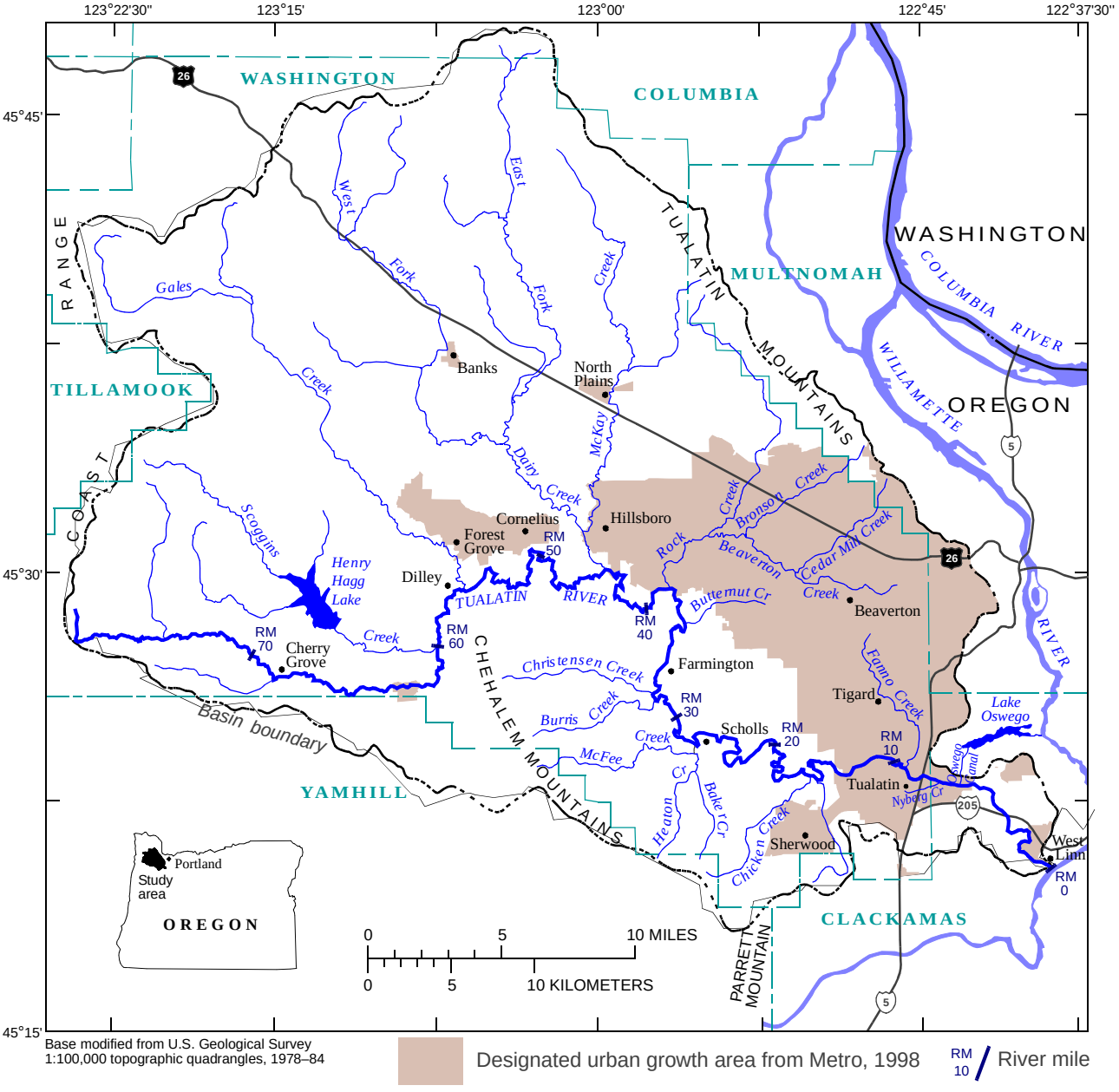
BACKGROUND

Basin Description

The Tualatin River Basin comprises an area of 712 square miles situated in the northwest corner of Oregon and is a subbasin of the Willamette River. The headwaters are in the Coast Range and flow in a generally easterly direction to the confluence with the Willamette River. The basin lies almost entirely in Washington County. (See map below)

The Tualatin River is about 80 miles long and changes dramatically from its headwaters to its mouth. The mountain or headwater reach (upstream of RM 55) is narrow (about 15 ft) and steep with an average slope of about 74 ft/mi. The meander reach (RM 55–33) is wider with an average slope of about 1.3 ft/mi. The reservoir reach (RM 33–3.4) is very wide (up to 150 ft) and has an estimated slope of only 0.08 ft/mi. It includes several deep pools. Travel times through this reach are very long. The slow movement of the water causes this reach to act much like a lake. In the riffle reach (RM 3.4–0), the Tualatin River flows through a short reservoir section and then drops into a narrow gorge near the City of West Linn before it enters the Willamette River just upstream of Willamette Falls. The average slope in this reach is 10 ft/mi.

Tualatin River Basin



Water sources to the Tualatin River

Precipitation: Seasonal rainfall accounts for most of the natural flow in the Tualatin Basin; stream flow from snowmelt is minimal. The amount of rainfall ranges from 110 inches on the eastern slopes of the Coast Range to 37 inches in the southeastern area of the drainage basin. Peak months for rainfall are November through February while the driest months are normally June through October. The peak streamflow month is usually February and the lowest streamflow month is August.

Barney Reservoir: Barney Reservoir is located behind Eldon Mills Dam on the Middle Fork of the North Fork of the Trask River (outside of the Tualatin Basin). A trans-basin aqueduct carries water over a low Coast Range divide to a pipeline that discharges into the Tualatin River at RM 78. Barney Reservoir has a capacity of 20,000 acre-feet and stores water for the Joint Water Commission (Cities of Beaverton, Hillsboro and Forest Grove and the Tualatin Valley Water District) and Clean Water Services. The Barney Reservoir Joint Ownership Commission owns, operates and manages Barney Reservoir. Reservoir content is monitored through calibrated reservoir elevations; water releases are monitored using a stream gage located in the outlet flume. Water is released during the summer low-flow season to supplement shortages in natural flow. The water is used for municipal supply and for instream water quality.

Scoggins Reservoir: In the early 1970's the U.S. Bureau of Reclamation built an earthen dam on Scoggins Creek (RM 5.1). Releases from Scoggins Reservoir (Henry Hagg Lake) flow down Scoggins Creek and enter the Tualatin River at RM 60.0. Scoggins Reservoir has an active storage capacity of 53,640 acre-feet. It is a multipurpose facility with contracted water for irrigation, municipal and industrial, and water quality uses.

Scoggins Reservoir is operated and maintained by the Tualatin Valley Irrigation District under contract with the Bureau of Reclamation. Flow into Scoggins Creek (RM 4.8) is monitored by a Bureau of Reclamation stream gage; Oregon Water Resources Department maintains the rating curve for this site.

Clean Water Services: Clean Water Services provides sanitary and stormwater services to the urban areas of Washington County. A watershed-based NPDES permit allows Clean Water Services to discharge treated wastewater into the Tualatin River from four wastewater treatment facilities (WWTFs). The Rock Creek WWTF discharges an average of 50 cfs (33 MGD) at RM 38.1; the Durham WWTF discharges an average of 31 cfs (20 MGD) at RM 9.3. The Forest Grove and Hillsboro WWTFs (RM 55.2 and 43.8, respectively) are much smaller and do not discharge during the summer. WWTF flow rates are continuously monitored at each WWTF. Clean Water Services also releases storage water from Scoggins and Barney Reservoirs for flow augmentation during the seasonal low flow periods to improve water quality in the Tualatin River, to offset a portion of the thermal load from the Rock Creek and Durham WWTFs, and to provide operational flexibility for their WWTFs.

Water sources to the tributaries

Clean Water Services: Clean Water Services has been using Tualatin Valley Irrigation District transmission lines to deliver water to several tributaries for flow restoration in the summer. About 1 to 2.5 cfs of water was added to McKay Creek since 2005. In 2009, a similar program was implemented for Gales Creek. In 2010, flow restoration was added to East Fork Dairy Creek. The goal is to improve water quality, specifically increasing the dissolved oxygen concentration and decreasing the temperature.The flow augmentation water is from Clean Water Services' allocation in Scoggins Reservoir.

Water diversions from the Tualatin River

Cherry Grove Intake (RM 73.2): The City of Hillsboro diverts water for municipal and industrial uses at the Cherry Grove Intake. This water is delivered to the Cities of Hillsboro and Gaston, the LA Water Cooperative, and rural residents of the Dilley and Cherry Grove areas. The diversion is less than 3 cfs and is monitored via metered flows.

Spring Hill Pumping Plant (RM 56.3): The Spring Hill Pumping Plant is the largest diversion facility on the river. It is operated jointly by the Tualatin Valley Irrigation District (TVID) and the Joint Water Commission (JWC). TVID, with a pumping capacity of approximately 90 MGD (140 cfs), delivers water to about 12,000 acres of irrigated cropland via a pressure pipeline. JWC, with a pumping capacity of approximately 60 MGD (90 cfs), delivers water to the Cities of Beaverton, Hillsboro, Forest Grove and to the Tualatin Valley Water District. Both TVID and JWC have natural flow water rights that are used when natural flow is adequate; they release contracted stored water from Scoggins and Barney Reservoirs to augment low natural flow in the summer. Pumping rates are monitored by TVID and JWC using telemetry-equipped flow meters. Additional monitoring is provided by real-time stream gages on the Tualatin River located above and below the pumping plant and on Gales Creek.

Wapato Canal Diversion: The Wapato Improvement District has a natural flow water right (priority date: 1928) to divert water from the Tualatin River at the Wapato Canal Diversion, near RM 62. This water is used for irrigation. Withdrawals were not monitored in 2010.

Irrigation withdrawals: Water is obtained directly from the Tualatin River for irrigation purposes by members of the TVID and by irrigators with natural flow water rights. About 5,000 acres of cropland served by TVID is irrigated with water obtained directly from the Tualatin River. Some of the discharge from the Rock Creek WWTF (RM 43.8) is contracted to TVID to be used by downstream irrigators.

Patton Valley Pump Plant: Tualatin Valley Irrigation District pumps water from Scoggins Creek (RM 1.71) into a low-pressure pipeline that serves customers along Patton Valley Road. Historically, this pipeline also diverted water into the upper Tualatin River (at RM 63.1 and RM 64.3) to supplement low flows in this reach, but this has not been needed in recent years due to releases from Barney Reservoir.

Lake Oswego Canal Diversion: The Lake Oswego Corporation (LOC) diverts a portion of the Tualatin flow into the Lake Oswego Canal at RM 6.7. A headwork structure regulates the flow into this mile long canal that feeds into Lake Oswego. The Lake Oswego Corporation has several natural flow water rights, including water rights for hydropower generation, irrigation, and lake level maintenance. At RM 3.4, a combination diversion dam/fish ladder structure is used during low flow periods to elevate the Tualatin River enough to divert the flow into the canal. During most of the year, river elevation is adequate to allow diversion of the LOC water right; in the summer, however, flash boards may be installed to increase the water level. The dam is 4 feet high and causes the water surface of the Tualatin River to be elevated for about 25 river miles upstream. LOC has not installed flashboards since 2003. Flow in Lake Oswego Canal is monitored during the summer by a gaging station operated by the Oregon Water Resources Department.

Water diversions from the tributaries

Irrigation withdrawals: Water is obtained directly from some tributaries for irrigation by irrigators with natural flow water rights.

Tualatin River Water Management

Tualatin River Flow Management Technical Committee

The Tualatin River Flow Management Technical Committee provides a mechanism for the coordination and management of flow in the Tualatin River. The members of the committee are technical staff with detailed knowledge of the specific characteristics of flow in this river. The committee meets monthly from February through November. Meetings focus on the current status of the reservoirs. In addition, a variety of other water issues and any problems are discussed. Each member updates the committee on changes that could impact the flow management of the Tualatin. The communication, coordination and cooperation among the partner agencies has proven invaluable in managing the resource.

Data collection system

Water in the Tualatin Basin is monitored by gages on streams and flow meters on diversions and wastewater treatment facility discharges. Stream gages are present along the mainstem Tualatin and all major tributaries that affect water distribution. Many of these monitors have telemetry, making the data available in real-time. Throughout the season, daily operations can be monitored by Clean Water Services (CWS), Joint Water Commission (JWC), Tualatin Valley Irrigation District (TVID), and the Lake Oswego Corporation (LOC).

A coordinated information system was developed to provide flow information to all members of the committee. Flow conditions and a summary of daily releases are reported via daily email by the superintendent of Scoggins Dam. Because use or release of water by any one of the entities can impact the other users, coordination of flow information is an important aspect of the committee's work. The data are collected by field staff from the cooperating entities or from the Corps of Engineers via telemetry.

The monitoring effort makes it possible to proactively manage storage, instream flows, and diversions so that minimum instream flow requirements and general compliance with water rights and storage agreements are met. It also makes the calculation of pollutant loads possible, when it is necessary for the Total Maximum Daily Load (TMDL) program. Monitoring includes temperature as well as flow at some sites. As water quality issues have come to the forefront, the monitoring system has provided information vital to understanding the Tualatin Basin, helped guide basin management, and been an excellent example of interagency cooperation. The members of the Flow Management Committee appreciate the efforts of the Oregon Water Resources Department (District 18 Watermaster), the US Geological Survey and others who provide data.

Some of the monitoring data for the Tualatin Basin can be accessed at the following web sites:

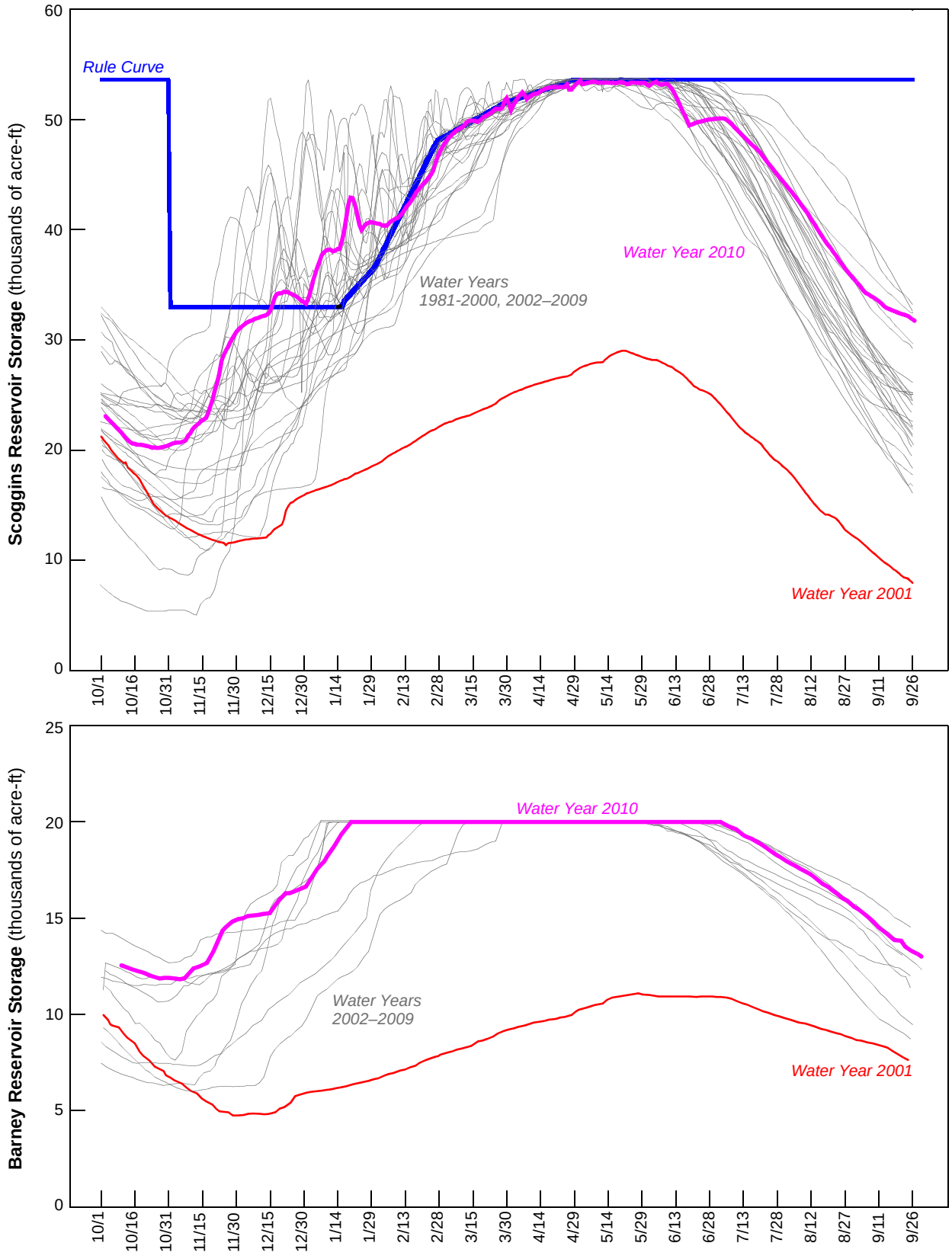
- Bureau of Reclamation data:
  http://www.usbr.gov/pn-bin/rtindex.pl?cfg=tual
- Jackson Bottom Wetlands Center data:
  http://www.jacksonbottom.org/monitoring-restoration/water-quality-tualatin-river-data/
- Oregon Water Resources Department data:
  http://apps.wrd.state.or.us/apps/sw/hydro_near_real_time/
- USGS data:
  http://or.water.usgs.gov/tualatin/

Annual Tualatin Basin Flow Management Report

This report is published annually and describes water management, accounting, storage, stream gaging, diversions, and effluent discharge for the Tualatin Basin. Annual reports dating from 1992 are available at:
http://www.co.washington.or.us/Watermaster/SurfaceWater/tualatin-river-flow-technical-committee-annual-report.cfm

RESERVOIR STATUS

Both Scoggins and Barney Reservoirs filled in 2010. The reservoir levels for 2010 and the reservoir filling histories are shown below.



CLEAN WATER SERVICES

BY JAN MILLER, CLEAN WATER SERVICES

Water is released by Clean Water Services (CWS) from Scoggins and Barney Reservoirs to improve water quality in the Tualatin River. The Department of Environmental Quality issued a watershed-based NPDES Permit to Clean Water Services on February 26, 2004. In response to a petition for reconsideration filed in 2004, the stormwater requirements of the permit were modified and the permit was reissued on July 27, 2005. The watershed-based permit provides Clean Water Services with a mechanism to offset a portion of the thermal load from its WWTFs with releases of stored water from the reservoirs. Stored water releases also provide operational flexibility to the WWTFs.

The reservoir releases during July and August are used to mitigate part of the thermal impacts from the wastewater treatment facilities. Clean Water Services offsets the remainder of its thermal impact by planting riparian areas along the tributaries either directly within its service area or through a partnership with the Tualatin Soil and Water Conservation District on rural lands. During the rest of the summer, the water is released to offset the effect of sediment oxygen demand on the dissolved oxygen levels in the river. The dissolved oxygen levels in the river downstream of the wastewater treatment facilities determine the ammonia limits for the wastewater treatment facilities. The higher the dissolved oxygen levels are, the more operational flexibility the wastewater treatment facilities have.

Low dissolved oxygen levels can be a water quality issue in the lower Tualatin River. During the early parts of the summer, photosynthetic production of oxygen by algae effectively offsets the oxygen consumed by the decaying substances in the sediment of the river (sediment oxygen demand). In the fall, however, oxygen production by algae is reduced as the days become shorter and it no longer offsets the oxygen consumption by sediment oxygen demand. This can lead to low dissolved oxygen levels. Increasing streamflow reduces oxygen consumption by sediment oxygen demand because it shortens the contact time between the river water and the river sediments.

2010 Water Releases

Since 2004, Clean Water Services released water from Scoggins Reservoir for two primary reasons: thermal load trading in July and August, and mitigation of sediment oxygen demand after algal populations decline in late summer and early fall. Clean Water Services generally starts releasing stored water on July 1 for thermal trading. Because of the higher than usual flows and an unusually wet and cool June, releases for 2010 did not begin until July 24. Clean Water Services released an average of 28.8 cfs for the July–August time period. Clean Water Services release of Scoggins Reservoir water averaged 42.9 cfs from September 1, 2009 through October 25, 2010. Flow releases ceased on October 25 when Farmington flows reached 836 cfs and winter flow conditions started. Clean Water Services released a total 8,392 acre-feet from Scoggins Reservoir for the summer. This was 67% of its allocation.

Clean Water Services releases from Barney Reservoir began on September 1, 2010 (7 cfs) and continued at a constant rate of 14 cfs from September 2, 2010 through October 30, 2010. Clean Water Services used a total of 1,653 acre-feet from Barney Reservoir. This was 99% of its allocation.

Clean Water Services released flow augmentation water for a total of 99 days in 2010. The combined average daily release (for days with releases) was 51.1 cfs. The amount of water available to and released by Clean Water Services during 2010 and monthly details of the water releases are summarized in the tables on the following page. Clean Water Services flow augmentation and treatment plant flow accounts for a significant fraction of flow in the lower Tualatin River, especially during the late summer and early fall period (see graphs on page 12).

CLEAN WATER SERVICES WATER AVAILABILITY AND USE — 2010

Reservoir		Maximum Available (acre-ft)	Available (acre-ft)	Total CWS Release (acre-ft)
Scoggins Reservoir	Storage	12,618	12,618	8,392
	Natural flow credit	4,282	0	
Barney Reservoir	Storage	2,000	1,667	1,653
	Summer storage	—		
Total		**18,900**	**14,285**	**10,045**
Percent of available				**70.3%**

CLEAN WATER SERVICES WATER RELEASE SUMMARY 2010

	Units	May	June	July	Aug	Sept	Oct	Nov 1-4	Total
Scoggins Release	acre-ft	0	0	337	3,204	2,401	2,450	0	8,392
	days	0	0	8	31	30	25	0	94
Barney Release	acre-ft	0	0	0	0	819	833	0	1,653
	days	0	0	0	0	30	30	0	60
Total Release	acre-ft	0	0	337	3,204	3,220	3,283	0	10,045
Daily Average Release (for days with releases)	cfs	0	0	21	52	54	55	0	51.1

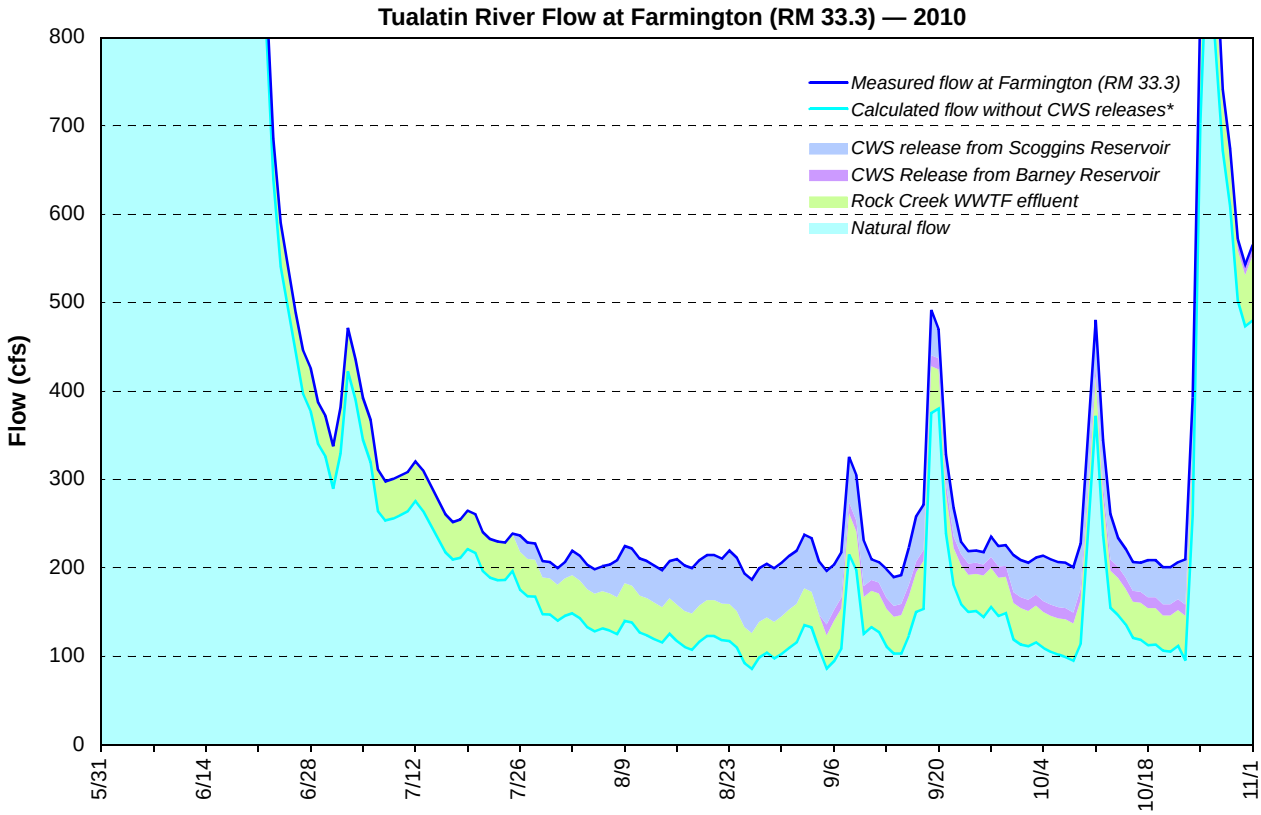
Measured Flows and Flow Goals for Tualatin River at Farmington (RM 33.3) – based on daily average									
Measured minimum	cfs	640	372	200	187	190	201	566	—
Measured mean	cfs	941	1,345	2887	208	249	360	879	—
Measured maximum	cfs	1,330	3,050	472	225	492	1,050	1,120	—
Daily minimum flow goal	cfs	150	150	150	180	180	180	180	—

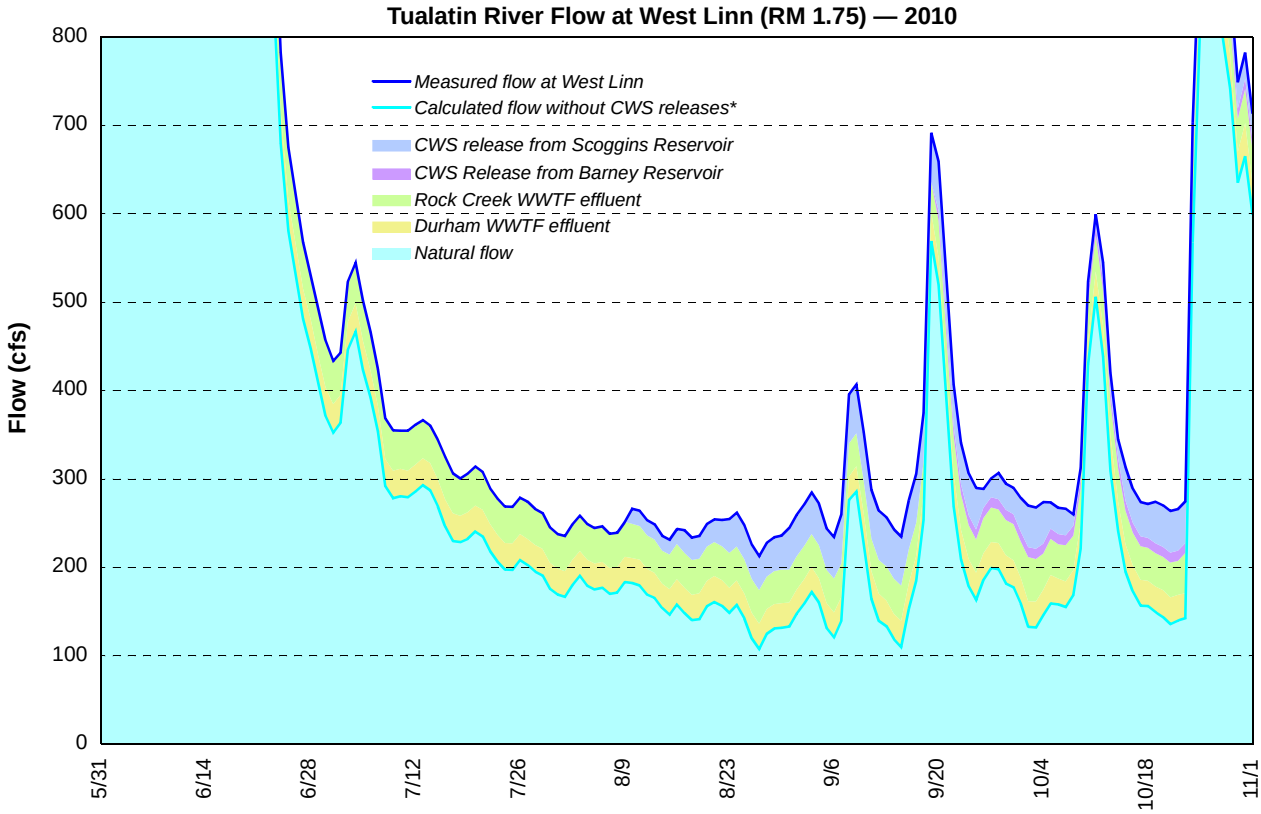
Natural flow credit

If the natural flow in the Tualatin River measured at West Linn is less than the flow target for the months of May, June, October and November, then Clean Water Services receives a natural flow credit of up to 4,282 acre-ft. Natural flow is calculated as the actual measured flow minus Clean Water Services released flow. The table below shows that the natural flow at West Linn exceeded the flow targets for these four months, and therefore, Clean Water Services was not entitled to a natural flow credit in 2010.

BUREAU OF RECLAMATION NATURAL FLOW CREDIT 2010

Month	Mean Daily Measured Flow at West Linn (cfs)	Mean Daily CWS Release (cfs)	Calculated Natural Flow at West Linn (cfs)	Target Natural Flow at West Linn (cfs)	Maximum Possible CWS Natural Flow Credit (cfs)	*[acre-ft]*	CWS Natural Flow Credit (cfs)
May	1101	0	1101	85	13	*[798]*	0
June	1676	0	1676	140	21	*[1250]*	0
October	471	55	416	95	16	*[984]*	0
November	1386	0	1386	110	21	*[1250]*	0





*Flows without CWS releases were calculated as follows. (Constant travel times and a uniform evaporative loss of 0.25% per mile were assumed.)

Flow at Farmington without CWS releases =
+ Measured flow at Farmington
– 0.988 x Rock Ck WWTF flow from the same day
– 0.933 x CWS Scoggins Release from 2 days before
– 0.888 x CWS Barney Release from 4 days before

Flow at West Linn without CWS releases =
+ Measured flow at West Linn
– 0.981 x Durham WWTF flow from 3 days before
– 0.909 x Rock Ck WWTF flow from 14 days before
– 0.854 x CWS Scoggins Release from 17 days before
– 0.809 x CWS Barney Release from 19 days before

Historical perspective

In 1987, Clean Water Services began managing the release of its water with the goal of maintaining a monthly average of 150 cfs at the Tualatin River at Farmington. Work by the United States Geological Survey in the early 1990's indicated that it was more important to have higher flows in the fall to maintain dissolved oxygen levels than in the early summer to prevent algal blooms. The flow goals were changed to maintaining 120 cfs in the early summer, 150 cfs in August and then 180–200 cfs from September until the winter flows start. Winter flows are defined as flows that exceed a 7-day median of at least 350 cfs. In 2004, an additional goal of releasing water in July and August for temperature trading was added. In 2008, as a result of the Rock Creek WWTF mixing zone study, the goal was increased to 150 cfs through August. The following table shows the history of Clean Water Services releases from Scoggins Reservoir.

CLEAN WATER SERVICES — SCOGGINS RESERVOIR RELEASES

Year	Start Date	End Date	Total Release Days	Total Release (acre-ft)	Average per Release Day (cfs)	Minimum Daily Flow at Farmington (RM 33.3) (cfs)
1987	6/9	11/30	175	*16,722	48.2	63
1988	7/2	11/4	126	*15,071	60.3	106
1989	6/27	11/15	141	*16,586	59.3	112
1990	7/12	11/1	113	11,889	53.0	124
1991	7/12	11/4	116	13,024	56.6	125
1992	6/5	11/19	168	12,730	38.2	73
1993	7/3	12/1	150	11,486	38.6	98
1994	6/21	10/27	129	10,917	42.7	105
1995	6/24	11/8	138	9,824	35.9	118
1996	7/27	11/10	114	10,952	48.4	146
1997	7/4	10/2	91	6,716	37.2	154
1998	8/12	11/7	87	9,407	54.5	146
1999	7/27	11/12	109	12,001	55.5	156
2000	7/21	11/27	130	15,275	59.2	152
2001	9/25	11/14	50	2,403	24.0	88
2002	6/12	11/9	151	12,618	42.0	103
2003	7/11	11/17	130	11,765	52.4	107
2004	7/1	11/2	125	8,650	34.9	130
2005	7/8	10/31	116	9,918	43.1	153
2006	7/1	11/3	126	9,634	38.5	148
2007	7/3	11/13	119	10,134	42.9	148
2008	7/1	11/4	127	11,896	47.2	162
2009	7/1	10/27	119	10,614	45.0	147
2010	7/24	10.25	94	8,392	45.0	187

*During these years, Bureau of Reclamation allowed Clean Water Services to release its entire allocation (stored and natural flow.

Water is released from Barney Reservoir at a constant rate during the late summer to supplement the water released from Scoggins Reservoir. The following table shows the historic use of Barney Reservoir releases. Clean Water Services owns 10% of the 20,000 acre-foot reservoir. Each year the Joint Water Commission decides how much water is to be released for the Department of Fish and Wildlife. This, plus the dead pool, is subtracted from the available water. The remainder is allocated to the owners.

CLEAN WATER SERVICES — BARNEY RESERVOIR RELEASES

Year	Start Date	End Date	Total Release (acre-ft)	Daily Release Rate (cfs)	Comment
1998	7/12	8/27	2,779	24.6	extra water released to draw down reservoir
1999	9/1	10/19	1,025	10	10 cfs also released 6/4–6/10
2000	9/8	10/23	1,461	18	—
2001	9/18	10/29	1,416	17	1000 acre-ft purchased in addition to allocation; reservoir did not fill; 4,000 acre-ft held in reserve
2002	8/26	10/24	1,667	14	—
2003	8/15	10/14	1,742	14	—
2004	9/1	11/2	1,777	14	—
2005	9/1	11/8	1,874	14	miscommunication about end date; extra water released
2006	9/1	11/3	1,638	14	—
2007	9/1	10/30	1,667	14	—
2008	9/4	10/31	1,611	14	—
2009	9/1	10/30	1,667	14	—
2010	9/1	10/30	1,653	14	7 cfs on 9/1/2010 only, all other days 14 cfs

JOINT WATER COMMISSION & JOINT BARNEY COMMISSION

BY NIKI IVERSON, WATER RESOURCES MANAGER, JOINT WATER COMMISSION/CITY OF HILLSBORO

Introduction

Over 300,000 people in Washington County receive at least a portion of their water from the Joint Water Commission (JWC). JWC provides water to its member agencies: the Cities of Hillsboro, Forest Grove, Beaverton, and the Tualatin Valley Water District. JWC also provides wholesale service directly to the City of North Plains, and, indirectly, to Cornelius, Gaston, and the LA Water Cooperative as wholesale customers of Hillsboro. Typically, JWC's water production averages 31-33 million gallons per day (mgd). In 2010, JWC's annual water production was 27.9 mgd. During the peak periods of the summer, production increases substantially. In 2010, daily production peaked at 52.7 mgd. JWC's highest peak production of 66.8 mgd occurred in 2008.

JWC's water treatment plant is supplied with water from the nearby Tualatin River. Water is pumped from an intake facility at Spring Hill that was constructed by the Bureau of Reclamation and is shared with the Tualatin Valley Irrigation District (TVID). Flows in the Tualatin River are supplemented during the summer with water from impoundments at Scoggins Dam (Hagg Lake) and Barney Reservoir. The Barney Reservoir Joint Ownership Commission (BRJOC) owns Barney Reservoir. BRJOC includes the Cities of Hillsboro, Forest Grove and Beaverton, the Tualatin Valley Water District, and Clean Water Services.

The JWC water treatment plant uses conventional dual media filtration and disinfection, to produce high quality potable water. Treated water is pumped from the plant to the member agencies either directly through finished water pipelines leaving the plant or via the Fern Hill Reservoirs. Fern Hill Reservoirs include two 20 million gallon covered concrete tanks, for a total of 40 million gallons of storage, located about one-third mile to the east of the treatment plant. The JWC finished water pipelines include master meters and pressure reducing stations at the connection points to the member agencies.

2010 Operations

JWC completed several notable projects in 2010 including the Ozone Treatment Pilot Test Project, Filter Beds Repair and Replacement Project, Greenhouse Gas Inventory, and several other maintenance and replacement projects. BRJOC also completed the construction of a new access road at the base of the dam for inspections and maintenance as recommended in the Oregon Water Resources Department Dam Safety and Inspection Report. JWC received the final order approving the Water Management and Conservation Plan to meet Oregon Administrative Rules 690-086 and 690-315 requirements to maintain the JWC's water right permits. Shortly after the plan was approved, JWC received the final order approving the permit extension for Permit S-50879 at Scoggins Creek for 75 cfs. In late 2010, JWC submitted an Aquifer Storage and Recovery (ASR) Limited License application to WRD for review and approval.

Water Quality Monitoring–Barney Reservoir: In 2010, BRJOC staff continued the implementation of the water quality monitoring program. Baseline water quality and algal programs (first and second levels) were selected by BRJOC and began in 2009. The baseline water quality monitoring program includes the minimum level recommended by Portland State University (PSU) to gain a basic understanding of the water quality dynamics in the reservoir and related streams or tributaries. The algal bloom monitoring program will be primarily event driven, but may also include some investigations of algal dynamics in the reservoir during select seasons. After 5 years of data collection, the results will be compared to water quality standards and historic background information included in the monitoring plan completed by PSU.

Source Water Capture Efficiency: JWC continued to maximize the capture of our source waters through improved coordination of the operation of Fern Hill Reservoirs with JWC member system demands, and through careful tracking of individual member use of their stored water. The 2010 program had continued success, as the JWC pump station recovered 97% of the water available at our intake from natural flow rights and releases from our impounded supplies.

SUMMARY OF 2010 RELEASE SEASON

Description	Beginning Balance (acre-ft)	Amount Released (acre-ft)	Ending Balance (acre-ft)	Average Release (acre-ft/day)
Breakdown by Reservoir				
Scoggins	13,500.00	5,170.98	8,329.02	45.36
Barney (M&I)	14,886.00	5,647.02	9,238.98	49.54
Total	**28,386.00**	**10,818.01**	**17,567.99**	**94.89**
Breakdown by Agency – Including Leased Allocations				
Hillsboro	10,127.40	3,388.83	6,738.57	29.73
Forest Grove	4,913.50	854.16	4,059.34	7.49
Beaverton	7,556.10	3,195.10	4,361.00	28.03
TVWD	5,789.00	3,379.93	2,409.07	29.65
Total	**28,386.00**	**10,818.01**	**17,567.99**	**94.89**

Reservoir release detail after reallocation for leases (total released by storage ownership):

	Reservoir Release (acre-ft)			Average Release (acre-ft/day)
	Barney	Scoggins	Total Release	
Hillsboro	1,011.25	2,377.58	3,388.83	29.73
Forest Grove	256.24	597.92	854.16	7.49
Beaverton	999.61	2,195.49	3,195.10	28.03
TVWD	3,379.93	—	3,379.93	29.65
Total	**5,647.02**	**5,170.98**	**10,818.01**	**98.89**
North Plains usage is reflected in the figures for JWC partners:			27.65	0.24

COMPARISON OF STORED WATER RELEASES— 2008–2010

Year	Begin Date	End Date	Days Regulated Use	Stored Water Release (acre-ft)			Average Release (acre-ft/day)
				Barney	Scoggins	Total	
2010	6/30/2010	10/22/2010	114	5,647.02	5,170.98	10,818.01	94.89
2009	6/14/2009	10/26/2009	134	4,722.71	9,203.44	13,926.15	103.93
2008	6/18/2008	10/31/2008	135	4,407.34	10,163.45	14,570.79	107.93

ESTIMATED WATER CAPTURE RATES (THROUGH 10/22/2010)

Peak production for season:	161.69	acre-ft/day	
Average production for season:	111.55	acre-ft/day	
Stored water released:	10,818.01	acre-ft	
WRD loss factor:	424.35	acre-ft	
Natural flow:	3,137.90	acre-ft	
Total water available to be pumped:	13,531.56	acre-ft	
Raw water pumped at Spring Hill Pump Station:	12,597.85	acre-ft	= 93.10% of available
Water produced through Slow Sand Filter Plant:	294.41	acre-ft	
Total water pumped for regulated season:	12,892.26	acre-ft	= 95.28% of available
Finished water produced:	12,828.77	acre-ft	= 96.91% of available
Total production:	13,123.18	acre-ft	= 96.98% of available

LAKE OSWEGO CORPORATION

BY MARK ROSENKRANZ, WATER RESOURCE SPECIALIST

Introduction

The Lake Oswego Corporation (LOC), a non-profit organization, owns and manages Oswego Lake, a 168-hectare (403 acre) reservoir located 10 miles south of Portland, Oregon. LOC was formed in 1942 when the Oregon Iron and Steel Company, then owner of the land around the Lake, deeded to LOC the land, three dam structures, and all water rights. The original dam was constructed in 1871 and later upgraded in 1921. Oswego Lake is a private water body whose primary water right is hydropower generation. Secondary uses include irrigation, aesthetic viewing, contact recreation, fishing, and boating.

Oswego Lake and Watershed Morphology

The original natural lake, called Waluga, was formed 10,000 years ago by the Missoula glacial floods which altered the old Tualatin River channel. Today, the Lake has three basins: West Bay, the Main Lake, and Lakewood Bay. There are also two shallow, man-made canals, Blue Heron Canal and Oswego Canal. Oswego Canal is the 2.4-km conduit from the Tualatin River (RM 6.7). Total lake surface area and volume is 1.63 km^2 (403 acres) and 12.7 x 10^6 m^3 (10,300 acre-feet). Shoreline length, including bays and canals, is 18.62 km (11.56 mi.). Oswego Lake has a 5.08-km (3.15-mi) fetch and a narrow 0.56-km width (0.34-mi). The hydraulic residence time is 390 days.

Oswego Lake's two watersheds include the natural, 7.5-mi^2 urban basin around the Lake (10:1 watershed to lake-area ratio) and the larger 700-mi^2 Tualatin River basin (1,000:1 ratio) when the LOC Headgate is opened. Major inflows from the watershed include Springbrook Creek, Lostdog Creek, Blue Heron Creek, and 70-plus storm drains from the City of Lake Oswego.

LOC Water Rights and Contracts

Hydropower Generation: The primary hydropower water right is 57.5 cubic feet per second (cfs) obtained in 1906 that allows year around diversion. To guarantee this flow during the dry season, LOC owns and operates a diversion dam located downstream of the Oswego Canal (RM 3.4). Flaps are erected on an “as needed” basis. In 2010, no flaps were used.

Irrigation: A contract between LOC and the Bureau of Reclamation (Oct 20, 1972) provides for up to 500 acre-feet from Scoggins Reservoir for irrigation use during March through November. The largest irrigator on the Lake is the Lake Oswego Country Club (approximately 175 acre-feet).

Maintenance/Evaporation: LOC also has a maintenance/evaporation water right of 3.36 cfs dating from 1985. This water can be diverted between September 16th and July 30th.

2010 Oswego Lake Watershed Management

Water quality improvements and safety are the top priorities for LOC. The goal for the annual LOC Water Quality Management Plan is to reduce cyanobacteria productivity and maximize the aesthetic value of the Lake by focusing on flow management, water quality treatment, and macrophyte issues. To provide long-term water quality solutions and to be proactive in preserving the quality of the Lake, watershed activities are a major part of the LOC management plan.

Water Quality: The water sampling season on Oswego Lake was cut short due to the lengthy drawdown of the lake (see following page). Water quality sampling was suspended during the drawdown because it was very difficult to get to the open water. We did our usual water treatments for algae and macrophyte control during the first part of the summer, but suspended treatment as the drawdown approached. During the drawdown we undertook several tasks to improve water quality. We hand pulled Brazilian elodea in an effort to reduce herbicide use and installed weed barriers in several shallow areas around the shoreline that historically grew a lot of vegetation.

Tualatin River Flows: Minimal Tualatin river flows were used to keep the lake full before the drawdown. River water contains high concentrations of phosphorus and sediment, making reduced river flow into Oswego Lake desirable.

Oswego Lake Watershed Council: During summer of 2010 the city of Lake Oswego, the Lake Oswego School District, and LOC formed the Oswego Lake Watershed Council. By mid-2011 the council will be official and will work towards watershed enhancement projects.

2010 Drawdown

In late summer of 2010 the LOC drew down Oswego Lake 24 feet so the city could replace their Lake Oswego Interceptor Sewer (LOIS). We started drawing down the lake on September 7, 2010 and it remained down until spring. The lake was full again by Memorial Day weekend 2011. This long drawdown allowed the city to successfully replace their sewer pipe, and it allowed LOC to undertake some much needed projects.

Dredge: During the drawdown the LOC removed approximately 32,000 cubic yards of material from both canals, West Bay, Springbrook Creek delta, Lost Dog Creek delta, and around a swim park at the west end of the lake. LOC benefitted by coordinating the dredge with the LOIS project that had installed roads on the lake bed and had an excavator on-site. In addition to benefitting navigation, the dredge project removed a lot of nutrient rich sediment that came to the lake via the Tualatin River and storm drain outfalls. Sediment was hauled to Tigard Sand and Gravel for disposal.

Blue Heron Canal dredge near a storm drain outfall. This sediment accumulated over ten years of storm drain runoff.

Spillway Modification: After the flood of 1996 the LOC had identified several projects that could reduce future flooding potential. One project was to enlarge the spillway on our dam, which would allow future flood water to pass down Oswego Creek instead of pooling up and going over the seawall to flood homes. In 2009 we performed an engineering study to determine the spillway size that would be necessary. We came up with a seven foot tall by 80 foot long spillway that would lower the current 100 year flood elevation by 3.5 feet.

Lake Oswego Dam spillway before modification.

Lake level was lowered by 24 feet, exposing the lakeside face of the dam and allowing it to be cut away. The pipes running over the dam were used to de-water the lake.

In order to proceed with the project we needed to find funding, and have a deep enough drawdown to de-water both sides of the dam. We were successful in obtaining FEMA funding that reimbursed 75% of the project cost, and the LOIS drawdown satisfied the access requirement. In addition, the LOIS project was using the area adjacent our dam to stage their sewer project, so there was a large crane on site that was key to our project.

Concrete blocks were wire sawed from our old dam and the first one lifted out the end of October. A new sill and end piers were poured in mid-February to accept the Obermeyer inflatable weir system. The new gates were installed and successfully tested the end of March. This project will save the city of Lake Oswego and homeowners around the lake from the considerable impact that occurred during the 1996 flood in the event a flood of the same magnitude occurs.

Left: Lake Oswego Dam spillway after modification with gates are in raised position during installation of the restraining straps. Air bladders are visible behind straps.
Right: Lake Oswego Dam with gates in lowered position after shield plates were installed.

OREGON WATER RESOURCES DEPARTMENT

BY DARRELL C. HEDIN, WATERMASTER, DISTRICT 18

Introduction

The District 18 Watermaster's Office is part of the Field Services Division of the Oregon Water Resources Department (OWRD) (www.wrd.state.or.us) in cooperation with Washington County (www.co.washington.or.us/index.htm), and is responsible for water supply management within the Tualatin, Lake Oswego, and Lower Willamette Drainage Basins in northwestern Oregon. The Mission of OWRD is, "To serve the public by practicing and promoting responsible water management."

Water Distribution and Enforcement

The Watermaster functions as a local contact for landowners, elected officials, and watershed councils, as well as other governmental agencies at the local, state and federal level. Duties include monitoring and measuring streamflow, conducting reservoir inspections, performing well inspections and collecting groundwater level data. Information is also provided to landowners and others on water rights and Oregon Water Law. The Watermaster is also responsible for regulating water use during times of shortage and has the authority to take more formal actions to obtain the compliance of unlawful water users.

Tualatin Basin Streamflow Website

In an effort to consolidate and standardize near real-time streamflow data, the Water Resources Department displays all the Tualatin Basin information at:

http://apps2.wrd.state.or.us/apps/sw/hydro_near_real_time

Regulatory Summary 2010

Streamflow in the upper Tualatin Basin was above average for the start of the season and higher than normal flows extended into July until regulation was required. Irrigation usage overall was below normal as cool damp weather kept the demand low. Regulation was lifted in late October as precipitation came early and restored natural flows in the basin.

Regulatory activity for 2010 is summarized in the table on the following page.

2010 WATER RIGHTS REGULATION SUMMARY

Date	On/Off	Regulatory Activity	River Mile	Priority Date
7/2/2010	Off	City of Beaverton (P-45455, 7/15/1980) – Tualatin River City of Forest Grove (P-40615, 4/28/1976) – Tualatin River City of Hillsboro (P-46423,2/6/1974) – Tualatin River City of Hillsboro (P-50879, 6/9/1988) – Scoggins Creek		2/5/1974
7/6/2010	Off	TVID (P-35792, 2/20/2963) – Scoggins Creek	n/a	2/20/1963
7/6/2010	Off	Tualatin River & tributaries above Spring Hill Pump Plant Tualatin River — 11, 2/20/1963 Gales Creek — 62, 9/24/1963 Carpenter Creek — 4, 7/10/1967 Scoggins Creek — 3, 7/28/1975	> 56.09	2/19/1963
10/21/2010	On	City of Beaverton (P-45455, 7/15/1980) – Tualatin River City of Forest Grove (P-40615, 4/28/1976) – Tualatin River City of Hillsboro (P-46423,2/6/1974) – Tualatin River City of Hillsboro (P-50879, 6/9/1988) – Scoggins Creek	>56.09	2/5/1974
10/21/2010	On	TVID (P-3579, 2/20/1963) – Scoggins Creek	n/a	2/19/1963

Watermaster, District 18 Stream Gaging Summary 2010

WATERMASTER DISTRICT 18 GAGING STATIONS FOR 2010

Station Number	Stream	Stream Mile	Latitude	Longitude	Type
14206200	Dairy Creek at Hwy 8 near Hillsboro, OR	2.06	45°30'38"N	123°06'56"W	*Logger
14205480	E. Fk. Dairy Creek at Dairy Creek Rd near Mountaindale, OR	12.33	45°40'32"N	123°03'54"W	Staff
14205000	W. Fk. Dairy Creek @ Banks, OR	7.7	45°37'26"N	123°06'59"W	Staff
14205160	W. Fk. Dairy Creek @ Evers Rd near Roy, OR	1.96	45°34'34"N	123°05'34"W	Staff
14204530	Gales Creek @ Old Hwy 47 near Forest Grove, OR	2.36	45°30'39"N	123°06'56"W	*Logger
14204540	Gales Creek @ Clapshaw Hill Rd near Gales Creek, OR	12.36	45°35'39"N	123°12'38"W	Staff
14207000	Oswego Canal near Lake Oswego, OR	6.7	45°23'18"N	122°43'10"W	Logger
14202920	Sain Creek above Hagg Lake near Gaston, OR	1.6	45°28'50"N	123°14'40"W	Logger
14202850	Scoggins Creek above Hagg Lake near Gaston, OR	8.0	45°30'06"N	123°15'06"W	*Logger
14202980	Scoggins Creek below Hagg Lake near Gaston, OR	4.8	45°28'10"N	123°11'56"W	Logger
14202860	Tanner Creek above Hagg Lake near Gaston, OR	1.6	45°30'21"N	123°13'10"W	Staff
14206500	Tualatin River @ Farmington, OR	33.3	45°26'58"N	122°57'02"W	*Logger
14202510	Tualatin River @ Gaston, OR	62.3	45°26'21"N	123°07'85"W	*Logger
14204800	Tualatin River @ Golf Course Rd near Cornelius, OR	51.5	45°30'08"N	123°03'22"W	*Logger
14202450	Tualatin River below Lee Falls near Cherry Grove, OR	70.7	45°30'21"N	123°13'06"W	*Logger
14206295	Tualatin River @ Rood Bridge Rd near Hillsboro, OR	38.4	45°29'24"N	122°57'06"W	*Logger
14206956	Tualatin River @ Tualatin (station number formerly 14206960)	8.9	45°23'14"N	122°45'46"W	*Logger
WAPO	Wapato Canal near Gaston, OR (from Tualatin River)	61.9	45°26'29"N	123°07'17"W	Staff

*Telemetry

Establishment of Watermaster

The following is a transcript of the approved order by the Washington County Court Clerk dated June 10, 1952, which initially requested the establishment of the position of Watermaster in this area.

IN THE COUNTY COURT OF THE STATE OF OREGON
FOR WASHINGTON COUNTY

In the Matter of the Establishment of a Water District in Washington County, Oregon, and the appointment of a Water Master.

ORDER

This matter coming on now for consideration by the Court in the matter of the establishment of a water district in Washington County, Oregon, and the appointment of a water master; and

It appearing to the Court that in Washington County approximately 20,000 acres of productive farm land are now being irrigated mostly by the pumping of water from the various streams in the county, and that such acreage is being greatly increased annually; and that such irrigation has increased to the extent that in dry season any remaining water supply in said streams is practically non existent: and

It further appearing to the Court that some immediate steps should be taken to conserve the water supply in Washington County: and

It further appearing to the Court that numerous public meetings have been held in Washington County in an effort to devise plans and determine upon ways and means of conserving said water supply and securing equitable distribution thereof between all land owners and other groups desiring the use of said waters: and

It further appearing to the Court that the Washington County Water Users Committee, heretofore appointed by said interested users of water in the county, together with a large number of individual users of water for irrigation purposes, have requested the Court of Washington County and the Oregon State Engineer to arrange for the creation and establishment of a water district in Washington County and for the appointment of a water master for such district, and for the payment of the salary and expenses of such water master: and

It further appearing to the Court that said Washington County Water Users Committee has heretofore undertaken the collecting of various sums of money from various users of irrigation water in Washington County for the purpose of paying the salary of a water master for a Washington County Water District, and said committee has heretofore agreed that said irrigation water users can and will pay $300.00 per month for the next ensuing four months period, as a salary of such water master: and

It further appearing to the Court that in the event of the establishment of Washington County as a water district and the appointment of a water master for such district, then, Washington County should allow and pay the necessary traveling expenses of such water master, at the rate of six (6¢) cents per mile.

Now, therefore, it is hereby ORDERED and DIRECTED that the Oregon State Engineer be requested to establish a Water District in Washington County, Oregon, pursuant to the authority vested in said State Engineer by Section 116-208 O.C.L.A. and that said State Engineer appoint a suitable water master for such district, at such monthly salary as the Washington County Water Users Committee may agree to pay from funds collected by said committee from irrigation water users; and that the monthly mileage expenses of such water master, at the rate of six (6¢) cents per mile, be paid by Washington County.

And it is further ORDERED that said State Engineer be requested to make the appointment of such water master effective as of June 15, 1952, and that the clerk of Washington County, Oregon, forthwith direct to said State Engineer a certified copy of this Order.

DATED at Hillsboro, Oregon, this 10th day of June, 1952.

WASHINGTON COUNTY COURT

By Harry M. Seabold
County Judge

By Jas. Lewis
County Commissioner

By H. R. Johnson
County Commissioner

SCOGGINS DAM/HENRY HAGG LAKE

BY BERNIE BONN, WALLY OTTO, AND TOM VANDERPLAAT

Scoggins Dam/Henry Hagg Lake is located on Scoggins Creek in the upper part of the Tualatin Basin. Scoggins Dam is an earthfill dam constructed during 1972–75 to store water during the winter for summer and fall use. The Dam is owned by the U.S. Bureau of Reclamation (BOR) and managed by the Tualatin Valley Irrigation District (TVID). Stored water from Hagg Lake is used for irrigation, municipal and industrial use, and flow augmentation in the Tualatin Basin to support water quality and protect fish and wildlife.

Three tributaries flow into Hagg Lake—Sain, Scoggins and Tanner Creeks. Flows in Sain and Scoggins Creeks are monitored by Oregon Water Resources Department gages; flow in Tanner Creek is monitored by daily readings of a staff plate by TVID personnel. Outflow is measured by a BOR stream gage in Scoggins Creek at RM 4.8. Oregon Water Resources Department maintains the rating curves for Tanner Creek and for Scoggins Creek at RM 4.8.

ALLOCATION OF WATER FROM SCOGGINS RESERVOIR

Contracted To	Water Use	Available Volume	
		ac-ft	as percent
Tualatin Valley Irrigation District	Irrigation (up to 17,000 acres)	27,022	50%
Joint Water Commission	Municipal and industrial	13,500	25%
City of Beaverton		*4,000*	
City of Forest Grove		*4,500*	
City of Hillsboro		*5,000*	
Clean Water Services	Instream water quality	12,618	24%
Lake Oswego Corporation	Irrigation	500	1%
Total		**53,640**	**100%**

Scoggins Dam stores 53,640 acre-feet of water in Henry Hagg Lake as active storage—the amount of water that can be moved in or out of the reservoir between the intake structure and the top of the spillway gates. Another 7,000 acre-feet of stored water exists below the intake structure that is not engineered to be removed. It is for the protection of fish if the lake were to be drafted down completely to the intake structure.

Scoggins Dam is authorized by the U.S. Congress to provide flood control for communities located downstream, including Gaston, Cornelius and Forest Grove. The dam controls runoff from a 39 square mile watershed (about 5% of the Tualatin Basin). From November to April, 20,000 acre-feet are designated for flood control storage. The dam does not generate electricity.

During the summer months, recreation is a major activity at Hagg Lake and the surrounding area. Washington County maintains and operates the 2,851 acre Scoggins Valley Park/Henry Hagg Lake recreational facility. In addition to the 1,100 acre lake, the park includes picnic areas, hiking trails, two boat launching facilities, and observation decks for bird and wildlife watching. The lake is stocked for fishing. Most of the park's facilities were designed to be accessible for disabled visitors. The park is open from the first Saturday in March through the last Sunday before Thanksgiving and is for day-use only.

http://www.co.washington.or.us/Support_Services/Facilities/Parks/Hagglake/index.cfm

2010 Water Use

Water year 2010 marks 36 years since Scoggins Dam began storing and releasing water for downstream beneficial use. A total of 30,649 acre-feet were delivered in 2010 bringing the total delivery from the Project to more than 1,122,788 acre-feet.

In June, TVID delivered 3,904 ac-ft of water to mitigate water quality problems in the Tualatin River caused by late season pumping from Wapato Lake (see Wapato Lake 2010, page 30). Above average spring rainfall combined with the June release for water quality resulted in higher than normal June streamflows which delayed the implementation of natural flow regulation. Flow regulation began on July 2 for the Joint Water Commission and July 6 for TVID. With the exception of TVID extended season irrigators, all users were permitted to return to natural flow use in the Tualatin River on October 25, 2010. TVID continued to deliver a small amount of storage water primarily to nurseries and greenhouses until the end of November as permitted by the Oregon Water Resources Commission.

2010 WATER DELIVERIES FROM SCOGGINS RESERVOIR

Delivered to	Volume (ac-ft)
Tualatin Valley Irrigation District	
irrigation use	11,928
water quality mitigation for Wapato Lake discharge	3,904
Clean Water Services	8,390
City of Beaverton	1,579
City of Forest Grove	1,694
City of Hillsboro	1,918
Lake Oswego Corporation	500
Other (includes two golf courses, from TVID allocation)	736
Total	**30,649**

Weather Conditions in 2010

Calendar year 2010 began as an El Niño episode and transitioned to La Niña. Winter was warmer than usual, as is common during El Niños. In January, 20 days had temperatures of 50°F or higher and no freezing temperatures were observed. About half of the days in February had high temperatures of 55°F or above and only two days had lows of 32°F or lower. Six days in March had temperatures in the 60s. April had only two days of freezing temperatures (31°F and 32°F).

Rainfall in the January through March period was near normal, which is not typical for El Niño episodes which are generally associated with below average precipitation. Spring was very wet with April–June precipitation 73% higher than normal. The month of May included several days with releases of over 300 cfs for flood control. Early June was particularly wet with 2.94 inches of rain recorded in the first 10 days with three days recording 0.82, 0.81 and 0.56 inches of rain. Plants had to be put in so late that the short growing season resulted in a “Green Tomato Garden Year.”

After the very wet spring, July and August were abnormally dry. As the year progressed into fall and early winter, precipitation was above average which is common for La Niña episodes. The lowest water surface elevation in 2010 occurred on October 23 at 278.69 feet when 28675 ac-ft (53.7%) of water remained in storage. The reservoir then began refilling for the 2011 season on October 24, 2010, several weeks earlier than normal.

Monthly rainfall for 2010, including a comparison to the long-term record, is shown on the following page.

Month	El Niño	neutral	La Niña	Rainfall at Scoggins Dam		
				days with rain	inches	compared to average*
January 2010	■			26	10.29	125%
February 2010	■			16	5.16	83%
March 2010	■			18	5.72	106%
April 2010		■		21	5.79	167%
May 2010		■		18	3.20	147%
June 2010		■		10	3.04	204%
July 2010		■		2	0.36	82%
August 2010			■	1	0.05	7%
September 2010			■	10	1.54	105%
October 2010			■	14	4.53	132%
November 2010			■	22	7.24	92%
December 2010			■	25	12.96	138%
Calendar year 2010				183	59.88	106%

*average based on 1970–2011 period of record

Events in 2010

Spillway Guard Rail: Beginning in January, a BOR crew installed guardrails on the spillway. Previously, a chain-link fence kept several vehicles from going into the spillway chute, but it was not sufficient—especially for trucks. The guardrails meet Department of Transportation specifications. On the northbound traffic side, they are installed behind the fence as it crosses the bridge and connect to the original rails on both ends of the bridge. On the southbound side, the rails also go behind the fenced area. The majority of guardrail was installed in one week but final completion was in September.

Coho Salmon Return: Several Coho returned to Scoggins Creek in 2010. These fish are part of a new run establishing themselves in Scoggins Creek on their own. The hens built redds (nests) and laid their eggs which were quickly fertilized by males. A 1,000 ft long reach of stream channel provides excellent spawning gravels for the fish. The gravel came into Scoggins Creek during the 1996 flood from the small channel that drains the Knox Draw located just beyond and across from the Fee Entry Booth of the Park. The redds were closely monitored by the ODFW Regional Fish biologist. After hatching, many of the fry used the old Scoggins Creek channel for protection. All necessary releases from the dam were made in stages over the winter in an attempt to protect the redds. The minimum release was increased to the upper 20 cfs range in order to maintain enough water to keep the redds covered.

Dam Construction Photographs: During the construction of Scoggins Dam, BOR documented much of the work on 35 mm slide film. Several thousand photographs were taken and left in storage at the Tualatin Valley Irrigation District office. There was concern about the future utility of this archive because of potential film degradation and because the photograph subjects were undocumented. In 2010, the photographs were all transferred to digital format and most were captioned by the Reservoir Superintendant who has considerable experience with the Project and knows the region well.

Recreation: In 2010, there were 649,274 user-days recorded at Scoggins Valley Park/Henry Hagg Lake. This was about 20,000 fewer user-days than in 2009. The park and lake opened on March 6th and closed November 21st. In addition to the usual recreational uses, numerous races were held throughout the year including triathlons.

Scoggins Dam Safety and Security

At Scoggins Dam, earthquake activity, weather including temperature and precipitation, river stage levels and the water surface elevation are reported and recorded electronically. In addition, key dam behavioral instruments report electronically over BOR's Hydromet system. The data is collected, stored and transmitted via satellite to BOR's Pacific Northwest Regional office in Boise. It is available on the internet through both secure and non-secure channels. Many of these electronic reporting stations have alarms to alert operators if sudden or unusual conditions develop including earthquakes and flooding. While operators are not on site 24/7, the Project is monitored 24/7, both by BOR and TVID personnel.

Security at Scoggins Dam remains a priority. The Department of Homeland Security (DHS) uses a five level alert system as shown at the right. BOR's Advisory System and Response Measures require the Project to follow the DHS alert levels. During 2010, Scoggins Dam operated under Level Orange with no security breaches.

Green alert	Low risk of terrorist attacks
Blue alert	General risk of terrorist attacks
Yellow alert	Significant risk of terrorist attacks
Orange alert	High risk of terrorist attacks
Red alert	Severe risk of terrorist attacks

Closed Circuit TV Monitoring System Upgrade: The CCTV security monitoring system continues to be of great value. Cameras now monitor all Mission Essential Vulnerable Areas on the dam and other areas associated with the dam and reservoir. Several cameras are pan-tilt-zoom and can zoom in on specific areas of concern as needed. The system records all activity on the Project and is accessible remotely by TVID and BOR officials. There were no security breaches during 2010. Some cameras are obviously very conspicuous while others are less visible. The entire dam is now able to be remotely viewed as is the lake surface near the dam.

Rough Terrain Vehicle: A rough terrain vehicle was purchased for the Project to facilitate access to remote and inaccessible areas. A diesel Kubota RTV 900 was chosen complete with heated cab, small dump box, four wheel drive and winch. The vehicle has proven great value in making numerous daily short runs and access to the downstream toe of the dam as well as wet fields.

Drownings: Thankfully, no drownings occurred in Henry Hagg Lake in 2010.

Seismic Issues: The BOR's Safety of Dams work regarding the effect that a subduction zone earthquake of magnitude 9 or greater would have on Scoggins Dam continued in 2010. The concern is that when Scoggins Dam was built in the early 1970's, the required standards were based on an earthquake of much lower magnitude. After completion of field investigations in 2009, BOR began working on their Corrective Action Study for Scoggins Dam. Onsite inspections and a review were made in September 2010. Most work has been done at BOR's Technical Service Center in Denver.

On site, preparations for "sheltering in place" have been stepped up at the recommendation of the Forest Grove Fire District Chief. If a dam failure were to occur due to an earthquake, it could be 1–2 weeks before emergency personnel could reach the site. Bridges would be probably be impassable and the attention of emergency personnel would be directed to devastation within the community.

Comprehensive Facility Review: Scoggins Dam underwent a Comprehensive Facility Review (CFR) (CFR) by BOR in 2010. The CFR occurs every 6 years and is most intensive of the regularly scheduled inspections. A Periodic Facility Review is performed every 3 years. The structure of Scoggins Dam is inspected by qualified engineers from the Bend Field Office every year.

The CFR includes instrumentation, potential failure modes, embankment movement, observation wells, concrete displacement, and operations. The effect of a Cascadia Subduction Zone earthquake weighed heavily into the analysis this year. Many dam failure modes were investigated, such as several methods of internal erosion, flood related failure, spillway wall failure and operating equipment malfunctions. Performance parameters were evaluated closely. The draft CFR gives various actions to take in the event of unexpected behavior. A revised monitoring schedule is being recommended as a result of the 2010 CFR.

A revised Emergency Action Plan (EAP) was included in the 2010 CFR. The EAP is intended to help save lives and reduce property damage in the event of flooding caused by large operational releases or a dam failure. It guides operating personnel and emergency response organizations in identifying, monitoring, responding to, and mitigating problems related to a catastrophic event at Scoggins Dam. Should such an event occur, the population at risk is high, especially with Stimson Lumber located just below the dam. The EAP also provides direction to operating personnel to safeguard the structure itself.

Two major revisions to the EAP include the addition of a fourth response level and inclusion of two Homeland Security Presidential Directives. For more information regarding the Presidential Directives affecting the Scoggins dam EAP, please refer to the Department of Homeland Security website (www.dhs.gov/index.shtm). The EAP recommendations call for the Incident Command System to be used in managing events when something is happening at Scoggins Dam that is outside of normal operations. It is part of the National Incident Management System which is intended to provide a consistent, flexible national framework in which government and private entities at all levels can work together to manage domestic incidents, regardless of their cause, size, location, or complexity. This flexibility applies across all phases of incident management: prevention, preparedness, response, recovery, and mitigation.

A Site Security Review was also conducted as part of the 2010 CFR. Various security issues were evaluated with recommendations given to help reduce security risks. The recommendations range from updating Crime Witness Signs ($1000 for information leading to the arrest and conviction raised to $25000) to closure of the crest to vehicular traffic if deemed necessary.

Future of the Project

Tualatin Basin Water Supply Partnership: Water resource agencies in the Tualatin Basin have sought a sustainable source of water that would supply the region's homes, farms, businesses, and environment for the next 50 years. As Washington County continues to grow and develop, demand for water in the Tualatin Basin is expected to double by 2050, which would require an additional 50,000 ac-ft of water for a total of 100,000 acre-ft of water per year.

In 2001, the water resource agencies formed a partnership to explore and compare alternatives for providing the additional water needed to meet future needs. The Partnership includes Clean Water Services, the Cities of Hillsboro and Beaverton, and the Tualatin Valley Water District, as well as the U.S. Bureau of Reclamation, the owner of Scoggins Dam. Tualatin Valley Irrigation District (TVID), which manages the dam, is not a member the Partnership because it is limited to serving 17,000 acres of irrigated land and has enough water to serve its patrons in all but possibly a severe drought. TVID is an active participant in the proceedings, however, because protecting its interest in the current stored water supply is critical.

After studying many different options, in 2006 the Partners selected two alternatives for further study: 1) raising Scoggins Dam by 40 ft with a new raw water pipeline and pumpback, and 2) raising Scoggins Dam by 25 ft with a new raw water pipeline and pumpback plus expansion of the Willamette River Water Treatment Plant. More than 7 years of analysis have provided a wealth of technical information about raising Scoggins Dam.

In 2010, the City of Hillsboro began updating their water resource master plan, including a review of water supply for the Partnership. The report is due to be completed in 2011.

Title Transfer: In 2007, the Partners began studying the possibility of a title transfer of Scoggins Dam and related facilities from federal ownership to local ownership. A decision on title transfer is delayed until the Corrective Action Study by the BOR is completed.

More information: More information about the Tualatin Basin Water Supply Project is available at:
www.tualatinbasinwatersupply.org

TUALATIN VALLEY IRRIGATION DISTRICT

BY WALLY OTTO, RESERVOIR SUPERINTENDENT

Tualatin Valley Irrigation District Overview

The Tualatin Valley Irrigation District (TVID), located in Forest Grove, Oregon, is the agricultural water service agency in the Tualatin Basin. In the early twentieth century, relatively little agricultural land was irrigated in Washington County: about 15 acres in 1915 and about 130 acres in 1933. By 1951, however, 18,455 acres had water rights registered in the county. When the TVID was formed in 1962, the total had grown to 33,885 acres. TVID was formed to assist in the delivery of irrigation water to about half of those acres (17,000) in the Tualatin Basin. The water was supplied from natural flow and return flows, and was extremely limited due to early summer withdrawals from the Tualatin River and increasing demands for water for irrigation and municipal use and for maintaining instream water quality and fish. The only storage at this time was Barney Reservoir which stored 4000 acre-feet for municipal use. Beginning in 1975, additional stored water became available behind the newly completed Bureau of Reclamation Project, Scoggins Dam. Approximately half of the water stored in Scoggins Reservoir (Henry Hagg Lake) is allocated to TVID.

Most of the water supplied by TVID is pumped from the Tualatin River at the Spring Hill Pump Plant and delivered to TVID patrons via approximately 120 miles of pressurized pipeline. Additionally, water in both Scoggins Creek and the Tualatin River is withdrawn by irrigators with land abutting the river. When natural flow no longer meets demand, the District 18 Watermaster begins regulating water users with "junior" (or more recent) water rights off, starting with users with the most recent water right. The TVID storage right is dated 1963, so TVID patrons with water rights after that date must stop withdrawing natural and return flow water. Storage water is discharged from Scoggins Reservoir to either augment the river flow or supply the entire need for the TVID patrons, both the pump plant/pressure pipeline users and the river users. Water for some of the TVID members on the lower Tualatin River is supplied by reuse water discharged from Clean Water Services' Rock Creek Wastewater Treatment Facility. Crops irrigated with District water range from row crops including blueberries, blackcaps, corn, pumpkins and other vegetables to nursery stock.

TVID is allowed to use storage water early and late in the year because of an extended season for irrigation made possible by an agreement with the Oregon Water Resources Department. The early season begins March 1 and the extended season ends November 30. All water used outside the normal irrigation season (May through September) must come from TVID's annual contracted storage allotment of 27,022 acre-feet. TVID's total contracted amount with Reclamation is 37,000 acre-feet with the additional coming from natural and return flows in the Tualatin River and its tributaries.

The extension of the irrigation season for the Tualatin Valley Irrigation District has made growing specialty crops in the District much more appealing. Primarily used for berries and nurseries in the spring and later in the fall for the nurseries, a much more diverse list of crops can now be served with water. Nursery stock including flowers are now raised well into November when protected by greenhouses. Water availability and moderate temperatures make the Tualatin Valley Irrigation District home to many small specialty nurseries along with several large operations.

The downturn in the economy has affected agriculture in the TVID service area. Some nurseries began scaling back operations in 2010. Some growers even removed stock at a loss because the plants grew too large making them unmarketable. A corn processing plant, Symons, was closed. Some District patrons were affected forcing them to find new and more creative means to offset low prices received for their crops.

2010 TVID Water Use

For the 2010 irrigation season (March through the end of November), TVID took delivery of 15,832 acre-feet of water from storage in Henry Hagg Lake. Of this total, 3,904 ac-ft was used for an emergency flow augmentation project and not directly for irrigation. The remaining 11,928 ac-ft was delivered for irrigation which is 74.6% of the 10 year average. This was well below the 22,188 acre-feet used in 2007 and only a small amount more than the 10,704 ac-ft used in the drought year of 2001.

Due to unusual weather conditions, 2010 was a unique irrigation year. In March, 87 ac-ft was delivered from storage for early season use—primarily going to nurseries. The total delivery for early season March–April) was 171 ac-ft. April through June was unusually wet. It rained almost every day during the last half of May, a time when fields are normally being prepared and seeded. The wet soil prohibited most of these agricultural activities. No water was delivered from storage for irrigation purposes during the entire month of June. By the time the soils were dry enough to plant in mid-June, the growing season had become too short for many high yield water intense crops. Some crops were changed because of the shortened growing season. Other established crops such as berries were receiving adequate amounts of water from the natural rainfall. Regulation did not occur until July 5th; until then Tualatin River natural flow provided adequate flow for all irrigation activity.

After the very wet spring, July and August were abnormally dry. Peak use of the District from storage was 99 cfs on August 16, 2010. This came after 44 days with no precipitation and several days with temperatures in the upper nineties. By comparison, peak use in 2009 was 125 cfs on July 30. The irrigation season ended abruptly with 2.50 inches of rainfall on October 24–25, 2010.

An unusual event occurred in June—the annual draining of Wapato Lake was delayed (see Wapato Lake 2010, page 30). To help mitigate potential water quality problems caused by the discharge of impounded Wapato Lake water, TVID contributed 3,904 ac-ft from storage for ten days from June 10, 2010 through June 12, 2010. The additional water helped maintain flows of about 500 cfs at Dilley and also contributed to the later than usual regulation date for all water users in the Basin. The Wapato discharge did not have a negative impact on Irrigation District patrons.

2010 TVID Operation and Maintenance

The year was uneventful from an operations standpoint. A “moratorium” remains in place regarding new turn-out deliveries. No new deliveries were added to the delivery system during 2010.

Pipeline Maintenance: TVID delivers irrigation water by high pressure pipeline to customers from Gaston to North Plains and from west of Forest Grove to Highway 219 south of Hillsboro. The water is withdrawn from the Tualatin River at the Spring Hill Pump Plant and lifted by pumps to a water regulating tank off Winter’s Road. From there it flows under gravity pressure to all points of delivery through 120 miles of pipeline. Preventative maintenance continues to keep service delivery as dependable as possible. Several minor disruptions of service occurred during the year, but were quickly isolated and repaired. Service was restored in minutes in some cases or in up to a day if conditions did not allow quick access. There were no long term disruptions of service to District patrons.

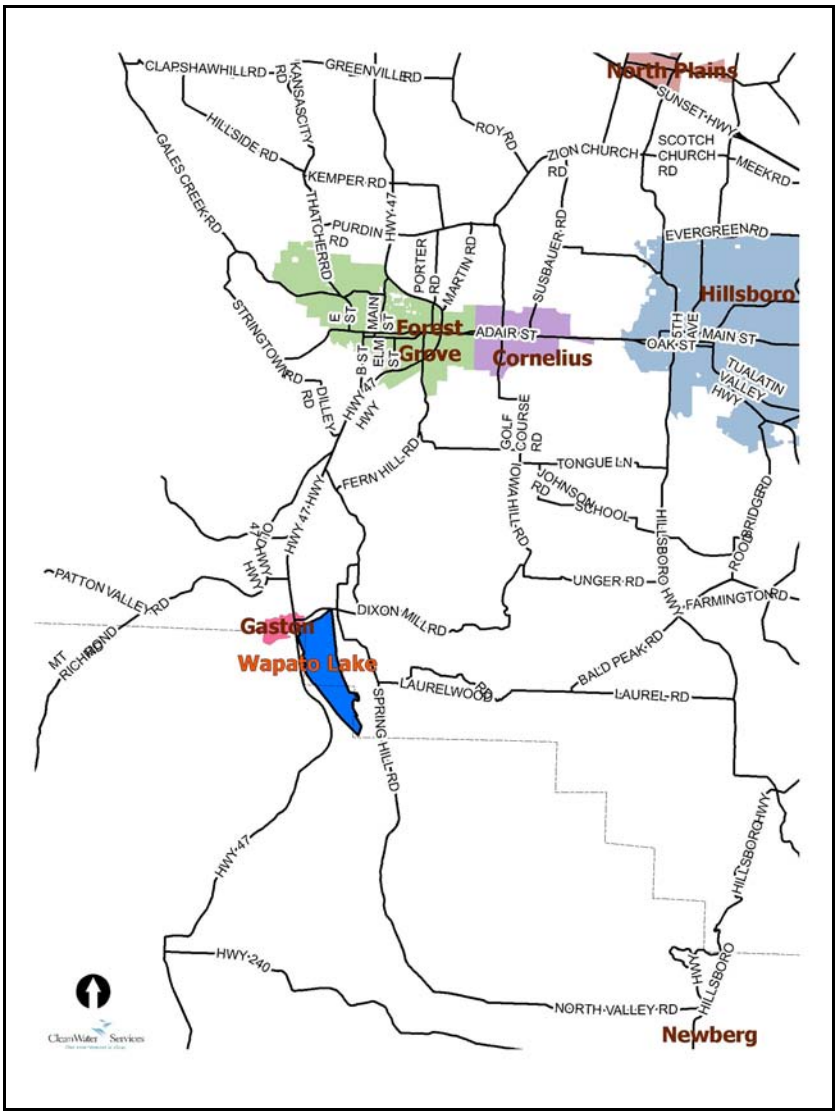
Tributary Flow Augmentation Projects: TVID and Clean Water Services continue their cooperative effort in using the TVID water distribution network to supply water to several tributaries. A site on East Fork Dairy Creek was added in 2010. Flow augmentation continued at the other sites (two on McKay Creek and one on Gales Creek). The partnership between the Tualatin Valley Irrigation District and Clean Water Services is a novel way to improve the water quality of these streams at minimal cost.

Wapato Improvement District: The United States Fish and Wildlife Service is moving forward with the final acquisitions on the Wapato Lake bed. They will be leasing lands inside the dike for 2011 and negotiating with TVID about short term irrigation deliveries for TVID customers outside the levees. Unrelated to the USFWS purchase of Wapato but similar in nature, Metro continues to purchase marginal farmlands inside the TVID service area for greenspace.

WAPATO LAKE 2010

By Bernie Bonn and Tom VanderPlaat, Clean Water Services

The former Wapato Lake bed southeast of Gaston, Oregon is a 780-acre wetland. During the 1930s a levee and pump system was constructed by the Wapato Improvement District (WID) to drain the area during spring so that it can be farmed during the summer. The levee protects the former lake bed from severe flooding during the winter, thereby allowing easier drainage.



2008 Levee Failure

In December 2007, high rainfall and subsequent high river levels of the Tualatin River resulted in the failure of a small section of the levee, causing the lake bed to be inundated with much more water than normal. Because of the levee failure, the impounded water could not be pumped out until the water level had receded below the level of the breach. While ponded on the peat soils of the lake bed during the spring and early summer, a substantial population of algae and zooplankton developed and the water quality deteriorated. When the impounded water was pumped into the Tualatin River in June and July 2008, flows in the Tualatin River did not adequately dilute the discharge. The ensuing water quality problems affected drinking water treatment for 400,000 Washington County residents; major industrial users such as Intel; agricultural irrigation; food processors; fish and wildlife; and recreational use. The Joint Water Commission (JWC) implemented additional drinking water treatment costing over $265,000. The State of Oregon issued a Public Health Advisory for recreational contact with the Tualatin River due to high levels of a toxic algae (*anabaena flos aquae*, a blue-green algae or cyanobacteria). In addition, the release of poor quality water threatened 40 years of restoration efforts by the local community.

Pump Failure in 2010

The 2008 scenario might have been repeated in 2010. In February 2010, WID lost their primary pump due to a mechanical failure. Under an agreement with the Oregon DEQ, the Wapato Lake area must be drained prior to April 30 each year in order to protect water quality in the Tualatin River. WID was not going to able to repair equipment soon enough to pump out the impounded water before late summer. This created a distinct threat of a repeat of the 2008 water quality problems. The water and natural resource managers in the Tualatin Basin worked together to provide a coordinated, collaborative response to this threat.

Clean Water Services accepted the invitation of WID to assist with pumping down the Lake and coordinated efforts among agencies. CWS had two available pumps and the United States Army Corps of Engineers (COE) offered the use of three pumps. The City of Portland Bureau of Environmental Services (BES) also offered the use of two pumps. All of the available pumps were diesel driven and it was felt that these pumps would have sufficient capacity to replace the failed pump. Pump operation is shown below.

Pump	Location	Capacity (gpm)	Operation Period
WID pump	WID pump station	~3,000	entire period
CWS #1	WID pump station	~3,000	3/16 – 5/14
CWS #2	WID pump station	~3,000	4/7 – 5/11
BES Small	WID pump station	~1,250	3/30 – 5/11
COE #1	South of Gaston	~6,400	3/18 – 5/11
COE #2	South of Gaston	~6,400	3/19 – 5/11
BES Large	South of Gaston	~9,000	4/8 – 5/14 6/4 – 6/21

Crane lifting large BES pump.

Except for brief maintenance, the pumps were operated 24 hours per day 7 days per week. For about the first 5 weeks, the COE pumps were not operated on Sundays or at night, but then operated continuously. The logistics of fueling the pumps as well as maintaining them took significant effort. CWS was assisted by JWC in fueling the COE pumps. The BES Large Pump was fueled by Bretthauer Oil Company.

Water being pumped from Wapato Lake into a canal leading to the Tualatin River.

Costs for the entire operation were substantial and shared among Clean Water Services, Joint Water Commission, and US Fish and Wildlife. Fuel costs alone were $43,766. Total cost for the operation was $120,086.

Agency	Cost
CWS	$94,490
JWC	$11,596
USFWS	$14,000
Total Cost	$120,086

The estimated volume of Wapato Lake on March 10, 2010 was 2644 ac-ft. During the pumping period, over 14.7 inches of rain fell adding to the volume of water pumped. It is estimated that over 3400 ac-ft of water were pumped.

To help mitigate water quality problems caused by the discharge of impounded Wapato Lake water, TVID contributed 3,904 ac-ft from storage for ten days from June 10, 2010 through June 12, 2010. By increasing the river flow, the effect of poor water quality of Wapato Lake was lessened for the municipal and industrial users withdrawing water at Spring Hill and the water quality for the entire Tualatin River system was improved.

Clean Water Services funded an assessment of the levees that showed that regular inspection would be needed. A Draft Wapato Lake Management Plan has been prepared which includes recommendations for management of the Lake in the future. Management of Wapato Lake is transitioning from WID to USFWS. USFWS has already purchased many land parcels in the Wapato Lake bed area which it currently leases for farming. In 2007, the Wapato Lake Unit of the Tualatin River National Wildlife Refuge was created and long-term plans are to restore and manage the area for fish and wildlife habitat.

WATER QUALITY STATUS REPORT

BY JAN MILLER, CLEAN WATER SERVICES

Tualatin Basin TMDLs

The current Tualatin Total Maximum Daily Load (TMDL) became effective in August 2001. The Department of Environmental Quality revised the 1988 TMDLs for total phosphorus (for excessive algal growth and high pH) and for ammonia (for low dissolved oxygen in the mainstem river) and added TMDLs for temperature, bacteria, and settleable volatile solids (for low dissolved oxygen in the tributaries). The following evaluation of river and tributary conditions and wastewater treatment facility effluent is for general information and not for determining compliance. In many instances, the statistics and reporting periods shown in this review are different than those used to judge compliance with the permits or to compare the river conditions to the TMDLs.

Total Phosphorus TMDL

The 2001 Tualatin TMDL set river and tributary loading capacities in mg/L. The following table shows the loading capacities and the data for the key sites both historically (1990, 1995, 2000, and 2005) and in recent years (2008 to 2010).

MEDIAN TOTAL PHOSPHORUS CONCENTRATIONS FOR SUMMER SEASON (MAY 1–OCT 31)

Location Code	Location	River Mile	2001 TMDL Loading Capacity (mg/L as P)	Total Phosphorus (mg/L as P)						
				1990	1995	2000	2005	2008	2009	2010
Tualatin River										
3701715	Cherry Grove	71.5	0.04	—	0.01	0.01	0.01	0.01	0.01	0.01
3701612	Spring Hill	61.2	0.04	0.04	0.03	0.03	0.01	0.03	0.01	0.03
3701528	Golf Course Road	52.8	0.04	0.05	0.04	0.03	0.03	0.05	0.03	0.04
3701450	Hwy 219	44.4	0.04	—	0.07	0.05	0.06	0.07	0.06	0.07
3701391	Rood Bridge Road	39.1	0.09	0.10	0.08	0.06	0.07	0.07	0.06	0.08
3701333	Farmington Road	33.3	0.10	0.43	0.08	0.09	*	0.09	0.08	0.09
3701271	Scholls	27.1	0.10	0.15	0.09	0.08	0.09	0.09	0.09	0.10
3701165	Elsner	16.5	0.11	0.14	0.09	0.08	0.09	0.09	0.09	0.09
3701087	Boones Ferry Road	8.7	0.11	0.23	0.09	0.08	0.09	0.10	0.09	0.10
3701054	Stafford Road	5.4	0.10	0.23	0.09	0.08	0.09	0.09	0.09	0.10
3701002	Weiss Bridge	0.2	0.10	0.22	0.09	0.08	0.09	0.08	0.08	0.09
Tributaries										
3805017	Scoggins @ Hwy 47		0.04	—	0.03	0.01	0.01	0.01	0.01	0.01
3810015	Gales @ New Hwy 47		0.04	0.06	0.05	0.04	0.04	0.04	0.04	0.04
3815021	Dairy @ Hwy 8		0.09	0.13	0.11	0.11	0.12	0.13	0.12	0.11
3820022	Rock @ Brookwood		0.19	0.21	0.21	0.18	0.19	0.20	0.22	0.16
3824001	Bronson @ 205th		0.13	0.13	0.12	0.12	0.14	0.16	discont.	discont.
3835020	Chicken @ Scholls-Sherwood		0.14	0.23	0.12	0.11	0.11	0.12	0.12	0.11
3838001	Nyberg @ Brown		0.14	—	—	0.17	0.20	0.18	0.28	0.20
3840012	Fanno @ Durham		0.13	0.15	0.15	0.15	0.15	0.15	0.15	0.13

* Water quality data for the Tualatin River at Farmington was not available for the summer of 2005 due to bridge construction.

The following table shows the treatment plant performance relative to total phosphorus.

2010 MONTHLY MEDIAN TOTAL PHOSPHORUS CONCENTRATIONS IN WWTF EFFLUENT

		May (mg/L as P)	June (mg/L as P)	July (mg/L as P)	Aug (mg/L as P)	Sept (mg/L as P)	Oct (mg/L as P)
Rock Creek WWTF	Effluent	0.09	0.09	0.08	0.08	0.08	0.07
	Limit	0.10	0.10	0.10	0.10	0.10	0.10
Durham WWTF	Effluent	0.05	0.08	0.07	0.11	0.05	0.09
	Limit	0.11	0.11	0.11	0.11	0.11	0.11

The phosphorus TMDL was developed to protect two beneficial uses:

- fish and wildlife, as measured by pH, and
- aesthetics, as measured by chlorophyll-*a*.

pH: High pH values can result from photosynthesis by algae and negatively affect aquatic resources. The pH data from the continuous recorders at RM 3.4 (Lake Oswego dam) and RM 24.5 were evaluated. No pH values at either site exceeded 8.5. In addition to pH data from continuous monitors, weekly pH measurements are taken at a number of sites during the summer by Clean Water Services. None of these data showed values greater than 8.5. Low pH values are not a problem in the Tualatin River system.

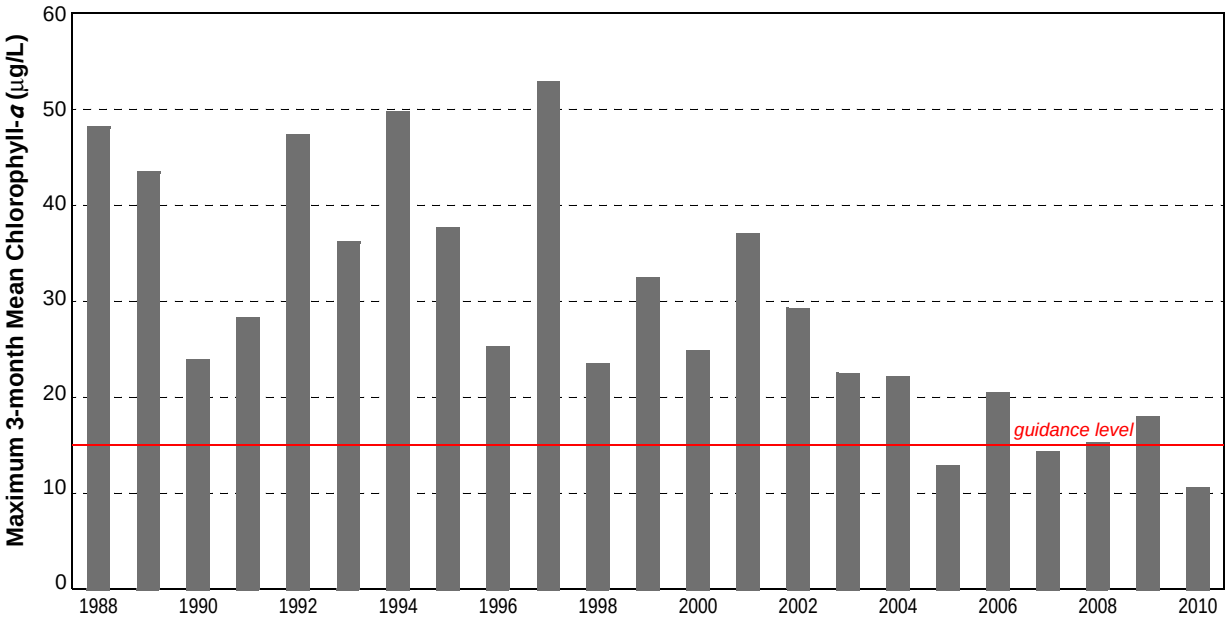
Chlorophyll-*a*: Chlorophyll-*a* concentrations are an indicator of the amount of algae in the river. Three-month stratified means of chlorophyll-*a* concentrations are shown in the following table. The water quality guidance level for this statistic is 15 µg/L.

2010 THREE-MONTH MEAN CHLOROPHYLL-*a* CONCENTRATIONS

Location	River Mile	Apr–May (µg/L)	Apr–Jun (µg/L)	May–Jul (µg/L)	Jun–Aug (µg/L)	Jul–Sep (µg/L)	Aug–Oct (µg/L)
Tualatin River							
Rood Bridge Road	39.1	4.2	5.6	4.3	3.9	2.4	2.0
Farmington Road	33.3	4.6	6.1	3.7	3.4	2.2	2.3
Scholls	27.1	4.9	6.1	3.9	3.5	2.4	1.9
Elsner	16.5	5.0	7.2	6.2	7.2	6.0	4.0
Boones Ferry Road	8.7	7.9	10.8	7.4	9.3	7.3	5.1
Stafford Road	5.4	8.2	10.5	7.9	9.7	7.9	5.1
Weiss Bridge	0.2	7.4	9.2	5.9	5.1	3.5	2.5

Chlorophyll-*a* concentrations in the lower river have generally decreased since the 1990s as shown in the graph below and as evidenced by the increasing prevalence of 3-month mean values that meet the guidance level (shaded values in table).

TUALATIN RIVER AT STAFFORD ROAD (RM 5.4)



MEAN CHLOROPHYLL-*a* CONCENTRATIONS – TUALATIN RIVER AT STAFFORD ROAD (RM 5.4)

[Shading indicates values that are less than the guidance level for chlorophyll-*a*.]

Year	Apr–Jun (µg/L)	May–Jul (µg/L)	Jun–Aug (µg/L)	Jul–Sep (µg/L)	Aug–Oct (µg/L)
1988	6.1	29.6	42.2	48.1	26.7
1989	29.8	42.3	43.4	38.0	29.3
1990	17.8	23.8	22.4	20.4	12.8
1991	13.2	26.3	27.9	28.2	22.7
1992	39.1	39.2	45.9	47.3	40.3
1993	10.9	20.9	30.3	36.1	29.5
1994	37.0	46.3	49.7	40.3	40.4
1995	16.9	27.6	37.6	33.0	23.8
1996	9.4	17.2	25.2	24.1	19.9
1997	21.1	37.6	52.7	49.5	27.6
1998	7.6	15.8	21.8	23.4	15.2
1999	14.5	24.3	32.3	30.6	20.1
2000	10.8	20.4	24.7	22.5	11.3
2001	24.4	30.6	36.9	32.7	26.2
2002	22.3	26.6	29.2	16.0	11.4
2003	16.8	21.5	22.4	11.2	6.0
2004	11.4	22.0	20.6	17.0	5.8
2005	7.1	11.3	12.7	10.0	4.4
2006	8.3	20.3	20.1	17.8	5.0
2007	7.0	14.2	14.3	11.1	3.0
2008	5.7	13.4	15.2	13.3	4.9
2009	10.3	17.1	17.9	12.6	5.5
2010	10.5	7.9	9.7	7.9	5.1

Ammonia TMDL

The 2001 TMDL revised the permitted ammonia loads. It allows higher loads of ammonia in the spring and early summer when river conditions are favorable for the assimilation of ammonia and lower ammonia loads in the fall when sediment oxygen demand consumes more oxygen leaving very little assimilative capacity. For the months of July through November, there are two tiers of ammonia limits. The applicable tier is based on the previous weeks downstream dissolved oxygen levels. The ammonia limit ends when Farmington flow exceeds 350 cfs. On October 14, 2010, Farmington flow was 393 cfs and it did not fall below 350 cfs for the remainder of the year.

The following table compares the effluent ammonia load with the most restrictive ammonia limit (most restrictive tier). A less restrictive limit would be in place if dissolved oxygen levels downstream of the treatment plants were above 6.7 mg/L. The actual permit is based on weekly ammonia discharges. There were no weekly permit violations in 2010.

2010 MONTHLY AMMONIA LOADS AND LIMITS FOR WWTF EFFLUENT

	May	June	July	August	Sept	October
Rock Creek WWTF median load (lb/day)	1,571	253	6	6	5	5
Durham WWTF median load (lb/day)	247	45	19	6	5	6
Total allowed load (lb/day)	7,064	10,153	1,237	336	282	407

The ammonia TMDL is designed to protect the dissolved oxygen levels in the reservoir-like section of the Tualatin River (RM 33 to 3.4). The water quality criteria for this section of the river, which is considered "Cool Water Habitat," are.

- Grab samples: DO > 6.5 mg/L
- Continuous Monitoring:
  - 30-day average of daily mean DO > 6.5 mg/L (no credit for supersaturation)
  - 7-day average of daily minimum DO > 5.0 mg/L (no credit for supersaturation)
  - Daily minimum DO > 4.0 mg/L

The following table shows the river conditions relative to dissolved oxygen at two locations in the reservoir section of the river. Continuous monitors are deployed at these locations.

NUMBER OF DAYS THAT DID NOT MEET DISSOLVED OXYGEN CRITERIA IN 2010

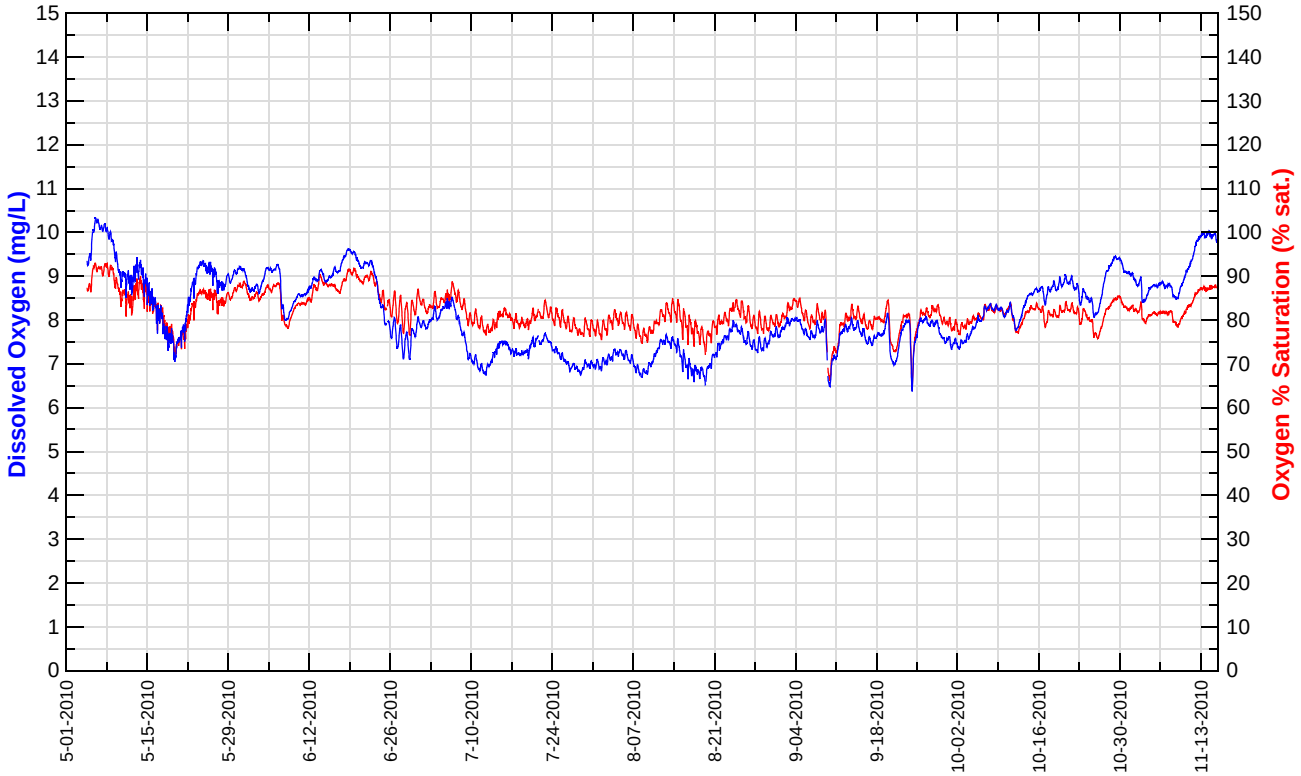
Criterion	May	June	July	Aug	Sept	Oct	Summer Percentage
Tualatin River at RM 24.5							
30 day	0	0	0	0	0	0	0%
7 day	0	0	0	0	0	0	0%
Daily	0	0	0	0	0	0	0%
Tualatin River at Oswego Dam							
30 day	0	0	0	0	21	25	25%
7 day	0	0	0	0	0	0	0%
Daily	0	0	0	0	0	0	0%

Graphs of the dissolved oxygen concentrations at these two locations are shown on the following page. Data are available at:

http://or.water.usgs.gov/cgi-bin/grapher/table_setup.pl?basin_id=tualatin

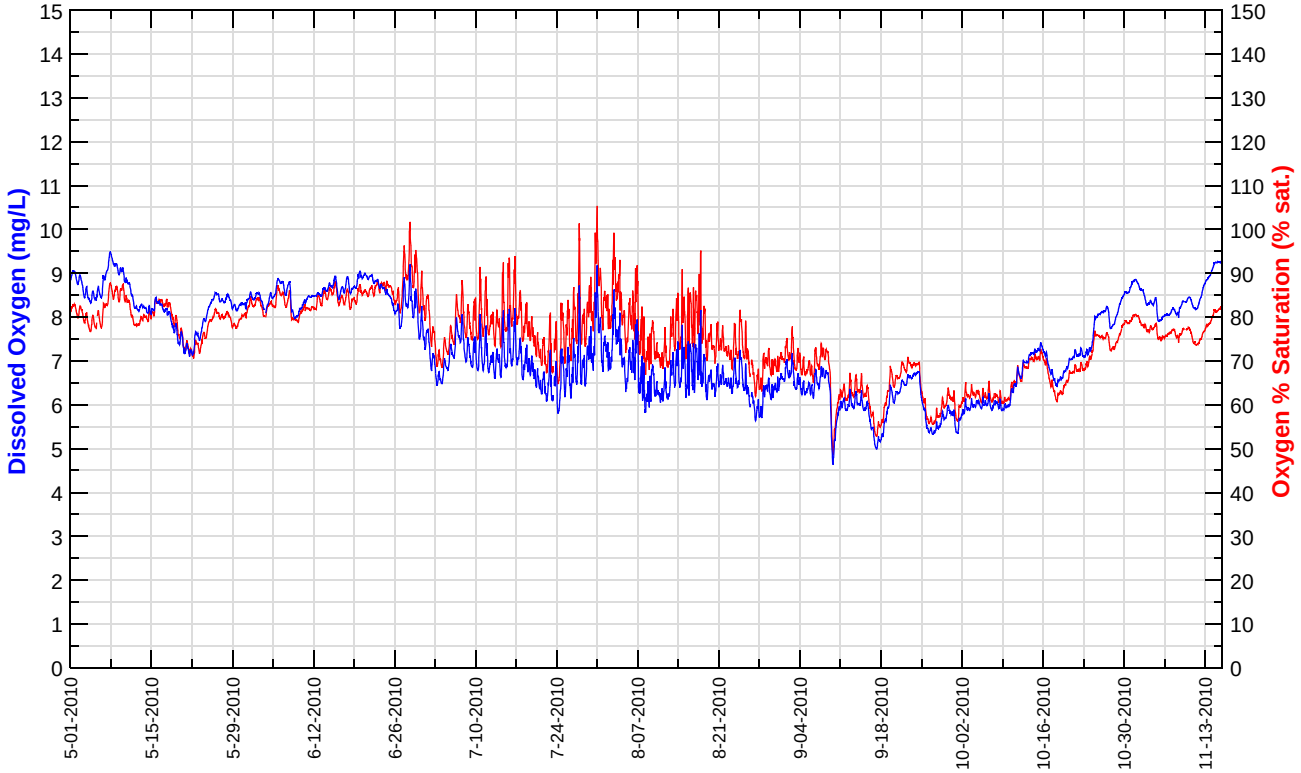
Tualatin River at River Mile 24.5 (14206694)

Data from U.S. Geological Survey



Tualatin River at Oswego Diversion Dam (14207200)

Data from U.S. Geological Survey

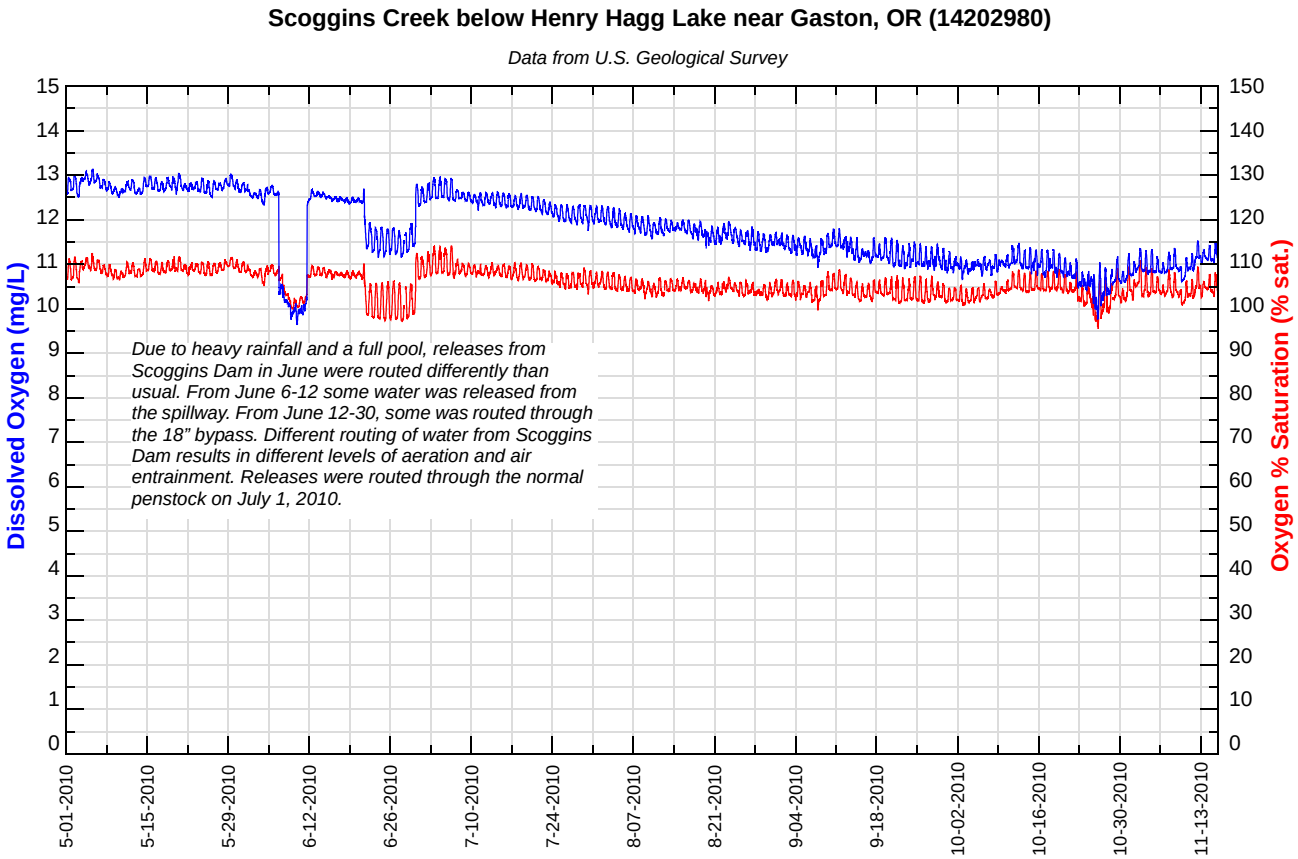


Temperature TMDL

Temperature data for the Tualatin River and its tributaries are shown in Appendix F.

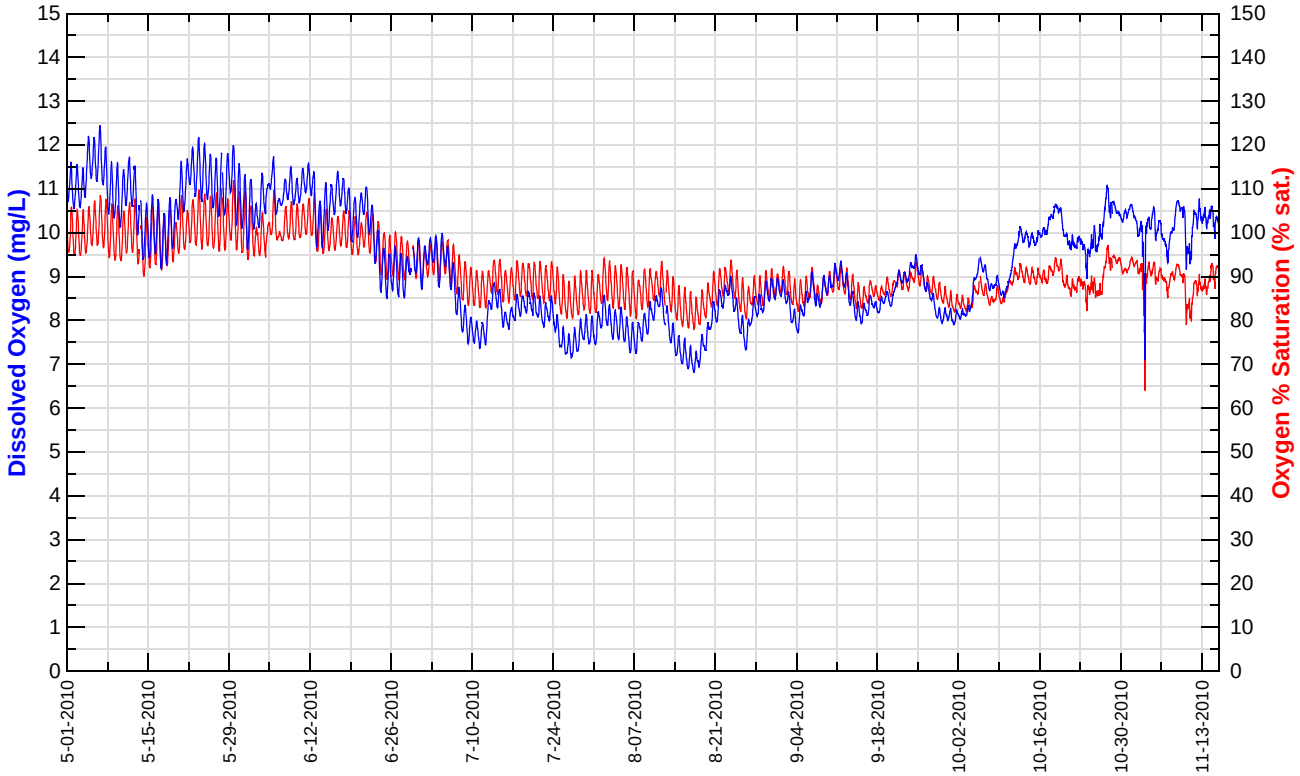
Dissolved Oxygen TMDL for Tributaries

The 2001 Tualatin TMDL contained requirements for tributary total suspended solids (a surrogate for settleable volatile solids) load reductions to protect dissolved oxygen. The best way to display data concerning solids reduction are being developed. The following graphs show the dissolved oxygen levels measured by continuous monitors at several tributaries during the summer period. These data are available at http://or.water.usgs.gov/cgi-bin/grapher/graph_setup.pl?basin_id=tualatin.



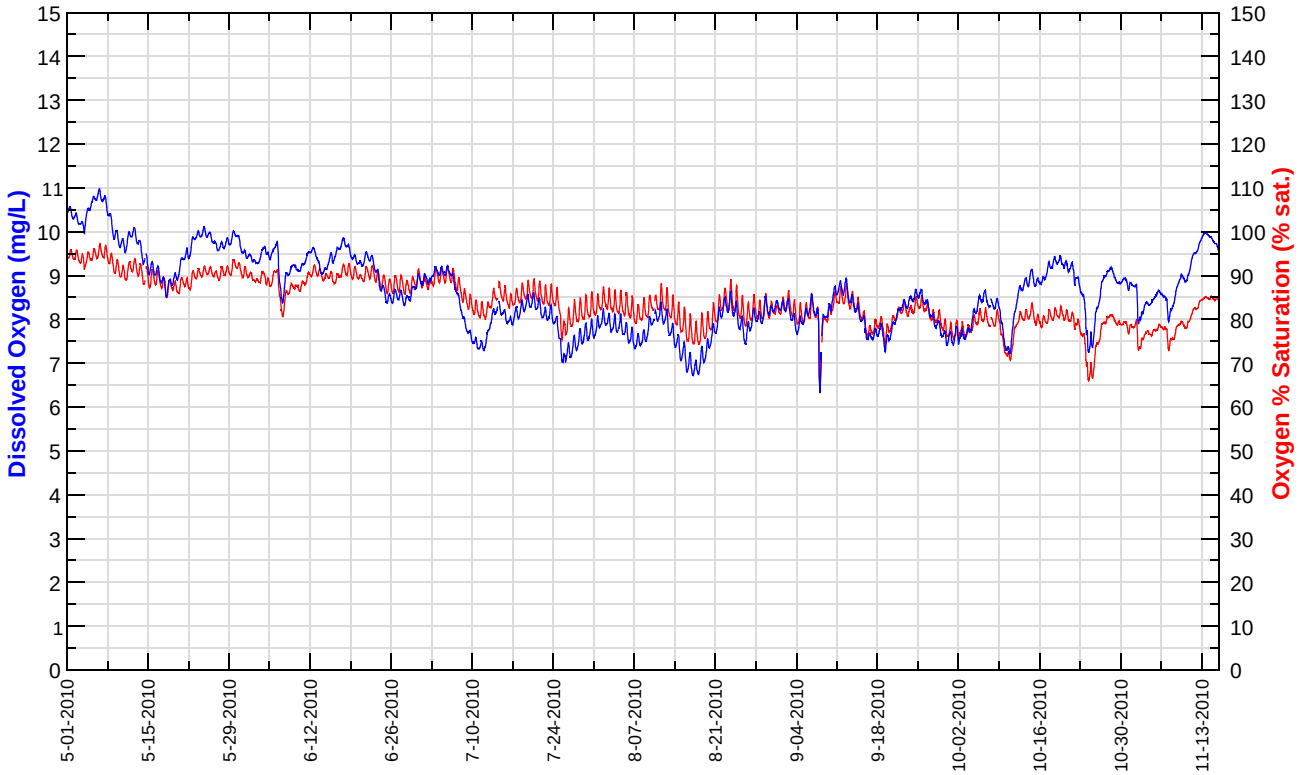
Gales Creek at Old Hwy 47, Forest Grove, OR (453040123065201)

Data from U.S. Geological Survey



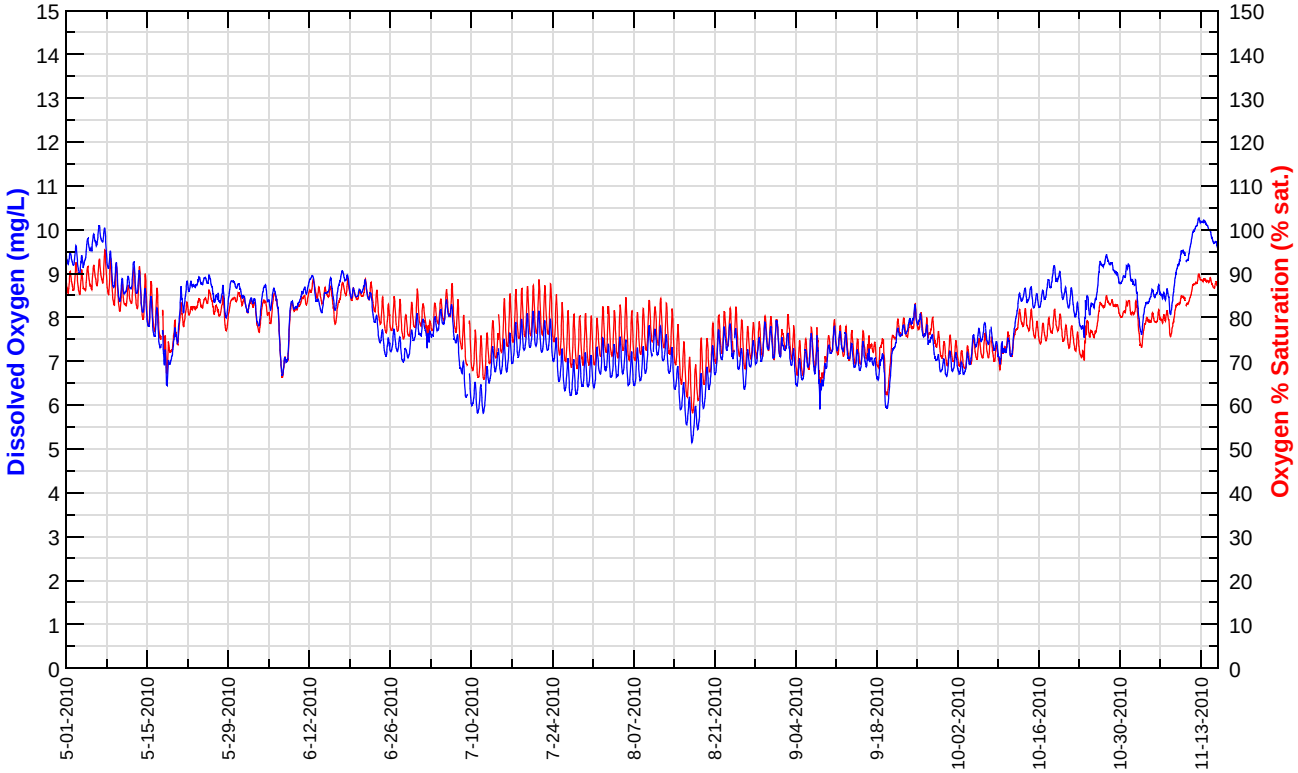
Dairy Creek at Hwy 8, Hillsboro, OR (453113123003501)

Data from U.S. Geological Survey



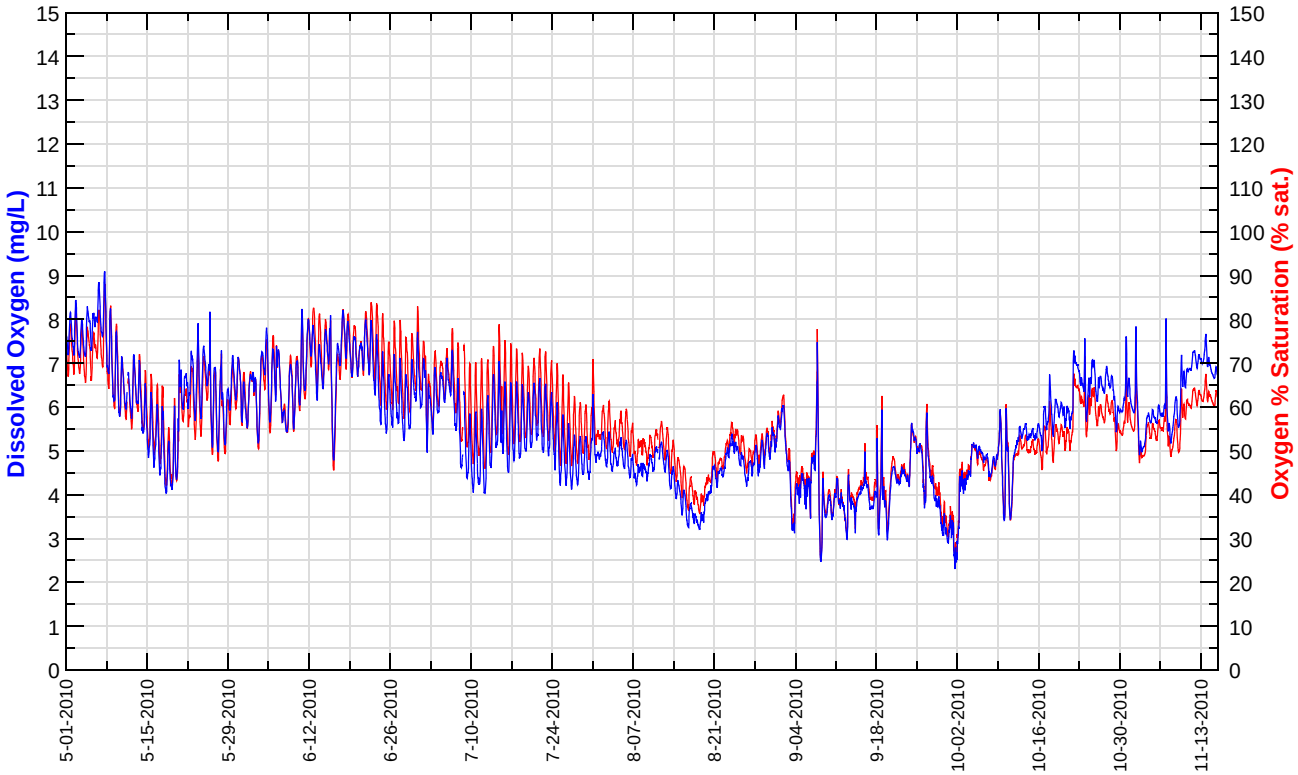
Rock Creek at Brookwood Ave, Hillsboro, OR (453030122560101)

Data from U.S. Geological Survey



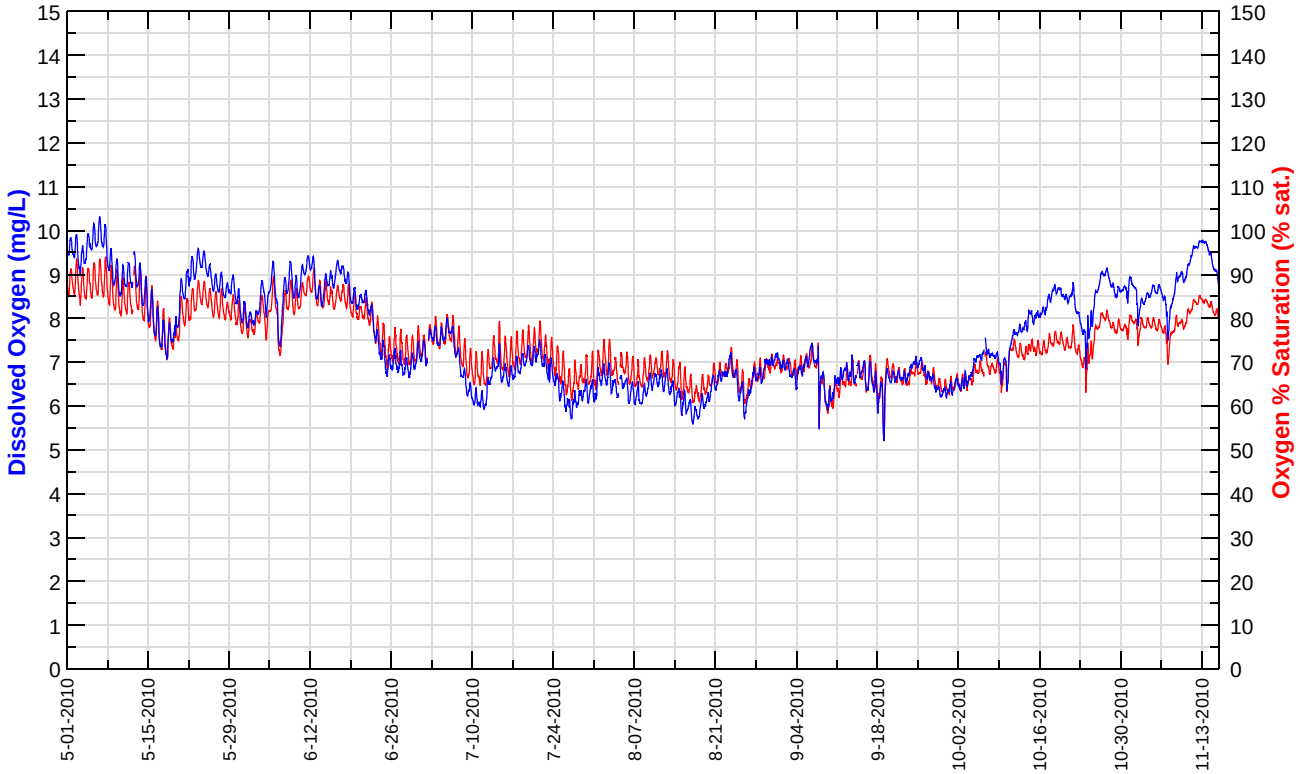
Beaverton Creek at 170th Ave, Beaverton, OR (453004122510301)

Data from U.S. Geological Survey



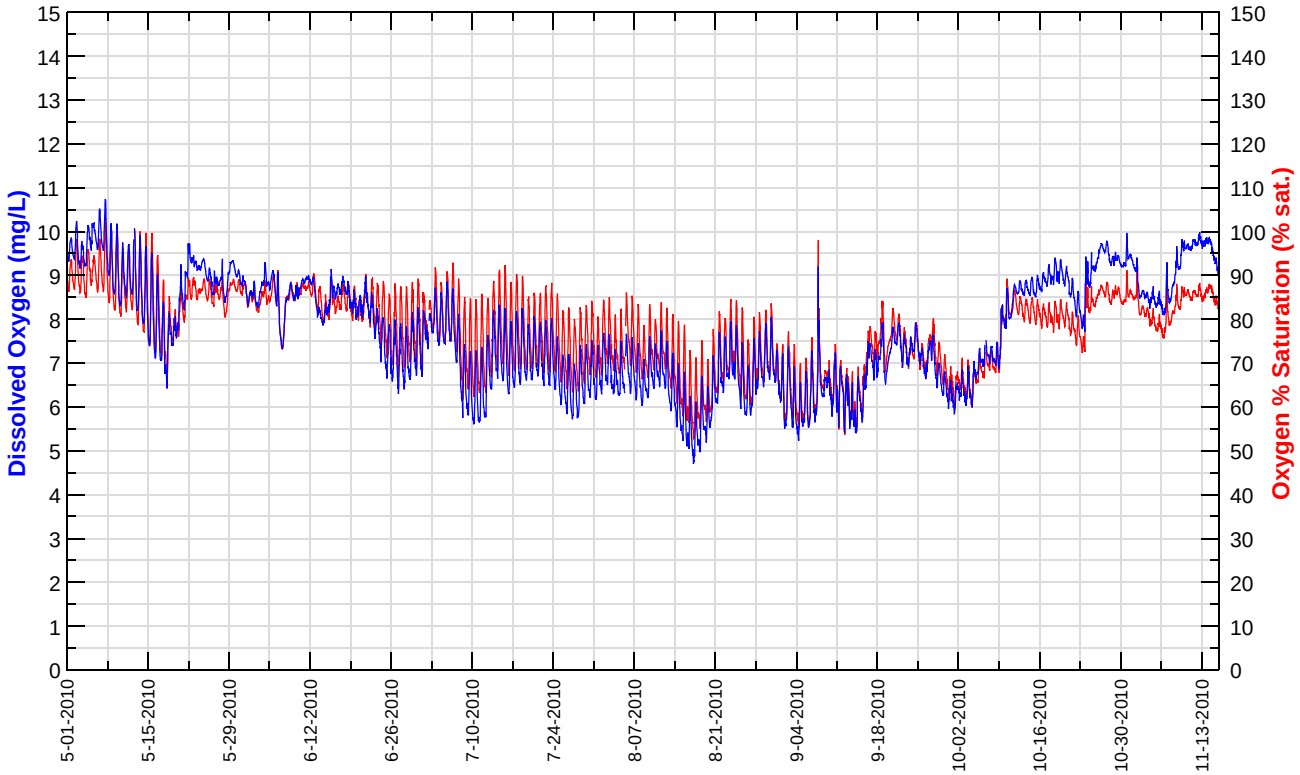
Chicken Creek at Roy Rogers Road, Sherwood, OR (452230122512201)

Data from U.S. Geological Survey



Fanno Creek at Durham Road (14206950)

Data from U.S. Geological Survey



Bacteria TMDL

The TMDL for bacteria applies to both the Tualatin River and its tributaries during both summer and winter. The table below shows median and 90th-percentile bacteria levels for the 2010 winter and summer seasons. The median is the middle value—half of the measured values were less than the median and half were greater. Similarly, the 90th percentile also divides the data—90% of the measured values were less and 10% were greater. Data were evaluated using the following guidelines for both summer and winter:

- median concentration of no more than 126 colony forming units/100 mL (#/100 mL)
- 90th percentile concentration of no more than 406/100 mL.

These guidelines are not water quality standards, but serve to help interpret the data. A map showing this information is on the following page.

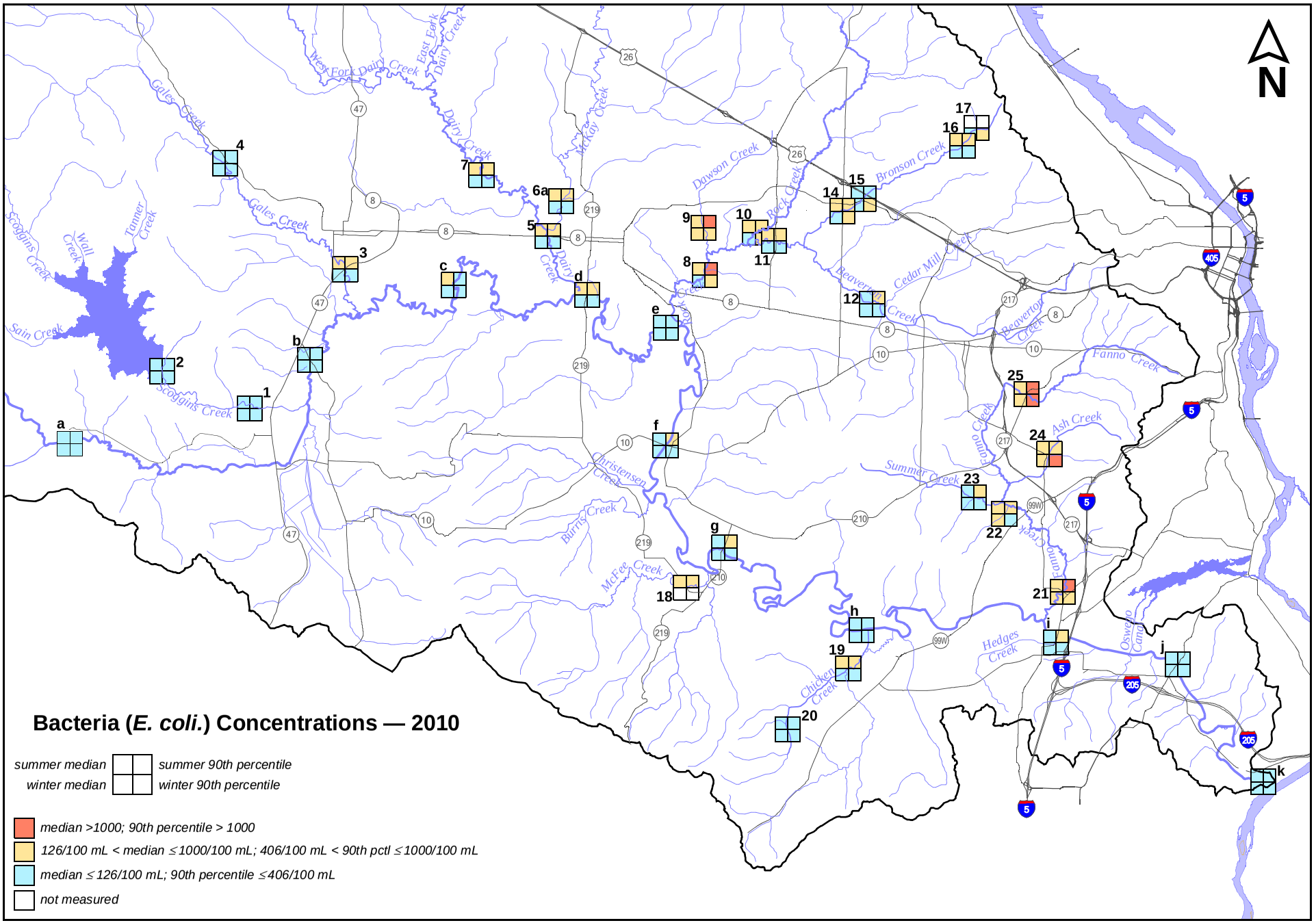
90TH PERCENTILES OF *E.COLI* CONCENTRATIONS FOR 2010

Map Code	Location Code	Location	River Mile	**Winter** (Nov-09 – Apr-10) (#/100 mL)*		**Summer** (May-10 – Oct-10) (#/100 mL)*	
				median	90th pctl	median	90th pctl
Tualatin River							
a	3701715	Cherry Grove	71.5	4	22	20	67
b	3701612	Spring Hill	61.2	36	101	95	223
c	3701528	Golf Course Road	52.8	45	89	157	335
d	3701450	Hwy 219	44.4	66	93	152	494
e	3701391	Rood Bridge Road	39.1	74	122	110	249
f	3701333	Farmington Road	33.3	52	102	105	824
g	3701271	Scholls	27.1	65	120	55	799
h	3701165	Elsner	16.5	72	98	25	238
i	3701087	Boones Ferry Road	8.7	57	139	38	513
j	3701054	Stafford Road	5.4	43	178	41	342
k	3701002	Weiss Bridge	0.2	50	150	23	344
Tributaries							
1	3805017	Scoggins @ Hwy 47		20	218	35	113
2	3805050	Scoggins below Hagg		1	1	1	2
3	3810015	Gales @ New Hwy 47		36	202	179	477
4	3810070	Gales @ Stringtown		29	186	119	323
5	3815021	Dairy @ Hwy 8		85	119	219	513
6a	3816010	McKay at Padgett		83	194	260	644
7	3815058	Dairy @ Susbauer		85	178	217	428
8	3820022	Rock @ Brookwood		113	457	185	1106
9	3850006	Dawson @ Brookwood		222	406	869	1946
10	3820047	Rock @ Quatama		120	610	196	727
11	3821008	Beaverton @ Guston Court		64	258	180	870
12	3821050	Beaverton @ 170th		116	355	80	599
14	3824018	Bronson @ 185th		84	600	267	570
15	3824020	Bronson @ Bronson Park		24	409	103	196
16	3824072	Bronson @ Saltzman		86	320	149	562
17	3859010	Bannister @ 124th		124	589		
18	3811010	McFee @ Hwy 219[b]		—	—	212	867
19	3835020	Chicken @ Scholls-Sherwood		43	206	261	543
20	3835060	Chicken @ Kruger		71	272	109	307
—	3838001	Nyberg @ Brown		75	410	832	2420
21	3840012	Fanno @ Durham		130	675	285	1108
22	3500035	unnamed trib to Fanno @ Walnut		326	816	344	679
23	3844009	Summer Creek at 121st		84	308	99	999
24	3845014	Ash @ Hemlock		207	1072	435	853
25	3840095	Fanno near Allen		194	1730	376	2290

*The Colilert-18 (Most Probable Number) method was used for all analyses.

a- Sampling at Bronson at 205th was discontinued for safety reasons.

b- McFee at Hwy 219 is sampled only during summer.


Bacteria (E. coli.) Concentrations — 2010
summer median
winter median
summer 90th percentile
winter 90th percentile
median >1000; 90th percentile > 1000
126/100 mL < median ≤1000/100 mL; 406/100 mL < 90th pctl ≤1000/100 mL
median ≤126/100 mL; 90th percentile ≤406/100 mL
not measured
N
Gales Creek
West Fork Dairy Creek
East Fork Dairy Creek
Dairy Creek
McKay Creek
Dawson Creek
Bronson Creek
Rock Creek
Cedar Mill Creek
Beaverton Creek
Fanno Creek
Ash Creek
Summer Creek
Tualatin River
Oswego Canal
Hedges Creek
Chicken Creek
McFee Creek
Burris Creek
Christensen Creek
Scoggins Creek
Wall Creek
Tanner Creek
Sain Creek
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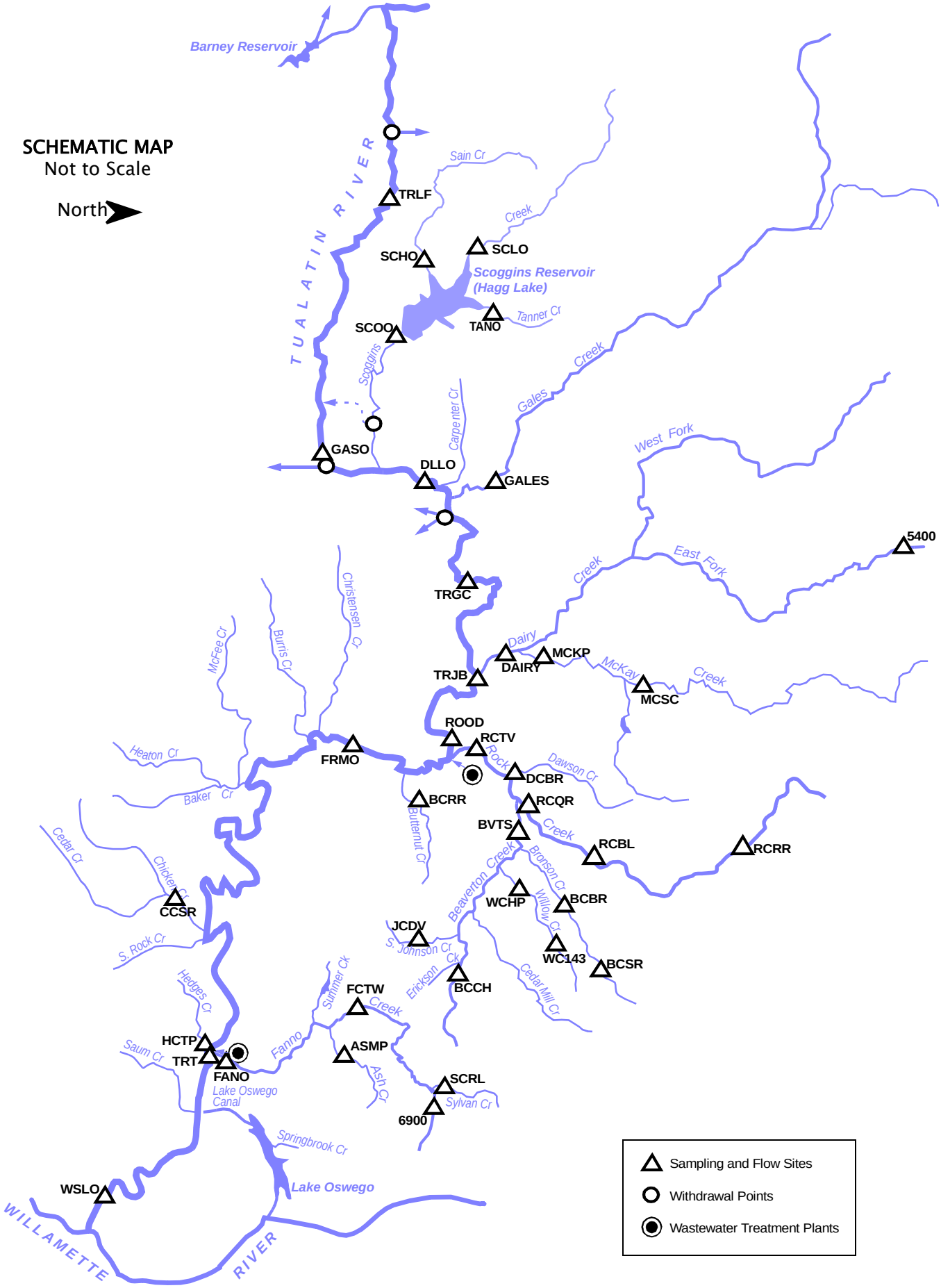
Appendix A

Stream Gage Records

STREAM GAGE SITES — LOCATIONS



STREAM GAGE SITES — ALPHABETICAL LISTING BY SITE CODE

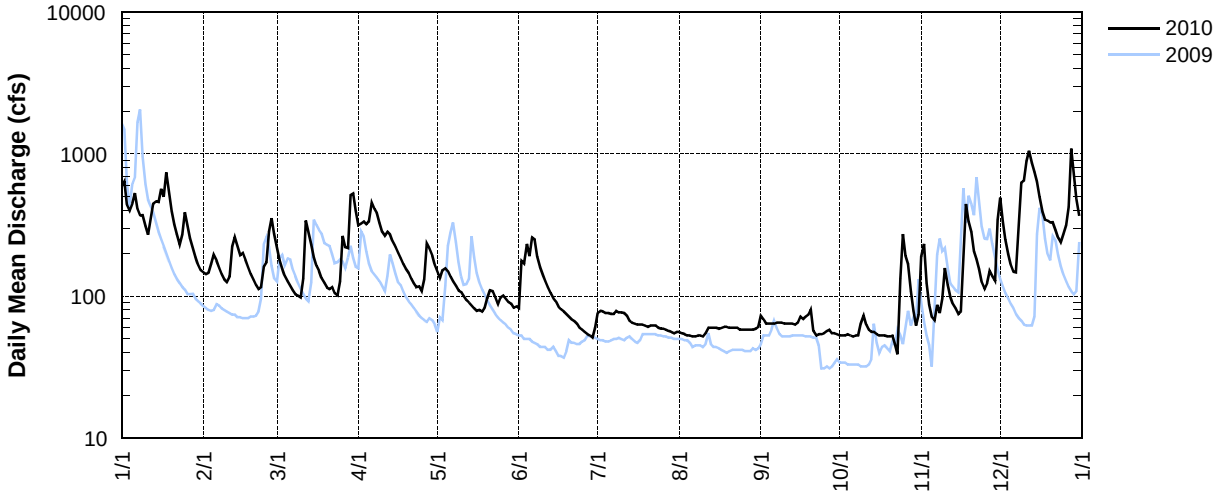
SITE CODE	SITE NAME	RIVER MILE	STATION ID	PAGE
5400	East Fork Dairy Creek near Meacham Corner, OR	12.4	14205400	A-13
6900	Fanno Creek at 56th Avenue	11.9	14206900	A-34
ASMP	Ash Creek at Metzger Park at Metzger, Oregon	1.25	14206933	A-37
BCBR	Bronson Creek at Bronson Road near Orenco, Oregon	2.1	14206423	A-27
BCCH	Beaverton Creek at Cedar Hills Blvd at Beaverton, Oregon	7.45	14206360	A-22
BCRR	Butternut Creek at Rosa Road	1.0	14206384	A-30
BCSR	Bronson Creek at Saltzman Road near Orenco, Oregon	5.1	14206419	A-26
BVTS	Beaverton Creek at NE Guston Court near Orenco, Oregon	1.2	14206435	A-28
CCSR	Chicken Creek at Roy Rogers Road near Sherwood, Oregon	2.3	14206750	A-33
DAIRY	Dairy Creek at Hwy 8 near Hillsboro, Oregon	2.06	14206200	A-16
DCBR	Dawson Creek at Brookwood Road near Hillsboro, Oregon	0.7	14206443	A-29
DLLO	Tualatin River at Dilley, Oregon	58.8	14203500	A-10
FANO	Fanno Creek at Durham Road near Tigard, Oregon	1.2	14206950	A-38
FCTW	Fanno Creek at Tuckerwood	7.3	14206927	A-36
FRMO	Tualatin River at Farmington, Oregon	33.3	14206500	A-32
GALES	Gales Creek at Old Hwy 47 near Forest Grove, Oregon	2.36	14204530	A-11
GASO	Tualatin River at Gaston, Oregon	62.3	14202510	A-5
HCTP	Hedges Creek at Tualatin Park at Tualatin, Oregon	0.3	14206958	A-39
JCDV	Johnson Creek at Davis Road near Beaverton, Oregon	1.3	14206372	A-23
MCKP	McKay Creek at Padgett Road near Hillsboro, Oregon	1.31	14206190	A-15
MCSC	McKay Creek at Scotch Church Rd above Waible Ck near North Plains, Oregon	6.3	14206070	A-14
RCBL	Rock Creek below Bethany Lake	8.9	14206340	A-20
RCQR	Rock Creek at Quatama Road near Orenco, Oregon	4.9	14206347	A-21
RCRR	Rock Creek at NW Rock Creek Road near Bowers Junction, Oregon	15.8	14206305	A-19
RCTV	Rock Creek at Hwy 8 near Hillsboro, Oregon	1.2	14206450	A-31
ROOD	Tualatin River at Rood Bridge Road near Hillsboro, Oregon	38.4	14206295	A-18
SCHO	Sain Creek above Henry Hagg Lake near Gaston, Oregon	1.6	14202920	A-7
SCLO	Scoggins Creek above Henry Hagg Lake near Gaston, Oregon	9.3	14202850	A-6
SCOO	Scoggins Creek below Henry Hagg Lake near Gaston, Oregon	4.80	14202980	A-9
SCRL	Sylvan Creek at Raleighwood Lane near West Slope, Oregon	1.0	14206905	A-35
TANO	Tanner Creek above Henry Hagg Lake near Gaston, Oregon	1.6	14202860	A-8
TRGC	Tualatin River at Golf Course Road near Cornelius, Oregon	51.5	14204800	A-12
TRJB	Tualatin River at Hwy 219 Bridge	44.4	14206241	A-17
TRLF	Tualatin River below Lee Falls near Cherry Grove, Oregon	70.7	14202450	A-4
TRT	Tualatin River at Tualatin, Oregon	8.9	14206956	A-40
WC143	Willow Creek at 143rd Avenue near Beaverton, Oregon	3.5	14206410	A-24
WCHP	Willow Creek at Heritage Parkway near Beaverton, Oregon	0.75	14206413	A-25
WSLO	Tualatin River at West Linn	1.75	14207500	A-41

TRLF – 14202450 – TUALATIN RIVER BELOW LEE FALLS NEAR CHERRY GROVE, OREGON [RM 70.7]

Latitude: 45 30 21 Longitude: 123 13 06 Source Agency: District 18 Watermaster

Day	2010 Daily Mean Discharge in Cubic Feet per Second											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	595	147	218	316	149	82	76	56	73	53	189	494
2	644	143	179	325	134	177	79	55	69	53	233	339
3	438	146	156	334	152	170	78	54	64	53	124	250
4	400	168	139	321	157	233	76	53	64	54	87	197
5	449	195	127	334	150	191	76	53	64	53	72	165
6	532	178	118	455	137	258	75	52	64	52	68	148
7	410	158	110	411	127	250	75	52	65	53	87	147
8	369	142	103	383	118	190	79	53	65	53	76	309
9	372	131	101	327	110	160	77	53	65	64	96	629
10	311	126	98	285	107	143	77	52	64	73	158	650
11	271	138	133	267	100	128	76	55	64	63	120	888
12	343	223	340	283	94	116	73	60	64	58	99	1050
13	447	260	285	272	90	106	67	60	64	56	88	863
14	464	226	230	243	86	97	65	60	63	56	82	746
15	458	194	187	222	82	92	64	60	65	54	75	637
16	568	201	164	202	79	85	63	59	72	53	78	498
17	502	181	151	185	80	81	63	60	69	53	170	394
18	745	160	134	169	78	78	63	61	72	53	445	346
19	528	144	124	156	83	75	62	61	74	52	337	340
20	396	131	115	146	97	72	61	60	81	52	282	330
21	319	120	112	133	110	69	62	60	57	53	207	332
22	272	112	116	123	108	67	62	60	53	46	182	291
23	230	116	105	116	98	64	62	60	54	39	155	257
24	271	162	101	117	88	60	60	58	54	133	126	239
25	389	173	127	108	98	58	59	58	55	273	113	271
26	316	285	265	131	101	56	59	58	57	192	124	315
27	256	355	221	234	96	54	58	58	58	168	150	425
28	218	274	218	217	91	53	57	58	55	108	138	1090
29	188	—	515	193	89	51	56	58	55	79	128	726
30	166	—	527	165	83	60	55	59	54	62	345	483
31	152	—	399	—	85	—	56	61	—	74	—	368
TOTAL	12019	4989	5918	7173	3257	3376	2071	1777	1897	2338	4634	14217
MEAN	388	178	191	239	105	113	66.8	57.3	63.2	75.4	154	459
MAX	745	355	527	455	157	258	79	61	81	273	445	1090
MIN	152	112	98	108	78	51	55	52	53	39	68	147
AC-FT	23840	9900	11740	14230	6460	6700	4110	3520	3760	4640	9190	28200

TRLF — 14202450 — Tualatin River below Lee Falls near Cherry Grove, Oregon [RM 70.7]

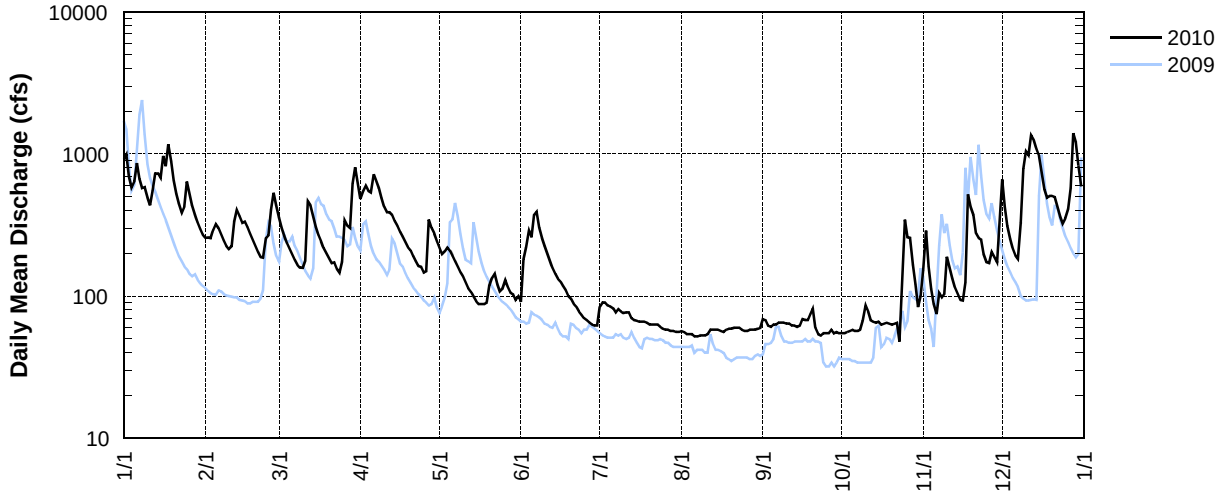


GASO – 14202510 – TUALATIN RIVER AT GASTON, OREGON [RM 62.3]

Latitude: 45 26 21 Longitude: 123 07 85 Source Agency: District 18 Watermaster

Day	2010 Daily Mean Discharge in Cubic Feet per Second											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	914	257	356	483	219	91	84	57	69	55	152	664
2	995	258	303	549	197	182	90	56	68	55	289	428
3	692	255	267	599	207	220	90	54	62	56	162	312
4	583	292	238	550	220	289	86	54	61	57	113	252
5	645	321	214	536	209	260	85	54	63	58	88	216
6	866	300	196	719	192	373	82	52	63	57	75	193
7	668	272	180	647	176	394	77	52	65	57	105	183
8	577	246	166	577	160	305	81	53	65	58	98	330
9	587	226	159	492	147	256	78	53	65	67	104	788
10	494	214	158	427	137	226	76	53	64	86	189	1040
11	435	225	178	389	125	201	77	54	64	78	158	979
12	553	335	463	389	114	179	77	58	62	68	133	1350
13	728	404	437	374	107	159	70	58	62	66	115	1240
14	727	368	362	338	99	144	68	58	61	65	105	1080
15	677	327	306	312	92	133	67	58	62	66	94	967
16	970	335	269	284	88	127	66	57	69	63	93	752
17	819	307	244	262	88	118	66	56	68	64	125	563
18	1170	277	218	241	88	110	66	58	68	65	519	494
19	890	250	199	222	90	100	65	59	75	64	427	506
20	648	225	184	210	119	96	63	59	82	63	374	507
21	524	205	171	191	134	89	63	60	60	64	276	498
22	448	188	173	176	144	85	63	60	54	65	257	422
23	387	186	156	163	122	78	63	60	53	48	251	363
24	426	256	146	160	108	74	61	58	55	140	197	324
25	641	268	174	147	113	70	59	57	55	346	173	353
26	528	406	340	150	130	68	58	57	55	259	171	410
27	435	534	313	346	116	65	58	58	58	257	203	577
28	376	435	300	303	106	63	57	58	55	166	188	1400
29	332	—	620	277	103	62	57	58	56	121	172	1210
30	298	—	809	244	94	62	56	59	55	84	369	835
31	272	—	621	—	100	—	56	60	—	100	—	592
TOTAL	19305	8172	8920	10757	4144	4679	2165	1758	1874	2918	5775	19828
MEAN	623	292	288	359	134	156	69.8	56.7	62.5	94.1	193	640
MAX	1170	534	809	719	220	394	90	60	82	346	519	1400
MIN	272	186	146	147	88	62	56	52	53	48	75	183
AC-FT	38290	16210	17690	21340	8220	9280	4290	3490	3720	5790	11450	39330

GASO — 14202510 — Tualatin River at Gaston, Oregon [RM 62.3]

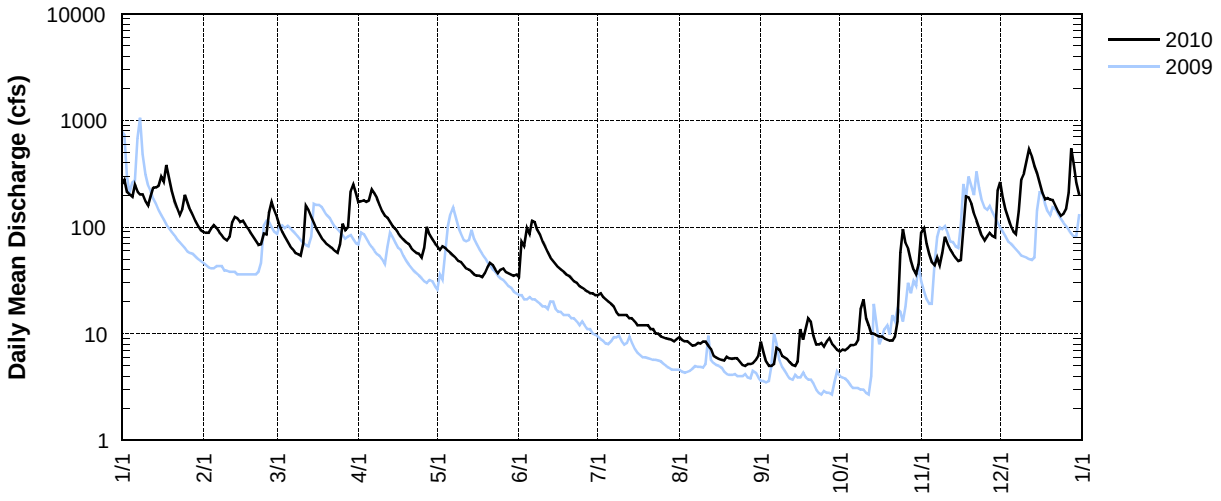


SCLO – 14202850 – SCOGGINS CREEK ABOVE HENRY HAGG LAKE NEAR GASTON, OREGON [RM 9.3]

Latitude: 45 30 06 Longitude: 123 15 06 Source Agency: District 18 Watermaster

Day	2010 Daily Mean Discharge in Cubic Feet per Second											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	252	90	123	171	66	34	23	9.3	8.4	6.8	89	264
2	278	88	103	175	61	73	24	8.8	6.7	7.1	98	189
3	213	88	90	178	66	66	22	8.5	5.5	7.0	70	147
4	202	97	81	173	64	98	21	8.5	5.0	7.3	56	121
5	192	104	73	177	60	86	20	8.1	5.0	7.8	47	103
6	249	98	66	225	57	115	19	7.7	5.2	7.8	44	91
7	215	90	62	206	54	112	18	7.8	7.4	8.0	52	86
8	202	84	57	187	51	94	16	8.2	7.1	8.8	44	141
9	202	78	56	161	48	84	15	8.1	6.2	17	57	282
10	174	75	54	141	47	73	15	8.4	6.0	21	81	318
11	159	81	70	127	44	65	15	8.4	5.8	14	69	410
12	194	112	158	122	41	58	15	7.7	5.4	12	61	534
13	234	125	144	112	40	52	14	7.2	5.1	10	56	456
14	235	121	124	102	38	48	14	6.2	5.0	10	52	373
15	244	112	109	96	36	45	13	6.0	5.5	9.7	48	321
16	296	115	96	88	35	42	12	5.8	11	9.4	49	262
17	265	105	87	82	35	40	12	5.7	8.8	9.4	96	208
18	381	97	79	77	34	38	12	5.6	11	9.0	194	182
19	281	88	74	73	37	36	12	6.1	14	8.8	190	187
20	218	80	69	70	42	35	12	5.9	13	8.6	166	181
21	178	74	66	64	46	33	11	5.8	9.6	8.6	133	179
22	152	68	64	60	44	31	11	5.9	7.9	9.4	115	157
23	130	69	60	57	40	30	10	5.9	7.9	13	98	139
24	148	87	57	56	37	28	10	5.5	8.2	58	83	127
25	201	85	69	52	40	27	9.4	5.1	7.6	96	75	133
26	170	136	108	64	41	26	9.2	5.0	8.5	71	82	149
27	145	171	93	101	38	25	9.0	5.2	9.1	63	88	211
28	128	144	100	85	37	24	8.9	5.2	8.1	48	83	548
29	113	—	218	77	36	24	8.8	5.3	7.6	40	80	386
30	102	—	253	71	35	23	8.5	5.7	7.1	36	219	259
31	94	—	211	—	36	—	8.9	6.2	—	45	—	200
TOTAL	6247	2762	3074	3430	1386	1565	428	208	228	687	2675	7344
MEAN	202	98.6	99.2	114	44.7	52.2	13.8	6.74	7.62	22.2	89.2	237
MAX	381	171	253	225	66	115	24	9.3	14	96	219	548
MIN	94	68	54	52	34	23	8.5	5.0	5.0	6.8	44	86
AC-FT	12390	5480	6100	6800	2750	3100	850	414	454	1360	5310	14570

SCLO — 14202850 — Scoggins Creek above Henry Hagg Lake near Gaston, Oregon [RM 9.3]

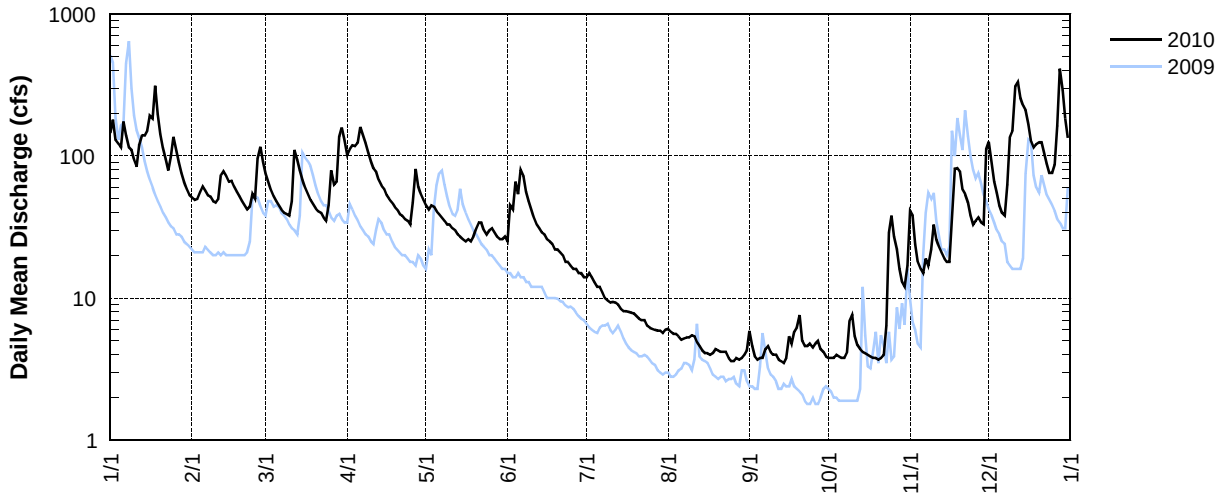


SCHO – 14202920 – SAIN CREEK ABOVE HENRY HAGG LAKE NEAR GASTON, OREGON [RM 1.6]

Latitude: 45 28 50 Longitude: 123 14 40 Source Agency: District 18 Watermaster

Day	2010 Daily Mean Discharge in Cubic Feet per Second											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	e145	51	75	102	45	25	14	6.1	5.9	3.8	41	126
2	e180	49	66	112	42	45	15	5.8	4.6	3.8	38	88
3	e130	50	58	119	45	42	14	5.6	3.9	3.8	24	66
4	e122	56	52	117	44	66	13	5.6	3.7	4.0	18	55
5	e115	61	48	124	41	54	12	5.4	3.8	3.9	16	45
6	e175	57	45	160	39	80	12	5.1	3.8	3.8	15	40
7	e140	53	42	141	37	72	11	5.2	4.4	3.8	19	38
8	115	52	40	124	35	56	10	5.3	4.6	4.2	17	63
9	110	48	39	105	33	48	9.6	5.3	4.2	7.0	22	137
10	94	47	38	92	33	42	9.3	5.5	4.0	7.7	33	151
11	84	50	48	82	31	37	9.4	5.4	4.0	5.4	26	310
12	119	73	110	78	30	33	9.3	4.9	3.7	4.7	23	333
13	e140	78	94	68	28	31	9.0	4.6	3.6	4.4	21	255
14	139	72	79	62	27	29	8.4	4.3	3.5	4.2	19	226
15	150	66	68	59	26	28	8.1	4.1	3.8	4.1	18	210
16	192	67	60	53	25	26	8.1	4.1	5.4	4.0	18	166
17	183	61	54	50	26	25	8.0	4.0	4.8	3.9	36	127
18	312	56	49	47	25	24	7.9	4.1	5.8	3.8	81	115
19	197	52	46	44	27	22	7.8	4.4	6.2	3.8	82	121
20	143	48	43	42	31	22	7.5	4.3	7.6	3.7	78	125
21	114	45	41	39	34	21	7.2	4.2	5.0	3.8	58	125
22	95	42	40	38	34	20	7.0	4.2	4.6	4.0	54	105
23	79	44	37	36	30	18	7.0	4.2	4.6	6.4	47	88
24	99	54	35	35	28	18	6.4	3.8	4.8	29	38	76
25	136	50	45	33	30	17	6.2	3.6	4.5	38	33	76
26	110	96	79	47	31	16	6.1	3.6	4.8	27	35	87
27	90	116	63	81	29	16	6.0	3.8	5.0	22	37	163
28	76	91	66	61	27	15	5.9	3.7	4.4	16	34	410
29	66	—	136	54	26	15	5.9	3.8	4.2	13	33	291
30	59	—	158	49	26	14	5.7	4.0	3.9	12	112	183
31	53	—	128	—	27	—	6.0	4.3	—	17	—	134
TOTAL	3962	1685	1982	2254	992	977	272	142	137	276	1126	4535
MEAN	128	60.2	63.9	75.1	32.0	32.6	8.80	4.59	4.57	8.90	37.5	146
MAX	312	116	158	160	45	80	15	6.1	7.6	38	112	410
MIN	53	42	35	33	25	14	5.7	3.6	3.5	3.7	15	38
AC-FT	7860	3340	3930	4470	1970	1940	541	282	272	547	2230	9000

SCHO — 14202920 — Sain Creek above Henry Hagg Lake near Gaston, Oregon [RM 1.6]



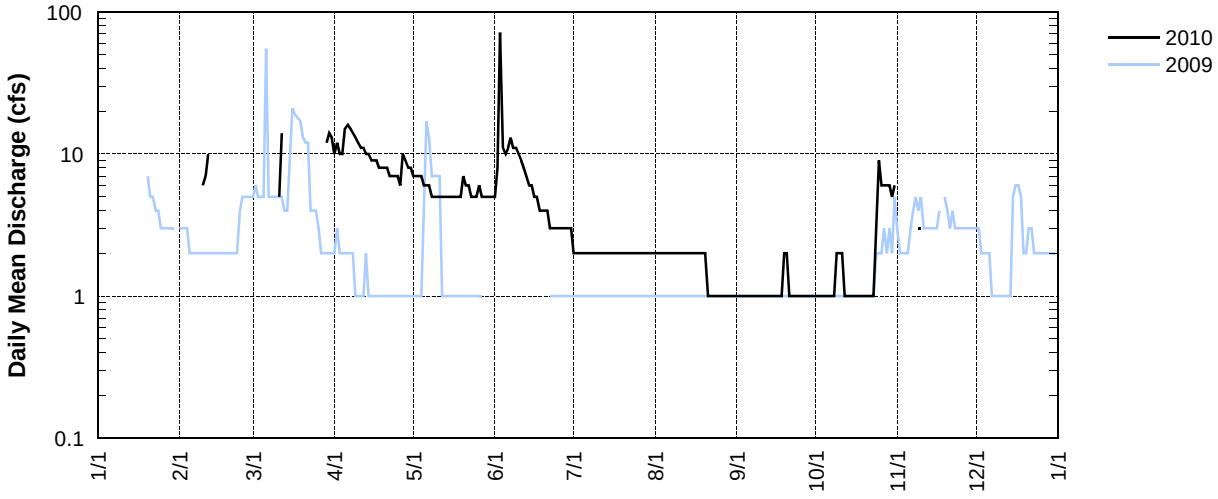
TANO – 14202860 – TANNER CREEK ABOVE HENRY HAGG LAKE NEAR GASTON, OREGON [RM 1.6]

Latitude: 45 30 21 Longitude: 123 13 10 Source Agency: Tualatin Valley Irrigation District

Day	2010 Daily Mean Discharge in Cubic Feet per Second[a]											
	JAN*	FEB*	MAR*	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV*	DEC*
1		8		10	7	5	2	2	1	1		
2				12	7	8	2	2	1	1		
3				10	7	71	2	2	1	1		
4			8	10	7	11	2	2	1	1		
5		10		15	6	10	2	2	1	1		
6				16	6	11	2	2	1	1		
7				15	6	13	2	2	1	1		
8		8	6	14	5	11	2	2	1	1		
9				13	5	11	2	2	1	2	3	
10		6		12	5	10	2	2	1	2	3	
11		7	5	11	5	9	2	2	1	2		
12		10	14	11	5	8	2	2	1	1		
13				10	5	7	2	2	1	1		
14				10	5	6	2	2	1	1		
15			11	9	5	6	2	2	1	1		
16		10		9	5	5	2	2	1	1		
17				9	5	5	2	2	1	1		
18				8	5	4	2	2	1	1		
19	18	9	7	8	5	4	2	2	2	1		
20				8	7	4	2	2	2	1		
21				8	6	4	2	1	1	1		
22	2		6	7	6	3	2	1	1	1		
23		6		7	5	3	2	1	1	1		
24				7	5	3	2	1	1	4		
25	3	7		7	5	3	2	1	1	9		
26			10	6	6	3	2	1	1	6		
27				10	5	3	2	1	1	6		
28				9	5	3	2	1	1	6		
29	2	—	12	8	5	3	2	1	1	6		
30		—	14	8	5	3	2	1	1	5		
31		—	13	—	5	—	2	1	—	6	—	
TOTAL	25	81	106	297	171	250	62	51	32	74	6	0
AC-FT	50	161	210	589	339	496	123	101	63	147	12	0

*Incomplete record due to beaver activity;[a]Values are read from a staff plate. Values may be daily readings taken at about 0800 or averages over several days

TANO — 14202860 — Tanner Creek above Henry Hagg Lake near Gaston, Oregon [RM 1.6]

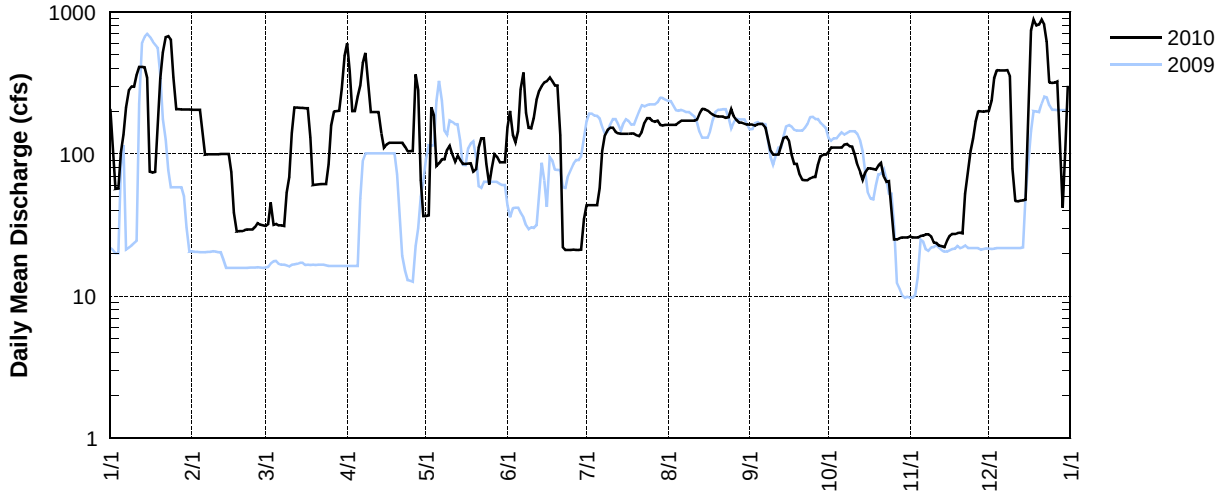


SCOO – 14202980 – SCOGGINS CREEK BELOW HENRY HAGG LAKE NEAR GASTON, OREGON [RM 4.8]

Latitude: 45 28 10 Longitude: 123 11 56 Source Agency: Bureau of Reclamation & District 18 Watermaster

Day	2010 Daily Mean Discharge in Cubic Feet per Second											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	207	205	31	601	37	154	44	160	161	104	26	200
2	107	204	32	383	37	201	44	160	161	111	26	238
3	57	204	46	200	212	136	44	160	159	111	26	343
4	57	204	32	200	187	121	44	160	162	111	26	388
5	103	143	32	254	83	144	44	166	163	111	27	387
6	137	99	31	302	86	285	57	171	163	111	27	387
7	213	99	31	437	92	374	105	171	153	116	27	386
8	282	99	31	514	92	195	135	171	127	117	27	389
9	298	99	54	314	107	153	148	171	105	113	26	351
10	297	99	69	197	114	151	153	171	99	113	24	79
11	358	100	141	197	99	178	153	171	99	99	24	47
12	408	100	212	197	88	241	143	175	99	84	23	46
13	409	100	211	197	97	279	140	193	114	75	22	47
14	406	100	211	140	91	301	138	207	130	66	22	47
15	342	100	210	111	85	318	138	207	132	74	25	48
16	75	75	210	117	85	326	138	202	123	79	27	167
17	74	39	210	120	86	344	138	195	98	79	27	737
18	75	29	131	120	86	324	139	190	85	78	27	881
19	151	29	60	120	75	303	139	185	85	77	28	803
20	341	29	61	120	78	302	136	183	71	83	28	815
21	519	29	61	120	111	135	133	183	66	87	28	881
22	666	29	61	120	129	22	142	183	65	69	53	810
23	677	29	61	112	129	21	166	179	65	64	75	617
24	639	29	61	104	85	21	179	181	67	64	104	317
25	347	31	85	104	61	21	178	207	69	40	128	316
26	206	33	158	105	80	21	171	184	69	25	169	318
27	206	32	199	362	99	21	169	174	84	25	199	323
28	205	31	200	282	95	21	171	166	96	26	199	129
29	205	—	201	66	87	21	160	166	99	26	198	42
30	205	—	286	37	87	35	158	163	99	26	200	105
31	205	—	489	—	87	—	160	161	—	26	—	302
TOTAL	8475	2397	3909	6254	2967	5171	4006	5515	3267	2390	1867	10943
MEAN	273	86	126	208	96	172	129	178	109	77	62	353
MAX	677	205	489	601	212	374	179	207	163	117	200	881
MIN	57	29	31	37	37	21	44	160	65	25	22	42
AC-FT	16811	4755	7754	12404	5885	10257	7946	10939	6480	4740	3702	21706

SCOO — 14202980 — Scoggins Creek below Henry Hagg Lake near Gaston, Oregon [RM 4.8]



UNITED STATES DEPARTMENT OF THE INTERIOR – GEOLOGICAL SURVEY – OREGON WATER SCIENCE CENTER

STATION NUMBER: 14203500 TUALATIN RIVER NEAR DILLEY, OREG.

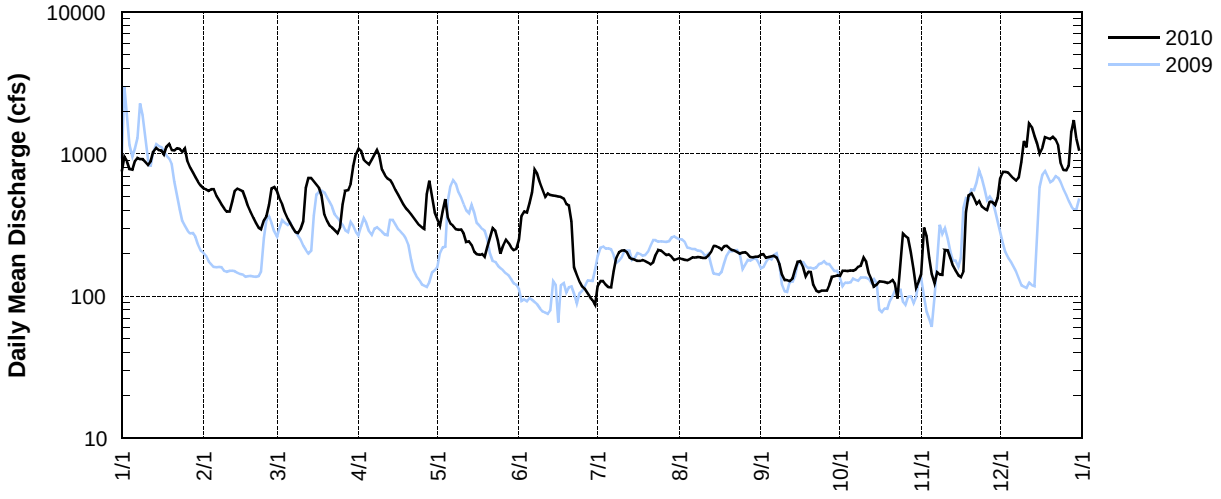
LATITUDE: 452830 LONGITUDE: 1230723 DRAINAGE AREA: 125.00 DATUM: 147.57

Discharge, Cubic Feet per Second, Calendar Year January to December 2010 Daily Mean Values

Day	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT†	NOV†	DEC†
1	751	573	548	1090	346	248	118	185	196	138	142	679
2	951	564	485	1050	312	367	128	183	197	150	302	746
3	887	550	442	913	387	393	128	180	187	151	264	746
4	784	566	389	874	482	385	121	179	188	150	188	738
5	773	564	351	841	354	451	116	182	190	151	144	706
6	887	504	324	912	323	532	115	187	192	151	123	673
7	941	471	303	988	313	774	149	187	188	154	145	650
8	918	438	283	1070	296	725	186	188	168	161	142	683
9	920	411	277	971	292	620	203	188	141	163	141	873
10	879	393	298	778	294	557	209	185	129	186	210	1240
11	839	394	334	710	276	500	210	185	130	175	211	1110
12	883	460	575	675	240	528	204	193	128	145	186	1640
13	1030	550	676	656	243	514	187	205	133	132	164	1550
14	1100	571	676	614	229	510	183	226	154	117	152	1340
15	1060	559	645	556	206	506	181	225	174	120	141	1200
16	1060	547	610	516	198	503	177	220	176	127	136	1010
17	990	489	579	478	195	499	177	212	160	127	149	1110
18	1120	429	514	444	198	487	180	224	138	126	389	1320
19	1180	392	374	416	189	446	177	225	148	124	510	1290
20	1060	355	338	397	220	436	172	218	147	126	527	1270
21	1050	327	313	378	254	339	167	212	120	130	488	1320
22	1100	303	304	356	300	160	172	209	109	122	445	1260
23	1090	296	292	336	288	140	195	205	107	97	466	1150
24	1040	342	278	316	248	127	211	199	109	166	428	856
25	1100	366	305	305	199	117	209	203	109	274	411	772
26	889	436	440	297	228	113	202	204	109	264	404	767
27	805	573	549	519	250	105	194	198	121	256	460	827
28	740	587	555	650	238	98	196	188	137	202	458	1420
29	683	—	616	503	221	94	189	187	138	156	439	1730
30	636	—	815	390	211	86	180	189	140	116	490	1280
31	602	—	989	—	216	—	183	189	—	126	—	1050
TOTAL	28748	13010	14477	18999	8246	11360	5419	6160	4463	4783	8855	33006
MEAN	927	465	467	633	266	379	175	199	149	154	295	1065
MAX	1180	587	989	1090	482	774	211	226	197	274	527	1730
MIN	602	296	277	297	189	86	115	179	107	97	123	650
AC-FT	57020	25810	28720	37680	16360	22530	10750	12220	8850	9490	17560	65470

† Provisional data–subject to revision

DLLO — 14203500 — Tualatin River near Dilley, Oregon [RM 58.8]

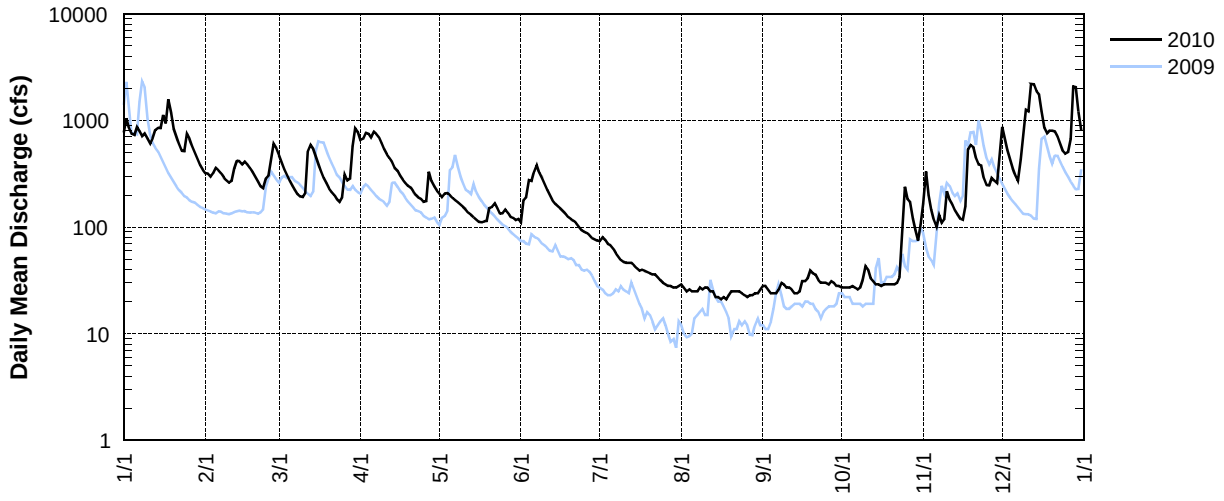


GALES – 14204530 – GALES CREEK AT OLD HWY 47 NEAR FOREST GROVE, OREGON [RM 2.36]

Latitude: 45 30 39 Longitude: 123 06 56 Source Agency: District 18 Watermaster

Day	2010 Daily Mean Discharge in Cubic Feet per Second											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	775	319	470	661	206	111	74	29	28	27	165	866
2	1050	316	403	676	192	179	80	27	28	27	332	675
3	848	298	349	766	206	190	76	25	26	27	200	527
4	750	322	310	750	208	276	70	26	24	27	146	427
5	732	360	272	693	199	270	68	25	24	28	117	355
6	865	340	245	785	188	332	63	25	24	27	100	303
7	790	318	223	747	179	381	57	25	26	26	129	271
8	712	294	204	697	170	324	53	27	30	27	110	431
9	752	274	194	615	162	286	49	26	29	32	119	705
10	673	261	191	539	155	253	47	27	27	43	217	1260
11	606	272	209	478	146	223	46	27	27	40	179	1220
12	680	355	518	446	136	200	46	25	26	33	162	2200
13	809	418	589	405	130	179	46	25	24	31	143	2180
14	852	415	539	360	123	165	44	22	24	29	131	1880
15	845	387	461	337	117	157	41	22	25	29	120	1760
16	1120	413	390	303	112	149	39	21	31	28	117	1220
17	939	388	333	280	111	141	40	22	31	29	157	846
18	1570	359	289	262	113	133	39	21	33	29	536	758
19	1180	327	257	245	114	124	38	23	39	29	585	802
20	835	294	231	235	151	119	37	25	37	29	560	799
21	711	266	213	216	155	115	36	25	36	29	441	788
22	601	241	201	201	167	109	36	25	32	30	387	699
23	517	231	184	190	150	101	34	25	30	34	379	605
24	515	286	172	183	134	94	32	24	30	107	290	520
25	745	305	190	172	135	91	30	23	30	239	247	490
26	673	433	310	175	146	88	29	22	29	183	245	507
27	575	603	274	331	136	84	28	23	31	173	287	666
28	497	550	285	271	125	79	28	23	30	120	273	2080
29	434	—	573	240	122	77	27	24	28	93	258	2040
30	382	—	845	220	116	75	27	24	28	75	480	1220
31	346	—	786	—	120	—	28	26	—	106	—	813
TOTAL	23379	9645	10710	12479	4624	5105	1388	759	867	1786	7612	29913
MEAN	754	344	345	416	149	170	44.8	24.5	28.9	57.6	254	965
MAX	1570	603	845	785	208	381	80	29	39	239	585	2200
MIN	346	231	172	172	111	75	27	21	24	26	100	271
AC-FT	46370	19130	21240	24750	9170	10130	2750	1510	1720	3540	15100	59330

GALES — 14204530 — Gales Creek at Old Hwy 47 near Forest Grove, Oregon [RM 2.36]

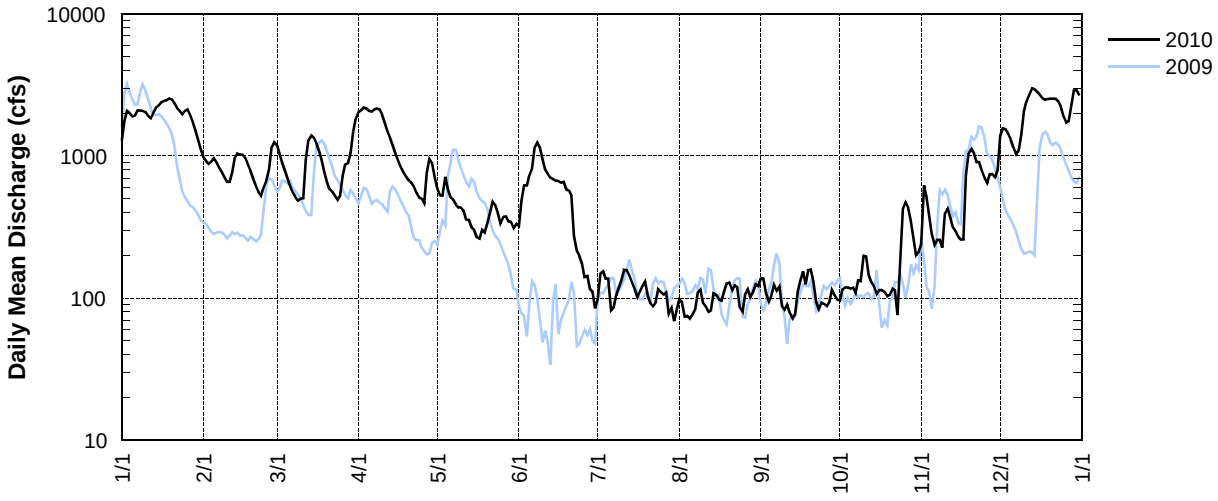


TRGC – 14204800 – TUALATIN RIVER AT GOLF COURSE ROAD NEAR CORNELIUS, OREGON [RM 51.5]

Latitude: 45 30 08 Longitude: 123 03 22 Source Agency: District 18 Watermaster

Day	2010 Daily Mean Discharge in Cubic Feet per Second											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1280	977	1190	2030	590	321	98	98	138	96	239	1390
2	1750	920	1030	2100	529	487	150	94	137	115	621	1560
3	2070	882	895	2180	526	621	155	74	109	119	510	1540
4	2010	908	799	2160	712	621	137	75	95	119	376	1430
5	1900	962	694	2070	582	740	137	72	105	117	283	1300
6	1930	896	611	2050	512	819	82	77	124	119	238	1150
7	2090	823	554	2130	493	1150	86	84	113	109	257	1030
8	2080	769	515	2150	454	1240	105	110	121	133	257	1100
9	2070	709	486	2130	434	1130	119	115	88	132	227	1420
10	2030	657	501	1960	433	945	133	93	83	198	394	2050
11	1910	655	503	1700	412	800	158	88	90	196	426	2440
12	1840	765	947	1490	356	747	157	80	79	146	370	2690
13	2010	974	1290	1340	354	707	144	82	72	130	315	2980
14	2190	1040	1390	1200	315	687	129	108	77	121	295	2950
15	2260	1020	1340	1040	302	671	115	106	110	107	269	2830
16	2380	1020	1230	927	269	666	102	98	132	114	258	2710
17	2440	969	1090	838	262	648	112	96	154	114	258	2550
18	2460	867	945	772	301	657	122	111	125	111	738	2480
19	2540	786	767	722	289	584	131	127	157	103	1040	2510
20	2500	691	657	674	335	572	103	129	159	106	1120	2530
21	2350	613	584	651	394	524	92	114	132	117	1040	2530
22	2180	555	562	609	478	274	88	123	94	114	906	2520
23	2070	524	529	553	451	214	93	120	84	76	906	2420
24	1970	612	491	508	397	197	115	86	93	184	790	2230
25	2070	678	526	502	336	175	110	80	91	430	699	1920
26	2130	802	721	465	374	141	106	107	88	473	642	1720
27	1950	1150	873	762	376	143	110	116	94	434	738	1760
28	1720	1250	890	948	346	116	78	102	114	345	747	2250
29	1510	—	1050	882	343	111	86	110	105	265	711	2880
30	1310	—	1480	705	312	85	69	125	98	200	801	2900
31	1130	—	1840	—	333	—	82	122	—	211	—	2660
TOTAL	62130	23474	26980	38248	12600	16793	3504	3122	3261	5354	16471	66430
MEAN	2004	838	870	1275	406	560	113	101	109	173	549	2143
MAX	2540	1250	1840	2180	712	1240	158	129	159	473	1120	2980
MIN	1130	524	486	465	262	85	69	72	72	76	227	1030
AC-FT	123200	46560	53510	75860	24990	33310	6950	6190	6470	10620	32670	131800

TRGC — 14204800 — Tualatin River at Golf Course Road near Cornelius, Oregon [RM 51.5]



UNITED STATES DEPARTMENT OF THE INTERIOR – GEOLOGICAL SURVEY – OREGON WATER SCIENCE CENTER

STATION NUMBER: 14205400 EAST FORK DAIRY CREEK NEAR MEACHAM CORNER, OR

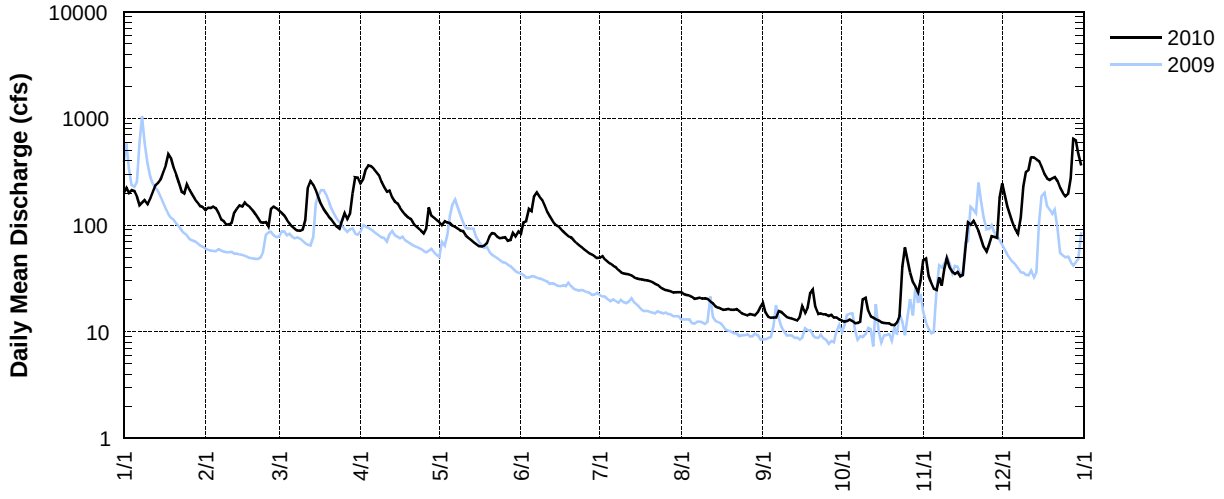
LATITUDE: 454051 LONGITUDE: 1230412 DRAINAGE AREA: 32.92 DATUM: 290

Discharge, Cubic Feet per Second, Calendar Year January to December 2010 Daily Mean Values

Day	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT†	NOV†	DEC†
1	200	e135	137	246	107	83	49	24	19	13	46	247
2	223	e125	130	270	100	106	51	23	15	12	49	192
3	200	e115	123	e320	108	109	47	22	14	13	34	150
4	211	e120	113	e340	106	141	45	22	14	13	29	123
5	208	e125	103	e325	104	135	44	21	14	13	25	104
6	185	e120	97	336	99	186	42	20	14	12	25	91
7	154	e110	92	315	96	202	40	21	16	12	32	82
8	162	e105	89	295	93	186	38	21	15	12	27	117
9	171	e100	88	255	88	172	36	20	14	20	38	228
10	157	e100	91	228	88	153	35	21	14	21	49	315
11	178	104	110	205	80	133	35	20	13	16	40	326
12	203	131	225	210	76	120	34	19	13	14	36	431
13	235	142	259	182	72	110	34	19	13	14	35	429
14	249	152	239	166	69	102	33	17	13	13	36	412
15	268	150	210	160	66	98	32	17	14	13	33	397
16	315	163	183	146	63	93	31	17	17	12	34	352
17	e345	153	157	135	63	87	31	16	15	12	56	300
18	e440	148	142	126	64	82	30	16	17	12	106	274
19	e390	139	130	119	67	78	30	16	23	12	100	265
20	e330	127	119	114	78	77	30	16	25	12	109	274
21	e280	116	112	105	84	73	29	16	17	e12	99	282
22	e240	106	104	98	83	68	28	16	15	e12	88	258
23	e200	105	97	93	78	65	27	16	15	14	74	223
24	197	107	92	89	75	62	26	15	15	41	62	201
25	241	96	110	84	76	59	25	15	14	62	56	187
26	e210	142	129	93	77	57	25	14	14	47	65	197
27	e190	149	114	147	71	55	24	15	14	36	79	272
28	175	145	129	122	72	53	24	14	14	29	78	642
29	163	—	198	116	85	51	23	14	14	26	76	625
30	e150	—	280	111	78	49	23	15	13	23	180	465
31	e140	—	279	—	87	—	23	17	—	30	—	363
TOTAL	7010	3530	4481	5551	2553	3045	1024	555	457	603	1796	8824
MEAN	226	126	145	185	82.4	102	33.0	17.9	15.2	19.5	59.9	285
MAX	440	163	280	340	108	202	51	24	25	62	180	642
MIN	140	96	88	84	63	49	23	14	13	12	25	82
AC-FT	13900	7000	8890	11010	5060	6040	2030	1100	906	1200	3560	17500

† Provisional data–subject to revision; e=estimated value

5400 — 14205400 — East Fork Dairy Creek near Meacham Corner, Oregon [RM 12.4]



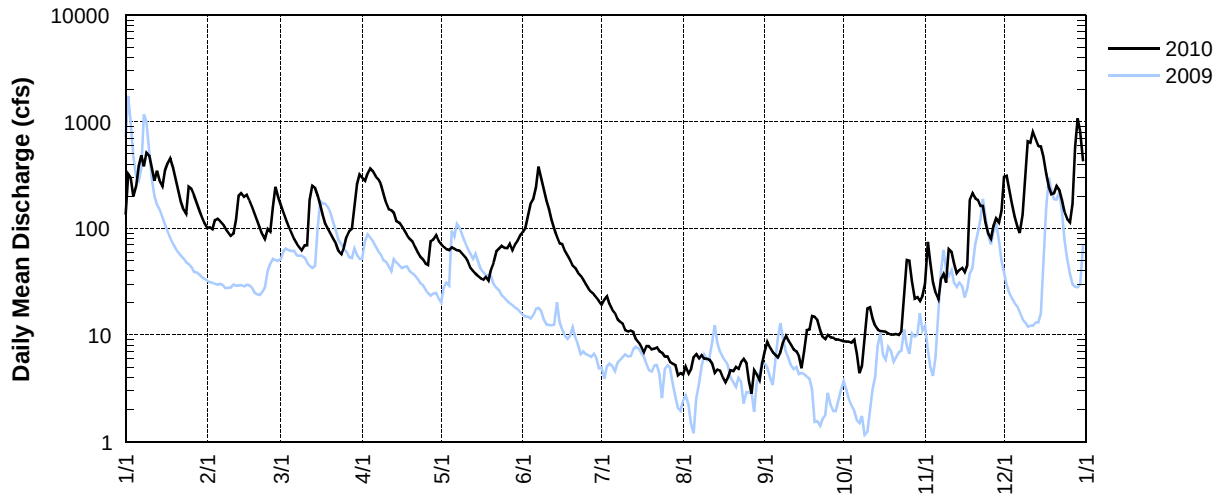
MCSC – 14206070 – MCKAY CREEK AT SCOTCH CHURCH RD ABOVE WAIBLE CREEK NEAR NORTH PLAINS, OREGON [RM 6.3]

Latitude: 45 57 21 Longitude: 122 99 18 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Daily Mean Discharge in Cubic Feet per Second											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	e135	101	165	299	71	92	19	4.3	7.0	8.7	30	306
2	e322	102	140	280	67	101	22	5.0	8.6	8.6	75	312
3	e296	98	121	328	64	130	23	4.4	7.7	8.6	47	235
4	e199	120	104	364	62	173	19	4.8	6.9	8.5	31	168
5	e250	123	90	345	66	190	17	6.2	6.5	9.0	25	129
6	e384	116	80	308	65	241	16	6.6	6.2	6.7	22	106
7	e484	109	72	289	62	379	14	6.0	6.9	4.4	34	91
8	e381	99	67	261	61	300	13	6.5	8.7	5.2	38	135
9	e515	92	63	213	58	229	13	6.0	9.8	9.3	31	298
10	e480	85	69	176	54	182	11	6.0	8.8	18	64	653
11	e363	89	69	151	50	151	11	5.9	8.1	18	60	638
12	e280	121	186	148	43	120	11	5.4	7.3	14	46	799
13	e346	202	251	140	40	100	11	4.4	7.0	12	38	684
14	274	214	238	117	38	83	9.2	4.8	6.3	11	41	592
15	247	198	204	113	36	72	8.5	4.6	4.9	11	42	586
16	352	207	167	104	34	71	7.8	4.0	7.0	11	39	470
17	408	184	133	95	33	62	6.9	3.6	11	11	45	323
18	453	161	109	87	35	55	7.9	4.0	11	10	188	246
19	371	139	97	80	32	50	7.9	4.7	15	10	213	209
20	294	118	88	75	42	45	7.4	4.6	15	10	192	213
21	230	102	79	67	48	42	7.4	5.0	14	10	185	249
22	180	88	72	60	61	39	7.6	4.8	11	10	162	228
23	149	79	62	54	64	36	7.0	5.6	9.6	11	162	184
24	136	98	57	51	68	33	6.8	6.0	9.2	23	113	142
25	245	93	66	47	66	30	6.3	5.5	10	51	88	123
26	236	158	83	45	65	27	6.3	3.7	9.5	50	80	114
27	206	246	94	76	72	25	5.6	2.8	9.4	32	106	170
28	173	200	99	78	62	24	5.4	4.6	9.0e	22	124	574
29	148	—	160	86	70	22	5.2	4.2	9.1e	23	113	1080
30	127	—	260	76	76	21	4.2	3.8	8.9e	21	145	804
31	112	—	322	—	86	—	4.4	5.4	—	23	—	427
TOTAL	8776	3742	3867	4613	1751	3125	321.8	153.2	269.4	481	2579	11288
MEAN	283.1	133.7	124.8	153.9	56.6	104.2	10.4	4.9	9.0	15.5	85.9	364.0
MAX	515	246	322	364	86	379	23	6.6	15	51	213	1080
MIN	112	79	57	45	32	21	4.2	2.8	4.9	4.4	22	91
AC-FT	17410	7422	7670	9150	3473	6198	638	304	534	954	5115	22390

e=estimated value

MCSC — 14206070 — McKay Creek at Scotch Church Road above Waible Creek near North Plains, Oregon [RM 6.3]



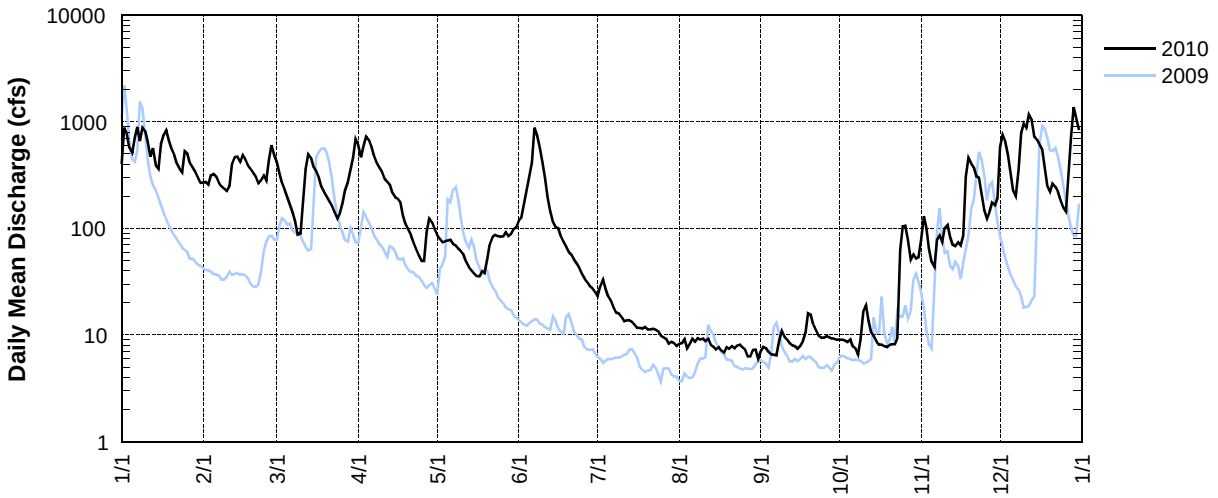
MCKP – 14206190 – MCKAY CREEK AT PADGETT ROAD NEAR HILLSBORO, OREGON [RM 1.31]

Latitude: 45 31 57 Longitude: 123 00 16 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Daily Mean Discharge in Cubic Feet per Second											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	e400	e269	e419	e608	86	119	23	8.2	7.0	9.0e	77	579
2	e879	e272	e329	e464	80	126	29	8.4	7.8	9.0e	130	753
3	e768	e257	e266	e595	74	169	33	9.1	7.5	8.9e	100	655
4	e571	e314	e232	e726	76	236	27	7.6	6.9	8.6e	64	482
5	e509	e324	e194	e678	77	309	23	8.2	6.6	9.1e	48	334
6	e704	e303	e166	e579	78	412	21	9.2	6.5	7.8e	43	225
7	e895	e267	e142	e472	72	878	18	8.7	6.4	7.5e	78	e200
8	e658	e247	e116	e408	69	751	16	9.3	8.9	6.5e	86	e356
9	e881	e236	e88	e372	65	568	16	9.1	11	9.1	74	e783
10	e810	e225	e89	e340	61	417	15	9.3	9.7	17	101	e959
11	e635	e250	e167	e290	57	298	13	8.8	9.1	19	108	e876
12	e471	e407	e362	e275	49	197	14	9.2	8.4	14	83	e1160
13	e566	e465	e495	e258	43	146	14	8.1	8.0	11	71	e1030
14	e390	e469	e456	e215	41	114	13	7.8	7.8	9.7	68	e724
15	e362	e422	e374	e196	38	102	13	7.3	7.4	8.6	74	e680
16	e620	e486	e342	e190	36	101	12	7.7	7.8	8.1	69	e610
17	e754	e446	e300	e176	35	85	12	7.2	8.8	8.1	85	e542
18	e831	e393	e246	132	40	74	11	6.9	10	7.9	307	e372
19	e657	e363	e216	109	38	67	12	7.7	16	7.7	457	e247
20	e554	e330	e197	97	50	60	11	7.4	16	8.1	404	e219
21	e488	e305	e179	86	71	57	11	7.9	13	8.2	375	e263
22	e407	e264	e162	73	84	51	11	7.5	11	8.2	309	e245
23	e362	e281	e142	64	87	47	11	7.9	9.8	9.4	299	e219
24	e336	e312	e124	55	85	42	11	8.1	9.4	63	213	e182
25	e527	e280	e139	50	84	37	9.9	7.6	9.4	104	147	e158
26	e502	e435	e171	49	84	34	9.6	7.3	9.8	106	124	e144
27	e409	e601	e228	92	92	31	9.2	6.3	9.6	78	143	e307
28	e369	e495	e272	124	85	29	8.3	6.3	9.3	51	174	e733
29	e338	—	e352	114	88	27	8.7	7.3	9.2	57	164	e1370
30	e299	—	e456	99	98	25	8.4	7.3	9.0e	52	193	e1080
31	e267	—	e689	—	103	—	7.9	6.0	—	54	—	e832
TOTAL	17219	9718	8110	7986	2126	5609	452	244.7	277.1	785.5	4668	17319
MEAN	555.4	347.0	261.6	266.1	68.6	187.0	14.6	7.9	9.2	25.3	155.7	558.7
MAX	895	601	689	726	103	878	33	9.3	16	106	457	1370
MIN	267	225	88	49	35	25	7.9	6.0	6.4	6.5	43	144
AC-FT	34150	19280	16090	15840	4217	11130	897	485	550	1558	9259	34350

e=estimated value

MCKP — 14206190 — McKay Creek at Padgett Road near Hillsboro, Oregon [RM 1.31]



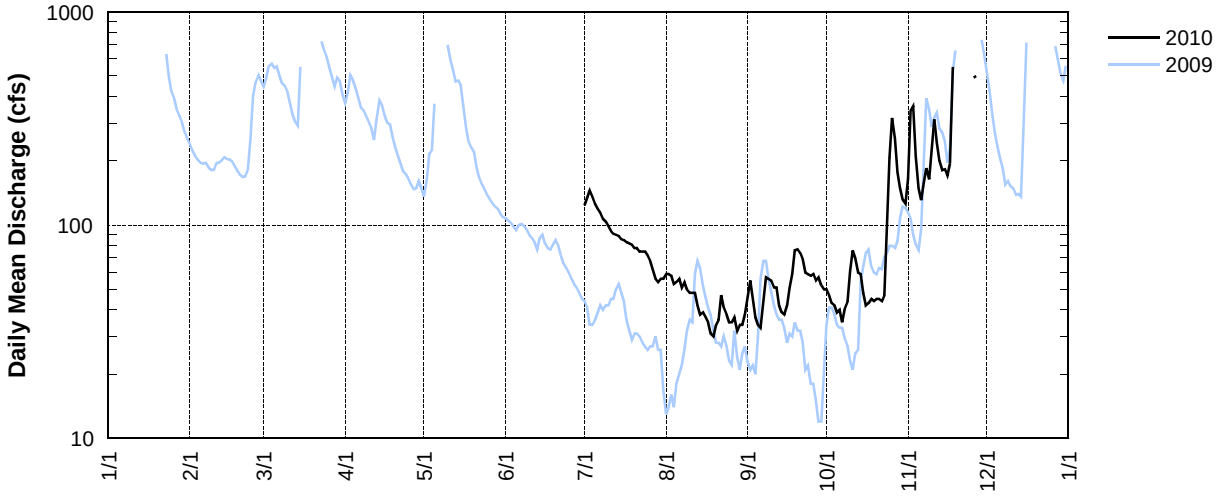
DAIRY – 14206200 – DAIRY CREEK AT HWY 8 NEAR HILLSBORO, OREGON [RM 2.06]

Latitude: 45 30 38 Longitude: 123 06 56 Source Agency: District 18 Watermaster

Day	2010 Daily Mean Discharge in Cubic Feet per Second											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV*	DEC
1							124	59	45	50	165	
2							134	59	55	47	344	
3							145	58	45	43	361	
4							136	53	37	42	211	
5							125	54	34	39	148	
6							119	56	33	40	131	
7							114	51	45	35	157	
8							107	54	57	41	185	
9							104	50	56	44	164	
10							99	48	55	61	228	
11							94	48	51	76	314	
12							91	48	51	70	243	
13							90	42	42	60	200	
14							89	38	39	59	181	
15							86	39	38	48	183	
16							85	37	42	42	170	
17							83	35	51	43	194	
18							82	31	59	45	e550	
19							81	30	76	44		
20							78	34	77	45		
21							78	36	74	45		
22							75	47	69	44		
23							75	41	60	47		
24							75	38	59	95		
25							72	35	58	207		
26							68	35	59	318	491	
27							62	37	55	255	e500	
28							56	32	57	177		
29							54	34	52	149		
30							56	34	50	132		
31		—		—		—	56	38	—	126	—	
TOTAL							2793	1331	1581	2569		
MEAN							90.1	42.9	52.7	82.9		
MAX							145	59	77	318		
MIN							54	30	33	35		
AC-FT							5540	2640	3140	5100		

*Incomplete record (monthly totals were computed when at least 80% of the record was complete for the month); e=estimated value

DAIRY — 14206200 — Dairy Creek at Hwy 8 near Hillsboro, Oregon [RM 2.06]



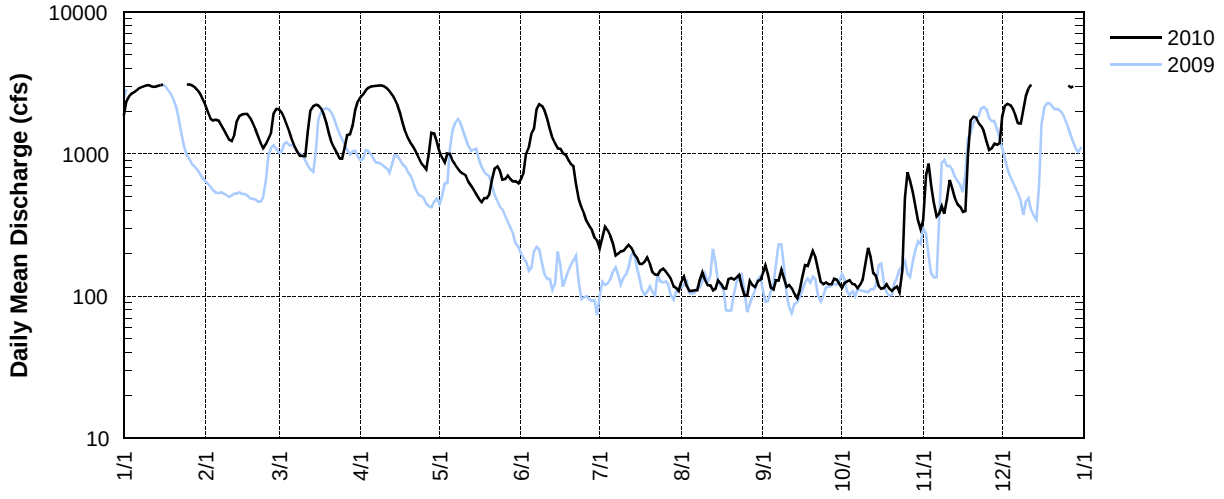
TRJB – 14206241 – TUALATIN RIVER AT HWY 219 BRIDGE [RM 44.4]

Latitude: 45 30 01 Longitude: 122 59 24 Source Agency: Jackson Bottom Wetland Education Center

Day	2010 Daily Mean Discharge in Cubic Feet per Second											
	JAN*	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC*
1	1866	2191	2061	2503	1040	665	216	127	145	115	342	1832
2	2344	1961	1960	2638	946	740	262	138	164	124	705	2168
3	2538	1770	1786	2806	869	1009	308	118	142	127	853	2247
4	2653	1725	1600	2919	1006	1128	291	109	115	130	602	2207
5	2731	1740	1412	2977	1001	1398	267	109	111	122	456	2077
6	2816	1710	1243	2995	894	1520	233	110	129	121	364	1873
7	2925	1595	1120	3011	844	2074	194	110	128	114	381	1643
8	2972	1478	1029	3030	792	2237	200	130	153	120	429	1633
9	3017	1372	966	3028	749	2172	206	147	133	131	381	2048
10	3046	1270	967	2993	727	2012	208	130	116	171	479	2568
11	3020	1237	965	2904	706	1770	221	120	120	219	658	2894
12	2970	1360	1444	2770	639	1502	229	119	114	187	570	3075
13	2968	1700	2017	2620	598	1303	219	110	104	145	489	
14	3005	1848	2169	2432	560	1178	200	113	96	139	443	
15	3040	1897	2214	2205	521	1088	187	129	109	118	424	
16	3077	1908	2190	1947	485	1083	169	123	135	113	390	
17		1911	2092	1663	460	1016	168	114	166	114	397	
18		1802	1915	1442	489	983	174	113	163	121	983	
19		1658	1648	1301	490	907	187	132	185	113	1717	
20		1495	1389	1190	519	845	169	134	208	109	1833	
21		1335	1206	1122	649	819	147	131	189	114	1798	
22		1196	1101	1039	790	616	142	135	152	117	1651	
23		1096	1019	953	814	478	141	141	126	106	1576	
24		1178	930	864	762	419	152	118	121	153	1448	
25	3080	1284	924	826	658	382	157	101	125	492	1222	
26	3079	1410	1101	777	666	337	150	101	121	745	1069	
27	3049	1927	1358	999	708	309	141	128	121	647	1096	
28	2957	2074	1380	1404	666	290	133	120	132	534	1181	
29	2822	—	1583	1394	641	259	117	116	131	430	1160	
30	2649	—	2030	1220	643	247	115	128	123	340	1190	
31	2440	—	2336	—	622	—	109	130	—	296	1832	—
TOTAL		45128	47151	59969	21951	30784	5808	3779	4075	6624	28119	
MEAN		1612	1521	1999	708	1026	187	122	136	214	907	
MAX		2191	2336	3030	1040	2237	308	147	208	745	1833	
MIN		1096	924	777	460	247	109	101	96	106	342	
AC-FT		89512	93525	118948	43539	61059	11521	7496	8084	13139	55773	

*Incomplete record (monthly totals were computed when at least 80% of the record was complete for the month).

TRJB — 14206241 —Tualatin River at Hwy 219 Bridge [RM 44.4]



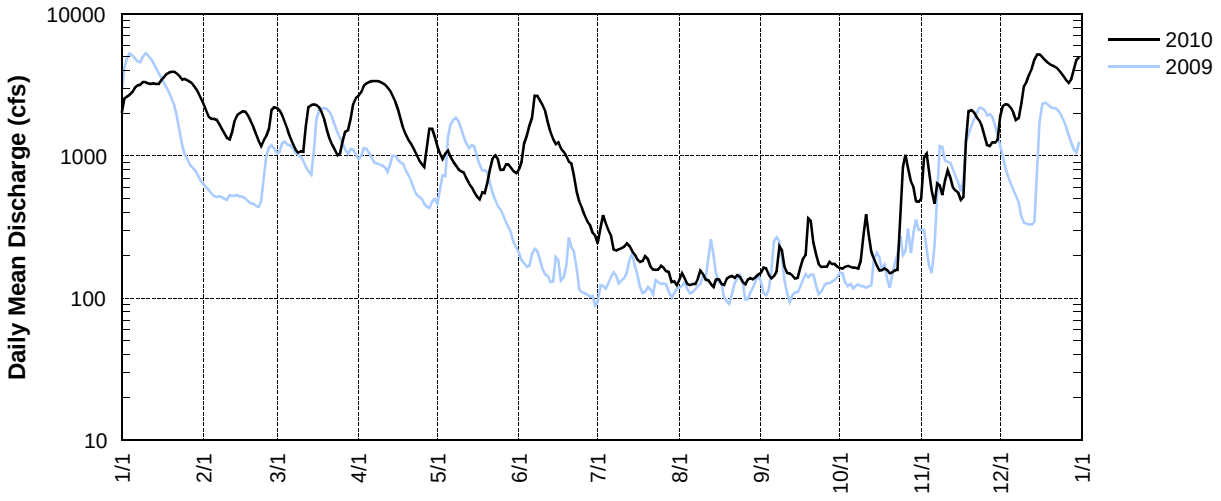
ROOD – 14206295 – TUALATIN RIVER AT ROOD BRIDGE ROAD NEAR HILLSBORO, OREGON [RM 38.4]

Latitude: 45 29 24 Longitude: 122 57 06 Source Agency: District 18 Watermaster

Day	2010 Daily Mean Discharge in Cubic Feet per Second											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	2020	2320	2170	2650	1170	805	243	135	e151	e163	502	1900
2	2540	2100	2080	2820	1040	903	313	150	e164	e161	980	2240
3	2620	1890	1930	3130	949	1220	382	137	e162	e166	1040	2310
4	2680	1820	1730	3230	1040	1400	337	126	e145	e169	756	2290
5	2820	1820	1530	3300	1090	1640	301	124	e138	e166	567	2180
6	3020	1790	1350	3350	985	1860	273	126	e143	e164	461	2010
7	3140	1680	1220	3350	913	2650	220	126	e154	e164	641	1790
8	3150	1550	1120	3350	855	2640	217	137	e231	e161	621	1850
9	3300	1440	1060	3340	804	2430	221	156	e216	e183	531	2340
10	3310	1340	1080	3280	782	2270	225	148	e165	e280	663	3090
11	3230	1310	1070	3180	768	2060	231	135	e150	e389	792	3330
12	3200	1480	1620	3050	700	1730	243	133	e149	e281	706	3750
13	3230	1780	2210	2890	638	1480	233	125	e144	e213	605	4150
14	3210	1950	2280	2640	603	1310	216	120	e137	189	570	4780
15	3210	2010	2300	2400	556	1210	202	136	e139	170	551	5170
16	3410	2060	2280	2130	521	1250	186	135	e163	156	491	5160
17	3580	2040	2190	1830	497	1130	180	126	e190	157	514	4960
18	3770	1920	2030	1570	553	1070	183	124	e201	162	1280	4730
19	3860	1770	1790	1410	547	992	197	137	e364	158	2060	4540
20	3910	1600	1520	1290	644	912	188	141	e349	150	2100	4390
21	3900	1430	1320	1210	797	882	167	143	e246	152	2020	4330
22	3780	1280	1200	1120	962	725	159	139	e201	157	1880	4210
23	3620	1170	1110	1030	1010	552	158	e145	e173	158	1780	4060
24	3450	1300	1010	933	950	474	159	e141	e165	378	1630	3880
25	3480	1390	1040	882	797	429	169	e130	e166	833	1380	3660
26	3410	1560	1270	836	801	383	164	e125	e166	1020	1190	3430
27	3320	2110	1480	1150	874	345	155	e135	e180	822	1170	3280
28	3190	2200	1520	1550	875	328	153	e139	e173	661	1250	3470
29	3010	—	1820	1550	827	290	130	e136	e174	601	1240	4040
30	2800	—	2320	1370	784	277	131	e141	e167	479	1300	4720
31	2570	—	2550	—	760	—	123	e147	—	475	—	4950
TOTAL	99740	48110	51200	65821	25092	35647	6459	4198	5466	9538	31271	110990
MEAN	3217	1718	1652	2194	809	1188	208	135	182	308	1042	3580
MAX	3910	2320	2550	3350	1170	2650	382	156	364	1020	2100	5170
MIN	2020	1170	1010	836	497	277	123	120	137	150	461	1790
AC-FT	197800	95420	101600	130600	49770	70700	12810	8330	10840	18920	62030	220100

e=estimated value

ROOD — 14206295 — Tualatin River at Rood Bridge Road near Hillsboro, Oregon [RM 38.4]



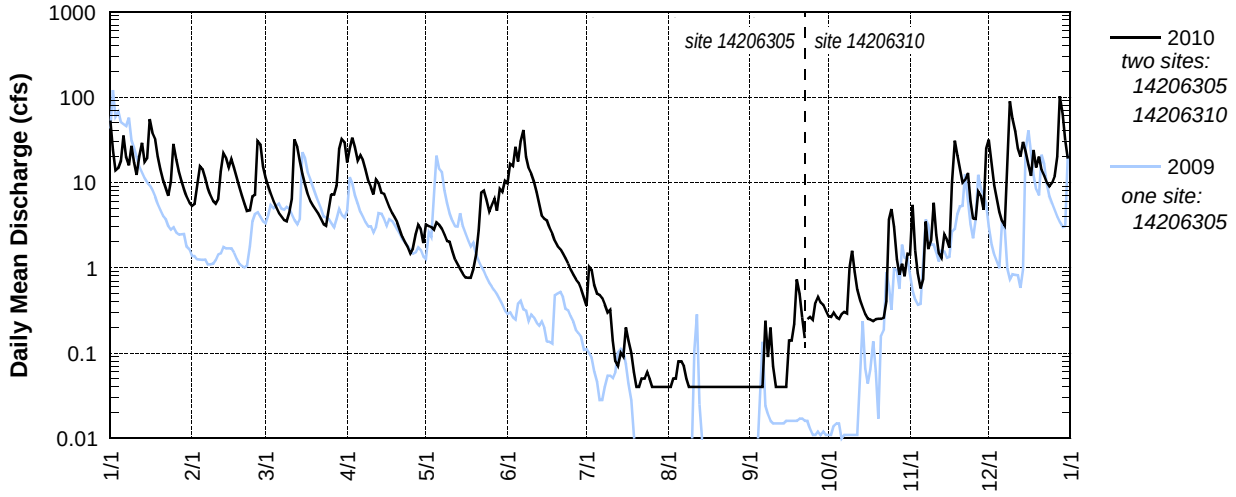
RCRR – 14206305 – ROCK CREEK AT NW ROCK CREEK ROAD NEAR BOWERS JUNCTION, OREGON [RM 15.8]
14206310 – ROCK CREEK AT NEAR BOWERS JUNCTION, OREGON [RM 15.3]*

Latitude: 45 37 04 Longitude: 12 53 13 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Daily Mean Discharge in Cubic Feet per Second											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP*	OCT	NOV	DEC
1	53	5.3	11	17	3.2	9.7	0.36	e0.04	e0.04	0.27	e1.4	32
2	24	5.6	9.1	25	3.1	17	1.0	e0.04	e0.04	0.27	5.4	16
3	14	8.9	7.4	33	3.0	15	0.94	0.05	e0.04	0.30	1.6	9.3
4	15	16	6.0	26	2.8	26	0.63	0.05	e0.04	0.26	0.87	6.4
5	18	14	5.1	18	3.4	18	0.50	0.08	e0.04	0.25	0.57	4.5
6	35	11	4.4	21	3.2	30	0.48	0.08	e0.04	0.29	0.73	3.5
7	20	8.7	4.0	18	2.8	41	0.44	0.07	0.24	0.31	3.5	3.1
8	16	7.1	3.6	14	2.4	20	0.37	0.05	0.09	0.29	1.6	16
9	27	6.0	3.5	10	2.1	15	0.30	e0.04	0.20	1.0	2.1	89
10	17	5.7	4.4	8.8	2.0	13	0.32	e0.04	0.07	1.6	5.8	56
11	12	6.4	6.4	7.3	1.5	10	0.14	e0.04	0.04	0.90	2.4	39
12	20	13	32	11	1.2	7.7	0.08	e0.04	e0.04	0.56	1.5	e25
13	29	22	26	9.9	1.1	5.6	0.07	e0.04	e0.04	0.42	1.3	e20
14	17	19	18	7.5	0.96	4.1	0.10	e0.04	e0.04	0.34	2.4	e30
15	19	15	13	7.3	0.85	3.8	0.09	e0.04	0.04	0.28	2.1	e23
16	55	19	9.5	6.2	0.77	3.6	0.20	e0.04	0.14	0.25	1.7	e16
17	37	15	7.2	5.2	0.76	2.9	0.14	e0.04	0.14	0.25	9.9	e12
18	32	11	6.0	4.4	0.76	2.5	0.10	e0.04	0.22	0.24	31	e24
19	20	8.8	5.3	3.9	0.95	2.1	0.06	e0.04	0.73	0.25	21	e15
20	14	7.0	4.8	3.4	1.4	1.8	e0.04	e0.04	0.49	0.25	15	e20
21	11	5.6	4.3	2.8	2.8	1.6	e0.04	e0.04	0.26	0.25	10	e14
22	8.6	4.6	3.7	2.3	7.6	1.5	0.05	e0.04	0.15	0.26	11	e12
23	7.0	4.7	3.3	2.0	8.0	1.3	0.05	e0.04	e0.25	0.41	13	e10
24	10	6.9	3.1	1.7	6.3	1.1	0.06	e0.04	0.27	3.7	6.0	e9.0
25	28	7.2	4.7	1.5	4.6	0.95	0.05	e0.04	0.25	4.9	3.8	e10
26	19	31	7.2	1.7	5.5	0.82	e0.04	e0.04	0.39	3.0	3.7	e12
27	13	28	7.2	2.5	6.5	0.73	e0.04	e0.04	0.46	1.3	7.8	e20
28	10	15	9.1	3.1	4.7	0.67	e0.04	e0.04	0.39	0.83	6.8	103
29	8.3	—	25	2.8	8.5	0.56	e0.04	e0.04	0.37	1.1	4.8	63
30	6.8	—	32	2.0	7.8	0.44	e0.04	e0.04	0.31	0.79	25	31
31	5.8	—	30	—	10	—	e0.04	e0.04	—	e1.5	—	19
TOTAL	621.5	327.5	316.3	279.3	110.55	258.47	6.85	1.38	5.86	26.62	203.77	762.8
MEAN	20.2	11.7	10.2	9.4	3.6	8.6	0.22	0.044	0.20	0.86	6.8	24.6
MAX	55	31	32	33	10	41	1.0	0.08	0.73	4.9	31	103
MIN	5.8	4.6	3.1	1.5	0.76	0.44	0.04	0.04	0.04	0.24	0.57	3.1
AC-FT	1233	650	627	554	219	513	14	2.7	11.6	53	404	1513

*Site moved: data for 1/1/2010–9/22/2010 collected at 14206305 and data for 9/23/2010–12/31/2010 collected at 14206310

RCRR — 14206305 — Rock Creek at NW Rock Creek Road near Bowers Junction, Oregon [RM 15.8]
14206310 — Rock Creek near Bowers Junction, Oregon [RM 15.3]



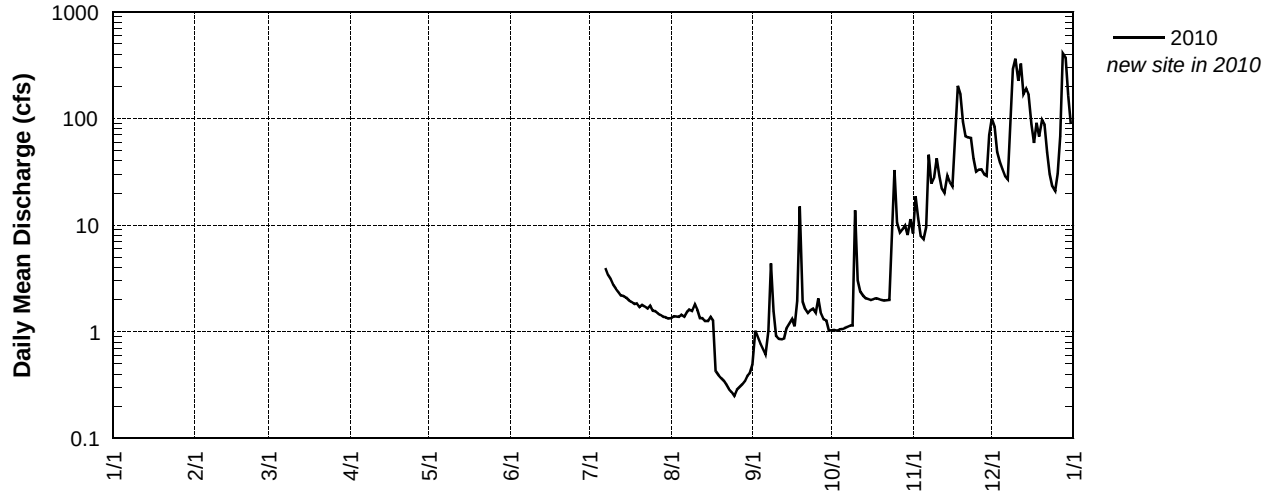
RCBL – 14206340 – ROCK CREEK BELOW BETHANY LAKE [RM 8.9]

Latitude: 45 33 21 Longitude: 122 52 25 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Daily Mean Discharge in Cubic Feet per Second											
	JAN*	FEB*	MAR*	APR*	MAY*	JUN*	JUL*	AUG	SEP	OCT	NOV	DEC
1								1.3	e0.49	e1.0	e8.4	e100
2								1.4	e1.0	e1.0	e19	e83
3								1.4	e0.89	e1.0	e12	e48
4								1.4	e0.77	e1.0	e7.9	e39
5								1.4	e0.69	e1.1	e7.4	e33
6								1.4	e0.61	e1.1	e9.6	e29
7							e4.0	1.5	e1.0	e1.1	e46	e27
8							3.4	1.6	e4.4	e1.1	25	e104
9							3.1	1.6	e1.6	e1.1	28	e290
10							2.7	1.8	e0.92	e14	42	e362
11							2.5	1.6	e0.86	e3.0	29	e225
12							2.4	1.3	e0.85	e2.4	22	e327
13							2.2	1.3	e0.87	e2.2	20	e170
14							2.2	1.3	e1.1	e2.1	29	e191
15							2.1	1.3	e1.2	e2.0	25	e167
16							2.0	1.4	e1.3	e2.0	23	e88
17							1.9	1.3	e1.1	e2.0	55	e59
18							1.8	0.43	e2.0	e2.0	202	e91
19							1.8	e0.39	e15	e2.0	e169	e68
20							1.7	e0.37	e1.9	e2.0	e93	e96
21							1.8	e0.35	e1.6	e2.0	e68	e87
22							1.7	e0.32	e1.5	e2.0	e66	e48
23							1.6	e0.29	e1.6	e2.0	e65	e30
24							1.7	e0.27	e1.7	e6.6	e42	e23
25							1.6	e0.25	e1.5	e33	e32	e21
26							1.6	e0.28	e2.1	e11	e33	e30
27							1.5	e0.30	e1.5	e8.5	e33	e68
28							1.4	e0.32	e1.3	e9.1	e30	e405
29		—					1.4	e0.34	e1.3	e10.0	e29	369
30		—					1.4	e0.39	e1.0	e8.1	e70	163
31		—		—		—	1.3	e0.41	—	e11	—	89
TOTAL							50.8	29.01	53.65	148.6	1340.3	3930
MEAN							2.0	0.94	1.8	4.8	44.6	126.8
MAX							4.0	1.8	15	33	202	405
MIN							1.3	0.25	0.49	1.0	7.4	21
AC-FT							101	58	106	295	2658	7795

*Incomplete record (monthly totals were computed when at least 80% of the record was complete for the month); e=estimated value; new site for 2010

RCBL— 14206340 — Rock Creek below Bethany Lake [RM 8.9]



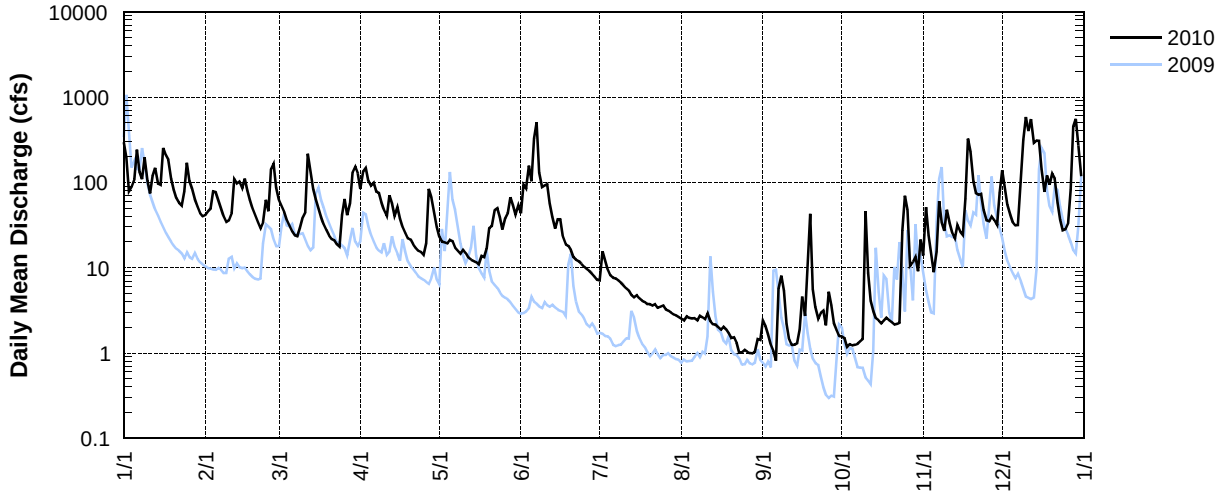
RCQR – 14206347 – ROCK CREEK AT QUATAMA ROAD NEAR ORENCO, OREGON [RM 4.9]

Latitude: 45 31 25 Longitude: 122 54 34 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Daily Mean Discharge in Cubic Feet per Second											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	295	42	62	84	23	44	7.1	2.5	2.4	e1.6	e14	139
2	196	46	53	135	20	94	16	2.4	2.1	e1.5	e51	88
3	79	49	45	148	20	84	12	2.7	1.7	e1.2	e24	55
4	89	79	36	104	19	158	9.5	2.6	1.2	e1.3	e14	42
5	110	77	31	91	21	103	8.2	2.6	1.0	e1.2	e8.9	34
6	242	61	27	99	20	327	7.6	2.6	0.81	e1.3	e16	31
7	134	49	24	78	17	507	7.5	2.4	5.7	e1.3	e61	31
8	110	40	23	76	16	130	7.1	2.8	8.1	e1.4	e34	120
9	198	35	29	58	15	88	6.7	2.6	5.4	e1.5	e27	316
10	104	36	39	47	16	92	6.2	2.5	2.2	e46	e48	587
11	74	44	44	40	15	95	5.7	2.9	1.5	e8.7	33	400
12	119	109	216	71	13	56	5.4	2.4	1.2	e4.1	25	550
13	148	97	136	57	12	40	4.8	2.2	e1.3	e3.1	22	292
14	97	102	83	41	12	29	4.5	2.2	e1.3	e2.6	32	309
15	94	85	63	51	12	37	4.8	2.0	1.9	e2.4	26	305
16	253	111	50	38	11	37	4.4	1.9	4.6	e2.2	24	143
17	209	80	39	30	14	23	4.1	2.0	2.7	e2.4	65	77
18	184	62	32	26	13	19	4.0	1.9	9.5	e2.6	326	121
19	110	49	28	22	17	e18	3.7	1.7	43	e2.4	229	94
20	82	41	24	21	29	e16	3.8	1.5	5.6	e2.3	103	126
21	66	34	22	19	31	e13	3.6	1.5	3.5	e2.2	75	111
22	58	29	21	17	47	12	3.8	1.3	2.6	e2.2	71	58
23	54	34	19	16	50	12	3.4	1.0	3.0	e2.3	74	37
24	78	63	18	15	39	11	3.5	1.0	3.2	e28	47	28
25	171	46	41	14	28	10	3.6	1.1	2.1	e70	36	28
26	104	144	64	19	38	9.7	3.3	1.0	5.2	e48	35	34
27	85	167	41	84	44	9.1	3.2	1.00	3.6	e11	40	82
28	64	87	57	67	67	8.5	3.0	0.99	2.3	e12	36	451
29	52	—	133	44	54	7.9	2.8	1.0	1.9	e14	31	558
30	44	—	154	30	42	7.2	2.8	1.5	e1.6	e9.1	76	271
31	40	—	128	—	54	—	2.6	1.4	—	e22	—	118
TOTAL	3743	1898	1782	1642	829	2097.4	168.7	59.19	132.21	311.9	1703.9	5636
MEAN	120.8	67.7	57.5	54.8	26.8	70.0	5.4	1.9	4.4	10.0	56.8	181.8
MAX	295	167	216	148	67	507	16	2.9	43	70	326	587
MIN	40	29	18	14	11	7.2	2.6	0.99	0.81	1.2	8.9	28
AC-FT	7424	3765	3535	3257	1644	4160	335	117	262	619	3380	11180

e=estimated value

RCQR — 14206347 — Rock Creek at Quatama Road near Orenco, Oregon [RM 4.9]



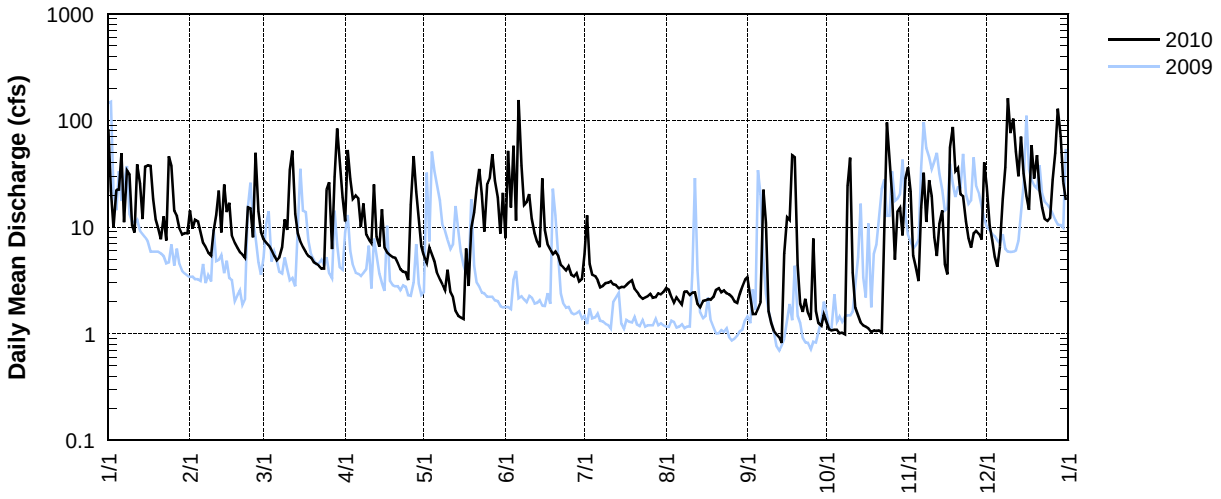
BCCH – 14206360 – BEAVERTON CREEK AT CEDAR HILLS BLVD AT BEAVERTON, OREGON [RM 7.45]

Latitude: 45 49 31 Longitude: 122 81 05 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Daily Mean Discharge in Cubic Feet per Second											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	83	14	7.7	11	5.4	7.9	5.6	2.7	3.4	1.3	36	24
2	22	9.7	7.2	53	4.6	52	13	2.6	2.2	1.1	22	10
3	9.9	12	6.7	28	6.4	15	4.5	2.2	1.5	1.1	5.4	7.6
4	22	11	6.0	18	5.5	58	3.6	2.0	1.5	1.1	4.2	e5.2
5	23	8.9	5.4	20	4.8	12	3.5	2.2	1.7	1.1	3.1	e4.2
6	49	7.1	4.9	19	3.7	155	3.2	2.0	2.0	1.0	15	e6.5
7	11	6.5	5.2	10	3.2	38	2.7	1.9	22	1.0	32	e18
8	34	5.7	6.5	17	2.9	16	2.8	2.5	11	0.99	11	36
9	31	5.4	12	8.5	2.6	17	3.0	2.5	1.6	24	28	162
10	11	9.2	9.4	7.6	4.0	20	3.0	2.3	1.3	45	19	76
11	8.9	13	34	7.1	2.4	12	3.1	2.4	1.1	3.7	8.1	104
12	39	22	52	25	2.2	8.7	2.9	2.4	0.99	1.8	5.4	51
13	25	8.9	13	8.1	1.6	7.2	2.9	1.9	0.93	1.5	11	30
14	12	25	8.7	6.6	1.5	6.5	2.7	1.8	0.82	1.3	14	70
15	37	14	7.3	15	1.4	29	2.8	2.0	5.6	1.2	4.5	32
16	38	17	6.5	6.4	1.4	9.4	2.7	2.1	12	1.2	3.6	20
17	37	8.2	5.8	5.8	6.3	6.8	2.9	2.1	12	1.1	56	14
18	18	7.1	5.4	5.4	2.8	6.1	3.0	2.1	47	1.0	87	58
19	12	6.4	5.2	5.2	9.7	5.6	3.2	2.2	45	1.1	34	28
20	9.7	5.8	4.7	5.2	14	5.9	2.6	2.6	4.4	1.1	36	47
21	7.7	5.5	4.5	4.6	23	5.3	2.5	2.7	1.9	1.1	20	22
22	13	5.2	4.3	4.1	35	4.4	2.2	2.4	1.6	1.0	19	15
23	7.5	15	4.1	3.8	20	4.2	2.1	2.5	2.1	14	11	12
24	46	15	4.1	3.8	9.1	3.9	2.2	2.4	1.6	96	7.8	11
25	37	8.0	22	3.2	26	4.3	2.3	2.3	1.4	48	6.4	12
26	14	50	26	16	29	3.6	2.4	2.2	7.8	20	8.7	28
27	13	14	6.2	46	48	3.4	2.2	2.0	1.6	4.9	9.2	50
28	9.7	9.0	30	22	27	3.7	2.2	1.9	1.3	14	8.6	129
29	8.5	—	84	12	19	3.1	2.4	2.4	1.2	15	7.6	71
30	8.8	—	44	6.6	8.7	3.3	2.4	2.8	1.5	8.4	40	26
31	8.7	—	19	—	21	—	2.5	3.2	—	29	—	18
TOTAL	706.4	338.6	461.8	404	352.2	527.3	99.1	71.3	200.04	344.09	573.6	1197.5
MEAN	22.8	12.1	14.9	13.5	11.4	17.6	3.2	2.3	6.7	11.1	19.2	38.8
MAX	83	50	84	53	48	155	13	3.2	47	96	87	162
MIN	7.5	5.2	4.1	3.2	1.4	3.1	2.1	1.8	0.82	0.99	3.1	4.2
AC-FT	1401	672	916	801	699	1046	197	141	397	682	1138	2375

e=estimated value

BCCH — 14206360 — Beaverton Creek at Cedar Hills Blvd at Beaverton, Oregon [RM 7.45]

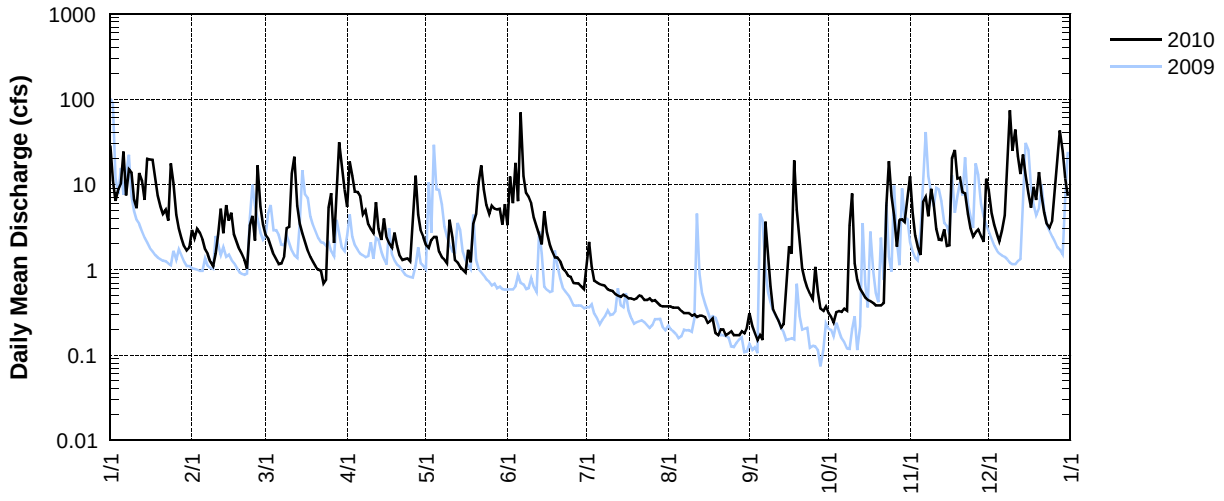


JCDV – 14206372 – JOHNSON CREEK AT DAVIS ROAD NEAR BEAVERTON, OREGON [RM 1.3]

Latitude:45 28 30 Longitude:122 49 52 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Daily Mean Discharge in Cubic Feet per Second											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	29	2.9	2.6	5.4	2.0	3.3	1.1	0.37	0.31	0.31	12	8.5
2	11	2.3	2.3	19	1.8	12	2.1	0.37	0.22	0.28	4.7	4.6
3	6.4	3.0	1.9	13	2.2	6.1	1.1	0.36	0.18	0.24	2.5	3.4
4	8.8	2.7	1.5	8.3	2.4	18	0.75	0.36	0.15	0.32	1.9	2.6
5	10	2.3	1.3	8.1	2.4	6.4	0.71	0.36	0.17	0.33	1.5	2.2
6	24	1.7	1.2	7.2	1.6	70	0.68	0.33	0.15	0.32	6.3	2.8
7	7.4	1.5	1.2	4.4	1.4	13	0.66	0.31	3.6	0.35	7.2	4.4
8	15	1.2	1.4	5.0	1.3	7.9	0.65	0.31	1.5	0.33	4.2	19
9	14	1.1	3.1	3.4	1.2	7.1	0.59	0.31	0.64	3.3	8.9	74
10	6.7	1.6	3.2	3.0	3.9	6.0	0.57	0.29	0.34	7.8	5.9	25
11	5.2	2.6	13	2.7	2.4	4.1	0.56	0.30	0.29	1.2	3.0	44
12	14	5.2	21	6.2	1.3	3.2	0.52	0.28	0.25	0.76	2.2	22
13	11	2.7	5.6	3.0	1.2	2.6	0.50	0.29	0.21	0.59	2.2	13
14	6.6	5.8	3.5	2.2	1.1	2.0	0.48	0.29	0.23	0.53	3.0	22
15	20	3.8	2.7	4.0	1.0	4.9	0.51	0.28	0.57	0.47	1.9	13
16	19	4.7	2.1	2.4	0.93	2.8	0.49	0.24	1.9	0.44	1.9	7.9
17	19	2.6	1.7	2.0	1.7	2.0	0.46	0.25	1.5	0.43	20	5.4
18	12	2.1	1.4	1.8	1.2	1.6	0.46	0.27	19	0.41	25	9.4
19	7.4	1.7	1.2	2.7	3.4	1.4	0.45	0.18	5.1	0.38	12	6.6
20	5.6	1.5	1.1	1.9	4.5	1.4	0.46	0.17	2.0	0.38	12	14
21	4.5	1.3	1.0	1.5	11	1.2	0.50	0.20	1.0	0.38	8.1	7.4
22	5.1	1.0	0.98	1.3	17	1.0	0.49	0.20	0.76	0.41	7.9	4.7
23	3.8	3.3	0.69	1.3	8.7	0.96	0.44	0.17	0.61	5.6	4.5	3.5
24	18	4.3	0.77	1.4	5.7	0.85	0.44	0.18	0.52	19	3.0	3.1
25	11	2.2	5.4	1.3	4.5	0.83	0.46	0.19	0.45	7.4	2.5	3.8
26	4.4	17	7.9	3.8	5.6	0.70	0.43	0.17	1.1	4.3	2.7	8.2
27	3.0	5.5	2.1	13	5.2	0.69	0.44	0.17	0.55	1.9	2.9	18
28	2.3	3.4	7.6	4.4	5.1	0.69	0.41	0.17	0.35	3.8	2.5	43
29	1.9	—	31	2.9	5.2	0.64	0.38	0.19	0.33	3.9	2.1	25
30	1.7	—	17	2.4	3.4	0.59	0.37	0.18	0.37	3.6	12	12
31	1.8	—	8.7	—	5.9	—	0.37	0.21	—	6.9	—	7.4
TOTAL	309.6	91	156.14	139	116.23	183.95	18.53	7.95	44.35	76.36	186.5	439.9
MEAN	10.0	3.2	5.0	4.6	3.7	6.1	0.60	0.26	1.5	2.5	6.2	14.2
MAX	29	17	31	19	17	70	2.1	0.37	19	19	25	74
MIN	1.7	1.0	0.69	1.3	0.93	0.59	0.37	0.17	0.15	0.24	1.5	2.2
AC-FT	614	180	310	276	231	365	37	16	88	151	370	873

JCDV — 14206372 — Johnson Creek at Davis Road near Beaverton, Oregon [RM 1.3]

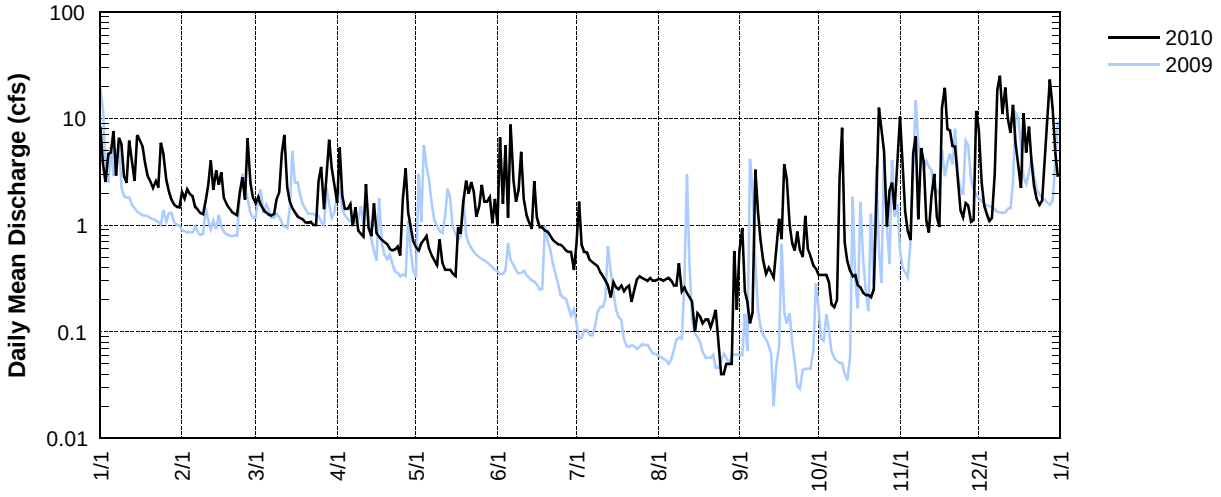


WC143 – 14206410 – WILLOW CREEK AT NW 143RD AVE NEAR BEAVERTON, OREGON [RM 3.5]

Latitude: 45 32 12 Longitude: 122 49 24 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Daily Mean Discharge in Cubic Feet per Second											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	8.4	2.0	1.6	1.6	0.62	1.0	0.68	0.31	0.57	0.34	10	7.9
2	3.8	1.8	1.8	5.3	0.58	6.6	1.6	0.31	0.94	0.34	3.5	2.5
3	2.5	2.1	1.5	1.9	0.68	1.6	0.65	0.30	0.24	0.34	1.3	1.5
4	4.7	1.9	1.4	1.4	0.73	5.6	0.56	0.31	0.19	0.34	0.88	1.3
5	4.8	1.9	1.3	1.4	0.79	1.2	0.55	0.32	0.12	0.29	0.72	1.1
6	7.6	1.5	1.2	1.6	0.60	8.8	0.47	0.30	0.15	0.18	4.7	1.2
7	2.9	1.4	1.2	0.98	0.51	2.6	0.45	0.27	3.3	0.17	6.8	3.1
8	6.6	1.3	1.3	1.5	0.46	1.7	0.43	0.27	1.3	0.20	1.1	19
9	5.7	1.3	1.8	0.89	0.42	2.1	0.41	0.44	0.73	2.7	5.3	25
10	2.8	1.7	2.1	0.83	0.74	4.9	0.36	0.24	0.47	8.2	3.9	11
11	2.5	2.4	4.7	0.78	0.44	1.8	0.33	0.26	0.35	0.69	1.1	19
12	6.2	4.1	7.0	2.4	0.38	1.2	0.30	0.23	0.40	0.46	0.85	9.9
13	3.9	2.1	2.3	0.95	0.38	1.0	0.27	0.21	0.36	0.37	1.9	7.4
14	2.6	3.2	1.6	0.79	0.38	0.92	0.21	0.19	0.32	0.33	3.0	13
15	7.0	2.4	1.4	1.6	0.35	2.6	0.29	0.10	0.61	0.34	1.2	5.8
16	6.2	3.1	1.3	0.84	0.33	1.2	0.26	0.15	1.1	0.27	0.96	3.5
17	5.4	1.8	1.2	0.78	0.96	0.95	0.25	0.14	0.74	0.26	13	2.2
18	3.8	1.6	1.2	0.72	0.83	0.95	0.27	0.12	3.7	0.23	19	11
19	2.9	1.4	1.1	0.69	1.6	0.89	0.24	0.13	2.7	0.22	7.9	4.8
20	2.5	1.3	1.1	0.66	2.6	0.87	0.26	0.13	1.0	0.22	7.7	8.4
21	2.2	1.3	1.1	0.60	2.0	0.79	0.27	0.11	0.68	0.21	5.5	3.9
22	2.6	1.2	1.1	0.58	2.5	0.72	0.19	0.13	0.58	0.25	5.4	2.3
23	2.2	2.0	1.0	0.59	2.1	0.69	0.25	0.16	0.87	2.0	2.6	1.7
24	5.9	2.8	1.00	0.63	1.2	0.66	0.31	0.08	0.58	13	1.4	1.5
25	4.6	1.7	2.6	0.52	1.5	0.65	0.33	0.04	0.50	7.7	1.2	1.7
26	2.6	6.5	3.5	1.7	2.4	0.62	0.32	0.04	1.2	4.9	1.6	3.8
27	2.1	2.5	1.4	3.4	1.7	0.58	0.31	0.05	0.59	0.97	1.5	9.9
28	1.7	1.8	3.1	1.3	1.7	0.56	0.30	0.05	0.51	2.1	1.1	23
29	1.6	—	6.3	0.96	1.8	0.56	0.32	0.05	0.42	2.5	1.1	12
30	1.5	—	3.4	0.70	1.0	0.38	0.30	0.57	0.39	1.4	12	4.9
31	1.5	—	2.3	—	1.8	—	0.30	0.16	—	3.9	—	2.8
TOTAL	121.3	60.1	64.9	38.59	34.08	54.69	12.04	6.17	25.61	55.42	128.21	226.1
MEAN	3.9	2.2	2.1	1.3	1.1	1.8	0.39	0.20	0.86	1.8	4.3	7.3
MAX	8.4	6.5	7.0	5.3	2.6	8.8	1.6	0.57	3.7	13	19	25
MIN	1.5	1.2	1.00	0.52	0.33	0.38	0.19	0.04	0.12	0.17	0.72	1.1
AC-FT	241	119	129	77	68	108	24	12	51	110	254	448

WC143 — 14206410 — Willow Creek at NW 143rd Avenue near Beaverton, Oregon [RM 3.5]

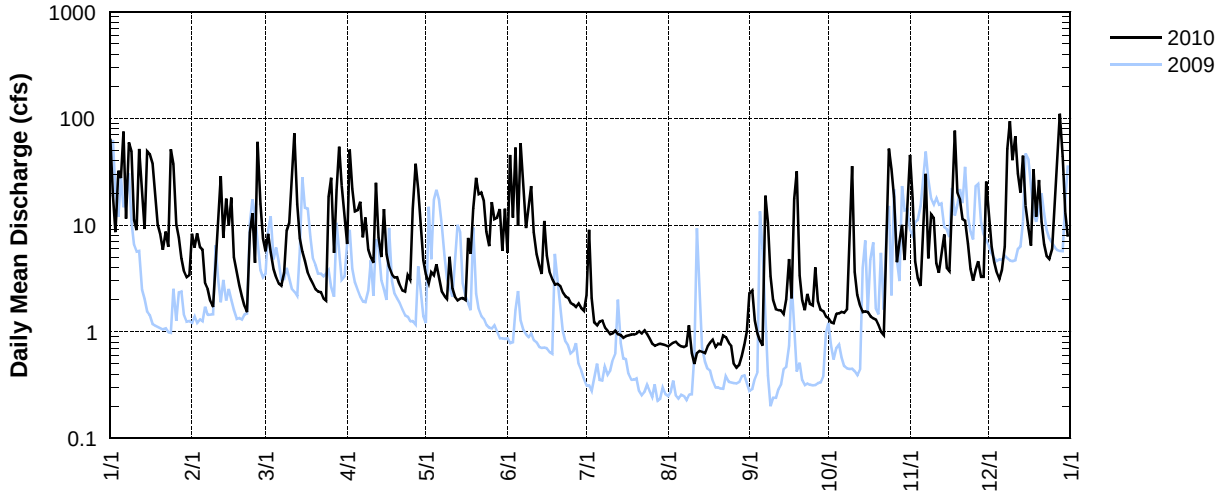


WCHP – 14206413 – WILLOW CREEK AT HERITAGE PARKWAY NEAR BEAVERTON, OREGON [RM 0.75]

Latitude: 45 31 12 Longitude: 122 51 35 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Daily Mean Discharge in Cubic Feet per Second											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	65	8.3	5.7	6.7	3.5	5.5	2.2	0.73	2.3	1.3	45	14
2	19	6.2	8.3	51	2.9	45	9.0	0.76	2.5	1.2	18	6.3
3	8.6	8.3	5.6	22	3.6	12	2.1	0.79	1.3	1.2	4.6	4.5
4	32	6.2	3.8	13	3.4	53	1.2	0.81	0.97	1.5	3.2	3.6
5	28	5.9	3.2	14	4.3	9.8	1.1	0.76	0.82	1.5	2.7	3.1
6	75	2.8	2.8	17	3.3	59	1.3	0.73	0.74	1.5	11	3.8
7	11	2.5	2.7	7.7	2.4	21	1.3	0.72	19	1.5	30	6.3
8	60	2.0	3.6	12	2.1	9.4	1.1	0.74	11	1.6	4.9	52
9	49	1.7	8.9	5.9	2.0	15	1.0	1.1	3.3	8.7	13	94
10	11	4.2	11	4.9	5.0	23	0.95	0.63	2.0	36	12	41
11	9.0	11	30	4.4	2.5	8.6	0.97	0.50	1.6	3.6	4.4	68
12	52	29	73	25	2.1	5.3	1.0	0.63	1.6	2.2	3.6	30
13	20	7.6	16	7.7	2.0	4.2	0.95	0.66	1.6	1.7	5.2	20
14	9.2	18	7.5	5.0	2.0	3.5	0.93	0.65	1.5	1.5	8.2	45
15	49	9.9	5.6	14	2.1	11	0.88	0.63	2.0	1.6	3.9	15
16	46	18	4.6	5.3	2.0	5.2	0.91	0.73	4.8	1.5	3.7	9.3
17	38	5.0	3.6	4.0	7.6	3.6	0.92	0.79	2.1	1.4	19	6.4
18	19	3.6	3.1	3.4	5.4	3.1	0.94	0.84	18	1.3	77	33
19	10	2.7	2.8	3.2	14	2.8	0.94	0.72	32	1.3	20	12
20	8.2	2.1	2.5	3.3	28	2.8	0.96	0.77	3.4	1.2	17	26
21	5.9	1.7	2.4	2.7	20	2.7	1.0	0.76	2.0	1.00	11	11
22	8.7	1.5	2.3	2.4	20	2.3	0.96	0.92	1.6	0.93	11	6.6
23	6.2	8.5	2.0	2.4	17	2.1	1.0	0.89	2.3	5.1	6.7	5.1
24	52	13	1.9	3.4	8.7	2.1	0.95	0.79	1.8	52	3.9	4.8
25	37	4.4	19	3.0	6.3	1.9	0.86	0.74	1.8	33	3.0	5.9
26	10	60	28	14	16	1.8	0.77	0.50	4.0	18	3.8	14
27	7.6	16	5.5	38	11	1.7	0.74	0.46	1.9	4.5	4.6	36
28	4.9	7.5	22	22	12	1.8	0.76	0.49	1.6	7.0	3.3	111
29	3.7	—	54	10	14	1.7	0.77	0.59	1.6	10	3.3	44
30	3.3	—	23	4.7	5.7	1.6	0.76	0.75	1.4	4.7	26	13
31	3.4	—	12	—	14	—	0.75	1.0	—	18	—	7.8
TOTAL	761.7	267.6	376.4	332.1	244.9	322.5	39.97	22.58	132.53	227.53	383	752.5
MEAN	24.6	9.6	12.1	11.1	7.9	10.7	1.3	0.73	4.4	7.4	12.7	24.3
MAX	75	60	73	51	28	59	9.0	1.1	32	52	77	111
MIN	3.3	1.5	1.9	2.4	2.0	1.6	0.74	0.46	0.74	0.93	2.7	3.1
AC-FT	1511	531	747	659	486	640	79	45	263	451	760	1493

WCHP — 14206413 — Willow Creek at Heritage Parkway near Beaverton, Oregon [RM 0.75]



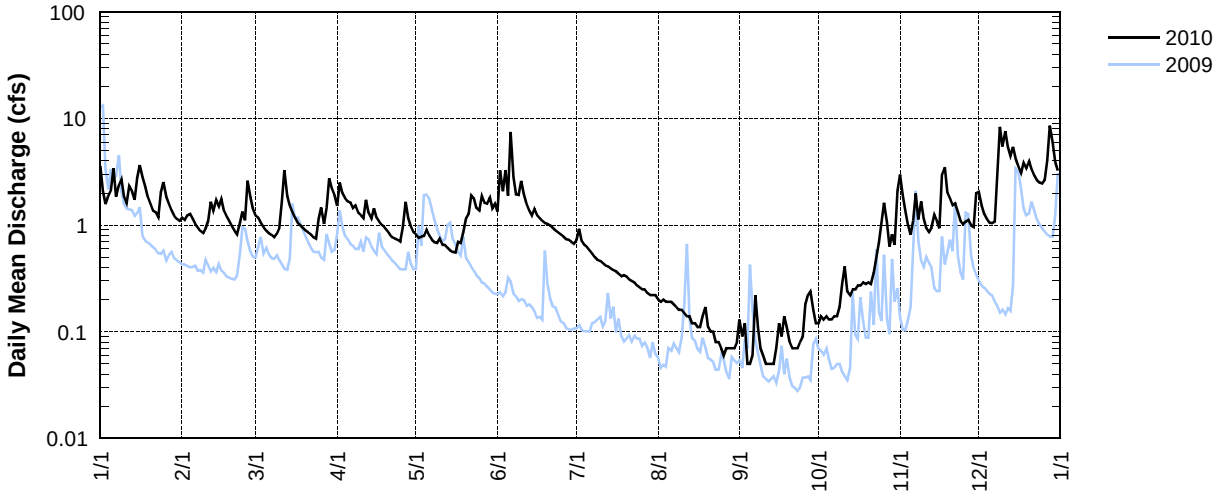
BCSR – 14206419 – BRONSON CREEK AT SALTZMAN ROAD NEAR ORENCO, OREGON [RM 5.1]

Latitude: 45 33 19 Longitude: 122 48 25 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Daily Mean Discharge in Cubic Feet per Second											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	3.6	1.2	1.2	1.5	0.82	1.3	0.73	0.20	0.13	e0.12	e3.0	2.0
2	2.1	1.1	1.2	2.5	0.76	3.3	0.92	0.19	0.09	e0.14	e2.0	1.5
3	1.6	1.2	1.1	2.0	0.78	2.1	0.71	0.20	0.12	e0.13	e1.4	1.3
4	1.9	1.3	0.95	1.8	0.79	3.3	0.65	0.19	0.05	e0.14	e1.0	1.1
5	2.1	1.1	0.89	1.7	0.91	1.9	0.62	0.19	0.05	e0.13	e0.81	1.1
6	3.4	1.0	0.84	1.6	0.80	7.4	0.58	0.19	0.06	e0.13	e1.1	1.0
7	1.8	0.95	0.81	1.4	0.73	2.8	0.54	0.18	0.22	e0.14	e2.0	1.1
8	2.4	0.88	0.77	1.5	0.69	1.9	0.50	0.17	0.11	e0.14	e1.1	2.8
9	2.7	0.84	0.83	1.3	0.68	1.9	0.47	0.16	0.07	e0.17	e1.7	8.4
10	1.8	0.93	0.94	1.2	0.75	2.6	0.46	0.16	0.06	e0.28	e1.1	5.5
11	1.6	1.1	1.6	1.2	0.65	2.0	0.44	0.15	0.05	e0.41	e0.93	7.6
12	2.3	1.7	3.3	1.7	0.65	1.6	0.42	0.14	0.05	e0.24	0.86	5.4
13	2.1	1.4	1.9	1.3	0.61	1.4	0.41	0.14	0.05	e0.22	0.94	4.4
14	1.7	1.7	1.5	1.2	0.58	1.2	0.39	0.12	0.05	e0.25	1.2	5.4
15	2.8	1.5	1.3	1.4	0.56	1.4	0.38	0.12	0.07	e0.25	1.1	4.2
16	3.7	1.7	1.2	1.2	0.55	1.2	0.37	0.11	0.12	e0.27	0.93	3.5
17	2.8	1.4	1.0	1.1	0.70	1.2	0.35	0.11	0.10	e0.27	3.0	3.1
18	2.3	1.2	0.99	1.00	0.68	1.1	0.33	0.14	0.14	e0.29	3.5	3.8
19	1.8	1.1	0.94	0.95	0.85	1.0	0.34	0.17	0.11	e0.28	2.0	3.4
20	1.6	0.97	0.89	0.89	1.2	1.0	0.33	0.11	0.08	e0.29	1.8	4.0
21	1.4	0.88	0.85	0.82	1.3	0.99	0.31	0.10	0.07	e0.28	1.5	3.3
22	1.3	0.82	0.82	0.77	1.9	0.94	0.30	0.10	0.07	e0.36	1.6	2.9
23	1.2	1.0	0.77	0.75	1.8	0.89	0.29	0.09	0.07	e0.49	1.3	2.7
24	2.0	1.3	0.75	0.73	1.4	0.85	0.27	0.08	0.08	e0.69	1.1	2.5
25	2.5	1.1	1.1	0.70	1.4	0.82	0.26	0.07	0.09	e1.1	1.0	2.5
26	1.8	2.6	1.5	0.95	1.9	0.78	0.25	0.06	e0.18	e1.6	1.1	2.7
27	1.6	1.8	1.0	1.6	1.6	0.74	0.25	0.07	e0.22	e1.1	1.1	4.0
28	1.4	1.4	1.5	1.2	1.6	0.73	0.23	0.07	e0.24	e0.63	0.99	8.6
29	1.2	—	2.7	0.97	1.8	0.70	0.22	0.07	e0.16	e0.82	0.96	5.9
30	1.1	—	2.2	0.86	1.4	0.67	0.22	0.08	e0.12	e0.65	2.0	3.9
31	1.1	—	1.9	—	1.6	—	0.22	0.08	—	e2.1	—	3.2
TOTAL	62.7	35.17	39.24	37.79	32.44	49.71	12.76	4.01	3.08	14.11	44.12	112.8
MEAN	2.0	1.3	1.3	1.3	1.0	1.7	0.41	0.13	0.10	0.45	1.5	3.6
MAX	3.7	2.6	3.3	2.5	1.9	7.4	0.92	0.20	0.24	2.1	3.5	8.6
MIN	1.1	0.82	0.75	0.70	0.55	0.67	0.22	0.06	0.05	0.12	0.81	1.0
AC-FT	124	70	78	75	64	99	25	8.0	6.1	28	88	224

e=estimated value

BCSR — 14206419 — Bronson Creek at Saltzman Road near Orenco, Oregon [RM 5.1]



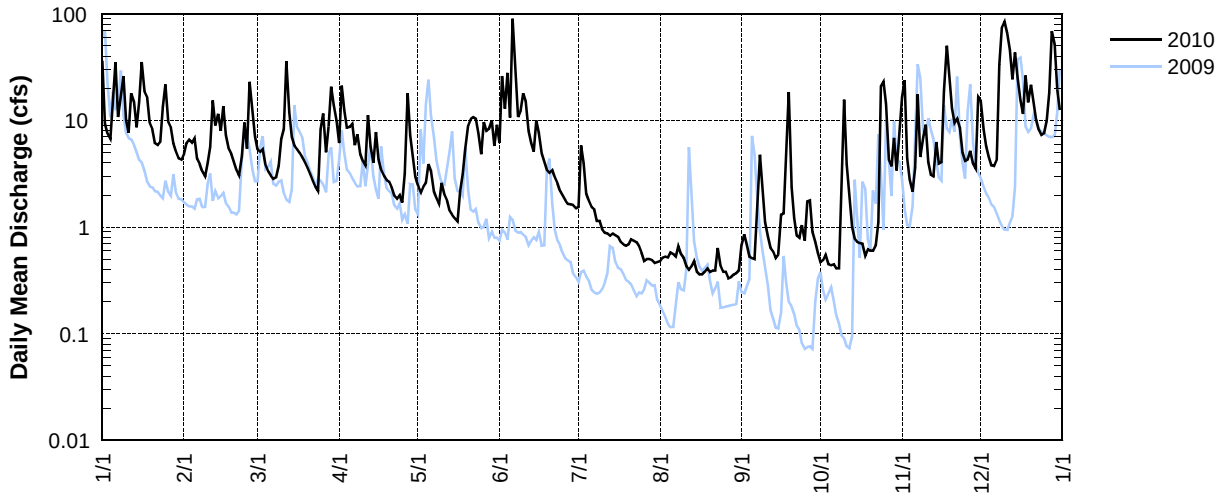
BCBR – 14206423 – BRONSON CREEK AT BRONSON ROAD NEAR ORENCO, OREGON [RM 2.1]

Latitude: 45 32 18 Longitude: 122 51 15 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Daily Mean Discharge in Cubic Feet per Second											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	e36	4.9	5.3	6.2	2.5	6.1	1.6	0.48	0.67	0.47	17	15
2	e9.3	6.2	5.1	21	2.1	26	5.8	0.52	0.85	0.49	24	8.2
3	e7.5	6.6	5.4	12	2.4	13	4.0	0.53	0.68	0.55	4.5	5.7
4	e6.7	6.2	3.8	8.6	2.6	28	2.1	0.52	0.53	0.45	2.8	4.5
5	14	6.8	3.3	8.7	3.9	11	1.7	0.58	0.51	0.44	2.1	3.8
6	35	4.4	3.0	9.3	3.4	e90	1.5	0.56	0.50	0.45	3.6	3.7
7	11	3.9	2.8	5.9	2.2	30	1.5	0.53	1.8	0.41	18	4.3
8	17	3.3	2.9	7.4	1.9	11	1.1	0.66	4.8	0.41	4.5	34
9	26	3.0	3.7	4.8	1.6	12	1.1	0.56	2.1	2.7	6.9	e75
10	10	4.0	6.7	4.1	2.6	18	0.95	0.51	1.1	16	9.1	e85
11	7.7	5.7	8.3	3.8	2.0	15	0.88	0.43	0.81	3.9	4.1	e65
12	18	15	36	11	1.8	8.0	0.87	0.40	0.64	2.0	3.1	46
13	15	8.9	12	5.8	1.4	6.1	0.83	0.43	0.59	1.00	3.0	24
14	8.6	11	7.0	4.0	1.3	5.1	0.87	0.48	0.51	0.78	6.3	43
15	15	8.0	e5.8	7.8	1.2	10	0.84	0.38	0.55	0.73	3.9	25
16	35	14	e5.4	4.3	1.1	7.6	0.81	0.36	1.3	0.71	4.0	15
17	18	7.3	e4.9	3.4	2.2	4.9	0.73	0.36	1.3	0.70	19	12
18	16	5.4	e4.5	3.0	3.1	4.1	0.69	0.38	5.0	0.54	50	26
19	9.5	4.8	e4.0	2.8	5.4	3.5	0.67	0.41	19	0.62	24	15
20	8.3	4.1	e3.6	2.7	9.0	3.2	0.69	0.38	2.4	0.60	13	22
21	6.1	3.4	e3.1	2.3	10	3.4	0.77	0.39	1.2	0.60	9.5	14
22	5.9	3.0	e2.7	2.0	11	2.9	0.75	0.39	0.83	0.68	10	10
23	6.3	4.6	e2.4	1.9	10	2.6	0.72	0.64	0.79	1.1	8.5	8.2
24	13	9.6	2.2	2.0	7.6	2.2	0.66	0.43	1.0	21	5.0	7.3
25	22	5.4	8.3	1.7	4.8	2.0	0.57	0.38	0.75	23	4.2	7.6
26	9.7	23	12	3.2	9.6	1.8	0.48	0.38	1.7	14	4.3	9.9
27	8.6	13	5.1	18	8.0	1.6	0.50	0.33	1.8	4.2	5.2	18
28	6.1	7.0	8.8	7.2	8.3	1.6	0.50	0.34	0.90	3.7	3.9	69
29	5.1	—	21	4.7	10	1.6	0.49	0.36	0.72	6.9	3.5	52
30	4.4	—	14	3.0	5.8	1.5	0.46	0.37	0.57	3.4	16	20
31	4.3	—	9.9	—	9.1	—	0.47	0.39	—	8.1	—	12
TOTAL	415.1	202.5	223	182.6	147.9	333.8	35.6	13.86	55.9	120.63	293	760.2
MEAN	13.4	7.2	7.2	6.1	4.8	11.1	1.1	0.45	1.9	3.9	9.8	24.5
MAX	36	23	36	21	11	90	5.8	0.66	19	23	50	85
MIN	4.3	3.0	2.2	1.7	1.1	1.5	0.46	0.33	0.50	0.41	2.1	3.7
AC-FT	823	402	442	362	293	662	71	27	111	239	581	1508

e=estimated value

BCBR — 14206423 — Bronson Creek at Bronson Road near Orenco, Oregon [RM 2.1]



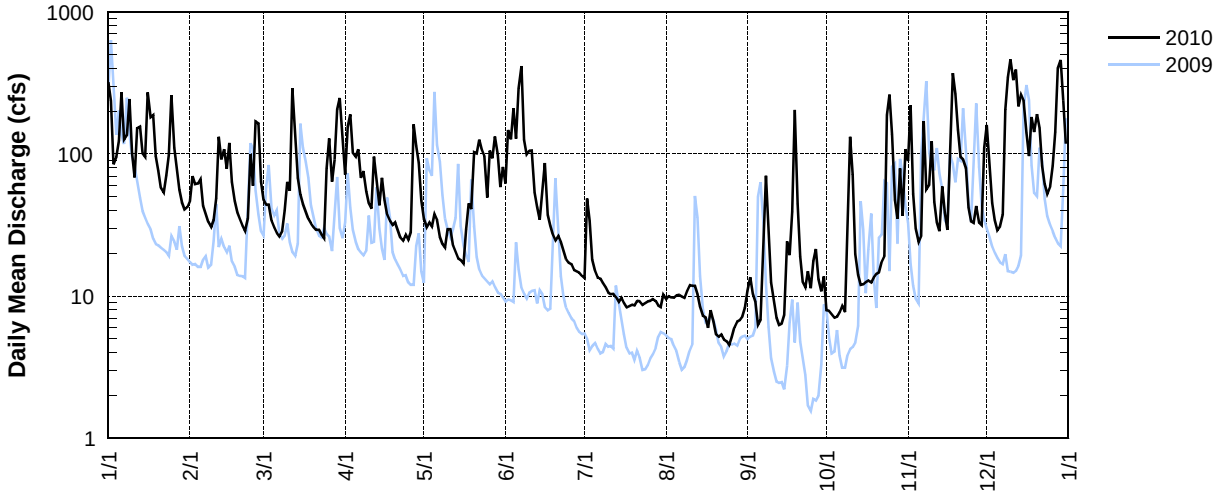
BVTS – 14206435 – BEAVERTON CREEK AT NE GUSTON COURT NEAR ORENCO, OREGON [RM 1.2]

Latitude: 45 31 15 Longitude: 122 53 59 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Daily Mean Discharge in Cubic Feet per Second											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	320	47	47	72	35	62	13	9.5	e11	7.9	89	160
2	237	70	44	155	31	147	49	10	e14	e7.9	220	78
3	84	62	44	190	33	127	34	9.8	e10	e7.5	52	45
4	96	62	34	102	31	209	18	9.7	e9.1	e7.1	30	34
5	124	67	31	96	38	128	15	10	e6.3	e7.2	24	29
6	272	43	28	108	34	290	13	10	e6.8	e7.7	27	31
7	127	38	26	68	26	416	13	9.9	e26	e8.6	170	38
8	136	33	29	76	23	126	12	9.8	70	e7.7	56	205
9	243	31	40	55	22	99	11	11	29	e27	61	346
10	102	34	64	45	30	105	11	12	12	132	123	462
11	68	49	55	41	30	106	10	12	9.1	72	46	330
12	152	132	290	96	23	53	10	12	7.1	20	33	393
13	156	91	149	66	20	42	9.8	10	6.3	14	29	216
14	101	108	68	44	18	35	9.1	e8.4	6.4	12	59	260
15	95	79	52	68	18	52	9.8	e7.3	7.4	12	39	237
16	271	120	44	47	17	86	8.9	e7.1	24	13	29	141
17	181	63	39	38	29	37	8.4	e6.0	19	13	73	97
18	188	47	35	34	45	31	8.5	e8.0	39	13	370	182
19	97	39	32	32	41	27	8.7	e6.6	203	14	265	143
20	76	35	31	33	103	25	8.6	e5.4	45	14	148	191
21	58	31	29	29	101	27	9.2	e5.2	19	15	95	153
22	53	29	29	26	126	24	9.2	e5.4	12	18	91	82
23	70	35	27	25	107	21	8.7	e5.0	11	19	80	61
24	99	100	25	27	96	18	8.9	e4.8	15	188	42	52
25	259	60	79	25	49	17	9.2	e4.5	11	262	34	59
26	111	169	129	28	106	17	9.2	e5.2	18	138	33	83
27	78	164	64	162	94	15	9.6	e6.0	21	48	43	143
28	56	64	91	114	133	15	9.3	e6.6	13	35	33	401
29	46	—	205	87	99	15	8.6	e6.8	11	79	32	459
30	41	—	247	47	58	14	8.4	e7.2	14	37	111	238
31	42	—	127	—	81	—	10	e8.3	—	108	—	118
TOTAL	4039	1902	2234	2036	1697	2386	381.1	249.5	705.5	1364.6	2537	5467
MEAN	130.3	67.9	72.0	67.9	54.8	79.6	12.4	8.1	23.6	43.9	84.6	176.4
MAX	320	169	290	190	133	416	49	12	203	262	370	462
MIN	41	29	25	25	17	14	8.4	4.5	6.3	7.1	24	29
AC-FT	8011	3773	4431	4038	3366	4733	756	495	1399	2707	5032	10840

e=estimated value

BVTS — 14206435 — Beaverton Creek at NE Guston Court near Orenco, Oregon [RM 1.2]



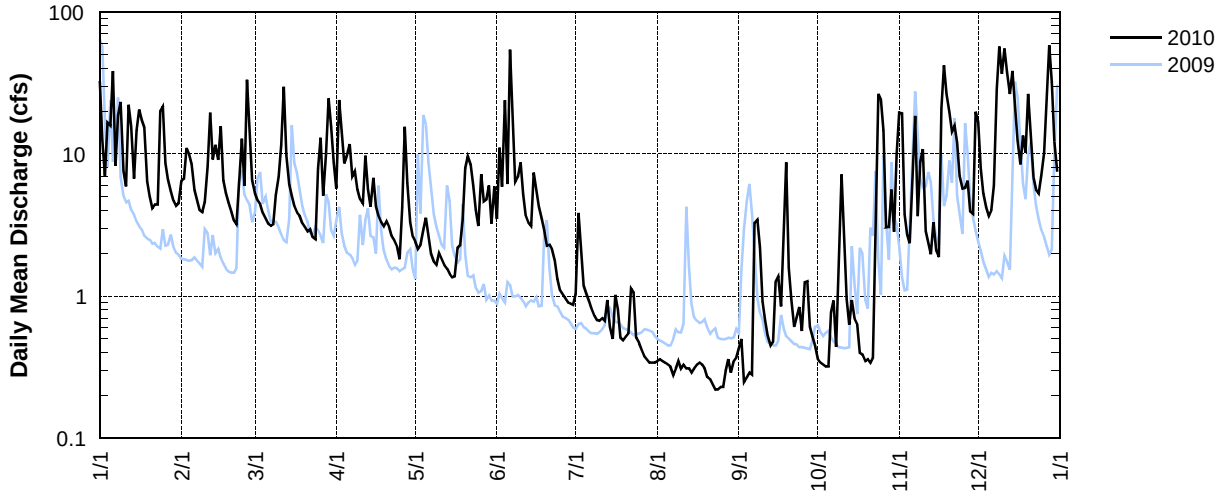
DCBR – 14206443 – DAWSON CREEK AT BROOKWOOD ROAD NEAR HILLSBORO, OREGON [RM 0.7]

Latitude: 45 31 27 Longitude:122 56 01 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Daily Mean Discharge in Cubic Feet per Second											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	32	6.5	5.3	5.7	2.4	3.5	1.0	0.35	0.43	0.36	20	17
2	12	6.7	4.7	24	2.2	11	3.8	e0.36	0.50	0.34	19	7.9
3	7.0	11	4.4	14	2.3	5.9	2.1	e0.35	0.25	0.33	3.8	5.3
4	17	9.9	3.9	8.6	2.9	24	1.2	e0.34	0.27	0.32	2.7	4.2
5	16	8.4	3.5	9.7	3.6	6.1	1.1	e0.33	0.29	0.32	2.3	3.7
6	38	5.5	3.2	12	2.6	54	0.92	e0.32	0.28	0.77	6.0	4.0
7	8.3	4.7	3.1	7.0	2.0	17	0.81	e0.28	3.3	0.93	19	6.0
8	19	4.0	3.2	7.6	1.8	6.4	0.73	e0.31	3.5	0.44	3.7	28
9	23	3.9	5.1	5.6	1.7	7.0	0.68	e0.35	2.2	1.7	8.8	57
10	7.6	4.6	6.9	4.8	2.0	8.7	0.67	e0.31	0.92	7.2	11	37
11	5.9	8.2	12	4.5	1.8	5.2	0.70	e0.33	0.68	2.6	2.9	55
12	22	19	30	9.7	1.7	3.7	0.67	e0.31	0.53	0.95	2.4	38
13	16	9.2	9.8	5.6	1.6	3.3	0.94	e0.31	0.45	0.63	2.0	26
14	6.7	12	6.1	4.3	1.4	3.1	0.61	e0.29	0.48	0.94	3.3	38
15	15	9.1	5.1	6.8	1.4	7.4	0.50	e0.31	1.3	0.69	2.1	22
16	20	16	4.3	4.3	1.4	5.5	1.0	e0.33	1.4	0.63	1.9	12
17	17	6.5	3.9	3.7	2.2	4.3	0.81	e0.34	0.85	0.40	21	8.4
18	15	5.3	3.7	3.3	2.3	3.5	0.51	e0.33	3.5	0.39	42	14
19	6.4	4.6	3.2	3.1	3.5	2.9	0.49	e0.31	8.7	0.35	26	10
20	5.0	3.9	3.0	3.4	8.0	2.3	0.52	e0.27	1.6	0.36	20	26
21	4.2	3.4	2.9	3.1	9.6	2.3	0.55	e0.26	0.95	0.34	14	14
22	4.4	3.2	3.0	2.6	8.4	2.1	1.1	e0.24	0.61	0.37	16	6.8
23	4.4	6.4	2.6	2.5	6.0	1.8	1.1	e0.22	0.71	1.5	12	5.6
24	20	13	2.5	2.2	4.0	1.3	0.51	e0.22	0.84	26	7.0	5.3
25	22	6.0	7.9	1.8	3.1	1.1	0.47	e0.23	0.57	24	5.7	7.0
26	8.6	33	13	4.2	7.2	1.0	0.42	e0.23	1.3	15	5.8	10
27	6.6	13	5.1	16	4.6	0.96	0.38	e0.30	1.3	3.0	6.5	25
28	5.4	6.5	10	6.3	4.8	0.90	0.36	e0.36	0.61	3.1	3.9	58
29	4.7	—	25	3.3	6.0	0.89	0.34	e0.29	0.52	5.6	3.8	32
30	4.3	—	16	2.6	3.2	0.87	0.34	0.35	0.45	2.8	20	12
31	4.5	—	8.7	—	5.9	—	0.34	0.37	—	9.8	—	7.5
TOTAL	398	243.5	221.1	192.3	111.6	198.02	25.67	9.5	39.29	112.16	314.6	602.7
MEAN	12.9	8.7	7.1	6.4	3.6	6.6	0.83	0.31	1.3	3.6	10.5	19.5
MAX	38	33	30	24	9.6	54	3.8	0.37	8.7	26	42	58
MIN	4.2	3.2	2.5	1.8	1.4	0.87	0.34	0.22	0.25	0.32	1.9	3.7
AC-FT	789	483	439	381	221	393	51	19	78	222	624	1195

e=estimated value

DCBR — 14206443 — Dawson Creek at Brookwood Road near Hillsboro, Oregon [RM 0.7]



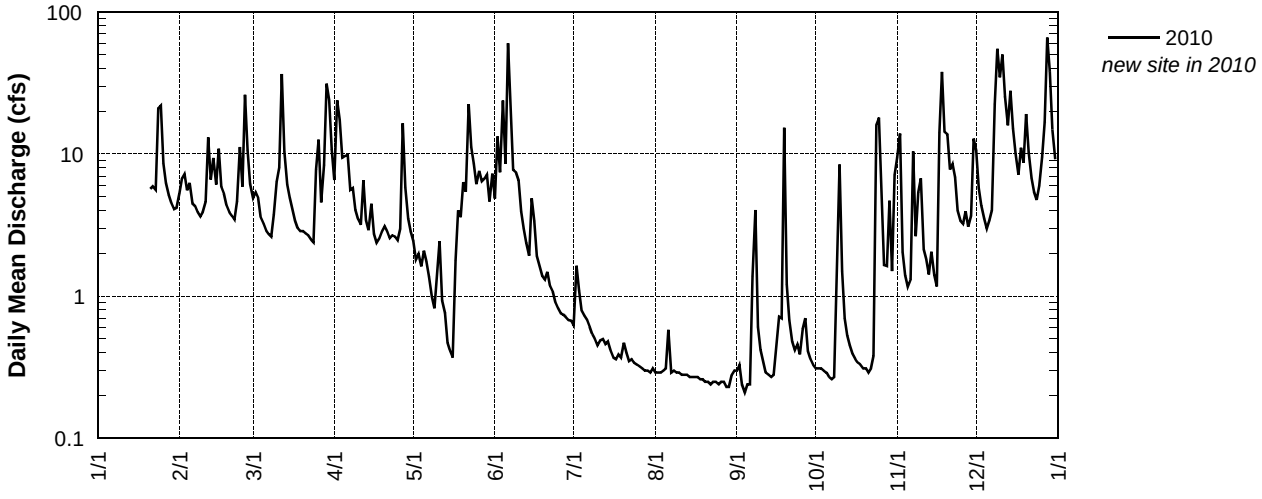
BCRR – 14206384 – BUTTERNUT CREEK AT ROSA ROAD [RM 1.0]

Latitude: 43 28 42 Longitude:122 55 05 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Daily Mean Discharge in Cubic Feet per Second											
	JAN*	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1		5.3	4.9	6.6	2.4	4.9	0.62	0.29	e0.30	0.31	9.4	11
2		6.7	5.4	24	1.8	13	1.6	0.29	e0.33	0.31	14	5.8
3		7.2	4.9	17	2.0	7.4	1.1	0.29	e0.24	0.31	2.0	4.3
4		5.6	3.6	9.4	1.6	24	0.79	0.30	e0.21	0.30	1.4	3.5
5		6.3	3.2	9.7	2.1	8.5	0.73	0.31	e0.24	0.29	1.2	3.0
6		4.5	2.9	9.9	1.8	e60	0.68	0.58	e0.24	0.27	1.3	3.4
7		4.3	2.7	5.6	1.4	18	0.61	0.29	1.4	0.26	10	4.0
8		3.9	2.6	5.8	0.99	7.7	0.54	0.30	4.0	0.27	2.6	22
9		3.6	3.8	4.0	0.82	7.4	0.50	0.29	0.61	1.0	5.4	e55
10		3.9	6.4	3.5	1.3	6.5	0.45	0.29	0.42	8.4	6.7	35
11		4.6	8.0	3.2	2.4	4.0	0.49	0.28	0.35	1.5	2.1	e50
12		13	37	6.5	0.93	3.0	0.50	0.28	0.29	0.70	1.8	25
13		6.6	10	3.4	0.76	2.4	0.46	0.28	0.28	0.53	1.4	16
14		9.4	6.1	2.9	0.47	1.9	0.48	0.27	0.27	0.45	2.1	28
15		6.1	4.9	4.5	0.41	4.9	0.41	0.27	0.28	0.39	1.4	15
16		11	4.1	2.7	0.37	3.4	0.37	0.27	0.45	0.36	1.2	10
17		5.9	3.4	2.4	1.8	1.9	0.36	0.27	0.72	0.34	14	7.2
18		5.3	3.0	2.5	4.0	1.6	0.39	0.26	0.70	0.33	38	11
19		4.3	2.9	2.8	3.6	1.4	0.37	0.26	15	0.31	14	8.7
20		3.9	2.9	3.1	6.3	1.3	0.47	0.25	1.2	0.31	14	19
21	5.7	3.7	2.8	2.9	5.4	1.5	0.40	0.25	0.68	0.29	7.8	10
22	5.9	3.5	2.7	2.6	22	1.2	0.35	0.24	0.48	0.31	8.5	6.8
23	5.6	4.6	2.5	2.7	11	1.1	0.36	0.25	0.42	0.38	6.9	5.4
24	21	11	2.4	2.6	8.6	0.90	0.34	0.25	0.46	16	4.0	4.8
25	22	5.9	7.8	2.5	6.1	0.82	0.33	0.24	0.39	18	3.4	6.0
26	8.6	26	13	3.0	7.6	0.76	0.32	0.25	0.59	5.2	3.2	9.5
27	6.2	11	4.6	16	6.4	0.74	0.31	0.25	0.70	1.6	4.0	17
28	5.1	6.1	8.4	5.8	6.7	0.71	0.30	0.23	0.41	1.6	3.1	66
29	4.5	—	31	3.5	7.2	0.68	0.30	0.23	0.36	4.7	3.7	38
30	4.1	—	24	2.8	4.7	0.67	0.29	0.28	0.33	1.5	13	15
31	4.2	—	11	—	7.3	—	0.31	0.30	—	7.1	—	9.2
TOTAL		193.2	232.9	173.9	130.25	192.28	15.53	8.69	32.35	73.62	201.6	524.6
MEAN		6.9	7.5	5.8	4.2	6.4	0.50	0.28	1.1	2.4	6.7	16.9
MAX		26	37	24	22	60	1.6	0.58	15	18	38	66
MIN		3.5	2.4	2.4	0.37	0.67	0.29	0.23	0.21	0.26	1.2	3.0
AC-FT		383	462	345	258	381	31	17	64	146	400	1041

*Incomplete record (monthly totals were computed when at least 80% of the record was complete for the month); e=estimated value; new site for 2010

BCRR — 14206384 — Butternut Creek at Rosa Road [RM 1.0]



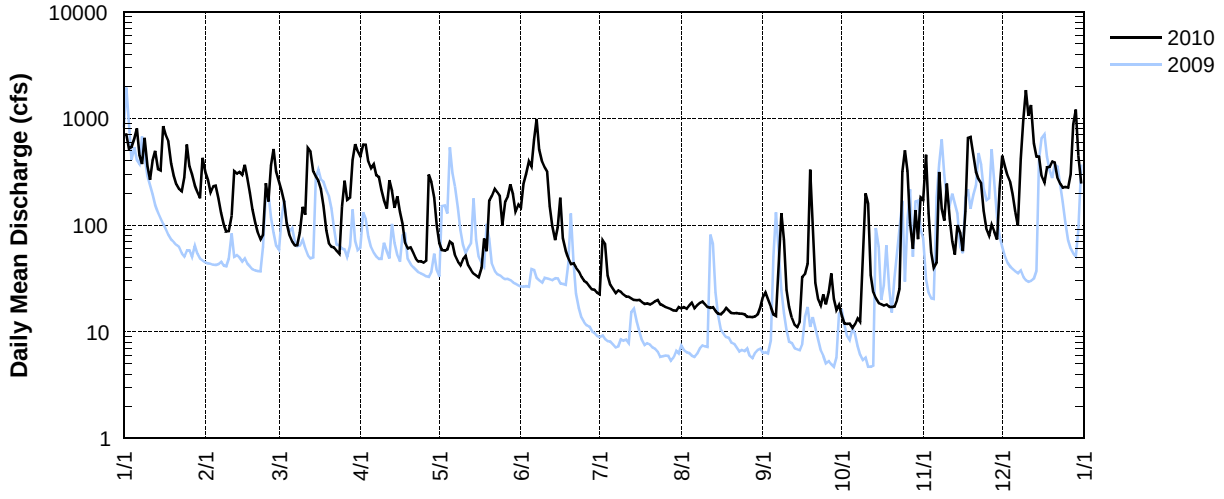
RCTV – 14206450 – ROCK CREEK AT HWY 8 NEAR HILLSBORO, OREGON [RM 1.2]

Latitude: 45 30 08 Longitude: 122 56 52 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Daily Mean Discharge in Cubic Feet per Second											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	702	313	254	439	68	146	22	17	21	14	171	449
2	708	265	209	565	58	243	72	17	24	12	458	359
3	522	204	166	e567	57	299	66	17	20	12	129	293
4	541	230	104	e392	59	395	34	18	17	12	55	253
5	650	234	80	e343	70	352	27	19	15	11	40	192
6	e807	176	70	e373	67	e634	25	17	14	12	45	133
7	e450	130	64	e293	52	e990	23	18	37	13	314	99
8	e375	102	65	e283	45	e509	24	19	129	12	142	417
9	e660	87	85	e213	42	393	24	19	73	38	110	e977
10	e357	88	148	e171	48	347	22	18	25	198	245	e1850
11	e267	122	125	e143	51	315	21	17	17	159	115	e1060
12	e404	319	531	e263	42	150	21	17	14	34	70	e1330
13	e497	303	494	e209	38	98	21	17	12	23	53	e582
14	e336	315	316	e145	35	72	20	16	11	20	100	e438
15	e325	295	284	e186	34	95	20	15	12	19	84	e439
16	e846	367	259	e133	32	181	20	15	33	18	57	e288
17	e695	276	216	e103	39	75	19	15	35	18	135	e248
18	e612	201	151	68	75	57	18	17	43	18	e658	e347
19	e377	141	89	60	57	49	18	16	330	17	e673	e352
20	e289	104	67	62	170	43	18	15	94	17	449	e395
21	e241	84	62	55	189	44	19	15	29	17	316	e386
22	e218	73	62	49	220	40	19	15	20	20	268	e275
23	e206	81	58	46	204	37	20	15	18	25	245	e243
24	e279	247	54	46	186	33	18	15	22	317	136	e225
25	e569	167	150	45	101	30	18	14	18	504	91	e227
26	e357	363	261	46	167	29	17	14	24	321	79	e224
27	e300	516	173	298	186	27	17	14	35	106	101	e299
28	e236	317	181	254	240	25	16	14	20	60	87	e880
29	e202	—	408	181	196	25	16	14	16	138	74	e1210
30	e179	—	574	100	135	23	16	15	18	74	221	e448
31	427	—	489	—	157	—	17	17	—	181	—	e245
TOTAL	13634	6120	6249	6131	3120	5756	728	501	1196	2440	5721	15163
MEAN	439.9	218.5	201.5	204.4	100.7	191.9	23.5	16.0	39.8	78.7	190.6	489.2
MAX	846	516	574	567	240	990	72	19	330	504	673	1850
MIN	179	73	54	45	32	23	16	14	11	11	40	99
AC-FT	27040	12140	12390	12160	6188	11420	1444	994	2372	4840	11350	30080

e=estimated value

RCTV — 14206450 — Rock Creek at Hwy 8 near Hillsboro, Oregon [RM 1.2]



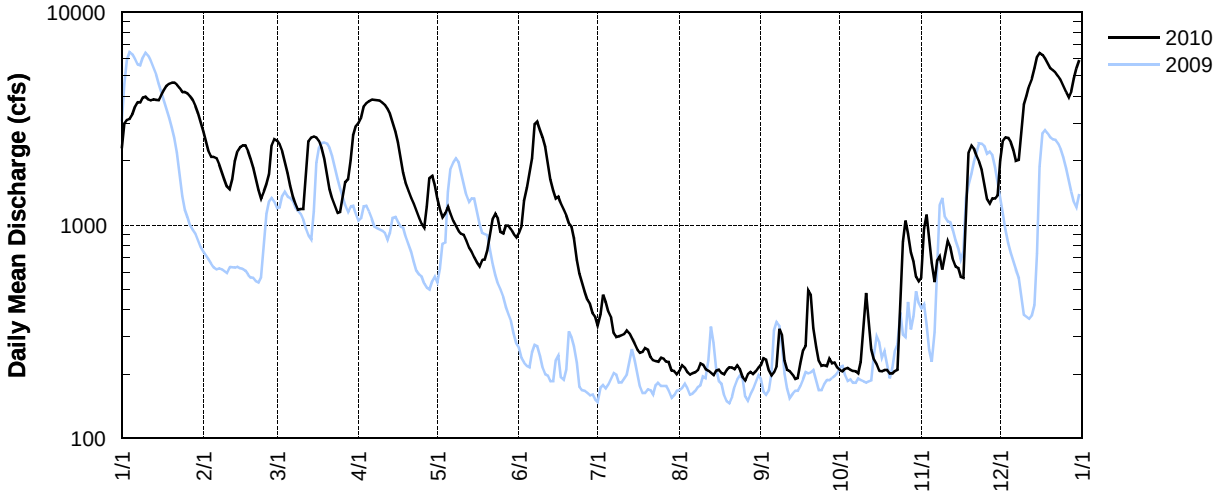
FRMO – 14206500 – TUALATIN RIVER AT FARMINGTON, OREGON [RM 33.3]

Latitude: 45 26 58 Longitude: 122 57 02 Source Agency: District 18 Watermaster

Day	2010 Daily Mean Discharge in Cubic Feet per Second											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	2290	2740	2490	3010	1330	921	338	207	220	209	566	2010
2	3000	2470	2390	3200	1190	990	382	220	238	206	964	2480
3	3110	2210	2220	3600	1090	1300	472	214	234	212	1120	2580
4	3150	2090	1980	3730	1140	1500	436	204	208	214	864	2560
5	3320	2090	1750	3800	1220	1770	393	199	197	210	665	2450
6	3590	2060	1530	3870	1130	2060	368	202	204	207	541	2250
7	3770	1930	1370	3860	1050	2970	311	204	218	206	684	2000
8	3760	1780	1260	3850	991	3050	298	209	326	201	714	2020
9	3950	1640	1180	3830	939	2780	301	225	305	228	619	2660
10	3990	1520	1190	3760	912	2580	305	222	231	348	715	3680
11	3890	1470	1190	3650	902	2330	309	211	210	481	842	4030
12	3840	1640	1740	3500	846	1950	321	208	207	345	788	4500
13	3880	1990	2470	3320	782	1640	311	203	199	261	688	4870
14	3860	2210	2580	3030	749	1450	294	198	190	234	640	5440
15	3840	2320	2600	2740	705	1330	277	208	192	222	629	6150
16	4080	2360	2580	2440	670	1360	261	210	223	207	571	6410
17	4290	2360	2480	2070	640	1260	252	203	259	206	565	6290
18	4490	2230	2310	1760	685	1180	255	200	272	209	1260	6020
19	4600	2050	2040	1570	688	1110	265	209	492	209	2200	5730
20	4650	1850	1730	1440	759	1020	261	215	470	201	2360	5440
21	4650	1640	1470	1340	899	985	241	215	329	201	2280	5330
22	4560	1460	1330	1260	1070	866	233	211	268	207	2110	5170
23	4390	1330	1240	1170	e1130	686	230	220	230	210	1980	4980
24	4190	1440	1140	1080	e1070	591	229	212	219	393	1820	4760
25	4210	1560	1150	1010	e930	539	239	194	220	836	1540	4500
26	4150	1730	1350	970	914	489	237	187	218	1050	1320	4190
27	4020	2370	1590	1220	993	446	229	200	236	910	1260	3970
28	3850	2530	1640	1660	994	426	228	205	225	742	1330	4240
29	3620	—	2010	1700	957	387	208	200	226	675	1330	4870
30	3350	—	2640	1540	912	372	207	206	215	572	1380	5440
31	3050	—	2910	—	876	—	200	214	—	544	—	5950
TOTAL	119390	55070	57550	74980	26033	40338	8891	6435	7481	11156	34345	132970
MEAN	3851	1967	1856	2499	930	1345	286.8	207.6	249.4	359.9	1145	4289
MAX	4650	2740	2910	3870	1330	3050	472	225	492	1050	2360	6410
MIN	2290	1330	1140	970	640	372	200	187	190	201	541	2000
AC-FT	236800	109200	114100	148700	51640	80010	17640	12760	14840	22130	68120	263700

e=estimated value

FRMO — 14206500 — Tualatin River at Farmington, Oregon [RM 33.3]



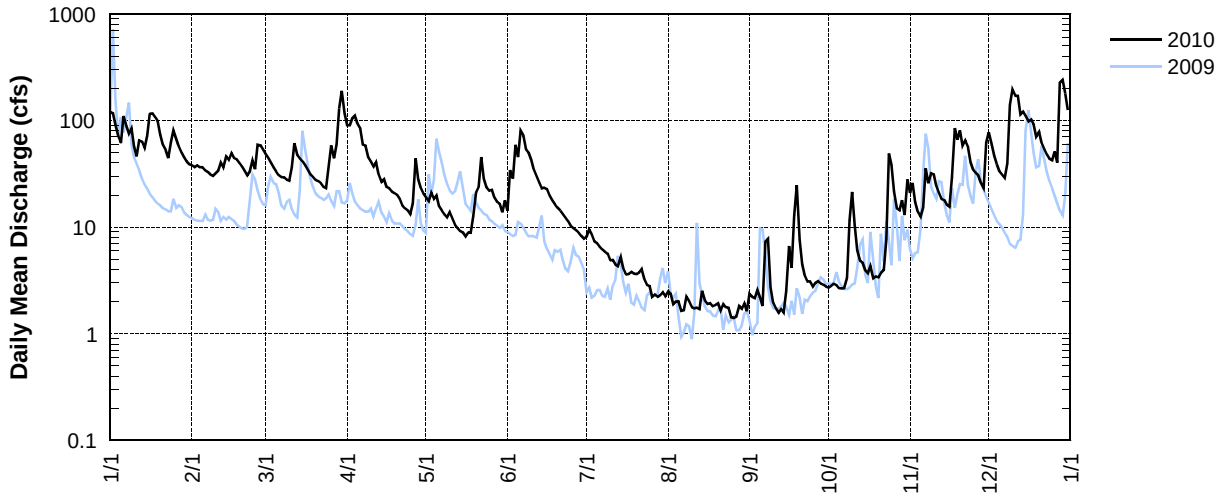
CCSR – 14206750 – CHICKEN CREEK AT ROY ROGERS ROAD NEAR SHERWOOD, OREGON [RM 2.3]

Latitude: 45 22 31 Longitude: 122 51 24 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Daily Mean Discharge in Cubic Feet per Second											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	e120	38	48	90	19	14	8.1	2.5	2.4	2.7	21	77
2	117	37	44	e90	17	34	9.4	2.4	2.2	2.8	26	60
3	91	38	40	e105	21	29	8.5	1.9	2.1	2.9	17	47
4	71	36	36	e111	18	59	7.4	2.0	2.6	2.9	14	39
5	61	36	33	92	20	46	7.1	2.0	2.2	2.7	12	34
6	e110	34	31	83	16	e80	6.5	1.6	1.8	2.7	15	31
7	91	33	29	59	14	71	6.1	1.7	7.3	2.7	36	29
8	76	31	29	58	13	53	5.9	2.2	7.8	3.3	26	40
9	85	30	28	45	12	50	5.6	2.0	2.7	12	32	e140
10	57	32	27	41	14	43	4.9	1.8	2.0	21	31	e195
11	46	34	36	37	12	35	4.9	1.7	1.7	11	24	e170
12	65	40	61	41	11	30	4.5	1.7	1.6	6.0	21	e170
13	63	36	48	31	9.8	26	4.3	1.7	1.7	4.8	18	e114
14	55	46	44	26	9.2	23	5.2	2.5	1.6	4.6	18	e120
15	e72	43	42	28	8.9	23	4.1	2.0	2.5	3.9	16	e110
16	e115	49	38	24	8.2	23	3.6	1.9	6.7	3.7	15	e98
17	e116	45	34	23	8.9	20	3.6	1.9	4.2	4.3	29	102
18	e108	43	31	21	8.8	18	3.8	1.8	13	3.3	e85	92
19	97	40	30	21	13	16	3.6	1.9	25	3.4	66	70
20	73	37	28	20	21	15	3.6	1.9	7.6	3.4	80	78
21	59	34	27	18	24	14	3.7	1.7	4.5	3.7	58	62
22	53	31	26	16	45	13	4.1	1.9	3.5	4.0	65	54
23	45	34	24	15	28	12	3.2	1.8	3.1	7.8	56	48
24	62	42	23	14	24	11	2.9	1.7	3.1	49	41	44
25	81	35	37	13	22	10	2.8	1.4	2.8	38	35	42
26	67	59	58	17	22	9.7	2.2	1.4	3.0	21	32	51
27	57	58	44	44	19	9.3	2.3	1.4	3.1	15	31	e40
28	50	53	60	28	17	8.9	2.2	1.8	3.0	14	26	e225
29	45	—	e130	23	16	8.3	2.3	1.7	2.9	18	23	e240
30	41	—	e190	21	14	7.8	2.5	1.9	2.8	13	62	e180
31	39	—	e116	—	18	—	2.3	1.6	—	28	—	e125
TOTAL	2288	1104	1472	1255	523.8	812	141.2	57.4	130.5	315.6	1031	2927
MEAN	73.7	39.4	47.5	41.9	16.9	27.1	4.6	1.9	4.3	10.2	34.4	94.4
MAX	120	59	190	111	45	80	9.4	2.5	25	49	85	240
MIN	39	30	23	13	8.2	7.8	2.2	1.4	1.6	2.7	12	29
AC-FT	4538	2190	2920	2489	1039	1611	280	114	259	626	2045	5806

e=estimated value

CCSR — 14206750 — Chicken Creek at Roy Rogers Road near Sherwood, Oregon [RM 2.3]



UNITED STATES DEPARTMENT OF THE INTERIOR – GEOLOGICAL SURVEY – OREGON WATER SCIENCE CENTER

STATION NUMBER 14206900 FANNO CREEK AT 56TH AVENUE

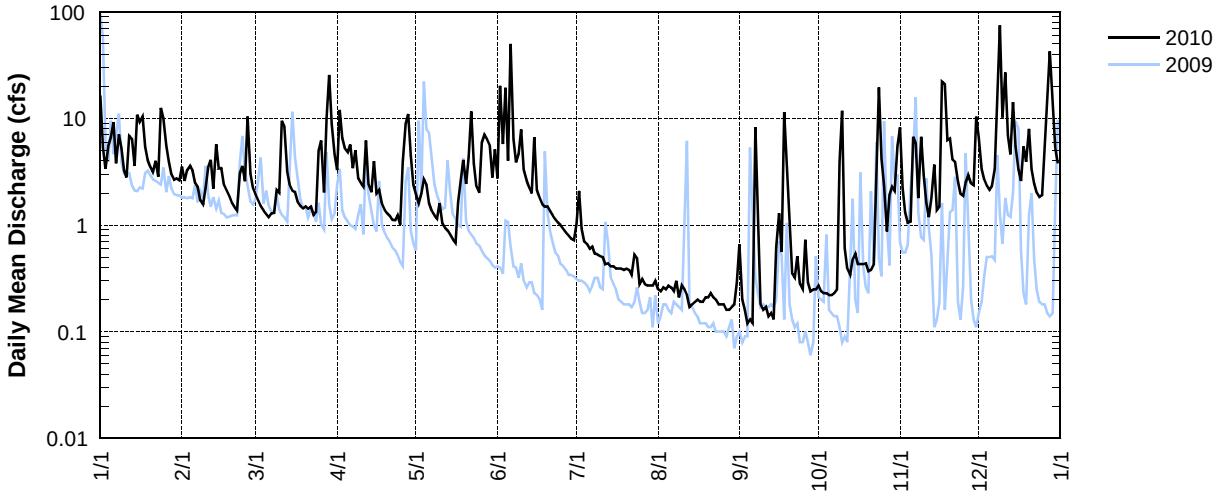
LATITUDE: 452917 LONGITUDE: 1224401 DRAINAGE AREA: 2.37

Discharge, Cubic Feet per Second, Calendar Year January to December 2010 Daily Mean Values

Day	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT†	NOV†	DEC†
1	16	3.5	1.9	3.3	1.9	2.7	1.0	0.25	0.67	0.26	8.2	6.6
2	5.4	2.6	1.7	12	1.6	20	2.1	0.24	0.20	0.24	2.3	3.3
3	3.4	3.3	1.5	6.6	2.0	5.7	0.92	0.26	0.16	0.22	1.3	2.7
4	5.5	3.6	1.4	5.3	2.7	19	0.71	0.24	0.12	0.23	1.1	2.3
5	6.6	3.3	1.3	4.8	2.4	4.0	0.66	0.27	0.13	0.22	1.1	2.1
6	9.3	2.5	1.2	5.7	1.6	50	0.60	0.26	0.13	0.22	6.3	2.3
7	3.8	2.3	1.3	3.4	1.4	6.4	0.63	0.23	8.3	0.23	6.7	3.4
8	7.0	1.7	1.3	5.0	1.2	3.8	0.54	0.30	0.78	0.25	1.8	12
9	5.3	1.6	2.1	2.7	1.2	4.6	0.53	0.21	0.18	3.9	6.7	75
10	3.3	2.3	2.0	2.5	1.6	7.9	0.52	0.27	0.16	12	3.0	10
11	2.8	3.5	9.4	2.3	1.0	3.3	0.50	0.25	0.17	0.62	1.6	27
12	6.8	4.1	8.5	6.2	0.94	2.6	0.43	0.22	0.14	0.39	1.2	7.0
13	6.4	2.2	3.2	2.4	0.89	2.2	0.44	0.17	0.15	0.34	1.8	4.6
14	3.6	5.7	2.4	2.0	0.81	2.0	0.41	0.18	0.13	0.48	3.7	14
15	11	3.4	2.1	4.0	0.75	6.7	0.42	0.19	0.62	0.55	1.4	5.5
16	9.3	3.5	2.0	2.0	0.69	2.1	0.39	0.19	1.3	0.43	1.5	3.3
17	10	2.4	1.6	2.1	1.6	1.8	0.39	0.19	0.55	0.43	22	2.6
18	5.4	2.1	1.5	1.6	2.6	1.6	0.39	0.19	11	0.43	21	5.4
19	4.0	1.9	1.4	1.4	4.1	1.5	0.38	0.21	2.9	0.44	6.3	3.9
20	3.5	1.6	1.5	1.3	2.4	1.5	0.39	0.21	0.87	0.37	6.5	8.0
21	3.1	1.5	1.4	1.2	4.3	1.3	0.37	0.23	0.35	0.38	4.1	3.4
22	4.0	1.4	1.5	1.1	12	1.2	0.34	0.21	0.32	0.43	3.9	2.4
23	2.8	3.1	1.3	1.1	3.8	1.1	0.52	0.20	0.51	3.2	2.6	2.0
24	12	3.6	1.3	1.2	2.3	1.1	0.49	0.18	0.29	19	2.0	1.8
25	10	2.6	4.9	1.0	2.0	0.99	0.28	0.19	0.25	4.2	1.9	1.9
26	5.6	10	6.2	3.8	5.9	0.92	0.31	0.18	0.73	2.4	2.5	4.6
27	3.9	3.0	2.0	8.9	7.0	0.85	0.28	0.16	0.29	0.86	2.9	12
28	3.0	2.2	10	11	6.4	0.80	0.27	0.16	0.24	1.9	2.4	43
29	2.7	—	25	4.6	5.6	0.75	0.27	0.17	0.25	2.3	2.4	15
30	2.7	—	9.0	2.4	2.8	0.72	0.27	0.18	0.25	1.8	10	5.3
31	2.6	—	4.6	—	5.2	—	0.30	0.29	—	5.8	—	3.8
TOTAL	180.8	84.5	116.5	112.9	90.68	159.13	16.05	6.68	32.14	64.52	140.2	296.2
MEAN	5.83	3.02	3.76	3.76	2.93	5.30	0.52	0.22	1.07	2.08	4.67	9.55
MAX	16	10	25	12	12	50	2.1	0.30	11	19	22	75
MIN	2.6	1.4	1.2	1.0	0.69	0.72	0.27	0.16	0.12	0.22	1.1	1.8
AC-FT	359	168	231	224	180	316	32	13	64	128	278	588

† Provisional data–subject to revision

6900 — 14206900 — Fanno Creek at 56th Avenue [RM 11.9]

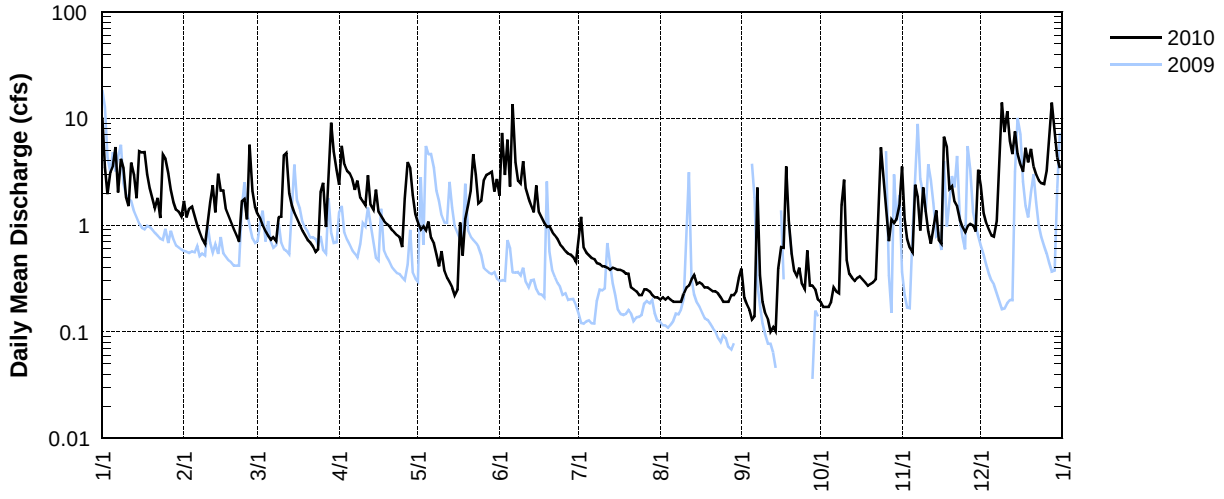


SCRL – 14206905 – SYLVAN CREEK AT RALEIGHWOOD LANE NEAR WEST SLOPE, OREGON [RM 1.0]

Latitude: 45 29 35 Longitude: 122 44 48 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Daily Mean Discharge in Cubic Feet per Second											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	10	1.7	1.3	2.4	1.1	1.9	0.72	0.20	0.39	0.19	3.5	2.4
2	3.5	1.2	1.1	5.5	0.91	7.3	1.2	0.21	0.21	0.17	1.1	1.3
3	1.9	1.4	0.99	3.7	0.97	3.0	0.61	0.20	0.18	0.17	0.74	1.0
4	3.1	1.5	0.87	3.2	0.89	6.3	0.55	0.21	0.16	0.17	0.61	0.91
5	3.6	1.2	0.79	3.0	1.1	2.3	0.52	0.20	0.13	0.19	0.55	0.80
6	5.4	1.0	0.73	2.7	0.76	14	0.49	0.19	0.14	0.26	2.4	0.78
7	2.0	0.85	0.77	2.1	0.67	3.9	0.48	0.19	2.3	0.24	1.8	1.1
8	4.2	0.74	0.71	2.6	0.53	2.6	0.44	0.19	0.34	0.23	0.89	3.8
9	3.4	0.66	1.2	1.8	0.41	2.5	0.43	0.19	0.19	1.5	2.3	14
10	1.8	1.1	1.2	1.7	0.57	4.0	0.41	0.23	0.15	2.7	1.3	7.4
11	1.5	1.6	4.5	1.5	0.37	2.2	0.41	0.26	0.13	0.47	0.87	12
12	3.8	2.4	4.7	2.9	0.32	1.8	0.40	0.27	0.10	0.35	0.67	6.1
13	2.9	1.3	2.0	1.5	0.29	1.5	0.38	0.31	0.11	0.32	0.95	4.6
14	1.8	3.0	1.5	1.4	0.26	1.3	0.40	0.34	0.10	0.30	1.4	7.6
15	4.9	2.1	1.3	2.2	0.22	2.4	0.39	0.28	0.39	0.32	0.72	4.7
16	4.8	2.1	1.2	1.3	0.25	1.3	0.38	0.29	0.62	0.33	0.67	3.7
17	4.8	1.4	1.00	1.2	1.1	1.2	0.38	0.28	0.61	0.31	6.7	3.2
18	3.0	1.2	0.88	1.1	0.52	1.0	0.37	0.26	3.5	0.29	5.4	5.3
19	2.2	1.0	0.80	1.0	1.1	0.96	0.35	0.26	1.1	0.27	2.2	3.9
20	1.8	0.91	0.73	0.98	1.5	0.97	0.35	0.25	0.54	0.28	2.3	5.2
21	1.4	0.80	0.69	0.90	2.1	0.86	0.26	0.24	0.37	0.29	1.7	3.5
22	1.8	0.70	0.63	0.86	4.6	0.80	0.25	0.24	0.33	0.31	1.5	3.0
23	1.2	1.7	0.56	0.80	3.0	0.74	0.24	0.23	0.40	1.2	1.1	2.6
24	4.6	1.8	0.59	0.77	1.6	0.66	0.22	0.21	0.28	5.4	0.95	2.5
25	4.2	1.1	2.0	0.62	1.7	0.62	0.22	0.19	0.25	2.8	0.86	2.4
26	3.1	5.7	2.5	1.8	2.7	0.57	0.25	0.19	0.58	1.4	0.98	3.2
27	2.1	2.1	0.96	3.9	3.0	0.54	0.25	0.19	0.27	0.71	1.0	6.2
28	1.6	1.5	3.5	3.4	3.0	0.53	0.24	0.22	0.27	1.1	0.99	14
29	1.4	—	9.2	1.9	3.2	0.50	0.22	0.22	0.25	1.1	0.87	7.7
30	1.3	—	4.9	1.3	2.1	0.45	0.21	0.24	0.20	1.2	3.3	4.3
31	1.2	—	3.3	—	2.7	—	0.21	0.32	—	1.5	—	3.4
TOTAL	94.3	43.76	57.1	60.03	43.54	68.7	12.23	7.3	14.59	26.07	50.32	142.59
MEAN	3.1	1.6	1.8	2.0	1.4	2.3	0.39	0.24	0.49	0.84	1.7	4.6
MAX	10	5.7	9.2	5.5	4.6	14	1.2	0.34	3.5	5.4	6.7	14
MIN	1.2	0.66	0.56	0.62	0.22	0.45	0.21	0.19	0.10	0.17	0.55	0.78
AC-FT	187	87	113	119	86	136	24	14	29	52	100	283

SCRL — 14206905 — Sylvan Creek at Raleighwood Lane near West Slope, Oregon [RM 1.0]



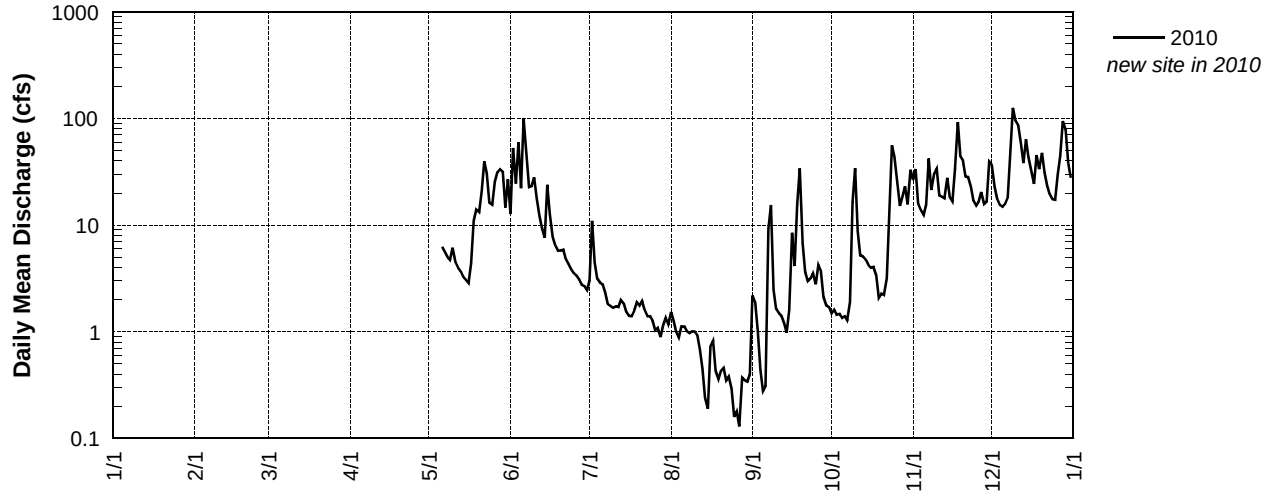
FCTW – 14206927 – FANNO CREEK AT TUCKERWOOD [RM 7.3]

Latitude: 45 27 27 Longitude: 122 47 49 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Daily Mean Discharge in Cubic Feet per Second											
	JAN	FEB	MAR	APR	MAY*	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1						13	3.0	1.5	2.2	1.5	27	37
2						53	11	1.3	1.9	1.6	33	23
3						24	4.5	0.99	1.00	1.4	16	18
4						60	3.2	0.88	0.44	1.5	14	16
5						22	2.9	1.1	0.28	1.3	12	15
6					6.2	e100	2.8	1.1	0.31	1.4	16	16
7					5.6	46	2.3	1.0	9.2	1.3	42	18
8					5.0	23	1.8	0.97	15	1.9	21	45
9					4.7	23	1.7	1.0	2.5	16	30	e125
10					6.1	28	1.7	1.00	1.6	34	34	e95
11					4.5	18	1.7	0.93	1.5	8.8	19	e85
12					4.0	12	1.7	0.68	1.4	e5.2	19	59
13					3.7	9.2	2.0	0.45	1.2	e5.1	18	38
14					3.3	7.6	1.8	0.24	0.98	e4.7	28	64
15					3.1	24	1.5	0.19	1.6	e4.2	18	43
16					2.9	13	1.4	0.74	8.4	e4.0	17	32
17					4.4	7.7	1.4	0.83	4.1	e4.1	33	24
18					11	6.4	1.6	0.43	16	e3.4	e93	45
19					14	5.8	1.9	0.36	34	e2.1	44	34
20					13	5.7	1.8	0.43	6.7	e2.3	40	48
21					21	5.9	1.9	0.46	3.6	e2.2	28	31
22					39	4.8	1.6	0.35	3.0	e3.2	28	23
23					30	4.3	1.4	0.38	3.1	e12	23	19
24					16	3.8	1.4	0.29	3.6	56	17	18
25					16	3.5	1.3	0.16	2.8	43	15	17
26					25	3.4	1.0	0.18	4.2	27	16	29
27					31	3.1	1.1	0.13	3.7	15	20	45
28					33	2.8	0.89	0.37	2.1	19	16	e95
29		—			31	2.7	1.1	0.35	1.8	23	17	e78
30		—			15	2.4	1.3	0.34	1.7	16	39	38
31		—		—	27	—	1.2	0.40	—	33	—	28
TOTAL					375.5	538.1	65.89	19.53	139.91	355.2	793	1301
MEAN					14.5	17.9	2.1	0.63	4.7	11.5	26.4	41.9
MAX					39	100	11	1.5	34	56	93	125
MIN					2.9	2.4	0.89	0.13	0.28	1.3	12	15
AC-FT					745	1067	131	39	278	705	1573	2580

*Incomplete record (monthly totals were computed when at least 80% of the record was complete for the month); e=estimated value; new site for 2010

FCTW — 14206927 — Fanno Creek at Tuckerwood [RM 7.3]

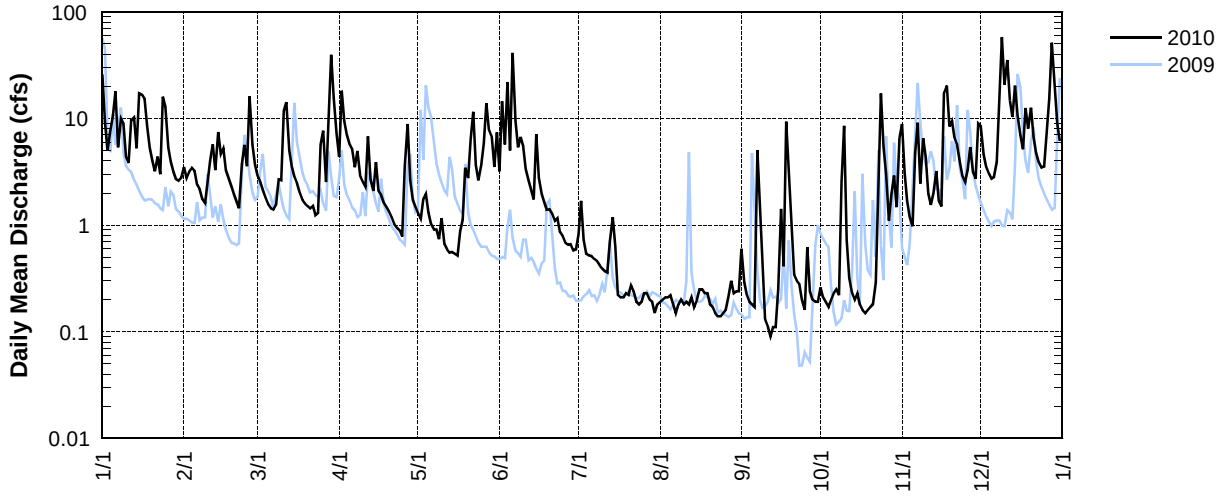


ASMP – 14206933 – ASH CREEK AT METZGER PARK AT METZGER, OREGON [RM 1.25]

Latitude: 45 27 00 Longitude: 122 45 45 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Daily Mean Discharge in Cubic Feet per Second											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	26	3.5	2.9	4.4	1.3	3.2	0.82	0.19	0.60	0.26	8.9	8.5
2	9.5	2.8	2.5	18	1.1	15	1.7	0.20	0.29	0.21	3.1	4.6
3	5.0	3.2	2.2	9.4	1.8	5.7	0.73	0.21	0.22	0.19	1.7	3.5
4	7.7	3.5	1.8	7.0	2.0	22	0.54	0.21	0.19	0.17	1.2	3.0
5	11	3.2	1.6	5.7	1.3	5.0	0.52	0.22	0.18	0.20	0.97	2.7
6	18	2.4	1.4	5.1	1.0	41	0.51	0.18	0.17	0.23	4.7	2.8
7	5.4	2.2	1.4	3.5	0.91	9.5	0.48	0.15	5.0	0.25	9.1	3.9
8	9.9	1.8	1.6	5.0	0.91	5.4	0.46	0.18	1.2	0.22	2.5	12
9	8.8	1.6	2.7	2.8	0.74	6.7	0.42	0.20	0.37	2.6	6.5	58
10	4.3	2.6	2.6	2.5	1.2	5.5	0.39	0.18	0.13	8.5	4.3	21
11	3.8	4.0	12	2.3	0.66	3.4	0.37	0.19	0.11	0.73	2.0	35
12	9.6	5.7	14	6.8	0.59	2.6	0.36	0.18	0.09	0.32	1.6	15
13	10	3.3	5.0	2.7	0.55	2.1	0.71	0.21	0.11	0.23	2.0	10
14	5.3	7.5	3.5	2.1	0.56	1.7	1.2	0.17	0.11	0.20	3.2	20
15	17	4.7	2.8	3.9	0.54	7.1	0.63	0.20	0.25	0.23	1.7	11
16	17	5.3	2.5	2.1	0.52	2.8	0.22	0.25	1.4	0.18	1.5	6.9
17	15	3.3	2.0	1.9	0.87	2.0	0.21	0.25	0.41	0.16	17	5.1
18	8.5	2.7	1.7	1.6	1.1	1.6	0.21	0.23	9.3	0.15	20	13
19	5.3	2.3	1.6	1.5	3.5	1.4	0.23	0.23	3.3	0.16	8.4	8.1
20	4.0	2.0	1.5	1.3	2.8	1.4	0.22	0.18	1.1	0.17	9.5	13
21	3.2	1.7	1.4	1.2	6.4	1.3	0.27	0.17	0.34	0.18	6.6	6.7
22	4.4	1.4	1.5	1.0	11	1.1	0.24	0.15	0.30	0.29	5.7	4.7
23	3.0	3.7	1.2	0.94	3.7	1.2	0.19	0.14	0.28	2.7	3.8	3.9
24	16	5.7	1.3	0.89	2.6	0.86	0.18	0.14	0.20	17	2.9	3.5
25	13	3.6	5.7	0.78	3.7	0.79	0.19	0.15	0.16	5.5	2.5	3.5
26	5.4	16	7.7	3.5	5.8	0.68	0.23	0.16	0.62	3.0	3.3	7.2
27	3.9	5.7	2.5	8.9	14	0.65	0.23	0.21	0.24	1.1	5.4	15
28	3.2	3.7	11	2.6	7.8	0.66	0.20	0.30	0.20	2.0	3.1	51
29	2.7	—	39	1.7	6.7	0.58	0.19	0.23	0.19	2.9	2.7	21
30	2.6	—	16	1.5	3.5	0.59	0.15	0.24	0.19	1.5	8.9	9.0
31	2.8	—	7.1	—	7.4	—	0.18	0.24	—	6.6	—	6.2
TOTAL	261.3	109.1	161.7	112.61	96.55	153.51	13.18	6.14	27.25	58.13	154.77	388.8
MEAN	8.4	3.9	5.2	3.8	3.1	5.1	0.42	0.20	0.91	1.9	5.2	12.5
MAX	26	16	39	18	14	41	1.7	0.30	9.3	17	20	58
MIN	2.6	1.4	1.2	0.78	0.52	0.58	0.15	0.14	0.09	0.15	0.97	2.7
AC-FT	518	216	321	223	192	304	26	12	54	115	307	771

ASMP — 14206933 — Ash Creek at Metzger Park at Metzger, Oregon [RM 1.25]



UNITED STATES DEPARTMENT OF THE INTERIOR – GEOLOGICAL SURVEY – OREGON WATER SCIENCE CENTER

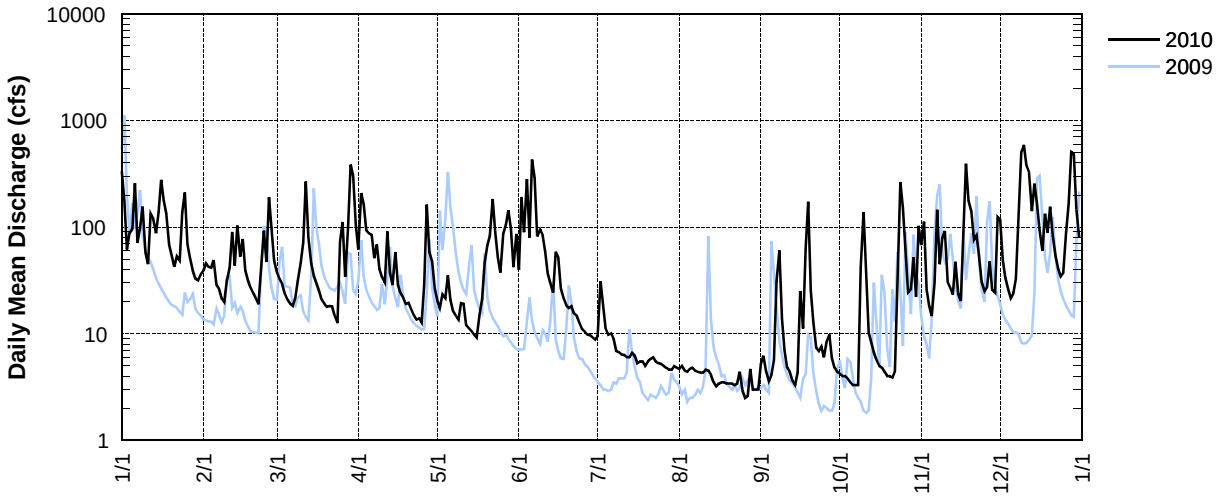
STATION NUMBER 14206950 FANNO CREEK AT DURHAM

LATITUDE: 452413 LONGITUDE: 1224513 DRAINAGE AREA: 31.50

Day	2010 Daily Mean Discharge in Cubic Feet per Second											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT†	NOV†	DEC†
1	335	38	37	62	20	40	9.2	4.7	5.2	4.2	64	120
2	181	47	32	203	18	189	31	5.0	6.2	4.0	117	50
3	63	42	29	166	23	92	19	4.6	4.5	4.0	27	34
4	86	41	24	93	21	280	11	4.4	3.6	3.8	18	26
5	96	50	21	88	36	82	9.8	4.7	4.1	3.5	15	22
6	260	29	19	85	21	418	10	4.9	5.6	3.3	27	24
7	72	26	18	52	16	302	9.0	4.6	29	3.3	153	32
8	95	21	22	69	15	82	6.9	4.4	62	3.3	45	148
9	158	20	31	40	14	95	6.7	4.3	14	40	76	493
10	58	30	47	34	19	85	6.4	4.3	7.0	138	95	603
11	45	41	66	30	19	60	6.3	4.6	4.8	32	30	370
12	131	90	270	91	12	37	6.0	4.5	4.5	10	27	334
13	118	44	81	38	11	30	6.0	4.1	3.7	8.3	23	143
14	90	103	46	29	11	24	6.6	3.5	3.3	6.7	47	254
15	132	53	35	58	9.8	57	6.2	3.2	4.1	5.6	24	167
16	282	78	30	29	9.2	54	5.2	3.3	25	5.0	20	96
17	176	40	26	24	15	27	5.5	3.5	11	4.8	92	60
18	137	32	21	22	21	21	5.5	3.5	57	4.4	393	132
19	68	27	19	19	45	19	5.0	3.4	177	4.0	181	89
20	54	24	18	19	66	17	5.4	3.4	26	4.0	140	155
21	43	21	18	17	80	18	5.7	3.3	13	3.9	75	85
22	52	19	18	15	184	16	6.0	3.3	7.4	4.5	85	54
23	49	35	15	14	91	15	5.5	3.3	6.9	17	54	41
24	132	94	12	14	53	13	5.3	4.4	7.7	263	31	35
25	215	48	72	13	37	11	5.2	2.9	6.0	154	25	37
26	70	187	112	26	86	11	5.0	2.4	8.4	66	27	89
27	52	98	35	162	102	9.8	4.8	2.6	10	25	48	162
28	39	49	94	60	147	9.7	4.7	4.7	6.0	25	26	500
29	33	—	379	48	98	9.2	4.6	3.0	4.9	53	24	500
30	32	—	308	27	42	8.8	5.0	3.0	4.4	21	121	150
31	36	—	110	—	86	—	4.8	3.0	—	104	—	80
TOTAL	3390	1427	2065	1647	1428.0	2132.5	233.3	118.8	532.3	1028.6	2130	5085
MEAN	109	51.0	66.6	54.9	46.1	71.1	7.53	3.83	17.7	33.2	71.0	164
MAX	335	187	379	203	184	418	31	5.0	177	263	393	603
MIN	32	19	12	13	9.2	8.8	4.6	2.4	3.3	3.3	15	22
AC-FT	6720	2830	4100	3270	2830	4230	463	236	1060	2040	4220	10090

† Provisional data–subject to revision

FANO — 14206950 — Fanno Creek at Durham Road near Tigard, Oregon [RM 1.2]



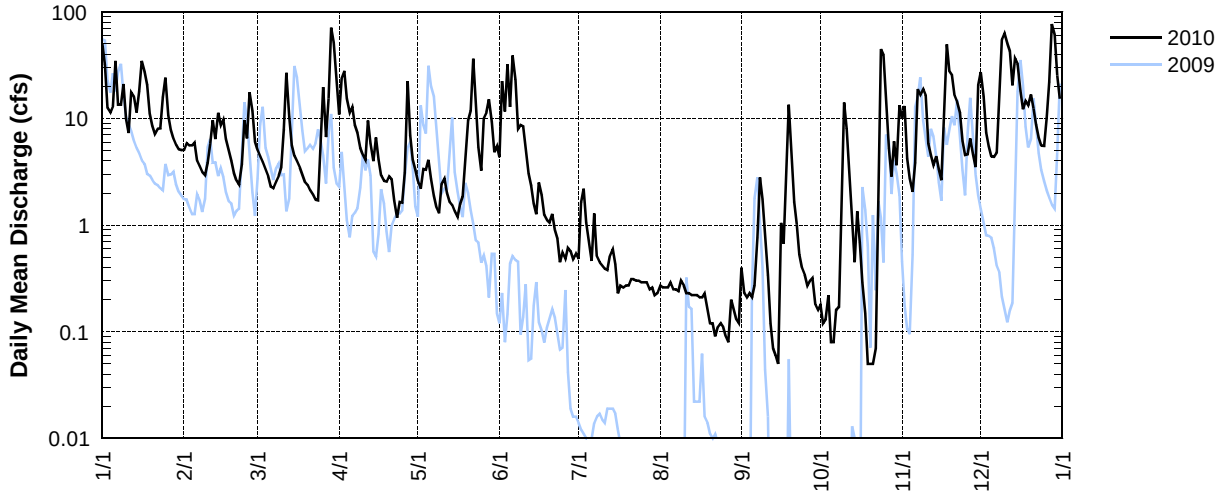
HCTP – 14206958 – HEDGES CREEK AT TUALATIN PARK AT TUALATIN, OREGON [RM 0.3]

Latitude: 45 23 08 Longitude:122 45 37 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Daily Mean Discharge in Cubic Feet per Second											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	50	5.1	5.0	11	2.6	4.3	0.48	e0.27	e0.40	0.18	10.0	27
2	32	5.9	4.4	24	2.2	22	1.6	e0.26	e0.23	0.12	13	16
3	13	5.6	3.9	28	3.3	12	2.2	e0.26	e0.21	0.13	4.2	7.4
4	11	5.6	3.3	15	3.3	32	1.1	e0.26	e0.23	0.22	2.7	5.5
5	13	5.9	2.9	11	4.1	13	0.67	e0.29	e0.21	0.08	2.0	4.4
6	34	4.0	2.3	13	2.7	39	0.46	e0.25	e0.27	0.08	3.8	4.4
7	13	3.6	2.2	8.7	1.9	23	1.3	e0.25	e0.76	0.16	19	4.8
8	13	3.1	2.6	7.3	1.5	8.0	e0.51	e0.24	2.8	0.17	17	15
9	21	2.9	2.9	5.3	1.3	8.7	e0.45	e0.30	1.7	1.9	19	55
10	9.9	3.8	3.5	4.5	2.4	8.5	e0.42	e0.27	0.80	14	16	63
11	7.3	5.8	7.9	4.1	2.7	5.2	e0.39	e0.23	0.34	8.0	5.8	50
12	17	9.6	27	9.6	2.0	3.0	e0.38	e0.23	0.12	2.5	4.5	43
13	16	6.4	10	5.8	1.7	2.3	e0.52	e0.22	0.07	0.94	3.7	20
14	11	11	5.6	4.0	1.5	1.6	e0.60	e0.22	0.06	0.45	4.4	36
15	18	8.7	4.4	6.6	1.4	1.3	e0.43	e0.22	0.05	1.4	3.3	33
16	35	9.8	4.0	4.1	1.2	2.5	e0.23	e0.21	1.0	0.69	2.6	18
17	27	6.4	3.5	2.9	1.6	1.9	e0.27	e0.21	0.67	0.29	12	12
18	21	5.0	3.0	2.6	1.9	1.2	e0.26	e0.23	3.5	0.15	49	15
19	11	4.0	2.5	2.5	4.2	1.1	e0.27	e0.16	13	0.05	28	13
20	8.5	3.1	2.4	2.9	9.6	1.1	e0.27	e0.12	4.3	0.05	25	17
21	7.2	2.6	2.1	2.7	12	1.3	e0.31	e0.12	1.7	0.06	16	12
22	8.0	2.4	1.9	1.7	36	0.90	e0.31	e0.10	1.0	0.07	14	8.7
23	8.1	3.7	1.7	1.2	15	0.75	e0.30	e0.11	0.53	0.82	11	6.6
24	16	9.7	1.7	1.6	5.4	0.45	e0.30	e0.12	0.40	45	6.1	5.5
25	24	6.5	6.6	1.6	3.2	0.55	e0.29	e0.11	0.34	40	4.6	5.5
26	11	18	20	3.1	10	0.48	e0.29	e0.09	0.27	14	4.6	10
27	7.8	12	6.7	22	11	0.61	e0.29	e0.08	0.30	5.3	6.5	22
28	6.4	6.0	15	7.0	15	0.57	e0.25	e0.20	0.32	2.8	4.6	76
29	5.7	—	71	4.1	9.3	0.48	e0.26	e0.16	0.18	6.1	3.5	61
30	5.2	—	52	3.3	4.8	0.54	e0.22	e0.13	0.16	3.6	21	25
31	5.0	—	22	—	5.5	—	e0.23	e0.12	—	13	—	15
TOTAL	486.1	176.2	304	221.2	180.3	198.33	15.86	6.04	35.92	162.31	336.9	706.8
MEAN	15.7	6.3	9.8	7.4	5.8	6.6	0.51	0.19	1.2	5.2	11.3	22.9
MAX	50	18	71	28	36	39	2.2	0.30	13	45	49	76
MIN	5.0	2.4	1.7	1.2	1.2	0.45	0.22	0.08	0.05	0.05	2.0	4.4
AC-FT	964	349	603	439	358	393	31	12	71	322	668	1402

e=estimated value

HCTP — 14206958 — Hedges Creek at Tualatin Park at Tualatin, Oregon [RM 0.3]

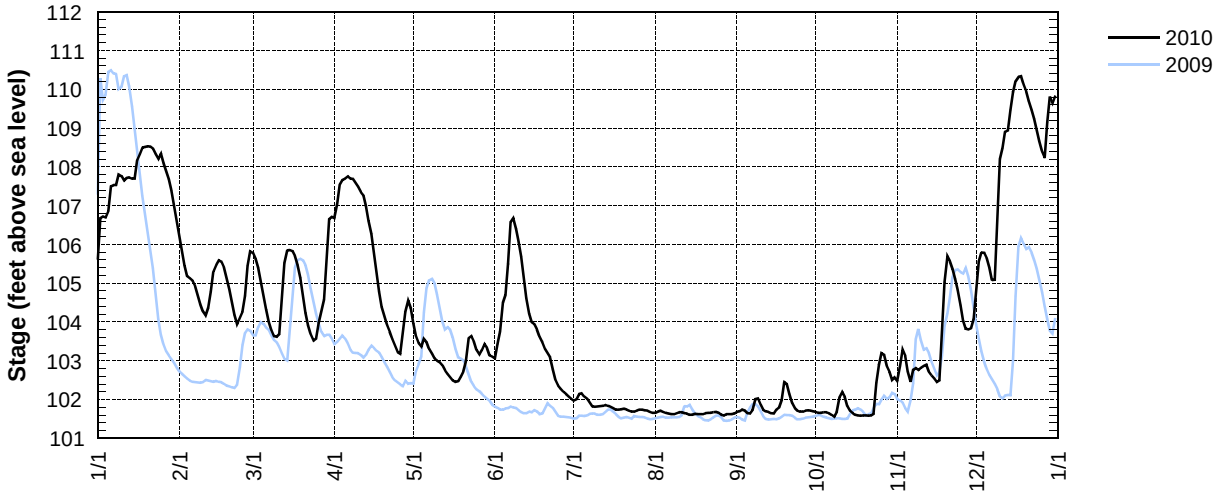


TRT – 14206956 (formerly 14206960) – TUALATIN RIVER AT TUALATIN, OREGON [RM 8.9]

Latitude: 45 23 14 Longitude: 122 45 46 Source Agency: District 18 Watermaster

Day	Daily Elevation in Feet above Mean Sea Level for 2010*											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	105.61	106.22	105.78	106.68	103.97	103.07	101.98	101.66	101.68	101.68	102.48	104.81
2	106.68	105.85	105.63	107.04	103.64	103.43	102.01	101.69	101.70	101.66	102.87	105.56
3	106.72	105.45	105.40	107.55	103.46	103.75	102.14	101.71	101.74	101.66	103.29	105.79
4	106.70	105.18	105.06	107.66	103.37	104.50	102.16	101.68	101.71	101.67	103.13	105.78
5	106.87	105.13	104.68	107.70	103.57	104.70	102.08	101.66	101.65	101.67	102.72	105.64
6	107.50	105.06	104.32	107.75	103.49	105.51	102.02	101.64	101.64	101.65	102.46	105.4
7	107.53	104.92	104.01	107.70	103.31	106.58	101.92	101.62	101.73	101.61	102.77	105.08
8	107.53	104.69	103.79	107.69	103.18	106.68	101.82	101.62	102.01	101.56	102.81	105.09
9	107.80	104.46	103.64	107.59	103.06	106.40	101.81	101.65	102.03	101.68	102.76	106.54
10	107.76	104.28	103.62	107.49	103.00	106.07	101.82	101.67	101.87	102.07	102.82	108.2
11	107.65	104.17	103.69	107.35	102.97	105.69	101.83	101.67	101.74	102.19	102.87	108.48
12	107.71	104.37	104.61	107.27	102.89	105.17	101.84	101.65	101.70	102.07	102.90	108.91
13	107.73	104.78	105.52	106.99	102.75	104.62	101.86	101.64	101.68	101.83	102.72	108.94
14	107.70	105.30	105.85	106.61	102.66	104.21	101.84	101.61	101.65	101.71	102.63	109.47
15	107.7	105.48	105.86	106.27	102.58	103.99	101.81	101.61	101.64	101.65	102.55	109.92
16	108.18	105.59	105.83	105.81	102.5	103.94	101.78	101.63	101.74	101.61	102.46	110.21
17	108.33	105.56	105.70	105.29	102.46	103.81	101.74	101.62	101.80	101.59	102.50	110.32
18	108.50	105.41	105.48	104.78	102.47	103.60	101.74	101.62	101.99	101.58	103.83	110.34
19	108.51	105.14	105.13	104.39	102.59	103.47	101.75	101.62	102.45	101.59	105.03	110.12
20	108.53	104.84	104.66	104.13	102.72	103.31	101.76	101.65	102.4	101.59	105.69	109.95
21	108.52	104.50	104.23	103.92	102.98	103.20	101.75	101.66	102.14	101.58	105.56	109.7
22	108.47	104.18	103.91	103.75	103.59	103.09	101.71	101.66	101.90	101.59	105.37	109.47
23	108.32	103.95	103.69	103.56	103.64	102.77	101.69	101.67	101.78	101.63	105.11	109.24
24	108.21	104.12	103.52	103.38	103.5	102.51	101.69	101.68	101.71	102.44	104.83	108.96
25	108.35	104.27	103.57	103.22	103.28	102.37	101.72	101.66	101.69	102.89	104.44	108.66
26	108.11	104.68	103.97	103.18	103.17	102.28	101.74	101.61	101.69	103.20	104.03	108.39
27	107.91	105.45	104.25	103.69	103.28	102.20	101.74	101.59	101.71	103.16	103.83	108.23
28	107.68	105.82	104.58	104.26	103.43	102.14	101.72	101.62	101.72	102.85	103.81	109.15
29	107.39	—	105.72	104.55	103.33	102.08	101.71	101.62	101.71	102.71	103.84	109.82
30	107.03	—	106.66	104.36	103.14	102.02	101.68	101.62	101.70	102.51	104.07	109.64
31	106.64	—	106.71	—	103.11	—	101.66	101.64	—	102.57	—	109.84
MEAN	107.67	104.96	104.81	105.72	103.13	103.91	101.82	101.64	101.81	101.98	103.54	108.25
MAX	108.53	106.22	106.71	107.75	103.97	106.68	102.16	101.71	102.45	103.2	105.69	110.34
MIN	105.61	103.95	103.52	103.18	102.46	102.02	101.66	101.59	101.64	101.56	102.46	104.81

TRT — 14206956 (formerly 14206960) **— Tualatin River at Tualatin, Oregon [RM 8.9]**



UNITED STATES DEPARTMENT OF THE INTERIOR - GEOLOGICAL SURVEY - OREGON WATER SCIENCE CENTER

STATION NUMBER: 14207500 TUALATIN RIVER AT WEST LINN, OREG.

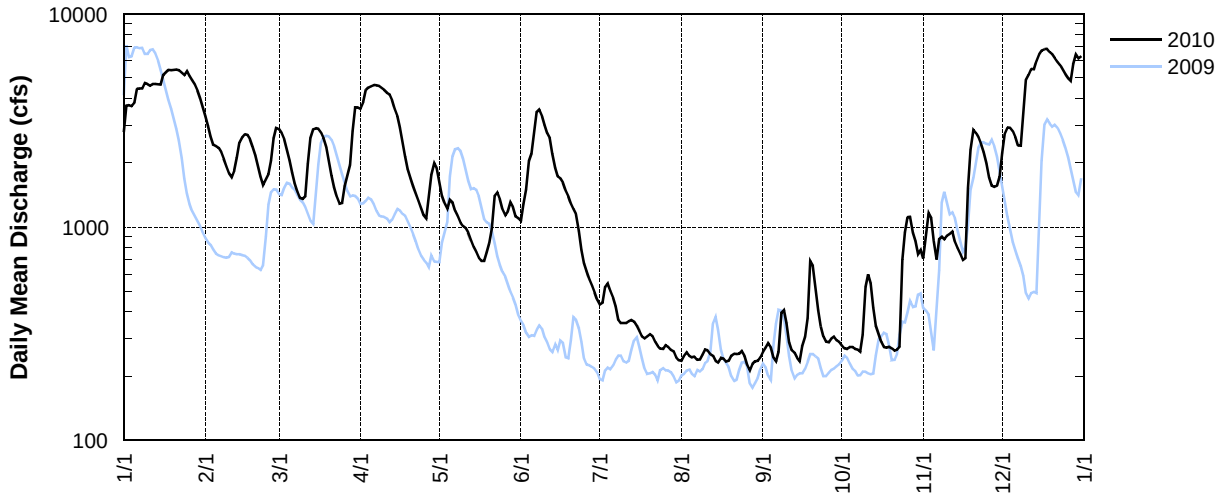
LATITUDE: 452103 LONGITUDE: 1224030 DRAINAGE AREA: 706.00 DATUM: 85.61

Discharge, Cubic Feet per Second, Calendar Year January to December 2010 Daily Mean Values

Day	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT†	NOV†	DEC†
1	2780	3300	2880	3580	1630	1070	434	236	259	279	712	2220
2	3700	2990	2760	3860	1410	1290	420	248	271	270	920	2750
3	3730	2660	2580	4380	1290	1500	499	259	285	268	1160	2930
4	3690	2440	2320	4520	1220	2040	545	250	273	274	1100	2920
5	3830	2400	2050	4570	1340	2210	503	245	245	274	865	2820
6	4440	2350	1800	4640	1310	2750	466	246	235	268	706	2640
7	4470	2250	1600	4620	1200	e3450	425	238	259	266	876	2410
8	4460	2090	1470	4600	1120	e3550	369	239	396	260	902	2400
9	4730	1930	1370	4500	1050	e3300	355	252	407	312	876	3540
10	4690	1800	1350	4400	1010	e3000	354	267	354	521	912	4910
11	4610	1710	1390	4270	991	e2750	355	264	289	600	930	5160
12	4680	1840	1970	4200	945	2620	361	254	264	547	955	5510
13	4680	2110	2600	3940	865	2210	367	249	257	421	855	5500
14	4670	2490	2880	3600	807	1900	361	236	243	346	800	6020
15	4650	2640	2910	3300	766	1730	344	232	235	315	749	6450
16	5170	2730	2880	2930	721	1690	326	244	276	289	702	6720
17	5300	2700	2790	2520	693	1620	307	242	306	274	711	6830
18	5460	2590	2620	2150	693	1480	301	234	373	272	1520	6840
19	5440	2390	2360	1870	761	1390	306	236	691	274	2290	6620
20	5460	2170	2050	1690	839	1290	314	249	660	271	2850	6450
21	5470	1940	1750	1560	978	1210	308	254	530	264	2770	6190
22	5430	1730	1540	1450	1400	1150	290	254	408	266	2630	5960
23	5290	1580	1400	1330	1450	962	278	255	342	274	2440	5740
24	5160	1670	1290	1230	1350	785	269	262	307	698	2240	5470
25	5370	1770	1300	1140	1210	676	268	248	290	944	1980	5210
26	5100	2040	1550	1100	1140	621	279	226	289	1110	1710	4980
27	4890	2600	1720	1390	1180	569	275	213	301	1120	1570	4850
28	4650	2910	1950	1750	1310	532	266	228	307	942	1550	5810
29	4370	—	2800	1990	1240	495	262	234	295	859	1570	6440
30	4040	—	3630	1880	1120	457	246	236	290	748	1720	6160
31	3680	—	3640	—	1100	—	238	245	—	783	—	6320
TOTAL	144090	63820	67200	88960	34139	50297	10691	7575	9937	14609	41571	154770
MEAN	4648	2279	2168	2965	1101	1677	345	244	331	471	1386	4993
MAX	5470	3300	3640	4640	1630	3550	545	267	691	1120	2850	6840
MIN	2780	1580	1290	1100	693	457	238	213	235	260	702	2220
AC-FT	285800	126600	133300	176500	67710	99760	21210	15030	19710	28980	82460	307000

† Provisional data–subject to revision; e=estimated value

WSLO — 14207500 —Tualatin River at West Linn, Oregon [RM 1.75]



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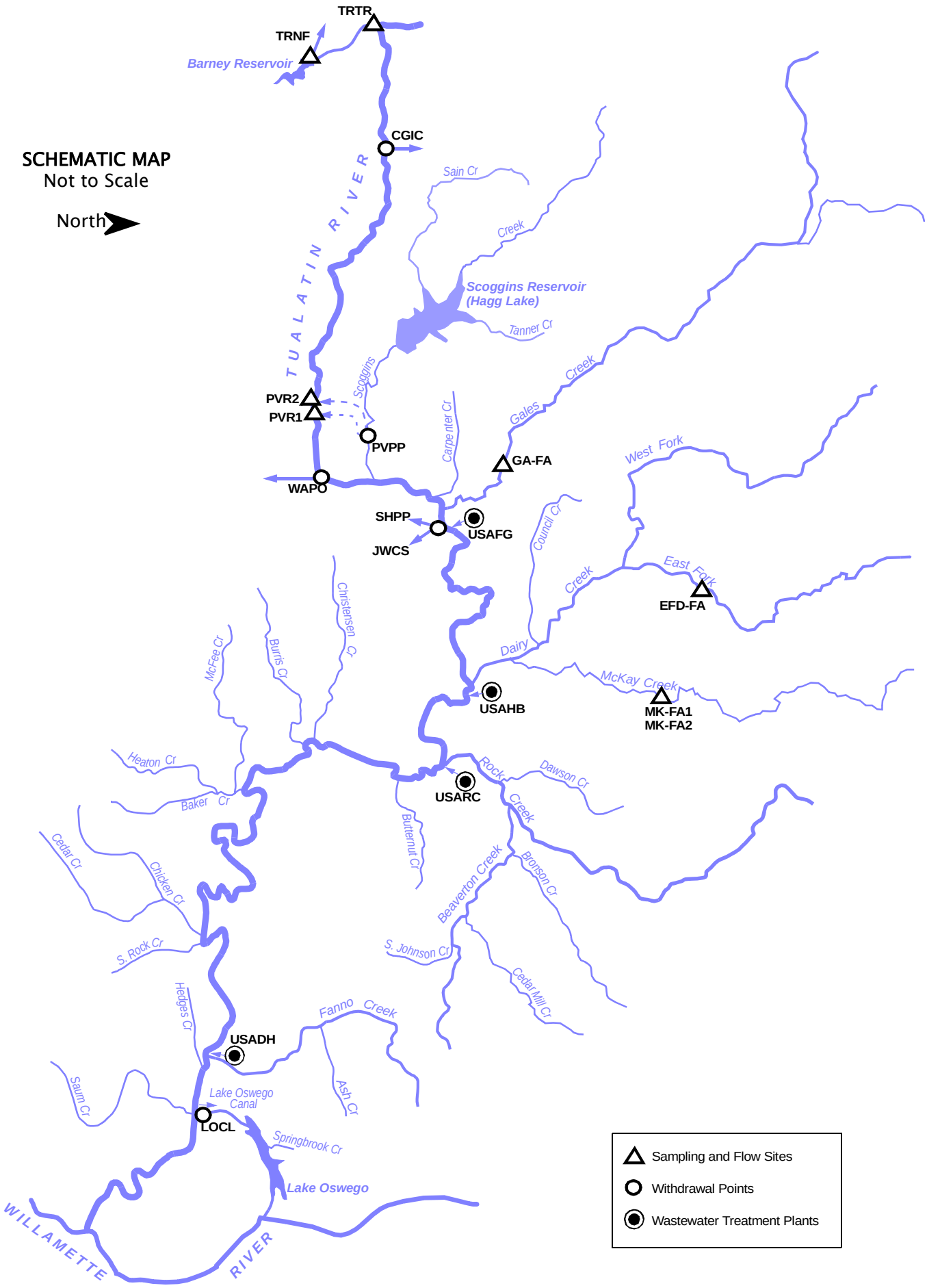
Appendix B

Selected Releases and Withdrawals

The following information is for selected water releases to and withdrawals from the Tualatin River and its tributaries. It is not a comprehensive listing of releases and withdrawals. Some of the data represent daily mean flows and some represent instantaneous measurements. All streamflow measurements are in Appendix A.

SELECTED RELEASES AND WITHDRAWALS — LOCATIONS



SELECTED RELEASE AND WITHDRAWAL SITES — ALPHABETICAL LISTING BY SITE CODE

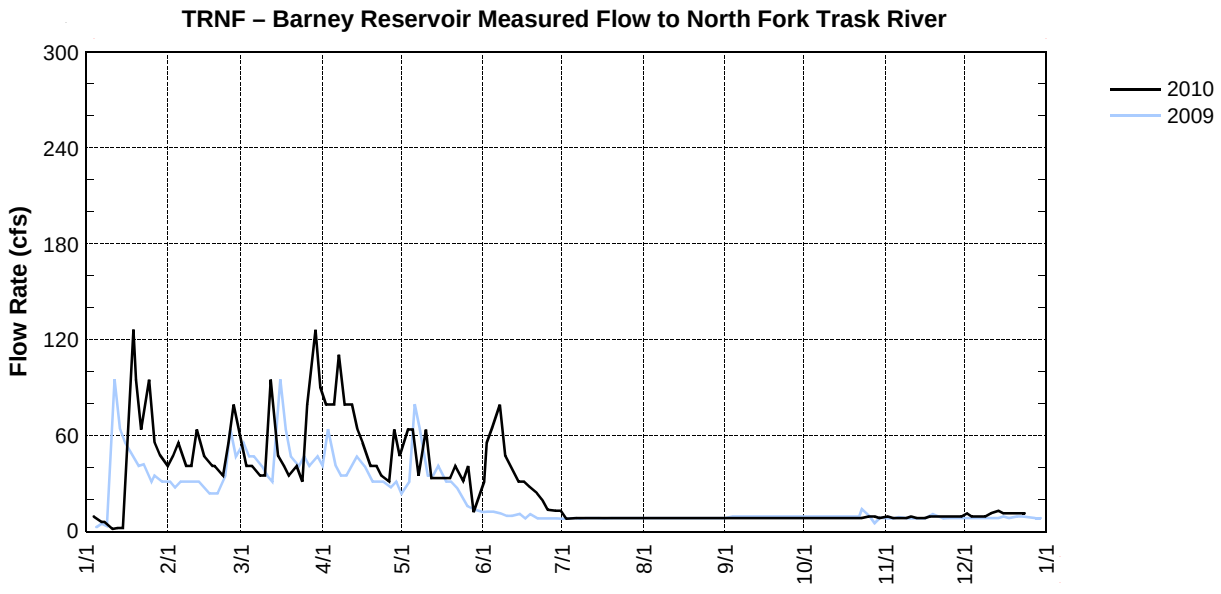
SITE CODE	SITE NAME	RIVER MILE	PAGE
CGIC	City of Hillsboro Withdrawal at Cherry Grove	73.3	B-6
EFD-FA	CWS East Fork Dairy Flow Augmentation with TVID	?.?	B-13
GA-FA	CWS Gales Creek Flow Augmentation with TVID	?.?	B-13
JWCS	Joint Water Commission Withdrawal at Spring Hill Pump Plant	56.1	B-8
LOCL	Lake Oswego Corp. Canal Diversion	6.7	B-14
MK-FA1	CWS McKay Creek Flow Augmentation with TVID – Site 1	7.6	B-13
MK-FA2	CWS McKay Creek Flow Augmentation with TVID – Site 2	7.8	B-13
PVPP	TVID Withdrawal at Patton Valley Pump Plant	1.71	*
PVR1	TVID—Patton Valley River Turnout #1 Release	63.13	*
PVR2	TVID—Patton Valley River Turnout #2 Release	64.26	*
SHPP	TVID–Withdrawal at Spring Hill Pump Plant	56.1	B-7
TRNF	Barney Reservoir Measured Flow to North Fork Trask River	—	B-4
TRTR	Barney Reservoir Release to Tualatin River	78.0	B-5
USADH	CWS Durham WWTF Release	9.33	B-12
USAFG	CWS Forest Grove WWTF Release	55.2	B-9
USAHB	CWS Hillsboro WWTF Release	43.8	B-10
USARC	CWS Rock Creek WWTF Release	38.08	B-11
WAPO	Wapato Canal Diversion	62.0	*

*Withdrawals and releases at Patton Valley Pump Plant, Patton Valley River turnouts, and Wapato Canal were not measured in 2010

TRNF – BARNEY RESERVOIR MEASURED FLOW TO NORTH FORK TRASK RIVER

Source Agency: Joint Water Commission

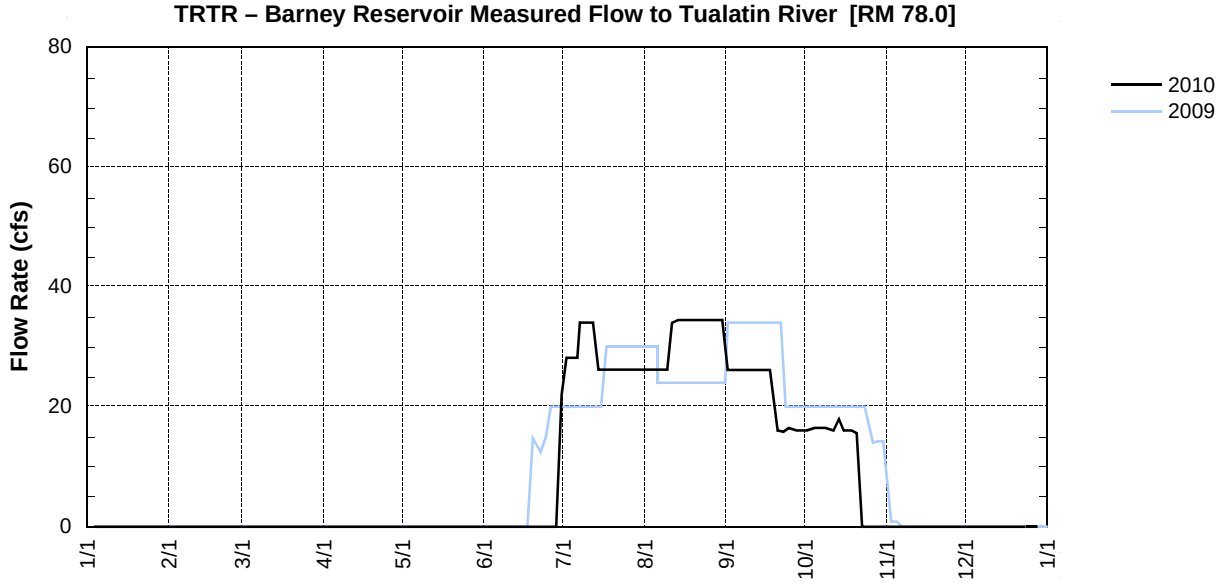
Day	2010 — Instantaneous Measured Flow Rate in Cubic Feet per Second											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1		41.0	55.0			31.3			8.4	8.4	9.5	11.3
2				79.6		55.5	8.0	8.4				
3		47.0	41.0		64.0				8.4		8.4	9.5
4	9.5					65.0		8.4		8.4		
5		55.5	41.0	79.6	64.0						8.4	
6							8.4	8.4		8.4		9.5
7	6.2			110.8	35.0	79.6	8.4		8.4			
8	6.2	41.0	35.0						8.4	8.4	8.4	9.5
9				79.6		47.0	8.4	8.4				
10		41.0	35.0		64.0				8.4		9.5	11.3
11	1.7					41.0		8.4		8.4		
12		64.0	95.2	79.6	33.5		8.4				8.4	
13	2.3							8.4		8.4		13.0
14				64.0	33.5	31.3	8.4		8.4			
15	2.3	47.0	47.0						8.4	8.4	8.4	11.3
16				55.5		31.3	8.4	8.4				
17			41.0		33.5				8.4		9.5	11.3
18		41.0				28.0				8.4		
19	126.4	41.0	35.0	41.0	33.5		8.4	8.4			9.5	
20	95.2							8.4	8.4	8.4		11.3
21				41.0	41.0	23.9	8.4					
22	64.0	35.0	41.0						8.4	8.4	9.5	11.3
23				35.0		20.2	8.4	8.4				11.3
24		55.5	31.3		31.5				8.4		9.5	
25	95.2					13.5		8.4		9.5		
26		79.6	79.6	31.3	41.0		8.4					
27	55.5							8.4	8.4	9.5		
28				64.0	12.3	13.0	8.4					
29	47.9	—	126.4						8.4	8.4	9.5	
30		—		47.0		13.0	8.4	8.4				
31		—	90.0	—		—			—		—	



TRTR — BARNEY RESERVOIR MEASURED FLOW TO TUALATIN RIVER [RM 78.0]

Source Agency: Joint Water Commission

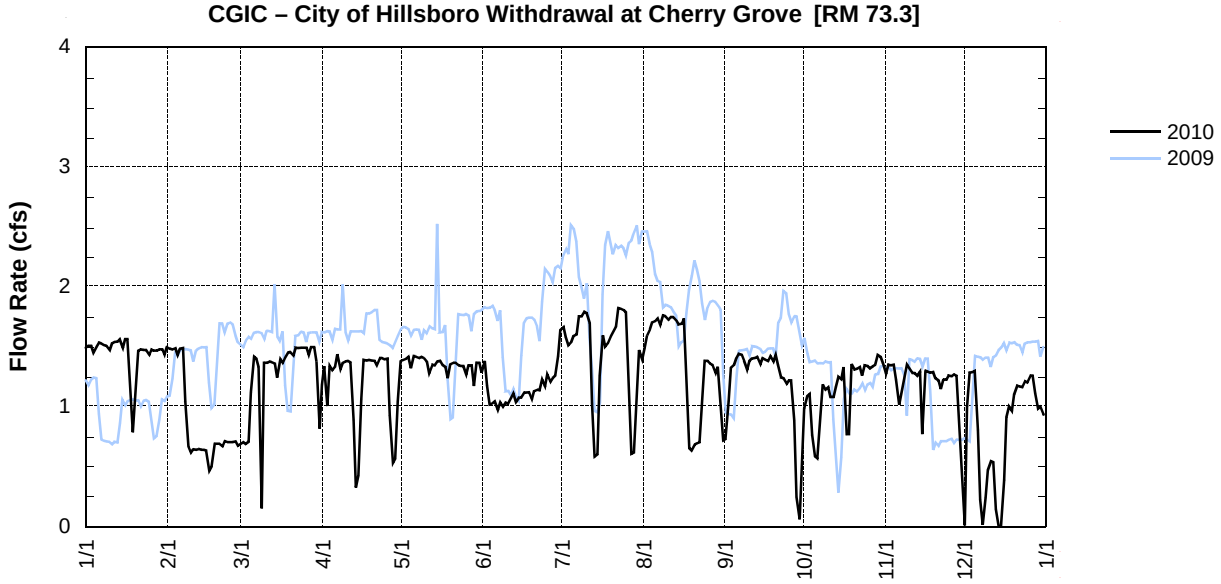
Day	2010 — Instantaneous Measured Flow Rate in Cubic Feet per Second											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1		0.0	0.0			0.0			26.1	16.0	0.0	0.0
2				0.0		0.0	28.1	26.2				
3		0.0	0.0		0.0				26.1		0.0	0.0
4	0.0					0.0		26.2		16.4		
5		0.0	0.0	0.0	0.0						0.0	
6							28.1	26.2		16.4		0.0
7	0.0			0.0	0.0	0.0	34.0		26.1			
8	0.0	0.0	0.0						26.1	16.4	0.0	0.0
9				0.0		0.0	34.0	26.2				
10		0.0	0.0		0.0				26.1		0.0	0.0
11	0.0					0.0		34.0		16.0		
12		0.0	0.0	0.0	0.0		34.0				0.0	
13	0.0							34.4		18.0		0.0
14				0.0	0.0	0.0	26.2		26.1			
15	0.0	0.0	0.0						26.1	16.0	0.0	0.0
16				0.0		0.0	26.2	34.4				
17			0.0		0.0				26.1		0.0	0.0
18		0.0				0.0				16.0		
19	0.0	0.0	0.0	0.0	0.0		26.2	34.4			0.0	
20	0.0							34.4	16.0	15.6		0.0
21				0.0	0.0	0.0	26.2					
22	0.0	0.0	0.0						15.8	0.0	0.0	0.0
23				0.0		0.0	26.2	34.4				0.0
24		0.0	0.0		0.0				16.4		0.0	
25	0.0					0.0		34.4		0.0		
26		0.0	0.0	0.0	0.0		26.2					
27	0.0							34.4	16.0	0.0		0.0
28				0.0	0.0	0.0	26.2					
29	0.0	—	0.0						16.0	0.0	0.0	
30		—		0.0		22.0	26.2	34.4				
31		—	0.0	—		—			—		—	



CGIC — CITY OF HILLSBORO WITHDRAWAL AT CHERRY GROVE [RM 73.3]

Source Agency: Joint Water Commission

Day	2010 — Calculated Average Flow Rate in Cubic Feet per Second											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1.49	1.50	0.71	1.34	1.39	1.38	1.66	1.48	0.73	0.99	1.27	0.01
2	1.51	1.48	0.69	1.00	1.40	1.18	1.58	1.59	1.05	1.09	1.35	1.00
3	1.51	1.48	0.71	1.34	1.42	1.02	1.51	1.65	1.32	1.11	1.35	1.29
4	1.45	1.49	1.12	1.31	1.32	1.03	1.54	1.71	1.35	0.77	1.35	1.29
5	1.50	1.43	1.41	1.34	1.42	1.04	1.59	1.72	1.41	0.58	1.23	1.30
6	1.53	1.48	1.40	1.44	1.41	0.97	1.60	1.73	1.44	0.57	1.01	0.81
7	1.53	1.49	1.33	1.31	1.41	1.04	1.75	1.68	1.43	0.92	1.11	0.23
8	1.51	1.04	0.15	1.37	1.41	1.00	1.75	1.76	1.39	1.19	1.22	0.02
9	1.51	0.67	1.37	1.38	1.41	1.03	1.79	1.76	1.31	1.14	1.35	0.24
10	1.47	0.62	1.36	1.38	1.38	1.03	1.78	1.73	1.38	1.16	1.32	0.47
11	1.53	0.64	1.38	1.37	1.28	1.08	1.70	1.74	1.40	1.08	1.28	0.55
12	1.54	0.64	1.37	0.89	1.35	1.11	1.03	1.75	1.41	1.08	1.28	0.54
13	1.54	0.65	1.36	0.32	1.35	1.04	0.58	1.72	1.41	1.16	1.26	0.15
14	1.56	0.64	1.25	0.43	1.38	1.08	0.60	1.68	1.36	1.25	1.30	0.00
15	1.49	0.64	1.40	1.06	1.38	1.08	1.26	1.69	1.40	1.23	0.77	0.00
16	1.56	0.63	1.36	1.39	1.35	1.12	1.59	1.74	1.40	1.33	1.30	0.39
17	1.56	0.47	1.41	1.39	1.33	1.12	1.50	1.12	1.38	0.77	1.29	0.91
18	1.14	0.50	1.45	1.39	1.24	1.12	1.53	0.65	1.42	0.77	1.28	1.00
19	0.79	0.69	1.46	1.39	1.36	1.06	1.58	0.63	1.38	1.35	1.29	0.96
20	1.15	0.69	1.43	1.38	1.37	1.13	1.62	0.69	1.43	1.31	1.24	1.10
21	1.47	0.69	1.49	1.34	1.36	1.14	1.67	0.69	1.35	1.31	1.22	1.18
22	1.48	0.67	1.49	1.40	1.35	1.14	1.82	0.71	1.25	1.33	1.15	1.17
23	1.47	0.72	1.49	1.40	1.34	1.23	1.82	1.06	1.24	1.26	1.23	1.16
24	1.47	0.71	1.49	1.40	1.34	1.17	1.81	1.38	1.19	1.35	1.22	1.21
25	1.43	0.70	1.49	1.40	1.27	1.27	1.79	1.38	1.22	1.34	1.26	1.20
26	1.48	0.71	1.43	0.93	1.35	1.21	1.13	1.36	1.22	1.32	1.25	1.26
27	1.47	0.71	1.50	0.54	1.34	1.24	0.61	1.35	0.89	1.34	1.27	1.26
28	1.47	0.67	1.50	0.57	1.17	1.26	0.62	1.28	0.25	1.35	1.26	1.11
29	1.48	—	1.37	1.05	1.37	1.42	1.13	1.34	0.06	1.43	0.83	0.99
30	1.48	—	0.82	1.38	1.37	1.64	1.47	0.97	0.54	1.42	0.52	1.00
31	1.43	—	1.18	—	1.28	—	1.40	0.72	—	1.36	—	0.94

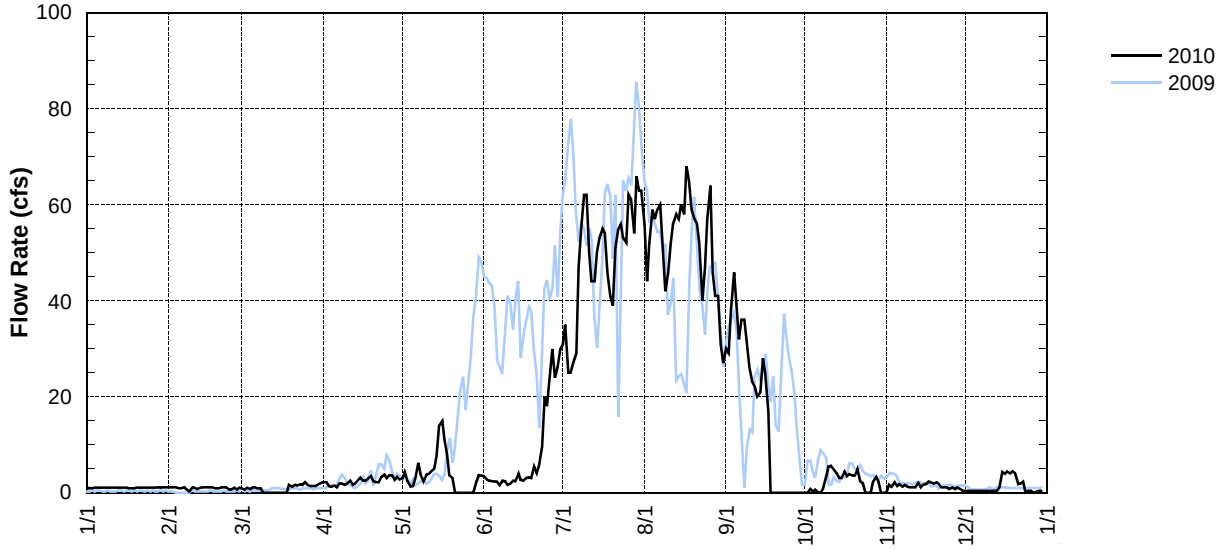


SHPP – TVID WITHDRAWAL AT SPRING HILL PUMP PLANT [RM 56.1]

Source Agency: US Geological Survey, Oregon Water Science Center

Day	2010 — Mean Daily Water Withdrawal in Cubic Feet per Second											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1.0	1.1	0.7	2.1	4.3	2.8	35.0	44.0	29.0	na	1.7	0.3
2	0.9	1.1	1.0	1.4	2.4	2.6	25.0	52.0	38.0	0.7	1.3	0.3
3	0.9	1.1	0.7	1.3	1.3	2.4	25.0	59.0	46.0	0.3	2.2	0.3
4	1.0	1.1	1.1	1.5	1.4	2.3	27.0	57.0	39.0	0.7	1.4	0.3
5	1.0	0.9	1.1	1.2	3.0	2.3	29.0	59.0	32.0	0.0	1.8	0.3
6	1.0	0.9	0.9	1.9	6.2	1.6	47.0	60.0	36.0	0.0	1.3	0.3
7	1.0	1.1	0.9	1.9	3.6	2.6	55.0	52.0	36.0	0.9	1.7	0.3
8	1.0	0.7		1.6	2.3	2.4	62.0	42.0	31.0	3.4	1.3	0.3
9	1.0	0.3		1.9	3.8	1.6	62.0	46.0	26.0	5.4	1.2	0.3
10	1.0	1.1		2.5	3.9	1.9	50.0	52.0	23.0	5.6	1.2	0.3
11	1.0	1.0		1.6	4.4	2.5	44.0	56.0	22.0	4.9	1.2	0.3
12	1.0	0.8		1.9	5.1	2.4	44.0	58.0	20.0	4.0	2.0	0.3
13	1.0	1.0		2.5	7.6	4.0	50.0	57.0	21.0	3.0	1.2	1.2
14	1.0	1.1		3.2	14.0	2.7	53.0	60.0	28.0	3.1	1.7	4.3
15	1.0	1.1		2.5	15.0	2.6	55.0	58.0	25.0	4.5	1.8	3.9
16	1.0	1.1		2.6	11.0	3.1	54.0	68.0	17.0	3.4	2.3	4.4
17	1.0	1.1		3.0	8.0	3.2	46.0	65.0		3.9	2.2	4.0
18	0.9	1.1	1.6	3.4	3.5	3.1	41.0	59.0		3.6	1.9	4.4
19	0.9	0.9	1.3	2.4	3.1	5.4	39.0	57.0		3.6	2.1	4.0
20	1.0	0.9	1.7	2.1	0.1	4.1	51.0	56.0		4.9	1.8	1.8
21	1.0	1.1	1.5	2.2	0.0	5.6	55.0	52.0		2.4	1.2	1.9
22	1.0	1.1	1.8	3.3	0.0	9.6	56.0	40.0		2.0	1.2	2.3
23	1.0	1.1	1.7	3.8	0.0	20.0	53.0	47.0		0.0	1.1	0.3
24	1.0	0.7	2.1	3.1	0.0	18.0	52.0	57.0		0.0	0.7	0.3
25	1.0	0.7	1.6	3.7	0.0	24.0	62.0	64.0		0.0	1.1	0.3
26	1.0	1.0	1.4	3.6	0.0	30.0	61.0	46.0		2.3	0.8	0.0
27	1.0	0.7	1.4	2.7	0.0	24.0	54.0	41.0		3.3	1.2	0.3
28	1.1	1.0	1.4	3.3	2.1	26.0	66.0	41.0		2.3	0.7	0.3
29	1.0	—	1.8	2.8	3.7	30.0	63.0	31.0			0.3	0.3
30	1.1	—	2.0	3.0	3.6	31.0	63.0	27.0			0.3	0.3
31	1.1	—	2.1	—	3.4	—	56.0	30.0	—		—	0.3

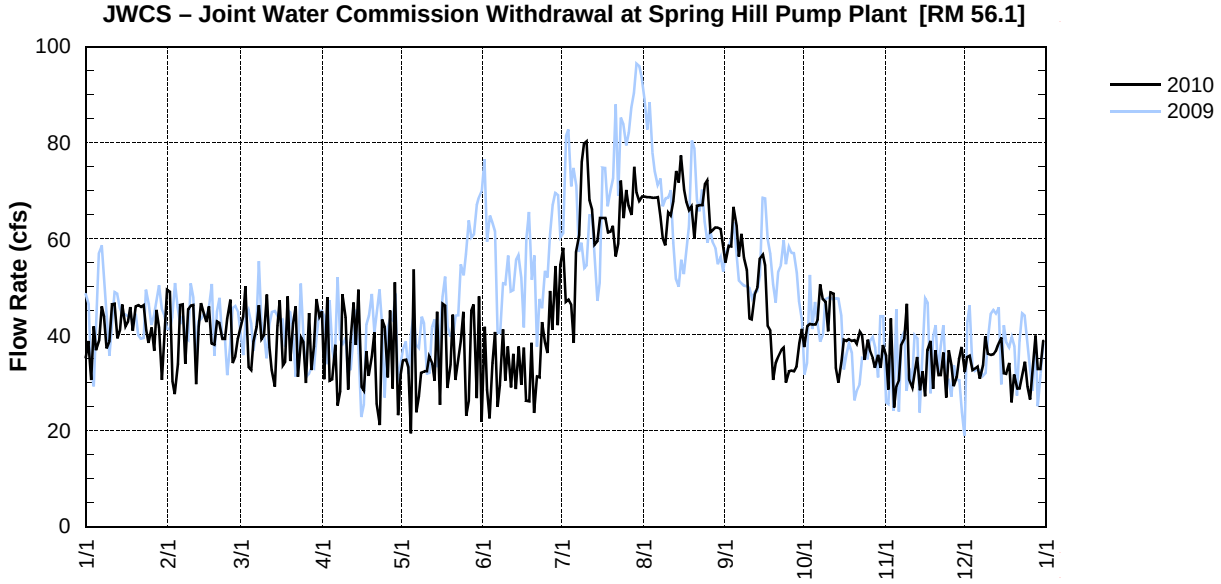
SHPP – Tualatin Valley Irrigation District Withdrawal at Spring Hill Pump Plant [RM 56.1]



JWCS – JOINT WATER COMMISSION WITHDRAWAL AT SPRING HILL PUMP PLANT [RM 56.1]

Source Agency: Joint Water Commission

Day	2010 — Calculated Average Flow Rate in Cubic Feet per Second											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	35.3	49.4	43.7	30.7	34.7	41.6	58.1	68.7	55.1	37.4	35.6	32.3
2	38.7	49.0	50.1	47.8	34.7	28.5	46.9	68.7	58.5	41.9	28.5	35.4
3	30.6	30.3	33.2	30.5	33.3	22.6	47.3	68.7	58.4	42.3	43.4	35.7
4	41.8	27.6	32.6	30.7	19.4	34.1	46.2	68.5	66.7	42.1	24.9	32.6
5	36.7	33.9	38.6	37.9	53.6	40.6	38.4	68.5	62.8	42.1	29.3	33.0
6	38.8	46.2	41.6	25.3	23.9	25.0	57.3	68.7	56.4	43.2	30.6	33.4
7	46.0	46.3	46.2	28.2	27.2	29.4	60.8	64.6	61.0	50.5	37.9	30.8
8	43.8	33.8	39.1	48.5	32.2	41.2	76.0	60.1	55.9	47.4	39.3	33.7
9	37.2	45.3	40.0	43.6	32.4	30.5	79.8	58.6	53.5	46.8	46.5	39.7
10	38.7	46.1	48.3	28.6	32.4	37.6	80.3	65.5	43.4	40.7	30.6	36.0
11	46.3	46.1	37.4	38.5	35.6	29.0	68.1	64.9	43.1	48.8	29.0	35.8
12	46.5	29.8	32.7	46.7	34.0	36.1	66.1	67.8	48.6	48.6	32.1	35.9
13	39.2	41.8	29.2	37.9	30.5	28.7	58.8	74.1	50.0	33.2	35.4	36.7
14	40.9	46.6	41.9	49.4	44.8	37.5	59.6	71.7	55.9	30.1	28.5	38.3
15	46.3	44.2	47.2	29.1	25.4	29.6	64.3	77.4	56.7	34.6	32.4	39.5
16	41.8	42.6	33.7	28.3	46.5	37.4	64.3	70.1	54.4	38.9	27.1	31.9
17	42.8	46.0	34.4	36.5	46.1	26.3	64.3	67.6	41.7	38.7	36.8	31.9
18	45.8	38.3	47.9	31.4	29.0	26.1	61.3	66.0	40.8	39.1	38.8	34.1
19	40.8	38.0	34.5	35.6	33.8	38.3	61.5	66.7	30.6	38.7	28.7	25.9
20	45.9	42.8	42.4	40.5	44.1	23.7	62.7	60.1	34.1	38.9	36.7	31.7
21	46.2	42.5	45.9	25.6	30.6	31.4	56.4	66.9	35.4	38.0	31.6	28.8
22	45.8	39.1	31.3	21.2	35.2	31.2	59.0	67.0	36.8	40.7	31.7	28.8
23	46.2	39.1	39.3	43.1	38.7	42.6	72.1	67.0	37.3	39.8	36.3	31.5
24	41.0	43.3	38.4	41.6	44.8	38.4	64.4	71.5	30.0	34.7	26.9	34.3
25	38.4	47.3	29.9	31.0	23.1	36.2	70.2	72.2	32.4	39.0	36.9	29.2
26	41.5	34.2	44.5	45.1	26.3	49.1	67.0	61.4	32.5	36.6	33.7	26.6
27	36.7	35.5	32.6	28.8	45.0	41.0	64.9	61.7	32.4	35.1	29.4	32.2
28	45.2	39.0	37.5	50.9	46.3	54.3	75.0	62.3	33.4	33.2	31.4	39.8
29	41.5	—	47.5	23.2	26.7	42.0	69.7	62.4	38.3	35.8	34.8	32.9
30	30.6	—	43.8	31.8	48.0	54.6	68.0	62.1	41.3	33.1	37.5	32.9
31	40.2	—	45.0	—	21.8	—	68.8	58.1	—	37.8	—	38.7

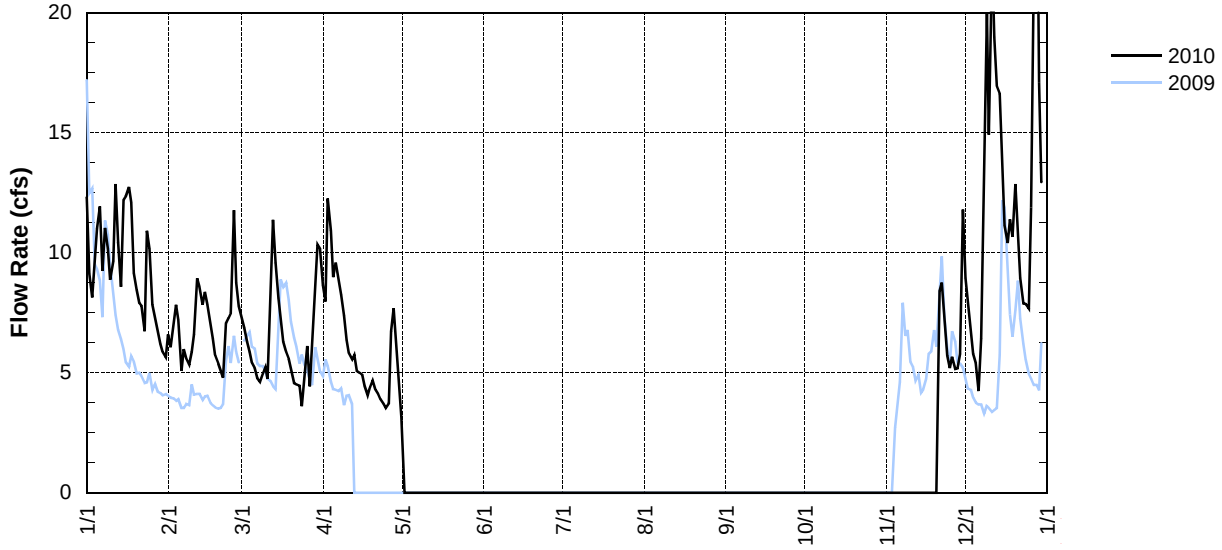


USAFG – CLEAN WATER SERVICES FOREST GROVE WASTEWATER TREATMENT FACILITY DISCHARGE [RM 55.2]

Source Agency: Clean Water Services

Day	2010 — Mean Daily Water Discharge in Cubic Feet per Second											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	12.3	6.6	6.9	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.0
2	9.1	6.1	6.3	12.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0
3	8.1	7.0	5.9	10.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.8
4	9.6	7.8	5.4	9.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.8
5	11.0	7.2	5.2	9.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.4
6	11.9	5.1	4.8	8.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.2
7	9.2	6.0	4.6	8.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.4
8	11.0	5.6	5.0	7.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.0
9	10.2	5.3	5.3	6.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.3
10	8.9	5.9	4.7	5.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.9
11	9.6	6.6	8.1	5.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.6
12	12.9	8.9	11.4	5.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.0
13	10.4	8.6	9.6	5.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.9
14	8.6	7.8	8.1	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.6
15	12.2	8.4	7.3	4.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.4
16	12.4	7.8	6.3	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.1
17	12.7	7.1	5.9	4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.4
18	12.1	6.4	5.6	4.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.4
19	9.2	5.7	5.2	4.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.7
20	8.5	5.4	4.6	4.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.9
21	7.9	5.1	4.5	4.1	0.0	0.0	0.0	0.0	0.0	0.0	8.4	10.7
22	7.8	4.8	4.5	3.9	0.0	0.0	0.0	0.0	0.0	0.0	8.8	9.0
23	6.7	7.1	3.6	3.7	0.0	0.0	0.0	0.0	0.0	0.0	7.5	7.9
24	10.9	7.3	4.8	3.5	0.0	0.0	0.0	0.0	0.0	0.0	5.7	7.9
25	10.2	7.5	6.1	3.7	0.0	0.0	0.0	0.0	0.0	0.0	5.2	7.7
26	7.8	11.8	4.4	6.7	0.0	0.0	0.0	0.0	0.0	0.0	5.7	11.9
27	7.3	8.7	5.9	7.7	0.0	0.0	0.0	0.0	0.0	0.0	5.2	20.5
28	6.7	7.8	8.4	6.1	0.0	0.0	0.0	0.0	0.0	0.0	5.2	24.6
29	6.2	—	10.3	4.7	0.0	0.0	0.0	0.0	0.0	0.0	5.8	17.1
30	5.9	—	10.2	3.2	0.0	0.0	0.0	0.0	0.0	0.0	11.8	12.9
31	5.6	—	8.7	—	0.0	—	0.0	0.0	—	0.0	—	10.8

USAFG –Clean Water Services Forest Grove Wastewater Treatment Plant Discharge [RM 55.2]

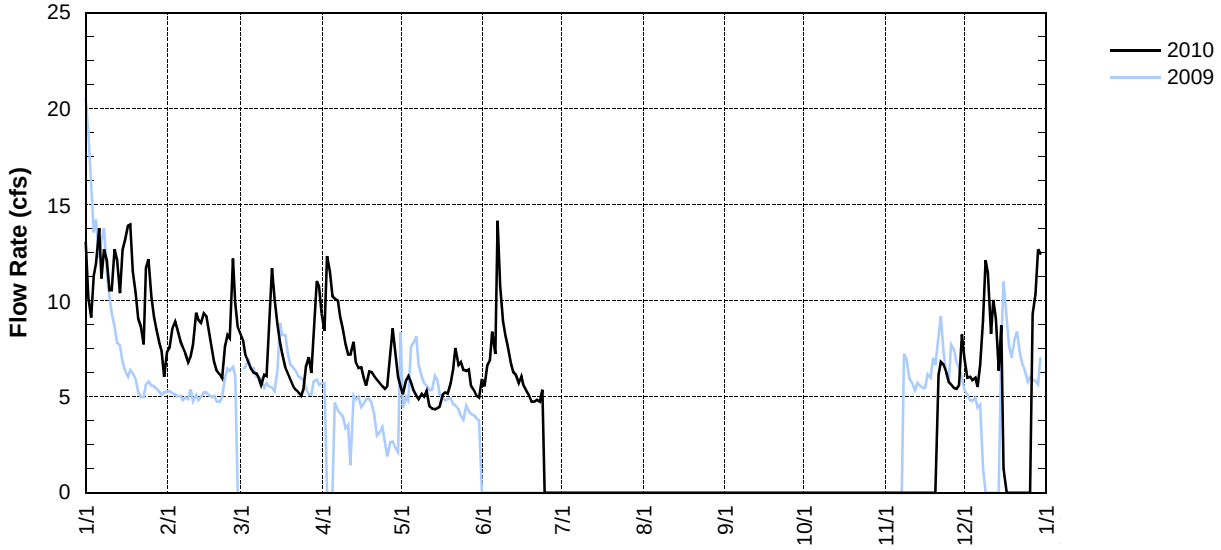


USAHB – CLEAN WATER SERVICES HILLSBORO WASTEWATER TREATMENT FACILITY DISCHARGE [RM 43.8]

Source Agency: Clean Water Services

Day	2010 — Mean Daily Water Discharge in Cubic Feet per Second											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	13.0	7.3	7.9	8.4	5.1	5.6	0.0	0.0	0.0	0.0	0.0	7.0
2	10.2	7.6	7.2	12.3	5.9	6.7	0.0	0.0	0.0	0.0	0.0	6.0
3	9.1	8.6	6.8	11.5	6.1	6.9	0.0	0.0	0.0	0.0	0.0	6.0
4	11.3	8.9	6.5	10.2	5.8	8.4	0.0	0.0	0.0	0.0	0.0	5.9
5	11.9	8.5	6.2	10.1	5.3	7.2	0.0	0.0	0.0	0.0	0.0	6.0
6	13.8	7.9	6.2	10.0	5.0	14.2	0.0	0.0	0.0	0.0	0.0	5.5
7	11.2	7.6	6.0	9.1	4.9	10.8	0.0	0.0	0.0	0.0	0.0	6.7
8	12.7	7.3	5.6	8.5	5.2	8.9	0.0	0.0	0.0	0.0	0.0	9.0
9	12.1	6.8	6.2	7.7	5.0	8.1	0.0	0.0	0.0	0.0	0.0	12.1
10	10.5	7.1	6.1	7.2	5.3	7.6	0.0	0.0	0.0	0.0	0.0	11.5
11	10.5	7.7	8.9	7.2	4.5	6.7	0.0	0.0	0.0	0.0	0.0	8.3
12	12.7	9.4	11.7	7.9	4.4	6.3	0.0	0.0	0.0	0.0	0.0	10.0
13	12.1	9.0	10.1	6.8	4.3	6.2	0.0	0.0	0.0	0.0	0.0	9.1
14	10.4	8.8	8.8	6.5	4.4	5.7	0.0	0.0	0.0	0.0	0.0	6.4
15	12.7	9.3	7.8	6.5	4.5	6.1	0.0	0.0	0.0	0.0	0.0	8.7
16	13.2	9.2	7.2	5.9	5.1	5.6	0.0	0.0	0.0	0.0	0.0	1.3
17	13.9	8.4	6.5	5.6	5.2	5.3	0.0	0.0	0.0	0.0	0.0	0.0
18	14.0	7.4	6.2	6.3	5.2	5.1	0.0	0.0	0.0	0.0	0.0	0.0
19	11.5	6.8	5.9	6.3	5.7	4.7	0.0	0.0	0.0	0.0	0.0	0.0
20	10.4	6.4	5.5	6.1	6.4	4.7	0.0	0.0	0.0	0.0	0.0	0.0
21	9.1	6.2	5.4	5.9	7.5	4.8	0.0	0.0	0.0	0.0	6.2	0.0
22	8.7	6.0	5.3	5.7	6.7	4.8	0.0	0.0	0.0	0.0	6.8	0.0
23	7.7	7.6	5.1	5.5	6.8	5.3	0.0	0.0	0.0	0.0	6.7	0.0
24	11.7	8.2	5.4	5.4	6.4	0.0	0.0	0.0	0.0	0.0	6.3	0.0
25	12.2	8.1	6.6	5.5	6.3	0.0	0.0	0.0	0.0	0.0	5.8	0.0
26	10.2	12.2	7.1	7.2	6.4	0.0	0.0	0.0	0.0	0.0	5.6	0.0
27	9.2	9.9	6.3	8.6	5.6	0.0	0.0	0.0	0.0	0.0	5.5	9.3
28	8.5	8.6	8.0	7.4	5.3	0.0	0.0	0.0	0.0	0.0	5.4	10.4
29	7.8	—	11.0	6.0	5.0	0.0	0.0	0.0	0.0	0.0	5.6	12.7
30	7.4	—	10.8	5.5	4.9	0.0	0.0	0.0	0.0	0.0	8.2	12.5
31	6.1	—	9.3	—	5.9	—	0.0	0.0	—	0.0	—	11.0

USAHB – Clean Water Services Hillsboro Wastewater Treatment Plant Discharge [RM 43.8]

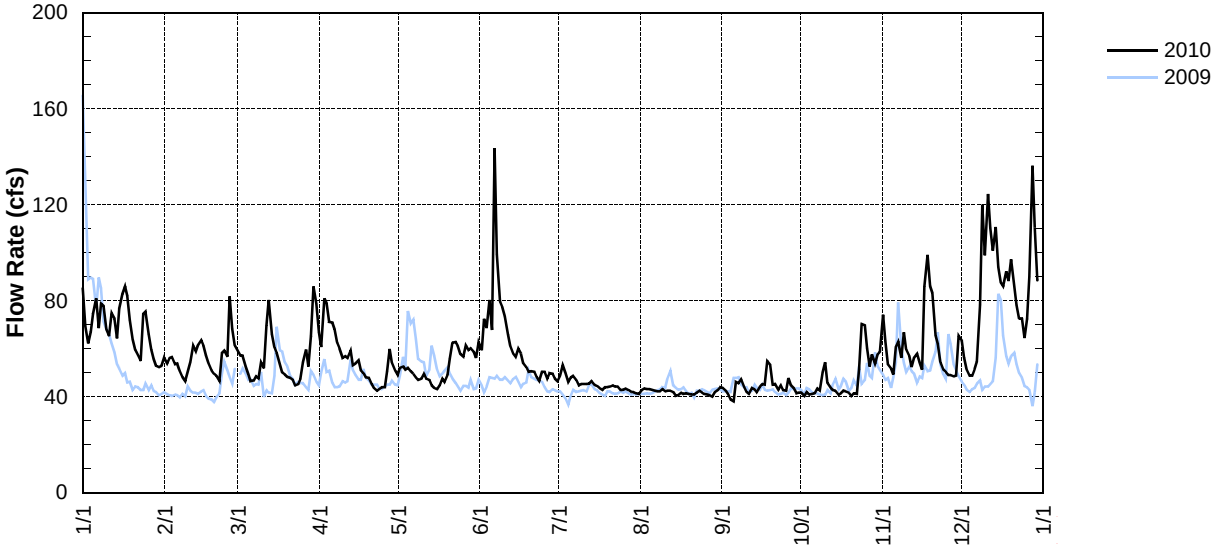


USARC – CLEAN WATER SERVICES ROCK CREEK WASTEWATER TREATMENT FACILITY DISCHARGE [RM 38.08]

Source Agency: Clean Water Services

Day	2010 — Mean Daily Water Discharge in Cubic Feet per Second											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	85.1	56.1	57.2	60.9	52.0	59.4	49.0	42.8	43.7	41.6	74.1	63.3
2	69.3	53.9	57.2	81.0	52.5	72.3	53.0	43.4	42.4	40.4	63.3	56.3
3	62.3	56.3	52.6	78.9	51.4	68.7	50.0	43.1	40.9	41.9	53.6	51.4
4	67.2	56.7	49.6	71.3	52.1	80.4	46.3	43.1	39.0	41.0	51.9	48.7
5	74.4	53.7	46.6	70.8	50.6	67.8	48.1	42.9	38.1	41.3	49.4	48.9
6	81.0	53.9	46.9	68.0	49.4	143.7	48.8	42.5	46.2	41.3	60.9	51.5
7	68.6	50.5	48.5	62.6	48.1	99.5	47.0	42.3	45.7	43.5	63.1	54.6
8	78.9	48.2	47.5	60.2	46.9	79.6	44.8	42.2	47.3	42.5	56.2	78.4
9	77.9	46.5	54.3	56.1	47.5	77.3	45.3	43.2	44.3	50.0	66.9	119.9
10	67.9	50.4	51.9	57.0	49.6	73.5	45.3	42.2	41.9	54.4	59.8	98.8
11	65.3	54.4	69.6	56.2	47.4	65.7	45.3	42.4	41.3	45.6	56.9	124.5
12	74.7	61.2	80.4	59.4	47.0	60.9	45.4	42.4	43.7	43.7	52.4	110.3
13	72.5	59.0	66.0	53.2	44.7	58.2	46.5	41.8	43.1	42.6	56.5	100.8
14	64.4	61.5	60.4	53.9	43.7	56.7	45.0	40.3	42.0	42.5	58.0	110.9
15	76.7	63.6	58.2	55.1	43.2	60.0	44.4	40.8	44.1	40.8	54.4	94.0
16	82.8	61.2	53.5	51.1	44.8	57.9	43.6	41.7	45.1	41.3	51.5	87.5
17	86.0	57.1	50.1	49.8	47.6	54.1	42.9	41.2	44.9	42.4	85.8	85.9
18	82.0	53.8	49.2	48.0	46.2	52.4	43.9	41.3	54.9	42.2	99.0	92.2
19	71.8	51.0	48.3	47.8	49.4	50.3	43.8	41.2	53.2	41.7	86.3	88.1
20	63.7	49.6	47.7	45.4	56.0	50.6	44.2	41.0	44.9	40.4	83.2	97.4
21	59.4	48.7	47.1	43.7	62.4	50.3	44.8	41.0	45.2	41.4	65.5	86.3
22	57.5	46.5	44.7	42.4	62.8	48.2	44.3	41.6	42.9	41.2	62.1	78.3
23	54.8	58.1	45.3	43.3	61.0	46.5	44.1	42.4	44.8	51.6	54.5	72.5
24	74.5	59.1	47.4	43.9	57.8	50.4	42.8	41.6	42.7	70.5	51.4	72.6
25	75.5	56.6	54.4	43.9	56.7	50.2	42.8	41.3	42.6	69.8	50.4	64.4
26	66.0	81.7	59.7	50.6	61.2	47.4	43.4	40.9	47.7	60.2	49.0	72.3
27	59.7	68.3	52.7	60.1	59.3	49.8	42.6	40.7	44.7	52.7	48.9	89.9
28	55.9	61.2	65.4	54.0	60.1	49.6	41.9	40.3	43.8	57.8	48.5	136.2
29	52.8	—	86.0	50.8	58.8	47.6	41.9	41.9	41.5	53.8	48.8	110.4
30	52.3	—	78.9	49.1	56.2	46.5	41.5	42.7	41.7	57.7	65.4	88.3
31	52.9	—	66.9	—	62.8	—	41.2	44.0	—	58.7	—	123.3

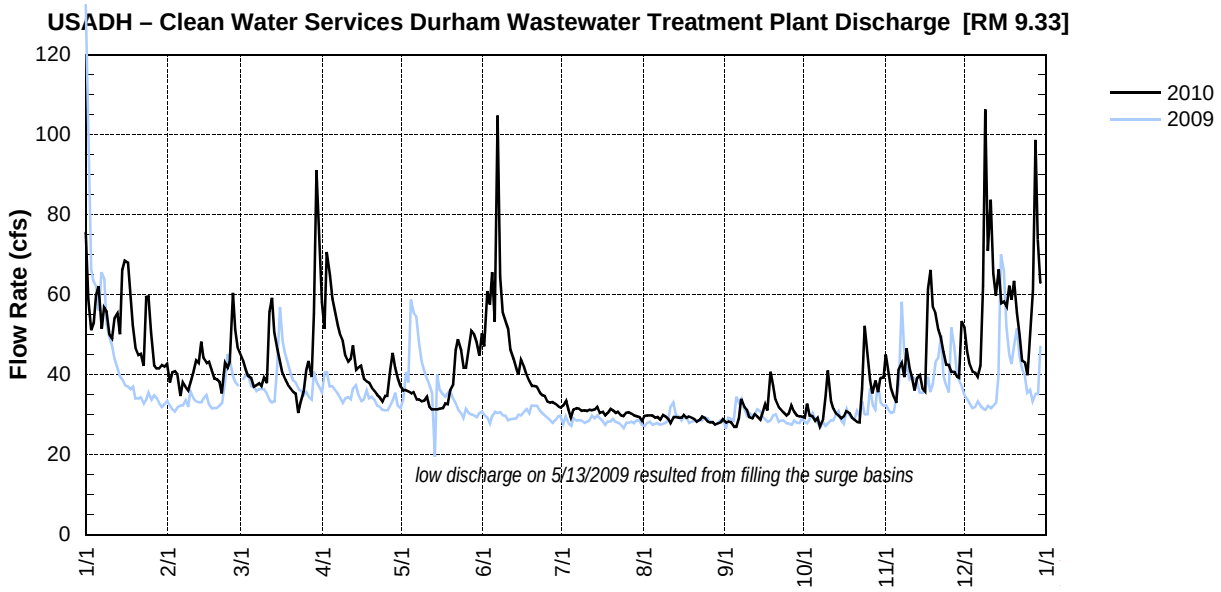
USARC – Clean Water Services Rock Creek Wastewater Treatment Plant Discharge [RM 38.08]



USADH – CLEAN WATER SERVICES DURHAM WASTEWATER TREATMENT FACILITY DISCHARGE [RM 9.33]

Source Agency: Clean Water Services

Day	2010 — Mean Daily Water Discharge in Cubic Feet per Second											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	75.5	42.9	43.5	51.5	36.0	47.0	32.3	29.7	28.0	29.2	45.0	51.8
2	58.9	38.1	41.3	70.7	36.2	61.0	33.6	29.9	28.3	32.8	40.7	45.9
3	51.2	40.7	39.8	65.0	35.7	57.5	31.1	29.9	28.2	29.9	36.7	42.7
4	53.1	41.0	39.1	58.9	35.3	65.6	29.2	29.9	26.9	29.7	34.3	40.8
5	59.7	40.2	37.0	56.0	35.6	53.2	31.4	29.2	26.9	28.5	33.1	40.5
6	62.2	34.7	37.3	52.3	33.9	104.7	31.7	29.4	29.1	29.2	41.5	39.4
7	51.5	38.1	37.9	50.0	33.9	64.5	31.6	28.8	34.0	27.1	43.2	42.4
8	56.8	37.0	37.1	48.4	33.4	55.5	30.9	30.0	32.0	28.9	39.4	62.2
9	55.7	36.0	39.3	44.7	33.6	53.4	31.1	29.5	31.2	34.7	46.6	106.3
10	50.0	38.2	37.9	43.3	34.5	51.5	30.9	28.9	29.4	41.2	41.5	71.0
11	49.0	40.5	55.7	43.9	32.0	46.3	31.2	27.8	29.1	33.4	39.3	83.7
12	54.1	43.6	59.3	47.3	31.4	43.9	31.1	29.4	30.2	31.6	36.0	65.3
13	55.4	43.0	50.7	41.3	31.4	41.8	31.4	29.4	29.5	30.3	39.1	59.9
14	50.1	48.3	46.3	41.9	31.4	40.1	32.0	29.2	28.8	29.9	39.9	66.4
15	66.2	44.1	43.3	42.4	31.6	43.8	30.5	29.2	30.5	29.1	36.5	57.9
16	68.5	43.0	40.5	38.8	31.7	42.1	30.8	30.0	32.6	29.7	35.7	58.3
17	68.1	43.3	38.7	38.4	32.8	40.1	29.9	29.2	31.1	30.9	61.6	56.9
18	61.3	41.3	37.6	38.1	32.6	38.5	30.5	29.5	40.8	30.5	66.2	62.3
19	52.4	39.0	36.7	36.8	36.2	37.1	31.6	29.2	37.3	29.2	56.9	58.8
20	46.4	38.8	35.6	35.9	37.6	37.1	31.1	28.9	33.9	28.8	55.4	63.4
21	44.9	38.2	35.3	35.0	46.1	37.0	30.5	28.3	32.0	28.2	51.4	55.4
22	45.2	35.3	30.5	34.3	48.9	35.4	30.8	28.8	31.4	28.0	49.3	50.1
23	42.2	43.0	33.1	33.4	46.1	34.8	29.9	29.5	30.6	36.5	45.8	43.6
24	59.4	41.8	35.7	34.7	41.8	34.7	29.7	29.2	29.9	52.3	42.5	43.2
25	59.6	43.3	41.2	34.7	41.8	33.4	30.5	28.3	30.3	44.7	42.5	39.9
26	50.7	60.5	43.5	41.6	46.1	33.1	30.6	28.0	32.3	38.7	40.7	48.6
27	42.4	51.4	39.4	45.5	51.1	33.3	30.3	28.2	30.9	35.3	40.7	61.1
28	41.6	46.6	55.2	41.8	50.3	32.8	29.9	27.5	29.9	38.5	39.6	98.7
29	41.6	—	91.1	39.1	48.3	32.2	29.5	27.8	29.5	35.6	39.3	73.6
30	42.5	—	71.2	37.0	44.7	31.9	29.4	28.2	29.5	39.1	53.5	63.1
31	42.1	—	58.2	—	50.4	—	28.5	28.9	—	39.3	—	56.6



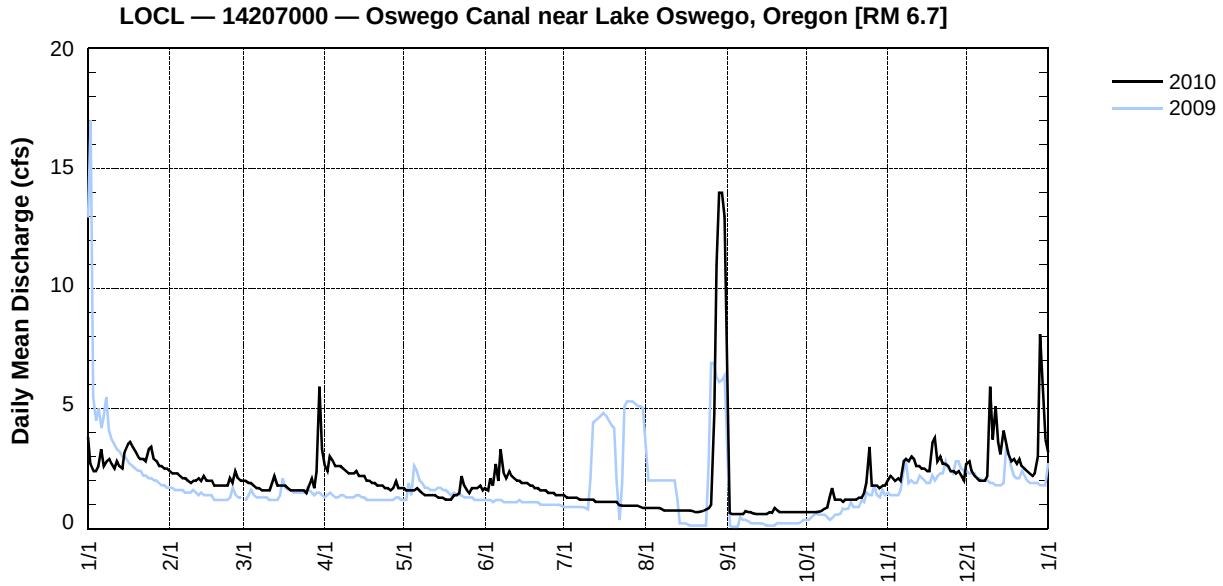
RELEASES FOR CLEAN WATER SERVICES TRIBUTARY FLOW AUGMENTATION AT TVID RELEASE POINTS

Site ID	Site Name	Start Date	End Date	Flow (cfs)	Total Release (ac-ft)
EFD-FA	**East Fork Dairy Creek**	8/18/2010	10/6/2010	1.5	139.3
GA-FA	**Gales Creek**	8/19/2010	10/6/2010	1.1	104.55
MK-FA1	**McKay Creek @ RM 7.6**	8/5/2010	10/6/2010	1.0	245.66
MK-FA2	**McKay Creek @ RM 7.8**	8/5/2010	10/6/2010	1.5	

LOCL – OSWEGO CANAL NEAR LAKE OSWEGO, OREGON [RM 6.7]

Source Agency: District 18 Watermaster

Day	2010 — Daily Water Discharge in Cubic Feet per Second*											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	3.8	2.4	2.0	2.4	1.6	1.6	1.30	0.9	0.65	0.69	2.2	2.8
2	2.7	2.3	1.9	3.0	1.6	2.1	1.30	0.9	0.61	0.69	2.1	2.4
3	2.4	2.3	1.9	2.8	1.6	1.8	1.30	0.9	0.61	0.69	2.0	2.2
4	2.4	2.3	1.8	2.6	1.6	2.7	1.30	0.9	0.61	0.69	2.1	2.1
5	2.6	2.2	1.7	2.6	1.7	2.0	1.30	0.9	0.61	0.71	2.0	2.0
6	3.3	2.1	1.7	2.6	1.6	3.3	1.20	0.8	0.61	0.77	2.8	2.0
7	2.6	2.1	1.6	2.5	1.5	2.3	1.20	0.8	0.73	0.83	2.9	2.0
8	2.8	2.0	1.6	2.4	1.4	2.1	1.20	0.8	0.69	0.88	2.8	2.2
9	2.9	1.9	1.6	2.3	1.4	2.4	1.20	0.8	0.69	1.30	3.0	5.9
10	2.7	2.0	1.6	2.3	1.4	2.2	1.2	0.8	0.62	1.70	2.9	3.7
11	2.5	2.0	1.9	2.3	1.4	2.1	1.2	0.8	0.61	1.20	2.6	5.1
12	2.8	2.1	2.2	2.4	1.4	2.0	1.1	0.8	0.61	1.20	2.6	3.6
13	2.6	2.0	1.8	2.2	1.3	2.0	1.1	0.77	0.61	1.20	2.5	3.1
14	2.5	2.2	1.8	2.2	1.3	1.9	1.1	0.77	0.61	1.10	2.5	4.1
15	3.2	2.0	1.8	2.2	1.3	1.9	1.1	0.77	0.61	1.20	2.4	3.6
16	3.5	2.0	1.8	2.0	1.2	1.9	1.1	0.77	0.68	1.20	2.4	3.1
17	3.6	2.0	1.7	2.0	1.2	1.8	1.1	0.77	0.66	1.20	3.6	2.8
18	3.4	1.8	1.6	1.9	1.2	1.8	1.1	0.73	0.87	1.20	3.8	2.9
19	3.2	1.8	1.6	1.9	1.4	1.7	1.1	0.69	0.75	1.20	2.8	2.7
20	3.0	1.8	1.6	1.8	1.4	1.7	1.1	0.69	0.69	1.30	3.0	2.9
21	2.9	1.8	1.6	1.8	1.5	1.6	0.99	0.70	0.69	1.3	2.7	2.6
22	2.9	1.8	1.6	1.8	2.2	1.6	1.0	0.77	0.69	1.5	2.7	2.5
23	2.8	1.8	1.6	1.7	1.8	1.6	1.0	0.82	0.69	1.9	2.6	2.4
24	3.3	2.1	1.5	1.7	1.6	1.5	1.0	0.9	0.69	3.4	2.4	2.3
25	3.4	1.9	1.8	1.6	1.5	1.5	1.0	1.0	0.69	1.8	2.4	2.2
26	2.9	2.4	2.1	1.7	1.7	1.5	1.0	4.8	0.69	1.8	2.3	2.3
27	2.8	2.1	1.7	2.0	1.7	1.4	1.0	11.0	0.69	1.8	2.4	3.0
28	2.6	2.0	2.4	1.7	1.7	1.4	1.0	14.0	0.69	1.7	2.2	8.1
29	2.6	—	5.9	1.7	1.8	1.4	0.9	14.0	0.69	1.8	2.0	5.7
30	2.5	—	3.3	1.7	1.6	1.40	0.9	13.0	0.69	1.8	2.7	3.7
31	2.5	—	2.6	—	1.7	—	0.9	5.2	—	2.0	—	3.7



Appendix C

Scoggins Reservoir Operations Monthly Records

The information presented here regarding water allocations is provisional. Final allocations for municipal use can be found in the Appendix E of this report.

[See Appendix E for breakdown of municipal use by water provider.]

SCOGGINS DAM -- RESERVOIR OPERATIONS
January 2010

Source: Tualatin Valley Irrigation District

DAY	INFLOW				HENRY HAGG LAKE						TUALATIN RIVER						WEATHER			WATER DELIVERIES				
	SCHO (cfs) [1]	SCLO (cfs) [2]	TANO (cfs) [3]	TOT INFLO (cfs) [4]	W.S. ELEV (ft) [5]	STOR CONT (ac-ft) [6]	CHNG STOR (ac-ft) [7]	CHNG STOR (cfs) [8]	REL (cfs) [9]	COMP INFLO (cfs) [10]	GASO (cfs) [11]	DLLO (cfs) [12]	GOLF (cfs) [13]	ROOD (cfs) [14]	FRMO (cfs) [15]	WSLO (cfs) [16]	PRECIP (inches) [17]	TEMP MAX (°F) [18]	TEMP MIN (°F) [19]	TVID (cfs) [20]	CWS (cfs) [21]	LO (cfs) [22]	MUNI (cfs) [23]	OTHR (cfs) [24]
1	97	187		284	284.24	33672	370	187	206	393	521	701	1160	1960	2106	2640	1.25	51	35	0	0	0	0	0
2	135	244		379	285.01	34389	717	361	199	560	589	956	1590	2610	2957	3810	0.71	50	45	0	0	0	0	0
3	95	182		277	285.89	35214	825	416	57	473	485	911	1920	2710	3114	3850	0.00	50	41	0	0	0	0	0
4	78	142		220	286.54	35829	615	310	57	367	399	789	1900	2750	3116	3740	0.07	47	41	0	0	0	0	0
5	78	187		265	287.21	36467	638	322	57	379	457	761	1800	2930	3306	3910	0.43	48	42	0	0	0	0	0
6	127	226		353	287.86	37106	639	322	130	452	571	859	1790	3110	3539	4530	1.01	53	45	0	0	0	0	0
7	94	195		289	288.52	37726	620	313	137	450	473	941	1940	3290	3770	4570	0.01	45	39	0	0	0	0	0
8	84	147		231	288.76	37958	232	117	258	375	426	918	1950	3260	3735	4510	0.23	45	37	0	0	0	0	0
9	83	155		238	288.95	38140	182	92	298	390	434	922	1930	3430	3926	4860	0.50	41	37	0	0	0	0	0
10	71	134		205	289.02	38210	70	35	297	332	389	889	1910	3460	3993	4788	0.00	46	36	0	0	0	0	0
11	66	121		187	289.01	38201	-9	-5	296	291	358	835	1810	3380	3903	4740	0.12	44	36	0	0	0	0	0
12	96	142		238	288.85	38045	-156	-79	407	328	404	862	1730	3330	3830	4790	0.61	45	41	0	0	0	0	0
13	123	172		295	288.90	38094	49	25	409	434	484	1020	1850	3360	3878	4730	0.77	52	44	0	0	0	0	0
14	133	234		367	289.06	38249	155	78	407	485	498	1100	2020	3340	3867	4870	0.15	51	42	0	0	0	0	0
15	111	196		307	289.05	38239	-10	-5	404	399	425	1060	2080	3320	3822	4620	0.01	50	41	0	0	0	0	0
16	183	297		480	289.77	38942	703	354	174	528	583	1050	2116	3520	4040	5300	1.40	51	45	0	0	0	0	0
17	155	244		399	290.72	39876	934	471	73	544	511	1010	2230	3690	4266	5310	0.09	50	42	0	0	0	0	0
18	325	408		733	291.97	41118	1242	626	74	700	659	1050	2230	3860	4465	5390	1.10	51	41	0	0	0	0	0
19	185	291	18	494	293.16	42315	1197	603	74	677	559	1200	2320	3960	4584	5510	0.02	54	41	0	0	0	0	0
20	147	223		370	293.75	42914	599	302	207	509	463	1050	2300	4020	4625	5540	0.05	57	38	0	0	0	0	0
21	121	180		301	293.71	42874	-40	-20	413	393	407	1050	2180	4030	4661	5540	0.16	50	39	0	0	0	0	0
22	103	155	2	260	293.13	42285	-589	-297	603	306	364	1110	2030	3930	4575	5510	0.05	55	38	0	0	0	0	0
23	83	12		95	292.25	41399	-886	-447	702	255	338	1090	1940	3780	4424	5410	0.10	46	39	0	0	0	0	0
24	73	121		194	291.33	40480	-919	-463	641	178	314	1010	1850	3580	4193	5130	0.12	48	36	0	0	0	0	0
25	145	208	3	356	290.84	39995	-485	-245	632	387	462	1180	1900	3610	4214	5540	1.13	46	40	0	0	0	0	0
26	116	176		292	291.17	40322	327	165	206	371	409	904	2000	3570	4178	5210	0.04	51	37	0	0	0	0	0
27	112	149		261	291.39	40550	228	115	206	321	362	816	1860	3470	4043	5000	0.08	51	37	0	0	0	0	0
28	80	134		214	291.50	40650	100	50	205	255	331	743	1660	3340	3878	4780	0.00	50	39	0	0	0	0	0
29	69	120	2	191	291.56	40709	59	30	205	235	308	685	1480	3160	3660	4520	0.00	50	41	0	0	0	0	0
30	61	109		170	291.54	40689	-20	-10	205	195	288	634	1300	2940	3396	4190	0.00	53	43	0	0	0	0	0
31	56	101		157	291.49	40640	-49	-25	205	180	273	598	1130	2700	3103	3860	0.08	50	43	0	0	0	0	0
TOTALS																								
cfs	3485	5592		9102				3700	8444	12144	13544	28704	57906	103400	119167	146698	10.29 inches							
ac-ft	6912	11092		18054			7338	7338	16749	24087	26865	56934	114857	205094	236368	290975	MAX	57	45	0	0	0	0	0
																	MIN	41	35	0	0	0	0	0

Water storage elevation ± to fill curve:	**4.58**
Water storage in ac-ft ± to fill curve:	**4456**
Percentage of full reservoir:	**76.2%**

Minimum Required Discharges
Dec-Sept: 10 cfs Oct-Nov: 20 cfs

SNOTEL Summary for Water Year 2010
Updated: January 31, 2010
SECO W/Y pc: 39.5" sno depth/water content 0
SDMO W/Y pc: 47.0" sno depth/water content 0

January 2010 was during El Niño – 20 days were 50°F or higher and none had freezing temperatures. Precipitation (10.29") was 128% of average (41 years of record).

RESERVOIR DELIVERY STATUS		USED	REMAINING
These allocations, amounts used and	TVID	0	
remaining are provisional and subject	CWS	0	12618
to daily changes as the WS elevation	LO	0	500
rises and falls. These numbers are for	MUNI	0	13500
planning purposes only	Other	0	

SCOGGINS DAM -- RESERVOIR OPERATIONS

February 2010

[See Appendix E for breakdown of municipal use by water provider.]

Source: Tualatin Valley Irrigation District

DAY	INFLOW				HENRY HAGG LAKE						TUALATIN RIVER						WEATHER			WATER DELIVERIES				
	SCHO (cfs) [1]	SCLO (cfs) [2]	TANO (cfs) [3]	TOT INFLO (cfs) [4]	W.S. ELEV (ft) [5]	STOR CONT (ac-ft) [6]	CHNG STOR (ac-ft) [7]	CHNG STOR (cfs) [8]	REL (cfs) [9]	COMP INFLO (cfs) [10]	GASO (cfs) [11]	DLLO (cfs) [12]	GOLF (cfs) [13]	ROOD (cfs) [14]	FRMO (cfs) [15]	WSLO (cfs) [16]	PRECIP (inches) [17]	TEMP MAX (°F) [18]	TEMP MIN (°F) [19]	TVID (cfs) [20]	CWS (cfs) [21]	LO (cfs) [22]	MUNI (cfs) [23]	OTHR (cfs) [24]
1	0	93	8	101	291.41	40560	-80	-40	205	165	257	564	977	2430	2787	3470	0.02	49	37	0	0	0	0	0
2	50	96		146	291.39	40540	-20	-10	205	195	274	558	921	2130	2571	3170	0.33	45	41	0	0	0	0	0
3	49	93		142	291.28	40431	-109	-55	204	149	259	538	867	1910	2235	2820	0.13	53	43	0	0	0	0	0
4	66	103		169	291.24	40391	-40	-20	204	184	305	553	888	1800	2082	2580	0.39	48	43	0	0	0	0	0
5	63	113	10	186	291.25	40401	10	5	204	209	339	574	947	1810	2073	2530	0.26	50	44	0	0	0	0	0
6	59	108		167	291.42	40570	169	85	99	184	317	497	897	1790	2064	2480	0.00	55	43	0	0	0	0	0
7	53	101		154	291.60	40749	179	90	99	189	288	463	817	1680	1949	2400	0.04	51	40	0	0	0	0	0
8	50	95	8	153	291.73	40879	130	66	99	165	261	428	753	1560	1794	2230	0.00	52	38	0	0	0	0	0
9	45	90		135	291.85	40998	119	60	99	159	246	400	695	1440	1650	2060	0.00	50	32	0	0	0	0	0
10	44	82	6	132	291.94	41088	90	45	99	144	231	379	633	1320	1516	1900	0.00	55	32	0	0	0	0	0
11	46	91	7	144	292.08	41228	140	71	100	171	239	379	627	1280	1450	1820	0.23	48	38	0	0	0	0	0
12	60	114	10	184	292.28	41429	201	101	100	201	306	419	692	1390	1554	1860	0.68	52	42	0	0	0	0	0
13	76	138		214	292.61	41760	331	167	100	267	418	553	956	1720	1938	2170	0.41	51	42	0	0	0	0	0
14	76	136		212	292.92	42073	313	158	100	258	387	559	1010	1890	2160	2560	0.17	49	44	0	0	0	0	0
15	53	123		176	293.17	42326	253	128	100	228	341	554	1010	2000	2311	2750	0.01	55	38	0	0	0	0	0
16	66	132	10	208	293.43	42589	263	133	101	234	349	545	994	2020	2336	2850	0.32	51	43	0	0	0	0	0
17	59	120		179	293.74	42904	315	159	61	220	323	490	973	2020	2360	2820	0.00	60	33	0	0	0	0	0
18	55	98		153	294.07	43241	337	170	28	198	294	420	863	1920	2244	2740	0.00	56	35	0	0	0	0	0
19	49	90	9	148	294.36	43537	296	149	29	178	265	384	786	1770	2064	2540	0.00	59	37	0	0	0	0	0
20	46	82		128	294.61	43793	256	129	29	158	245	343	681	1600	1860	2330	0.00	59	36	0	0	0	0	0
21	42	76		118	294.84	44030	237	119	29	148	228	313	598	1470	1650	2100	0.00	57	29	0	0	0	0	0
22	39	69		108	295.04	44236	206	104	29	133	213	286	535	1270	1464	1860	0.00	55	27	0	0	0	0	0
23	37	65	6	108	295.25	44422	186	94	29	123	201	276	493	1140	1314	1660	0.00	59	29	0	0	0	0	0
24	51	87		138	295.52	44732	310	156	29	185	264	322	567	1230	1380	1750	0.86	44	39	0	0	0	0	0
25	47	88	7	142	295.81	45035	303	153	29	182	281	349	648	1360	1544	1870	0.13	52	42	0	0	0	0	0
26	76	127		203	296.17	45407	372	188	32	220	372	381	684	1370	1560	1990	0.66	54	43	0	0	0	0	0
27	114	176		290	296.77	46035	628	317	32	349	561	555	1100	2040	2304	2630	0.52	51	44	0	0	0	0	0
28	91	147		238	297.31	46602	567	286	32	318	457	583	1220	2150	2516	3030	0.00	54	41	0	0	0	0	0
TOTALS																								
cfs	1562	2933		4576				3006	2506	5512	8521	12665	22832	47510	54730	66970	5.16 inches			0	0	0	0	0
ac-ft	3098	5818		9076			5962	5962	4971	10933	16901	25121	45287	94236	108557	132835	MAX	60	44	0	0	0	0	0
																	MIN	44	27	0	0	0	0	0

Water storage elevation ± to fill curve:	**-0.89**
Water storage in ac-ft ± to fill curve:	**-947**
Percentage of full reservoir:	**87.4%**

SNOTEL Summary for Water Year 2010

Uptdated: February 28, 2010

SECO W/Y pc:	46.8"	sno depth/water content	0
SDMO W/Y pc:	55.6"	sno depth/water content	0

Minimum Required Discharges

Dec-Sept: 10 cfs Oct-Nov: 20 cfs

RESERVOIR DELIVERY STATUS		USED	REMAINING
These allocations, amounts used and	TVID	0	
remaining are provisional and subject	CWS	0	12618
to daily changes as the WS elevation	LO	0	500
rises and falls. These numbers are for	MUNI	0	13500
planning purposes only	Other	0	

SCOGGINS DAM -- RESERVOIR OPERATIONS
March 2010

[See Appendix E for breakdown of municipal use by water provider.]

Source: Tualatin Valley Irrigation District

DAY	INFLOW				HENRY HAGG LAKE						TUALATIN RIVER						WEATHER			WATER DELIVERIES				
	SCHO (cfs) [1]	SCLO (cfs) [2]	TANO (cfs) [3]	TOT INFLO (cfs) [4]	W.S. ELEV (ft) [5]	STOR CONT (ac-ft) [6]	CHNG STOR (ac-ft) [7]	CHNG STOR (cfs) [8]	REL (cfs) [9]	COMP INFLO (cfs) [10]	GASO (cfs) [11]	DLLO (cfs) [12]	GOLF (cfs) [13]	ROOD (cfs) [14]	FRMO (cfs) [15]	WSLO (cfs) [16]	PRECIP (inches) [17]	TEMP MAX (°F) [18]	TEMP MIN (°F) [19]	TVID (cfs) [20]	CWS (cfs) [21]	LO (cfs) [22]	MUNI (cfs) [23]	OTHR (cfs) [24]
1	74	129		203	297.76	47078	476	240	32	272	377	546	1190	2130	2490	3010	0.00	56	40	1	0	0	0	0
2	65	106		171	298.13	47470	392	198	32	230	321	482	1050	2050	2397	2910	0.00	58	42	1	0	0	0	0
3	56	95		151	298.45	47811	341	172	32	204	283	427	912	1920	2250	2750	0.05	57	37	1	0	0	0	0
4	50	85	8	143	298.67	48067	256	129	32	161	254	381	809	1710	2003	2490	0.02	53	34	1	0	0	0	0
5	46	78		124	298.93	48323	256	129	32	161	236	337	702	1510	1763	2210	0.00	53	35	1	0	0	0	0
6	42	71		113	299.14	48548	225	113	32	145	221	311	608	1320	1534	1950	0.00	57	39	1	0	0	0	0
7	40	67		107	299.33	48752	204	103	32	135	206	287	549	1180	1360	1730	0.00	64	34	1	0	0	0	0
8	37	61	6	104	299.50	48935	183	92	32	124	193	271	509	1080	1238	1570	0.00	56	32	1	0	0	0	0
9	37	57		94	299.66	49108	173	87	32	119	185	252	472	1010	1155	1460	0.13	48	33	1	0	0	0	0
10	37	57		94	299.75	49205	97	49	69	118	187	285	493	1010	1146	1350	0.25	46	34	1	0	0	0	0
11	36	56	5	97	299.84	49302	97	49	69	118	171	270	458	1020	1161	1340	0.04	48	36	1	0	0	0	0
12	136	176	14	326	299.99	49464	162	82	187	269	441	540	815	1370	1492	1860	1.39	50	42	1	0	0	0	0
13	99	147		246	300.25	49745	281	142	212	354	461	664	1250	2140	2433	2500	0.39	47	37	1	0	0	0	0
14	79	129		208	300.37	49876	131	66	211	277	385	674	1380	2200	2557	2860	0.00	47	32	1	0	0	0	0
15	70	113	11	194	300.41	49919	43	22	210	232	327	645	1350	2230	2586	2890	0.00	53	33	1	0	0	0	0
16	59	93		152	300.42	49930	11	6	210	216	285	607	1240	2220	2574	2890	0.00	63	39	1	0	0	0	0
17	55	91		146	300.38	49886	-44	-22	210	188	265	574	1110	2150	2492	2800	0.01	54	38	1	0	0	0	0
18	49	82		131	300.31	49811	-75	-38	209	171	241	541	960	2010	2329	2650	0.00	54	35	1	0	0	0	0
19	43	76	7	126	300.44	49952	141	71	78	149	224	364	764	1780	2078	2410	0.00	62	32	2	0	0	0	0
20	42	73		115	300.58	50104	152	77	60	137	210	325	656	1490	1760	2100	0.00	65	39	2	0	0	0	0
21	41	68		109	300.72	50256	152	77	60	137	196	298	561	1280	1480	1790	0.01	66	38	2	0	0	0	0
22	37	67	6	110	300.83	50376	120	61	61	122	198	284	537	1140	1312	1560	0.07	56	39	2	0	0	0	0
23	35	61		96	300.95	50507	131	66	61	127	184	277	515	1050	1207	1410	0.08	53	33	2	0	0	0	0
24	33	59		92	301.05	50616	109	55	61	116	173	278	464	960	1101	1300	0.00	60	34	2	0	0	0	0
25	38	67		105	301.17	50747	131	66	62	128	195	289	469	937	1045	1280	0.39	65	40	2	0	0	0	0
26	85	116	10	211	301.35	50944	197	99	102	201	348	392	621	1090	1216	1510	0.85	49	39	2	0	0	0	0
27	64	96		160	301.39	50988	44	22	200	222	340	550	841	1400	1562	1690	0.05	56	40	2	0	0	0	0
28	65	101		166	301.36	50955	-33	-17	200	183	290	550	852	1400	1592	1900	0.32	64	43	2	0	0	0	0
29	121	185	12	318	301.46	51065	110	55	201	256	437	588	927	1690	1844	2460	0.70	53	46	2	0	0	0	0
30	164	244	14	422	302.00	51658	593	299	202	501	884	775	1390	2250	2567	3650	0.66	49	39	2	0	0	0	0
31	130	216	13	359	302.26	51945	287	145	349	494	668	956	1780	2520	2883	3640	0.31	44	38	2	0	0	0	0
TOTALS																								
cfs	1965	3122		5193				2694	3572	6266	9386	14020	26234	49247	56607	67920	5.72 inches							
ac-ft	3898	6192		10300			5343	5343	7085	12428	18617	27809	52035	97681	112280	134719	MAX	66	46	44	0	0	0	0
																	MIN	44	32	87	0	0	0	0

Water storage elevation ± to fill curve:	**0.63**
Water storage in ac-ft ± to fill curve:	**697**
Percentage of full reservoir:	**97.4%**

SNOTEL Summary for Water Year 2010

Uptdated: March 31, 2010

SECO W/Y pc:	54.6"	sno depth/water content	10.0/1.6"
SDMO W/Y pc:	65.3"	sno depth/water content	0

Minimum Required Discharges

Dec-Sept: 10 cfs Oct-Nov: 20 cfs

RESERVOIR DELIVERY STATUS		USED	REMAINING
These allocations, amounts used and	TVID	87	
remaining are provisional and subject	CWS	0	12618
to daily changes as the WS elevation	LO	0	500
rises and falls. These numbers are for	MUNI	0	13500
planning purposes only	Other	0	

SCOGGINS DAM -- RESERVOIR OPERATIONS

April 2010

[See Appendix E for breakdown of municipal use by water provider.]

Source: Tualatin Valley Irrigation District

DAY	INFLOW				HENRY HAGG LAKE						TUALATIN RIVER						WEATHER			WATER DELIVERIES				
	SCHO (cfs) [1]	SCLO (cfs) [2]	TANO (cfs) [3]	TOT INFLO (cfs) [4]	W.S. ELEV (ft) [5]	STOR CONT (ac-ft) [6]	CHNG STOR (ac-ft) [7]	CHNG STOR (cfs) [8]	REL (cfs) [9]	COMP INFLO (cfs) [10]	GASO (cfs) [11]	DLLO (cfs) [12]	GOLF (cfs) [13]	ROOD (cfs) [14]	FRMO (cfs) [15]	WSLO (cfs) [16]	PRECIP (inches) [17]	TEMP MAX (°F) [18]	TEMP MIN (°F) [19]	TVID (cfs) [20]	CWS (cfs) [21]	LO (cfs) [22]	MUNI (cfs) [23]	OTHR (cfs) [24]
1	96	172	10	278	301.82	51460	-485	-245	596	351	512	1090	2000	2630	2993	3590	0.01	49	31	3	0	0	0	0
2	97	101	12	210	301.28	50867	-593	-299	600	301	472	1060	2060	2730	3077	3620	0.62	51	33	2	0	0	0	0
3	112	165	10	287	301.67	51295	428	216	200	416	602	918	2170	3090	3544	4330	0.94	48	34	2	0	0	0	0
4	116	170	10	296	301.99	51647	352	177	200	377	576	884	2160	3270	3713	4500	0.18	45	36	2	0	0	0	0
5	110	157	15	282	302.27	51956	309	156	200	356	504	831	2080	3280	3774	4540	0.18	50	36	2	0	0	0	0
6	172	216	16	404	302.52	52233	277	140	303	443	731	889	2020	3350	3850	4610	0.73	46	39	2	0	0	0	0
7	140	206	15	361	302.76	52499	266	134	302	436	698	964	2100	3350	3864	4620	0.07	51	41	2	0	0	0	0
8	123	189	14	326	302.53	52244	-255	-129	515	386	629	1080	2140	3340	3844	4610	0.13	52	38	3	0	0	0	0
9	101	159	13	273	302.19	51868	-376	-190	509	319	520	1040	2150	3340	3830	4520	0.02	47	34	3	0	0	0	0
10	91	140	12	243	302.36	52046	178	90	197	287	452	794	2010	3300	3774	4410	0.01	51	37	2	0	0	0	0
11	80	125	11	216	302.48	52188	142	72	197	269	411	718	1740	3210	3677	4280	0.12	61	44	2	0	0	0	0
12	77	121	11	209	302.58	52299	111	56	198	254	393	679	1520	3070	3517	4210	0.21	61	45	2	0	0	0	0
13	63	109	10	182	302.64	52365	66	33	198	231	396	661	1350	2940	3377	3990	0.18	60	41	2	0	0	0	0
14	57	101	10	168	302.63	52354	-11	-6	197	191	358	636	1220	2710	3090	3660	0.00	57	32	3	0	0	0	0
15	57	98	9	164	302.78	52521	167	84	111	195	334	563	1020	2460	2789	3370	0.27	64	35	3	0	0	0	0
16	49	87	9	145	302.91	52665	144	73	111	184	299	527	937	2280	2590	3010	0.00	61	40	3	0	0	0	0
17	47	81	9	137	303.00	52765	100	50	120	170	276	483	817	1880	2140	2580	0.00	68	45	3	0	0	0	0
18	44	76	8	128	303.07	52843	78	39	119	158	257	449	727	1610	1802	2190	0.01	63	41	3	0	0	0	0
19	40	72	8	120	303.13	52910	67	34	120	154	240	419	686	1440	1578	1890	0.00	72	45	4	0	0	0	0
20	40	69	8	117	303.17	52954	44	22	120	142	232	400	620	1310	1421	1710	0.08	64	49	3	0	0	0	0
21	38	64	8	110	303.18	52966	12	6	120	126	215	382	608	1220	1317	1570	0.03	56	45	3	0	0	0	0
22	36	60	7	103	303.18	52966	0	0	120	120	201	360	618	1140	1227	1460	0.00	55	34	3	0	0	0	0
23	34	56	7	97	303.17	52954	-12	-6	120	114	189	342	570	1040	1128	1340	0.00	63	34	4	0	0	0	0
24	33	56	7	96	303.20	52988	34	17	104	121	183	316	511	945	1021	1240	0.01	61	40	4	0	0	0	0
25	31	53	7	91	303.20	52988	0	0	105	105	174	309	518	887	944	1140	0.00	54	35	4	0	0	0	0
26	29	50	6	85	303.20	52988	0	0	104	104	162	293	474	840	896	1080	0.00	63	41	4	0	0	0	0
27	80	103	10	193	303.41	53222	234	118	141	259	393	428	688	1010	1038	1370	1.69	55	46	4	0	0	0	0
28	58	87	9	154	302.96	52721	-501	-253	450	197	317	672	944	1540	1614	1660	0.25	55	41	3	0	0	0	0
29	49	78	8	135	302.99	52754	33	17	156	173	294	538	933	1580	1710	2000	0.05	52	37	3	0	0	0	0
30	45	72	8	125	303.19	52977	223	112	40	152	261	399	753	1420	1569	1920	0.00	53	39	3	0	0	0	0
TOTALS																								
cfs	2145	3293	297	5735				520	6573	7093	11281	19124	38144	66212	74708	89020	5.79 inches			86	0	0	0	0
ac-ft	4255	6532	589	11375			1032	1032	13038	14070	22376	37932	75659	131332	148183	176571	MAX	72	49	171	0	0	0	0
																	MIN	45	31					

Water storage elevation ± to fill curve:	**-0.27**
Water storage in ac-ft ± to fill curve:	**-302**
Percentage of full reservoir:	**99.4%**

SNOTEL Summary for Water Year 2010

Uptdated: April 30, 2010

SECO W/Y pc:	61.4"	sno depth/water content	0
SDMO W/Y pc:	72.5"	sno depth/water content	0

Minimum Required Discharges

Dec-Sept: 10 cfs Oct-Nov: 20 cfs

RESERVOIR DELIVERY STATUS		USED	REMAINING
These allocations, amounts used and	TVID	258	
remaining are provisional and subject	CWS	0	12618
to daily changes as the WS elevation	LO	0	500
rises and falls. These numbers are for	MUNI	0	13500
planning purposes only	Other	0	

SCOGGINS DAM -- RESERVOIR OPERATIONS
May 2010

[See Appendix E for breakdown of municipal use by water provider.]

Source: Tualatin Valley Irrigation District

DAY	INFLOW				HENRY HAGG LAKE						TUALATIN RIVER						WEATHER			WATER DELIVERIES				
	SCHO (cfs) [1]	SCLO (cfs) [2]	TANO (cfs) [3]	TOT INFLO (cfs) [4]	W.S. ELEV (ft) [5]	STOR CONT (ac-ft) [6]	CHNG STOR (ac-ft) [7]	CHNG STOR (cfs) [8]	REL (cfs) [9]	COMP INFLO (cfs) [10]	GASO (cfs) [11]	DLLO (cfs) [12]	GOLF (cfs) [13]	ROOD (cfs) [14]	FRMO (cfs) [15]	WSLO (cfs) [16]	PRECIP (inches) [17]	TEMP MAX (°F) [18]	TEMP MIN (°F) [19]	TVID (cfs) [20]	CWS (cfs) [21]	LO (cfs) [22]	MUNI (cfs) [23]	OTHR (cfs) [24]
1	42	68	7	117	303.37	53177	200	101	37	138	240	353	616	1200	1321	1660	0.00	56	44	0	0	0	0	1
2	38	63	7	108	303.53	53366	189	95	37	132	222	318	570	1060	1154	1430	0.00	57	44	0	0	0	0	0
3	43	72	7	122	303.69	53535	169	85	47	132	217	293	498	959	1043	1300	0.20	58	48	0	0	0	0	1
4	40	65	7	112	303.40	53211	-324	-163	297	134	238	529	731	1000	1038	1200	0.19	51	35	0	0	0	0	0
5	37	63	6	106	303.43	53244	33	17	113	130	232	368	637	1120	1180	1340	0.15	51	38	0	0	0	0	1
6	35	59	6	100	303.51	53334	90	45	73	118	218	324	543	1000	1087	1320	0.09	53	33	0	0	0	0	0
7	33	56	6	95	303.56	53390	56	28	91	119	204	316	537	925	988	1200	0.00	58	37	0	0	0	0	1
8	32	54	5	91	303.59	53423	33	17	92	109	188	299	496	864	924	1120	0.07	67	37	0	0	0	0	0
9	30	52	5	87	303.61	53446	23	12	93	105	175	285	469	808	869	1060	0.00	65	36	0	0	0	0	1
10	30	50	5	85	303.58	53412	-34	-17	114	97	163	294	469	778	824	1010	0.07	67	45	0	0	0	0	0
11	28	47	5	80	303.53	53356	-56	-28	114	86	153	288	423	775	862	987	0.00	58	40	0	0	0	0	1
12	28	45	5	78	303.56	53390	34	17	89	106	141	241	358	718	775	949	0.00	62	46	0	0	0	0	0
13	27	44	5	76	303.56	53390	0	0	93	93	131	245	366	638	691	869	0.00	67	39	0	0	0	0	1
14	26	41	5	72	303.53	53356	-34	-17	98	81	122	236	324	610	661	805	0.00	73	44	0	0	0	0	0
15	24	40	5	69	303.54	53367	11	6	85	91	113	209	310	556	612	771	0.00	76	44	0	0	0	0	1
16	24	38	5	67	303.53	53356	-11	-6	86	80	108	198	271	526	581	721	0.00	74	50	0	0	0	0	1
17	24	38	5	67	303.52	53345	-11	-6	86	80	103	193	259	489	539	689	0.05	75	51	0	0	0	0	1
18	23	37	5	65	303.51	53334	-11	-6	86	80	107	199	303	543	578	667	0.17	73	52	0	0	0	0	1
19	22	36	5	63	303.48	53300	-34	-17	86	69	101	192	297	533	590	732	0.03	54	46	0	0	0	0	1
20	30	48	7	85	303.55	53378	78	39	72	111	130	213	315	598	639	799	0.76	61	44	0	0	0	0	1
21	30	50	6	86	303.59	53423	45	23	79	102	147	226	358	715	797	899	0.27	56	43	0	0	0	0	1
22	31	48	6	85	303.54	53367	-56	-28	129	101	173	303	482	925	970	1420	0.15	52	42	0	0	0	0	1
23	28	45	5	78	303.48	53300	-67	-34	129	95	149	289	458	1010	na	1480	0.21	55	37	0	0	0	0	1
24	27	41	5	73	303.42	53233	-67	-34	129	95	134	277	421	970	na	1370	0.01	56	43	0	0	0	0	1
25	27	41	5	73	303.45	53267	34	17	61	78	124	194	309	819	895	1230	0.09	58	46	0	0	0	0	1
26	28	43	6	77	303.54	53367	100	50	61	111	154	219	370	746	797	1110	0.30	60	50	0	0	0	0	1
27	27	42	5	74	303.54	53367	0	0	92	92	143	252	382	878	926	1160	0.09	61	42	0	0	0	0	1
28	25	40	5	70	303.52	53345	-22	-11	99	88	131	239	348	862	906	1350	0.00	62	44	0	0	0	0	1
29	25	40	5	70	303.50	53323	-22	-11	91	80	116	221	341	813	887	1270	0.00	57	49	0	0	0	0	1
30	24	38	5	67	303.49	53311	-12	-6	87	81	123	212	323	790	851	1140	0.00	64	51	0	0	0	0	1
31	27	42	5	74	303.51	53334	23	12	87	99	110	214	327	720	780	1080	0.30	64	54	0	0	0	0	1
TOTALS																	3.20 inches							
cfs	915	1486	171	2572				180	2933	3113	4810	8239	12911	24948	24765	34138	MAX	76	54	0	0	0	0	24
ac-ft	1815	2947	339	5102			357	357	5818	6175	9541	16342	25609	49484	49121	67713	MIN	51	33	0	0	0	0	48

Water storage elevation ± to fill curve:	**0.01**
Water storage in ac-ft ± to fill curve:	**11**
Percentage of full reservoir:	**100.0%**

SNOTEL Summary for Water Year 2010

Uptdated: May 31, 2010

SECO W/Y pc:	64.7"	sno depth/water content	0
SDMO W/Y pc:	77.3"	sno depth/water content	0

Minimum Required Discharges

Dec-Sept: 10 cfs Oct-Nov: 20 cfs

RESERVOIR DELIVERY STATUS		USED	REMAINING
These allocations, amounts used and	TVID	258	
remaining are provisional and subject	CWS	0	12618
to daily changes as the WS elevation	LO	0	500
rises and falls. These numbers are for	MUNI	0	13500
planning purposes only	Other	48	

SCOGGINS DAM -- RESERVOIR OPERATIONS
June 2010

[See Appendix E for breakdown of municipal use by water provider.]

Source: Tualatin Valley Irrigation District

DAY	INFLOW				HENRY HAGG LAKE						TUALATIN RIVER						WEATHER			WATER DELIVERIES				
	SCHO (cfs) [1]	SCLO (cfs) [2]	TANO (cfs) [3]	TOT INFLO (cfs) [4]	W.S. ELEV (ft) [5]	STOR CONT (ac-ft) [6]	CHNG STOR (ac-ft) [7]	CHNG STOR (cfs) [8]	REL (cfs) [9]	COMP INFLO (cfs) [10]	GASO (cfs) [11]	DLLO (cfs) [12]	GOLF (cfs) [13]	ROOD (cfs) [14]	FRMO (cfs) [15]	WSLO (cfs) [16]	PRECIP (inches) [17]	TEMP MAX (°F) [18]	TEMP MIN (°F) [19]	TVID (cfs) [20]	CWS (cfs) [21]	LO (cfs) [22]	MUNI (cfs) [23]	OTHR (cfs) [24]
1	23	37	5	65	303.50	53323	-11	-6	87	81	110	206	302	815	858	1060	0.00	67	48	0	0	0	0	1
2	43	79	8	130	303.36	53166	-157	-79	200	121	138	338	436	486	824	1200	0.60	59	53	0	0	0	0	0
3	38	71	71	180	303.28	53077	-89	-45	200	155	246	428	631	1200	1235	1430	0.03	64	41	0	0	0	0	1
4	73	111	11	195	303.42	53233	156	79	95	174	286	352	551	1310	1377	1962	0.82	58	47	0	0	0	0	0
5	55	91	10	156	303.52	53345	112	56	139	195	285	456	742	1640	1763	2110	0.00	61	42	0	0	0	0	0
6	74	91	11	176	303.62	53457	112	56	146	202	251	443	729	1580	1737	2230	0.81	70	52	0	0	0	0	0
7	88	98	13	199	303.46	53278	-179	-90	424	334	425	768	1110	2590	2875	3250	0.56	64	52	0	0	0	0	0
8	63	118	11	192	303.36	53166	-112	-56	278	222	329	752	1240	2700	3114	2110	0.00	67	44	0	0	0	0	1
9	57	101	11	169	303.42	53233	67	34	154	188	274	636	1160	2450	2820	1820	0.09	68	51	0	0	0	0	0
10	48	91	10	149	303.44	53256	23	12	152	164	246	570	963	2310	2625	2910	0.03	61	50	0	0	0	0	1
11	42	74	9	125	303.43	53244	-12	-6	151	145	226	511	817	2110	2345	2600	0.00	58	49	0	0	0	0	1
12	38	67	8	113	303.28	53077	-167	-84	215	131	207	542	751	1770	2028	2560	0.00	62	44	103	0	0	0	1
13	35	61	7	103	303.05	52821	-256	-129	256	127	187	518	701	1500	1680	2130	0.00	82	48	144	0	0	0	1
14	33	58	6	97	302.77	52510	-311	-157	287	130	170	512	699	1330	1456	1820	0.00	70	41	175	0	0	0	1
15	27	54	6	87	302.39	52089	-421	-212	312	100	158	508	662	1200	1308	1620	0.00	64	42	211	0	0	0	1
16	26	48	5	79	302.00	51658	-431	-217	324	107	153	509	674	1260	1339	1600	0.04	56	40	223	0	0	0	1
17	25	46	5	76	301.60	51218	-440	-222	330	108	145	501	638	1150	1251	1540	0.00	58	48	234	0	0	0	1
18	24	39	4	67	301.16	50736	-482	-243	354	111	137	506	668	1060	1148	1400	0.01	59	44	258	0	0	0	1
19	23	36	4	63	300.77	50379	-357	-180	303	123	121	455	593	1000	1087	1310	0.00	67	51	207	0	0	0	1
20	23	36	4	63	300.41	49919	-460	-232	303	71	119	445	571	905	979	1210	0.05	64	49	207	0	0	0	1
21	22	35	4	61	300.01	49486	-433	-218	302	84	109	434	564	877	934	1140	0.00	61	45	206	0	0	0	1
22	20	33	3	56	300.06	49540	54	27	37	64	106	173	283	776	864	1100	0.00	65	50	0	0	0	0	1
23	19	31	3	53	300.16	49626	86	43	21	64	96	150	229	563	641	918	0.00	75	52	0	0	0	0	1
24	18	30	3	51	300.21	49702	76	38	21	59	89	137	210	465	530	754	0.00	82	51	0	0	0	0	1
25	17	28	3	48	300.28	49778	76	38	21	59	83	126	201	418	476	630	0.00	81	54	0	0	0	0	2
26	17	28	3	48	300.33	49832	54	27	21	48	81	122	166	374	421	573	0.00	74	51	0	0	0	0	2
27	17	27	3	47	300.38	49886	54	27	21	48	77	116	170	326	385	517	0.00	77	50	0	0	0	0	2
28	16	26	3	45	300.43	49941	55	28	21	49	73	109	144	318	371	478	0.00	82	52	0	0	0	0	2
29	16	25	3	44	300.47	49984	43	22	21	43	72	106	128	281	336	450	0.00	71	47	0	0	0	0	2
30	15	24	3	42	300.50	50017	33	17	21	38	70	92	106	267	317	410	0.00	70	43	0	0	0	0	2
TOTALS																	3.04 inches							
cfs	1035	1694	250	2979				-1672	5217	3545	5069	11521	16839	35031	39124	44842	MAX	82	54	1968	0	0	0	30
ac-ft	2053	3360	496	5909			-3317	-3317	10348	7031	10054	22852	33400	69484	77602	88944	MIN	56	40	3904	0	0	0	60

Water storage elevation ± to fill curve:	**-3**
Water storage in ac-ft ± to fill curve:	**-3306**
Percentage of full reservoir:	**93.8%**

SNOTEL Summary for Water Year 2010

Uptdated: June 30, 2010

SECO W/Y pc:	68.5"	sno depth/water content	0
SDMO W/Y pc:	82.4"	sno depth/water content	0

Minimum Required Discharges

Dec-Sept: 10 cfs Oct-Nov: 20 cfs

RESERVOIR DELIVERY STATUS		USED	REMAINING
These allocations, amounts used and	TVID	4161	
remaining are provisional and subject	CWS	0	12618
to daily changes as the WS elevation	LO	0	500
rises and falls. These numbers are for	MUNI	0	13500
planning purposes only.	Other	107	

SCOGGINS DAM -- RESERVOIR OPERATIONS

July 2010

[See Appendix E for breakdown of municipal use by water provider.]

Source: Tualatin Valley Irrigation District

DAY	INFLOW				HENRY HAGG LAKE						TUALATIN RIVER						WEATHER			WATER DELIVERIES				
	SCHO (cfs) [1]	SCLO (cfs) [2]	TANO (cfs) [3]	TOT INFLO (cfs) [4]	W.S. ELEV (ft) [5]	STOR CONT (ac-ft) [6]	CHNG STOR (ac-ft) [7]	CHNG STOR (cfs) [8]	REL (cfs) [9]	COMP INFLO (cfs) [10]	GASO (cfs) [11]	DLLO (cfs) [12]	GOLF (cfs) [13]	ROOD (cfs) [14]	FRMO (cfs) [15]	WSLO (cfs) [16]	PRECIP (inches) [17]	TEMP MAX (°F) [18]	TEMP MIN (°F) [19]	TVID (cfs) [20]	CWS (cfs) [21]	LO (cfs) [22]	MUNI (cfs) [23]	OTHR (cfs) [24]
1	14	24	2	40	300.51	50028	11	6	43	49	102	130	110	225	371	393	0.00	70	51	0	0	0	20	2
2	16	26	2	44	300.54	50060	32	16	43	59	110	139	160	259	378	388	0.20	63	53	0	0	0	20	3
3	15	24	2	41	300.56	50082	22	11	43	54	111	142	169	374	509	454	0.16	66	45	0	0	0	20	3
4	14	23	2	39	300.58	50104	22	11	43	54	103	134	160	328	479	492	0.00	69	45	0	0	0	20	3
5	14	22	2	38	300.59	50115	11	6	43	49	103	131	156	285	430	459	0.00	69	51	0	0	0	20	3
6	14	21	2	37	300.60	50126	11	6	43	49	100	126	105	269	410	414	0.00	67	48	20	0	0	20	3
7	13	21	2	36	300.57	50093	-33	-17	77	60	93	151	106	207	354	388	0.00	85	53	18	0	0	20	3
8	12	19	2	33	300.45	49962	-131	-66	122	56	98	196	127	200	334	329	0.00	93	56	51	0	0	35	3
9	11	18	2	31	300.29	49789	-173	-87	141	54	95	216	138	201	340	310	0.00	98	56	72	0	0	35	3
10	11	17	2	30	300.09	49572	-217	-109	153	44	91	227	144	208	346	310	0.00	95	56	78	0	0	42	3
11	11	17	2	30	299.90	49367	-205	-103	153	50	92	226	168	207	345	314	0.00	84	56	78	0	0	42	3
12	11	17	2	30	299.69	49140	-227	-114	153	39	92	226	176	224	360	314	0.00	83	52	78	0	0	42	3
13	10	17	2	29	299.50	48935	-205	-103	137	34	82	202	164	215	355	325	0.00	67	51	90	0	0	15	3
14	10	16	2	28	299.31	48731	-204	-103	141	38	82	198	139	205	350	317	0.00	69	48	86	0	0	24	3
15	10	16	2	28	299.14	48548	-183	-92	138	46	79	198	138	188	326	299	0.00	84	52	79	0	0	28	3
16	9	15	2	26	298.96	48356	-192	-97	139	42	77	192	124	173	309	285	0.00	85	46	82	0	0	28	3
17	9	15	2	26	298.76	48142	-214	-108	139	31	77	192	132	162	296	265	0.00	75	43	82	0	0	28	3
18	9	15	2	26	298.58	47949	-193	-97	139	42	77	194	131	164	299	262	0.00	76	46	82	0	0	28	3
19	9	14	2	25	298.39	47747	-202	-102	139	37	77	196	146	180	308	262	0.00	75	44	83	0	0	28	3
20	8	14	2	24	298.21	47555	-192	-97	139	42	74	190	129	178	307	275	0.00	76	46	84	0	0	28	3
21	7	14	2	24	298.03	47364	-191	-96	133	37	72	183	112	154	240	272	0.00	77	46	86	0	0	20	3
22	7	13	2	22	297.86	47184	-180	-91	134	43	73	185	112	147	231	252	0.00	84	51	86	0	3	20	3
23	7	11	2	20	297.64	46951	-233	-117	149	32	74	204	113	142	225	239	0.00	72	47	88	0	3	35	3
24	7	11	2	20	297.40	46697	-254	-128	179	51	71	230	138	138	224	239	0.00	84	54	88	20	3	45	3
25	6	10	2	18	297.14	46423	-274	-138	179	41	67	226	129	150	233	230	0.00	93	53	90	20	3	45	3
26	6	10	2	18	296.88	46150	-273	-138	179	41	66	225	127	148	233	239	0.00	90	53	90	20	3	45	3
27	5	10	2	17	296.63	45888	-262	-132	165	33	67	209	109	140	230	239	0.00	89	52	87	20	3	35	3
28	6	9	2	17	296.38	45627	-261	-132	171	39	65	214	98	149	229	233	0.00	85	50	86	20	3	42	3
29	6	9	2	17	296.10	45345	-282	-142	171	29	56	213	104	114	209	239	0.00	82	49	86	20	3	42	3
30	6	9	2	17	295.88	45106	-239	-120	159	39	55	194	91	116	205	213	0.00	83	49	84	20	3	32	3
31	5	9	2	16	295.65	44867	-239	-120	160	40	55	201	94	109	215	213	0.00	81	52	76	30	3	32	3
TOTALS																	0.36 inches							
cfs	298	486	62	847				-2596	3947	1351	2536	5890	4049	5959	9680	9463	MAX	98	56	2010	170	30	936	92
ac-ft	591	964	123	1680			-5150	-5150	7829	2679	5030	11683	8031	11820	19200	18770	MIN	63	43	3987	337	60	1857	182

Water storage elevation ± to fill curve:	**-7.85**
Water storage in ac-ft ± to fill curve:	**-8456**
Percentage of full reservoir:	**84.1%**

SNOTEL Summary for Water Year 2010

Uptdated: July 31, 2010

SECO W/Y pc:	69.0"	sno depth/water content	0
SDMO W/Y pc:	82.7"	sno depth/water content	0

Minimum Required Discharges

Dec-Sept: 10 cfs Oct-Nov: 20 cfs

RESERVOIR DELIVERY STATUS

These allocations, amounts used and remaining are provisional and subject to daily changes as the WS elevation rises and falls. These numbers are for planning purposes only

	USED	REMAINING
TVID	8148	
CWS	337	12281
LO	60	440
MUNI	1857	11643
Other	290	

SCOGGINS DAM -- RESERVOIR OPERATIONS
August 2010

[See Appendix E for breakdown of municipal use by water provider.]

Source: Tualatin Valley Irrigation District

DAY	INFLOW				HENRY HAGG LAKE						TUALATIN RIVER						WEATHER			WATER DELIVERIES				
	SCHO (cfs) [1]	SCLO (cfs) [2]	TANO (cfs) [3]	TOT INFLO (cfs) [4]	W.S. ELEV (ft) [5]	STOR CONT (ac-ft) [6]	CHNG STOR (ac-ft) [7]	CHNG STOR (cfs) [8]	REL (cfs) [9]	COMP INFLO (cfs) [10]	GASO (cfs) [11]	DLLO (cfs) [12]	GOLF (cfs) [13]	ROOD (cfs) [14]	FRMO (cfs) [15]	WSLO (cfs) [16]	PRECIP (inches) [17]	TEMP MAX (°F) [18]	TEMP MIN (°F) [19]	TVID (cfs) [20]	CWS (cfs) [21]	LO (cfs) [22]	MUNI (cfs) [23]	OTHR (cfs) [24]
1	5	9	2	16	295.42	44628	-239	-120	160	40	56	200	106	119	201	199	0.00	73	54	76	30	3	32	3
2	5	9	2	16	295.17	44391	-237	-119	160	41	55	201	120	136	215	213	0.00	79	52	76	30	3	32	3
3	5	9	2	16	294.96	44153	-238	-120	160	40	53	195	90	129	217	224	0.00	81	50	76	30	3	32	3
4	5	9	2	16	294.71	43896	-257	-130	160	30	51	194	94	118	205	242	0.00	80	51	76	30	3	32	3
5	5	8	2	15	294.48	43660	-236	-119	160	41	51	195	93	112	196	233	0.00	83	55	72	35	3	32	3
6	5	8	2	15	294.23	43404	-256	-129	171	42	50	204	93	115	200	236	0.00	88	53	73	45	3	32	3
7	5	7	2	14	293.98	43149	-255	-129	171	42	49	202	92	114	199	230	0.00	82	54	74	45	3	32	3
8	5	8	2	15	293.71	42874	-275	-139	171	32	51	203	124	115	200	230	0.00	75	60	73	45	3	32	3
9	5	8	2	15	293.44	42599	-275	-139	171	32	51	204	139	138	217	236	0.00	76	52	73	45	3	32	3
10	5	8	2	15	293.18	42336	-263	-133	171	38	51	185	112	138	222	255	0.00	69	50	73	45	3	32	3
11	5	8	2	15	292.91	42063	-273	-138	171	33	52	186	102	123	208	258	0.00	67	49	73	45	3	32	3
12	5	7	2	14	292.66	41811	-252	-127	171	44	58	191	104	123	204	242	0.00	81	49	74	45	3	32	3
13	5	7	2	14	292.39	41539	-272	-137	177	40	58	197	104	113	203	239	0.00	85	54	80	45	3	32	3
14	4	6	2	12	292.06	41208	-331	-167	207	40	58	225	120	107	194	227	0.00	92	56	98	55	3	36	3
15	4	6	2	12	291.73	40879	-329	-166	207	41	57	224	118	121	201	218	0.00	95	55	98	55	3	36	3
16	4	5	2	11	291.39	40540	-339	-171	207	36	56	223	121	124	207	233	0.00	96	54	99	55	3	36	3
17	4	5	2	11	291.07	40222	-318	-160	199	39	56	213	115	113	200	233	0.00	97	57	95	55	3	32	3
18	4	5	2	11	290.75	39906	-316	-159	192	33	58	209	117	112	197	227	0.00	92	51	98	55	3	22	3
19	4	5	2	11	290.44	39600	-306	-154	188	34	60	226	147	121	200	224	0.00	77	51	94	55	3	22	3
20	4	5	2	11	290.14	39295	-305	-154	183	29	59	220	134	132	211	236	0.00	74	41	83	55	3	28	3
21	4	5	1	11	289.82	38991	-304	-153	183	30	60	212	131	138	217	242	0.00	73	46	78	65	3	23	3
22	4	5	1	11	289.52	38697	-294	-148	183	35	60	208	132	132	205	246	0.00	70	49	78	65	3	23	3
23	5	5	1	11	289.25	38434	-263	-133	183	50	61	208	145	137	213	242	0.00	69	44	78	65	3	23	3
24	5	5	1	11	288.96	38152	-282	-142	177	35	58	198	110		212	252	0.00	78	48	67	65	3	28	3
25	5	5	1	11	288.65	37851	-301	-152	185	33	56	204	100		194	242	0.00	92	52	75	65	3	28	3
26	4	4	1	9	288.35	37561	-290	-146	185	39	56	206	104		186	224	0.00	95	52	80	65	3	25	3
27	4	5	1	10	288.02	37262	-299	-151	185	34	56	205	127		191	204	0.00	69	47	81	65	3	23	3
28	4	4	1	9	287.74	36976	-286	-144	166	22	58	190	112		203	215	0.00	71	50	68	65	3	18	3
29	4	4	1	9	287.46	36706	-270	-136	166	30	57	187	118		195	224	0.00	73	42	68	65	3	18	3
30	4	5	1	10	287.19	36447	-259	-131	167	36	59	190	136		201	227	0.05	66	46	68	65	3	18	3
31	5	5	1	11	286.95	36200	-247	-125	161	36	61	189	128		211	230	0.00	69	48	61	65	3	18	3
TOTALS																	0.05 inches							
cfs	141	194	51	388				-4370	5498	1128	1732	6294	3588	2830	6325	7183	MAX	97	60	2436	1615	93	873	93
ac-ft	280	385	101	770			-8667	-8667	10905	2238	3435	12484	7117	5613	12546	14247	MIN	66	41	4832	3203	184	1732	184

Water storage elevation ± to fill curve:	**-16.55**
Water storage in ac-ft ± to fill curve:	**-17123**
Percentage of full reservoir:	**67.9%**

SNOTEL Summary for Water Year 2010

Uptdated: August 31, 2010

SECO W/Y pc:	69.2"	sno depth/water content	0
SDMO W/Y pc:	82.7"	sno depth/water content	0

Minimum Required Discharges

Dec-Sept: 10 cfs Oct-Nov: 20 cfs

RESERVOIR DELIVERY STATUS		USED	REMAINING
These allocations, amounts used and	TVID	12980	
remaining are provisional and subject	CWS	3541	9077
to daily changes as the WS elevation	LO	244	256
rises and falls. These numbers are for	MUNI	3588	9912
planning purposes only	Other	474	

SCOGGINS DAM -- RESERVOIR OPERATIONS

September 2010

[See Appendix E for breakdown of municipal use by water provider.]

Source: Tualatin Valley Irrigation District

	INFLOW				HENRY HAGG LAKE						TUALATIN RIVER						WEATHER			WATER DELIVERIES				
DAY	SCHO (cfs) [1]	SCLO (cfs) [2]	TANO (cfs) [3]	TOT INFLO (cfs) [4]	W.S. ELEV (ft) [5]	STOR CONT (ac-ft) [6]	CHNG STOR (ac-ft) [7]	CHNG STOR (cfs) [8]	REL (cfs) [9]	COMP INFLO (cfs) [10]	GASO (cfs) [11]	DLLO (cfs) [12]	GOLF (cfs) [13]	ROOD (cfs) [14]	FRMO (cfs) [15]	WSLO (cfs) [16]	PRECIP (inches) [17]	TEMP MAX (°F) [18]	TEMP MIN (°F) [19]	TVID (cfs) [20]	CWS (cfs) [21]	LO (cfs) [22]	MUNI (cfs) [23]	OTHR (cfs) [24]
1	5	8	1	14	286.69	35971	-229	-115	161	46	69	191	141		215	249	0.04	64	51	58	65	3	18	3
2	4	7	1	12	286.46	35753	-218	-110	161	51	74	202	153		232	262	0.11	73	50	56	65	3	22	3
3	4	5	1	10	286.20	35507	-246	-124	161	37	65	191	128		237	275	0.00	86	52	58	65	3	22	3
4	5	5	1	11	285.95	35271	-236	-119	162	43	62	189	108		211	268	0.00	88	48	61	55	3	29	3
5	5	5	1	11	285.69	35026	-245	-124	163	39	63	190	101		196	239	0.00	69	49	59	55	3	32	3
6	5	5	1	11	285.41	34763	-263	-133	163	30	65	191	135		195	227	0.00	67	42	59	55	3	32	3
7	5	5	1	11	285.13	34501	-262	-132	163	31	65	192	111		209	233	0.00	70	48	59	55	3	32	3
8	4	7	1	12	284.93	34314	-187	-94	146	52	67	179	131		317	393	0.53	64	45	49	55	3	24	3
9	4	6	1	11	284.77	34165	-149	-75	115	40	67	145	99		324	397	0.00	62	48	55	25	3	18	3
10	4	5	1	10	284.66	34062	-103	-52	99	47	66	129	85		236	356	0.00	66	45	46	25	3	12	2
11	4	5	1	10	284.52	33932	-130	-66	99	33	66	130	106		205	289	0.00	67	43	36	35	3	12	2
12	4	5	1	10	284.40	33821	-111	-56	99	43	65	128	84		207	255	0.00	72	46	37	35	3	12	2
13	4	5	1	10	284.27	33700	-121	-61	99	38	63	127	82		200	249	0.00	77	49	37	35	3	12	2
14	3	4	1	8	284.08	33524	-176	-89	125	36	62	149	83		189	236	0.00	78	49	47	45	3	20	2
15	3	5	1	9	283.85	33311	-213	-107	136	29	62	175	114		187	221	0.00	75	51	47	55	3	20	2
16	5	10	1	16	283.65	33127	-184	-93	129	36	70	176	123		210	252	0.16	69	57	33	55	3	20	2
17	4	8	1	13	283.33	32952	-175	-88	119	31	71	172	157		252	292	0.02	70	60	36	55	3	10	2
18	5	9	1	15	283.35	32851	-101	-51	85	34	71	137	121		262	352	0.07	68	55	20	35	3	10	2
19	6	13	2	21	283.25	32759	-92	-46	85	39	85	151	144		437	705	0.34	64	57	14	35	3	10	2
20	9	13	2	24	283.17	32686	-73	-37	85	48	83	145	160		513	641	0.11	68	57	11	35	3	10	2
21	7	9	1	17	283.09	32612	-74	-37	66	29	63	121	148		337	532	0.00	63	47	19	15	3	10	2
22	4	8	1	13	283.01	32539	-73	-37	65	28	53	107	101		273	401	0.00	67	49	22	15	3	10	2
23	4	7	1	12	282.92	32448	-91	-46	65	19	51	107	87		228	336	0.00	67	44	23	15	3	10	2
24	5	8	1	14	282.83	32375	-73	-37	65	28	54	109	94		215	296	0.05	61	49	21	15	3	10	2
25	4	7	1	12	282.76	32311	-64	-32	69	37	54	111	97		217	278	0.00	71	49	22	25	3	5	2
26	4	7	1	12	282.67	32228	-83	-42	69	27	54	108	88		211	211	0.11	78	51	22	25	3	5	2
27	5	9	1	15	282.58	32146	-82	-41	69	28	60	115	96		233	234	0.00	68	59	19	25	3	5	2
28	4	8	1	13	282.44	32019	-127	-64	92	28	55	138	124		220	296	0.00	83	58	24	45	3	5	2
29	4	7	1	12	282.30	31892	-127	-64	96	32	55	137	111		224	285	0.00	78	53	24	45	3	10	2
30	4	7	1	12	282.13	31737	-155	-78	101	23	54	141	112		211	282	0.00	77	48	24	45	3	15	2
TOTALS																	1.54 inches							
cfs	137	212	32	381				-2250	3312	1062	1914	4483	3424		7403	9542	MAX	88	60	1098	1210	90	462	69
ac-ft	272	421	63	756			-4463	-4463	6569	2106	3796	8892	6792		14684	18927	MIN	61	42	2178	2400	179	916	137

Water storage elevation ± to fill curve:	**-21.37**
Water storage in ac-ft ± to fill curve:	**-21586**
Percentage of full reservoir:	**59.5%**

SNOTEL Summary for Water Year 2010

Uptdated: September 30, 2010

SECO W/Y pc:	71.7"	sno depth/water content	0
SDMO W/Y pc:	87.3"	sno depth/water content	0

Minimum Required Discharges

Dec-Sept: 10 cfs Oct-Nov: 20 cfs

RESERVOIR DELIVERY STATUS		USED	REMAINING
These allocations, amounts used and	TVID	15158	
remaining are provisional and subject	CWS	5941	6677
to daily changes as the WS elevation	LO	422	78
rises and falls. These numbers are for	MUNI	4505	8995
planning purposes only	Other	611	

SCOGGINS DAM -- RESERVOIR OPERATIONS

October 2010

[See Appendix E for breakdown of municipal use by water provider.]

Source: Tualatin Valley Irrigation District

DAY	INFLOW				HENRY HAGG LAKE						TUALATIN RIVER						WEATHER			WATER DELIVERIES				
	SCHO (cfs) [1]	SCLO (cfs) [2]	TANO (cfs) [3]	TOT INFLO (cfs) [4]	W.S. ELEV (ft) [5]	STOR CONT (ac-ft) [6]	CHNG STOR (ac-ft) [7]	CHNG STOR (cfs) [8]	REL (cfs) [9]	COMP INFLO (cfs) [10]	GASO (cfs) [11]	DLLO (cfs) [12]	GOLF (cfs) [13]	ROOD (cfs) [14]	FRMO (cfs) [15]	WSLO (cfs) [16]	PRECIP (inches) [17]	TEMP MAX (°F) [18]	TEMP MIN (°F) [19]	TVID (cfs) [20]	CWS (cfs) [21]	LO (cfs) [22]	MUNI (cfs) [23]	OTHR (cfs) [24]
1	4	6	1	11	281.97	31592	-145	-73	96	23	54	134	102	na	208	272	0.00	84	49	25	45	3	10	2
2	4	7	1	12	281.80	31438	-154	-78	111	33	52	150	123	na	201	265	0.00	71	53	25	55	3	14	2
3	4	6	1	11	281.60	31258	-180	-91	111	20	55	151	119	na	209	258	0.00	72	49	25	55	3	15*	2
4	4	7	1	12	281.42	31096	-162	-82	111	29	55	149	126	na	210	265	0.00	63	41	24	55	3	15	2
5	4	7	1	12	281.21	30907	-189	-95	111	16	58	154	123	na	209	265	0.00	62	39	24	55	3	15	2
6	4	7	1	12	281.01	30727	-180	-91	111	20	57	152	124	na	203	262	0.00	69	40	24	55	3	15	2
7	4	7	1	12	280.83	30566	-161	-81	111	30	55	151	109	na	201	252	0.00	78	45	17	55	3	22	2
8	4	8	1	13	280.62	30379	-187	-94	120	26	58	163	118	na	196	252	0.00	60	51	17	55	3	30	2
9	6	12	2	20	280.45	30227	-152	-77	115	38	62	157	119	na	214	268	0.25	68	55	10	55	3	25	2
10	8	20	2	30	280.35	30138	-89	-45	113	68	90	184	195	na	285	405	0.34	65	57	1	55	3	22	2
11	5	14	2	21	280.17	29978	-160	-81	112	31	86	184	204	na	510	557	0.15	63	41	9	55	3	22	2
12	4	11	1	16	280.00	29827	-151	-76	91	15	71	148	155	na	363	547	0.01	61	40	13	35	3	22	2
13	4	10	1	15	279.88	29721	-106	-53	80	27	80	134	134	na	265	418	0.00	69	39	10	35	3	16	2
14	4	9	1	14	279.79	29641	-80	-40	70	30	67	117	130	na	228	336	0.00	73	40	9	35	0	10	2
15	4	9	1	14	279.68	29544	-97	-49	66	17	69	117	108	na	222	303	0.00	68	38	10	35	0	6	1
16	4	9	1	14	279.59	29430	-114	-57	79	22	65	127	118	118	201	302	0.00	60	37	8	45	0	11	1
17	4	9	1	14	279.42	29315	-115	-58	79	21	67	126	116	119	200	285	0.00	63	33	8	45	0	11	1
18	3	8	1	12	279.29	29201	-114	-57	79	22	67	126	116	123	203	262	0.00	65	34	10	45	0	11	1
19	3	8	1	12	279.17	29095	-106	-53	77	24	67	123	108	126	206	262	0.00	68	34	8	45	0	11	1
20	3	8	1	12	279.05	28990	-105	-53	77	24	65	123	106	116	197	262	0.00	74	38	8	45	0	11	1
21	3	8	1	12	278.93	28885	-105	-53	87	34	66	129	120	113	195	258	0.00	72	40	8	55	0	11	1
22	4	9	1	14	278.78	28754	-131	-66	87	21	69	131	120	119	201	258	0.01	57	43	6	55	0	11	1
23	5	9	1	15	278.69	28675	-79	-40	64	24	43	97	78	120	203	258	0.02	61	49	4	55	0	0	1
24	31	50	4	85	278.81	28780	105	53	65	118	125	128	91	250	282	651	1.41	56	49	2	55	0	0	1
25	52	103	9	164	278.99	28937	157	79	66	145	301	274	330	733	767	875	1.09	56	46	2	55	0	0	1
26	25	56	6	87	279.22	29139	202	102	25	127	246	270	500	996	1069	1040	0.34	55	41	1	0	0	0	1
27	19	59	6	84	279.41	29306	167	84	25	109	268	267	441	831	965	1100	0.21	53	41	4	0	0	0	1
28	15	42	6	63	279.53	29412	106	53	26	79	180	210	364	653	766	924	0.16	53	42	4	0	0	0	1
29	13	36	6	55	279.62	29491	79	40	26	66	141	151	281	580	673	851	0.17	53	48	3	0	0	0	1
30	13	31	5	49	279.67	29535	44	22	26	48	93	118	210	469	591	737	0.02	57	41	1	0	0	0	1
31	18	41	6	65	279.77	29624	89	45	26	71	118	118	186	417	506	805	0.35	53	41	1	0	0	0	1
TOTALS																	4.53 inches							
cfs	282	626	74	982				-1065	2443	1378	2950	4763	5274	5883	10949	14055	MAX	84	57	321	1235	39	336	45
ac-ft	559	1242	147	1948			-2113	-2113	4846	2733	5851	9447	10461	11669	21717	27878	MIN	53	33	637	2450	77	666	89

Water storage elevation ± to fill curve:	**-23.73**
Water storage in ac-ft ± to fill curve:	**-23699**
Percentage of full reservoir:	**55.6%**

SNOTEL Summary for Water Year 2011

Uptdated: October 31, 2010

SECO W/Y pc:	6.5"	sno depth/water content	0
SDMO W/Y pc:	8.6"	sno depth/water content	0

Minimum Required Discharges

Dec-Sept: 10 cfs Oct-Nov: 20 cfs

RESERVOIR DELIVERY STATUS		USED	REMAINING
These allocations, amounts used and	TVID	15795	
remaining are provisional and subject	CWS	8390	4228
to daily changes as the WS elevation	LO	500	0
rises and falls. These numbers are for	MUNI	5171	8329
planning purposes only	Other	700	

*An additional 2 cfs of natural flow was released for municipal use. (total municipal use: 20 cfs)

SCOGGINS DAM -- RESERVOIR OPERATIONS
November 2010

[See Appendix E for breakdown of municipal use by water provider.]

Source: Tualatin Valley Irrigation District

DAY	INFLOW				HENRY HAGG LAKE						TUALATIN RIVER						WEATHER			WATER DELIVERIES				
	SCHO (cfs) [1]	SCLO (cfs) [2]	TANO (cfs) [3]	TOT INFLO (cfs) [4]	W.S. ELEV (ft) [5]	STOR CONT (ac-ft) [6]	CHNG STOR (ac-ft) [7]	CHNG STOR (cfs) [8]	REL (cfs) [9]	COMP INFLO (cfs) [10]	GASO (cfs) [11]	DLLO (cfs) [12]	GOLF (cfs) [13]	ROOD (cfs) [14]	FRMO (cfs) [15]	WSLO (cfs) [16]	PRECIP (inches) [17]	TEMP MAX (°F) [18]	TEMP MIN (°F) [19]	TVID (cfs) [20]	CWS (cfs) [21]	LO (cfs) [22]	MUNI (cfs) [23]	OTHR (cfs) [24]
1	13	34		47	279.85	29695	71	36	26	62	110	123	227	440	549	672	0.00	59	42	1	0	0	0	1
2	38	91		129	280.29	30085	390	197	26	223	385	298	655	844	871	863	1.06	60	49	1	0	0	0	1
3	24	64		88	280.51	30281	196	99	26	125	228	279	578	1070	1187	1090	0.00	65	51	1	0	0	0	1
4	18	50		68	280.66	30414	133	67	26	93	170	198	373	781	931	1100	0.00	72	44	1	0	0	0	1
5	15	42		57	280.74	30486	72	36	27	63	131	147	296	568	691	863	0.00	68	44	1	0	0	0	1
6	13	37		50	280.82	30557	71	36	27	63	111	126	243	429	543	694	0.02	57	45	1	0	0	0	1
7	19	47		66	280.92	30647	90	45	27	72	161	142	234	593	639	869	0.41	57	44	1	0	0	0	1
8	14	38		52	281.01	30727	80	40	27	67	143	145	257	612	731	857	0.11	55	39	1	0	0	0	1
9	14	37	3	51	281.07	30781	54	27	27	54	130	131	242	484	605	816	0.06	48	41	1	0	0	0	1
10	38	74	3	115	281.28	30970	189	95	24	119	252	208	354	583	678	887	0.62	47	42	1	0	0	0	1
11	24	60		84	281.44	31114	144	73	24	97	216	215	437	768	846	869	0.00	52	36	1	0	0	0	1
12	21	54		75	281.58	31240	126	64	23	87	190	192	378	692	805	936	0.05	48	36	1	0	0	0	1
13	20	50		70	281.71	31357	117	59	22	81	136	165	320	583	696	839	0.08	51	37	1	0	0	0	1
14	19	46		65	281.81	31448	91	46	22	68	154	154	298	529	625	787	0.06	48	42	1	0	0	0	1
15	17	41		58	281.91	31538	90	45	22	67	138	142	274	530	629	732	0.00	59	47	1	0	0	0	1
16	18	44		62	282.02	31629	91	46	27	73	131	134	260	465	568	694	0.04	62	45	1	0	0	0	1
17	16	40		56	282.05	31665	36	18	27	45	133	134	255	437	530	625	0.01	54	45	1	0	0	0	1
18	82	153		235	282.52	32128	463	233	27	260	645	353	704	1070	1115	1350	1.52	49	35	1	0	0	0	1
19	66	155		221	283.14	32658	530	267	28	295	483	508	1030	2020	2201	2020	0.57	46	37	1	0	0	0	0
20	79	144		223	283.71	33182	524	264	28	292	453	528	1120	2090	2416	2620	0.57	44	38	0	0	0	0	0
21	55	109		164	284.14	33579	397	200	28	228	342	501	1060	2030	2367	2510	0.03	43	30	0	0	0	0	0
22	43	90		133	284.50	33913	334	168	28	196	291	439	924	1900	2194	2420	0.28	37	31	0	0	0	0	0
23	44	80		124	284.80	34193	280	141	76	217	319	474	933	1760	2044	2260	0.66	40	24	0	0	0	0	0
24	35	67		102	284.95	34333	140	71	75	146	254	426	810	1640	1917	2070	0.00	28	17	0	0	0	0	0
25	30	58		88	284.96	34342	9	5	128	133	229	418	718	1390	1628	1850	0.00	30	22	0	0	0	0	0
26	30	59		89	284.96	34342	0	0	128	128	213	282	616	1210	1386	1590	0.14	42	30	0	0	0	0	0
27	32	69		101	284.86	34249	-93	-47	200	153	261		733	1150	1285	1440	0.15	46	36	0	0	0	0	0
28	32	64		96	284.74	34137	-112	-56	199	143	246		751	1240	1340	1400	0.02	43	33	0	0	0	0	0
29	28	61		89	284.57	33979	-158	-80	198	118	228		720	1240	1380	1430	0.02	41	33	0	0	0	0	0
30	60	99		159	284.51	33923	-56	-28	200	172	244		702	1210	1346	1460	0.76	43	38	0	0	0	0	0
TOTALS																								
cfs	957	2057		3017				2167	1773	3940	7127	6862	16502	30358	34743	38613	7.24 inches			19	0	0	0	18
ac-ft	1898	4080		5984			4299	4299	3517	7816	14136	13611	32732	60215	68913	76589	MAX	72	51	38	0	0	0	36
																	MIN	28	17					

Water storage elevation ± to fill curve:	**1.01**
Water storage in ac-ft ± to fill curve:	**934**
Percentage of full reservoir:	**63.6%**

SNOTEL Summary for Water Year 2011

Updated: November 30, 2010

SECO W/Y pc:	16.0"	sno depth/water content	0
SDMO W/Y pc:	21.2"	sno depth/water content	0

Minimum Required Discharges

Dec-Sept: 10 cfs Oct-Nov: 20 cfs

RESERVOIR DELIVERY STATUS		USED	REMAINING
These allocations, amounts used and	TVID	15832	
remaining are provisional and subject	CWS	8390	4228
to daily changes as the WS elevation	LO	500	0
rises and falls. These numbers are for	MUNI	5171	8329
planning purposes only	Other	736	

SCOGGINS DAM -- RESERVOIR OPERATIONS
December 2010

[See Appendix E for breakdown of municipal use by water provider.]

Source: Tualatin Valley Irrigation District

DAY	INFLOW				HENRY HAGG LAKE						TUALATIN RIVER						WEATHER			WATER DELIVERIES				
	SCHO (cfs) [1]	SCLO (cfs) [2]	TANO (cfs) [3]	TOT INFLO (cfs) [4]	W.S. ELEV (ft) [5]	STOR CONT (ac-ft) [6]	CHNG STOR (ac-ft) [7]	CHNG STOR (cfs) [8]	REL (cfs) [9]	COMP INFLO (cfs) [10]	GASO (cfs) [11]	DLLO (cfs) [12]	GOLF (cfs) [13]	ROOD (cfs) [14]	FRMO (cfs) [15]	WSLO (cfs) [16]	PRECIP (inches) [17]	TEMP MAX (°F) [18]	TEMP MIN (°F) [19]	TVID (cfs) [20]	CWS (cfs) [21]	LO (cfs) [22]	MUNI (cfs) [23]	OTHR (cfs) [24]
1	123	234		357	285.12	34491	568	286	200	486	788	653	1370	1810	1935	1890	0.94	48	43	0	0	0	0	0
2	83	161		244	285.51	34857	366	185	200	385	504	750	1550	2220	2509	2450	0.03	47	38	0	0	0	0	0
3	64	123		187	285.53	34876	19	10	267	277	385	741	1560	2320	2635	2660	0.02	44	38	0	0	0	0	0
4	50	101		151	285.21	34576	-300	-151	388	237	314	745	1450	2310	2632	2690	0.00	48	38	0	0	0	0	0
5	51	84		135	284.85	34221	-355	-179	387	208	274	712	1320	2200	2528	2590	0.00	46	38	0	0	0	0	0
6	37	74		111	284.34	33765	-456	-230	387	157	250	674	1170	2030	2338	2430	0.07	47	38	0	0	0	0	0
7	32	65		97	283.84	33302	-463	-233	387	154	232	652	1040	1800	2100	2350	0.04	46	38	0	0	0	0	0
8	55	109		164	283.44	32924	-378	-191	388	197	339	602	1040	1720	1974	2250	0.95	49	41	0	0	0	0	0
9	91	182		273	283.35	32851	-73	-37	392	355	677	799	1330	2230	2562	3120	0.96	54	46	0	0	0	0	0
10	169	330		499	284.18	33617	766	386	262	648	1148	1290	1930	3120	3672	4740	1.36	50	41	0	0	0	0	0
11	127	228		355	285.09	34463	846	427	46	473	680	1020	2400	3360	4007	4690	0.34	48	40	0	0	0	0	0
12	327	474		801	287.14	36400	1937	977	46	1023	1334	1700	2600	3830	4515	5450	1.39	58	42	0	0	0	0	0
13	391	474		865	288.90	38094	1694	854	47	901	1286	1620	2970	4210	4891	5350	0.48	58	50	0	0	0	0	0
14	211	363		574	290.24	39403	1309	660	47	707	1142	1350	2971	4780	5310	5790	0.50	56	42	0	0	0	0	0
15	152	317		469	291.46	40610	1207	609	48	657	1049	1220	2850	5601	6265	6320	0.39	46	37	0	0	0	0	0
16	169	263		432	292.45	41599	989	499	48	547	830	1020	2740	5110	6633	6600	0.11	44	35	0	0	0	0	0
17	134	208		342	292.74	41891	292	147	308	455	622	1040	2570	5000	6526	6760	0.00	44	32	0	0	0	0	0
18	114	178		292	291.66	40809	-1082	-546	910	364	553	1320	2480	4820	6231	6770	0.44	43	33	0	0	0	0	0
19	127	189		316	290.68	39837	-972	-490	816	326	574	1300	2510	4680	5928	6580	0.27	45	34	0	0	0	0	0
20	123	176		299	289.79	38961	-876	-442	748	306	546	1270	2530	4510	5578	6370	0.50	42	34	0	0	0	0	0
21	127	178		305	288.74	37939	-1022	-515	890	375	561	1320	2530	4510	5460	6140	0.26	46	39	0	0	0	0	0
22	108	157		265	287.69	36878	-1061	-535	848	313	483	1270	2520	4380	5298	5870	0.02	45	38	0	0	0	0	0
23	88	142		230	286.55	35838	-1040	-524	800	276	423	1180	2450	4250	5107	5700	0.00	49	38	0	0	0	0	0
24	na	127		127	286.05	35365	-473	-238	494	256	382	873	2290	4050	4891	5420	0.00	49	42	0	0	0	0	0
25	na	134		134	285.94	35261	-104	-52	316	264	411	775	1960	3840	4633	5150	0.33	45	41	0	0	0	0	0
26	na	138		138	285.82	35148	-113	-57	317	260	417	764	1730	3580	4326	4840	0.32	47	42	0	0	0	0	0
27	116	176		292	285.88	35205	57	29	320	349	561	806	1720	3390	4073	4710	0.96	42	39	0	0	0	0	0
28	386	587		973	286.88	36152	947	477	317	794	1385	1240	2120	3500	4236	5390	1.52	47	41	0	0	0	0	0
29	315	400		715	288.78	37977	1825	920	42	962	1262	1810	2840	4060	4878	6480	0.70	46	33	0	0	0	0	0
30	191	266		457	290.03	39199	1222	616	42	658	923	1340	2940	4730	5427	6050	0.06	41	30	0	0	0	0	0
31	na	206		206	290.65	39809	610	308	199	507	647	1070			6088	6190	0.00	34	25	0	0	0	0	0
TOTALS																	12.96 inches							
cfs	3961	6844		10805				2968	10907	13875	20982	32926	63481	107951	135186	149790	MAX	58	50	0	0	0	0	0
ac-ft	7857	13575		21432			5886	5886	21634	27520	41618	65309	125915	214121	268141	297108	MIN	34	25	0	0	0	0	0

Water storage elevation ± to fill curve:	**7.15**
Water storage in ac-ft ± to fill curve:	**6820**
Percentage of full reservoir:	**74.7%**

SNOTEL Summary for Water Year 2011

Updated: December 31, 2010

SECO W/Y pc:	27.0"	sno depth/water content	0
SDMO W/Y pc:	37.8"	sno depth/water content	13.0"/3.9"

Minimum Required Discharges

Dec-Sept: 10 cfs Oct-Nov: 20 cfs

RESERVOIR DELIVERY STATUS		USED	REMAINING
These allocations, amounts used and	TVID	15832	
remaining are provisional and subject	CWS	8390	4228
to daily changes as the WS elevation	LO	500	0
rises and falls. These numbers are for	MUNI	5171	8329
planning purposes only	Other	736	

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Appendix D

Barney Reservoir Operations Monthly Records

Breakdown of allocations for municipal use by water provider can be found in Appendix E of this report.

BARNEY RESERVOIR OPERATIONS FOR THE MONTH OF JANUARY 2010

[See Appendix E for breakdown of municipal use by water provider.] Source: Joint Water Commission

DAY	SURFACE ELEVATION	STORAGE	CHANGE IN STORAGE	RAIN @ BARNEY	TEMP @ BARNEY		MEASURED FLOW TO		STORAGE RELEASED TO TRASK—ODFW		STORAGE RELEASED TO TUALATIN			
					Min	Max	TRASK	TUALATIN			CWS		MUNICIPAL	
	feet	ac-ft	ac-ft	in.	ºF	ºF	cfs	cfs	cfs	ac-ft	cfs	ac-ft	cfs	ac-ft
1									8	16	0	0	0	0
2									8	16	0	0	0	0
3									8	16	0	0	0	0
4	1634.8	17550	900	3.54	32	43	9.5	0.0	8	16	0	0	0	0
5									8	16	0	0	0	0
6									8	16	0	0	0	0
7	1635.9	17963	413	1.43	32	48	6.2	0.0	8	16	0	0	0	0
8	1636.3	18150	187	0.55	32	36	6.2	0.0	8	16	0	0	0	0
9									0	0	0	0	0	0
10									0	0	0	0	0	0
11	1637.2	18650	500	0.69	34	42	1.7	0.0	0	0	0	0	0	0
12									0	0	0	0	0	0
13	1638.1	19040	390	1.95	39	44	2.3	0.0	0	0	0	0	0	0
14									0	0	0	0	0	0
15	1639.0	19400	360	1.05	34	44	2.3	0.0	0	0	0	0	0	0
16									0	0	0	0	0	0
17									0	0	0	0	0	0
18									0	0	0	0	0	0
19	1640.9	20000	600	4.10	37	44	126.4	0.0	0	0	0	0	0	0
20	1640.9	20000	0	0.03	36	47	95.2	0.0	0	0	0	0	0	0
21									0	0	0	0	0	0
22	1640.8	20000	0	0.31	34	44	64.0	0.0	0	0	0	0	0	0
23									0	0	0	0	0	0
24									0	0	0	0	0	0
25	1640.9	20000	0	1.77	32	41	95.2	0.0	0	0	0	0	0	0
26									0	0	0	0	0	0
27	1640.8	20000	0	0.10	32	42	55.5	0.0	0	0	0	0	0	0
28									0	0	0	0	0	0
29	1640.8	20000	0	0.00	36	42	47.9	0.0	0	0	0	0	0	0
30									0	0	0	0	0	0
31									0	0	0	0	0	0
Monthly Totals			3350	15.52						127		0		0
Year to Date Totals			3350	15.52						127		0		0

BARNEY RESERVOIR OPERATIONS FOR THE MONTH OF FEBRUARY 2010

[See Appendix E for breakdown of municipal use by water provider.] Source: Joint Water Commission

DAY	SURFACE ELEVATION	STORAGE	CHANGE IN STORAGE	RAIN @ BARNEY	TEMP @ BARNEY		MEASURED FLOW TO		STORAGE RELEASED TO TRASK—ODFW		STORAGE RELEASED TO TUALATIN			
					Min	Max	TRASK	TUALATIN			CWS		MUNICIPAL	
	feet	ac-ft	ac-ft	in.	ºF	ºF	cfs	cfs	cfs	ac-ft	cfs	ac-ft	cfs	ac-ft
1	1640.7	20000	0	0.39	36	44	41.0	0.0	0	0	0	0	0	0
2									0	0	0	0	0	0
3	1640.7	20000	0	0.72	37	44	47.0	0.0	0	0	0	0	0	0
4									0	0	0	0	0	0
5	1640.7	20000	0	1.05	38	42	55.5	0.0	0	0	0	0	0	0
6									0	0	0	0	0	0
7									0	0	0	0	0	0
8	1640.7	20000	0	0.15	39	46	41.0	0.0	0	0	0	0	0	0
9									0	0	0	0	0	0
10	1640.7	20000	0	0.05	31	46	41.0	0.0	0	0	0	0	0	0
11									0	0	0	0	0	0
12	1640.7	20000	0	1.61	34	44	64.0	0.0	0	0	0	0	0	0
13									0	0	0	0	0	0
14									0	0	0	0	0	0
15	1640.7	20000	0	0.80	36	45	47.0	0.0	0	0	0	0	0	0
16									0	0	0	0	0	0
17									0	0	0	0	0	0
18	1640.7	20000	0	0.52	36	49	41.0	0.0	0	0	0	0	0	0
19	1640.7	20000	0	0.00	37	48	41.0	0.0	0	0	0	0	0	0
20									0	0	0	0	0	0
21									0	0	0	0	0	0
22	1640.7	20000	0	0.00	28	47	35.0	0.0	0	0	0	0	0	0
23									0	0	0	0	0	0
24	1640.7	20000	0	1.27	33	51	55.5	0.0	0	0	0	0	0	0
25									0	0	0	0	0	0
26	1640.8	20000	0	1.81	37	45	79.6	0.0	0	0	0	0	0	0
27									0	0	0	0	0	0
28									0	0	0	0	0	0
Monthly Totals			0	8.37						0		0		0
Year to Date Totals			3350	23.89						127		0		0

BARNEY RESERVOIR OPERATIONS FOR THE MONTH OF MARCH 2010

[See Appendix E for breakdown of municipal use by water provider.] Source: Joint Water Commission

DAY	SURFACE ELEVATION	STORAGE	CHANGE IN STORAGE	RAIN @ BARNEY	TEMP @ BARNEY		MEASURED FLOW TO		STORAGE RELEASED TO TRASK—ODFW		STORAGE RELEASED TO TUALATIN			
					Min	Max	TRASK	TUALATIN			CWS		MUNICIPAL	
	feet	ac-ft	ac-ft	in.	°F	°F	cfs	cfs	cfs	ac-ft	cfs	ac-ft	cfs	ac-ft
1	1640.7	20000	0	0.72	36	46	55.0	0.0	0	0	0	0	0	0
2									0	0	0	0	0	0
3	1640.7	20000	0	0.04	37	49	41.0	0.0	0	0	0	0	0	0
4									0	0	0	0	0	0
5	1640.8	20000	0	0.02	32	46	41.0	0.0	0	0	0	0	0	0
6									0	0	0	0	0	0
7									0	0	0	0	0	0
8	1640.7	20000	0	0.06	33	51	35.0	0.0	0	0	0	0	0	0
9									0	0	0	0	0	0
10	1640.8	20000	0	0.41	28	38	35.0	0.0	0	0	0	0	0	0
11									0	0	0	0	0	0
12	1640.7	20000	0	2.04	33	42	95.2	0.0	0	0	0	0	0	0
13									0	0	0	0	0	0
14									0	0	0	0	0	0
15	1640.7	20000	0	0.75	28	43	47.0	0.0	0	0	0	0	0	0
16									0	0	0	0	0	0
17	1640.7	20000	0	0.26	33	51	41.0	0.0	0	0	0	0	0	0
18									0	0	0	0	0	0
19	1640.8	20000	0	0.00	34	50	35.0	0.0	0	0	0	0	0	0
20									0	0	0	0	0	0
21									0	0	0	0	0	0
22	1640.7	20000	0	0.76	34	58	41.0	0.0	0	0	0	0	0	0
23									0	0	0	0	0	0
24	1640.7	20000	0	0.00	31	59	31.3	0.0	0	0	0	0	0	0
25									0	0	0	0	0	0
26	1640.7	20000	0	1.79	32	52	79.6	0.0	0	0	0	0	0	0
27									0	0	0	0	0	0
28									0	0	0	0	0	0
29	1640.7	20000	0	2.29	34	51	126.4	0.0	0	0	0	0	0	0
30									0	0	0	0	0	0
31	1640.7	20000	0	1.53	32	39	90.0	0.0	0	0	0	0	0	0
Monthly Totals			0	10.67						0		0		0
Year to Date Totals			3350	34.56						127		0		0

BARNEY RESERVOIR OPERATIONS FOR THE MONTH OF APRIL 2010

[See Appendix E for breakdown of municipal use by water provider.] Source: Joint Water Commission

DAY	SURFACE ELEVATION	STORAGE	CHANGE IN STORAGE	RAIN @ BARNEY	TEMP @ BARNEY		MEASURED FLOW TO		STORAGE RELEASED TO TRASK—ODFW		STORAGE RELEASED TO TUALATIN			
					Min	Max	TRASK	TUALATIN			CWS		MUNICIPAL	
	feet	ac-ft	ac-ft	in.	ºF	ºF	cfs	cfs	cfs	ac-ft	cfs	ac-ft	cfs	ac-ft
1									0	0	0	0	0	0
2	1640.9	20000	0	0.83	30	42	79.6	0.0	0	0	0	0	0	0
3									0	0	0	0	0	0
4									0	0	0	0	0	0
5	1640.8	20000	0	1.89	31	38	79.6	0.0	0	0	0	0	0	0
6									0	0	0	0	0	0
7	1640.9	20000	0	1.46	32	40	110.8	0.0	0	0	0	0	0	0
8									0	0	0	0	0	0
9	1640.9	20000	0	0.96	31	43	79.6	0.0	0	0	0	0	0	0
10									0	0	0	0	0	0
11									0	0	0	0	0	0
12	1640.8	20000	0	0.66	33	50	79.6	0.0	0	0	0	0	0	0
13									0	0	0	0	0	0
14	1640.8	20000	0	0.02	30	48	64.0	0.0	0	0	0	0	0	0
15									0	0	0	0	0	0
16	1640.7	20000	0	0.23	38	52	55.5	0.0	0	0	0	0	0	0
17									0	0	0	0	0	0
18									0	0	0	0	0	0
19	1640.7	20000	0	0.05	39	60	41.0	0.0	0	0	0	0	0	0
20									0	0	0	0	0	0
21	1640.6	20000	0	0.27	40	58	41.0	0.0	0	0	0	0	0	0
22									0	0	0	0	0	0
23	1640.7	20000	0	0.00	32	50	35.0	0.0	0	0	0	0	0	0
24									0	0	0	0	0	0
25									0	0	0	0	0	0
26	1640.6	20000	0	0.42	32	52	31.3	0.0	0	0	0	0	0	0
27									0	0	0	0	0	0
28	1640.8	20000	0	2.57	34	47	64.0	0.0	0	0	0	0	0	0
29									0	0	0	0	0	0
30	1640.7	20000	0	0.76	36	42	47.0	0.0	0	0	0	0	0	0
Monthly Totals			0	10.12						0		0		0
Year to Date Totals			3350	44.68						127		0		0

BARNEY RESERVOIR OPERATIONS FOR THE MONTH OF MAY 2010

[See Appendix E for breakdown of municipal use by water provider.] Source: Joint Water Commission

DAY	SURFACE ELEVATION	STORAGE	CHANGE IN STORAGE	RAIN @ BARNEY	TEMP @ BARNEY		MEASURED FLOW TO		STORAGE RELEASED TO TRASK—ODFW		STORAGE RELEASED TO TUALATIN			
					Min	Max	TRASK	TUALATIN			CWS		MUNICIPAL	
	feet	ac-ft	ac-ft	in.	°F	°F	cfs	cfs	cfs	ac-ft	cfs	ac-ft	cfs	ac-ft
1									0	0	0	0	0	0
2									0	0	0	0	0	0
3	1640.8	20000	0	0.72	38	46	64.0	0.0	0	0	0	0	0	0
4									0	0	0	0	0	0
5	1640.8	20000	0	0.72	32	40	64.0	0.0	0	0	0	0	0	0
6									0	0	0	0	0	0
7	1640.8	20000	0	0.04	31	50	35.0	0.0	0	0	0	0	0	0
8									0	0	0	0	0	0
9									0	0	0	0	0	0
10	1640.7	20000	0	0.16	36	58	64.0	0.0	0	0	0	0	0	0
11									0	0	0	0	0	0
12	1640.7	20000	0	0.17	35	56	33.5	0.0	0	0	0	0	0	0
13									0	0	0	0	0	0
14	1640.7	20000	0	0.00	38	61	33.5	0.0	0	0	0	0	0	0
15									0	0	0	0	0	0
16									0	0	0	0	0	0
17	1640.7	20000	0	0.11	40	64	33.5	0.0	0	0	0	0	0	0
18									0	0	0	0	0	0
19	1640.7	20000	0	1.00	43	60	33.5	0.0	0	0	0	0	0	0
20									0	0	0	0	0	0
21	1640.7	20000	0	1.55	36	47	41.0	0.0	0	0	0	0	0	0
22									0	0	0	0	0	0
23									0	0	0	0	0	0
24	1640.7	20000	0	0.71	36	46	31.5	0.0	0	0	0	0	0	0
25									0	0	0	0	0	0
26	1640.7	20000	0	0.81	38	49	41.0	0.0	0	0	0	0	0	0
27									0	0	0	0	0	0
28	1640.7	20000	0	0.05	38	52	12.3	0.0	0	0	0	0	0	0
29									0	0	0	0	0	0
30									0	0	0	0	0	0
31									0	0	0	0	0	0
Monthly Totals			0	6.04						0		0		0
Year to Date Totals			3350	50.72						127		0		0

BARNEY RESERVOIR OPERATIONS FOR THE MONTH OF JUNE 2010

[See Appendix E for breakdown of municipal use by water provider.] Source: Joint Water Commission

DAY	SURFACE ELEVATION	STORAGE	CHANGE IN STORAGE	RAIN @ BARNEY	TEMP @ BARNEY		MEASURED FLOW TO		STORAGE RELEASED TO TRASK—ODFW		STORAGE RELEASED TO TUALATIN			
					Min	Max	TRASK	TUALATIN			CWS		MUNICIPAL	
	feet	ac-ft	ac-ft	in.	ºF	ºF	cfs	cfs	cfs	ac-ft	cfs	ac-ft	cfs	ac-ft
1	1640.7	20000	0	0.48	38	54	31.3	0.0	0	0	0	0	0	0
2	1640.8	20000	0	1.33	48	54	55.5	0.0	0	0	0	0	0	0
3									0	0	0	0	0	0
4	1640.8	20000	0	1.26	38	52	65.0	0.0	0	0	0	0	0	0
5									0	0	0	0	0	0
6									0	0	0	0	0	0
7	1640.8	20000	0	1.58	41	59	79.6	0.0	0	0	0	0	0	0
8									0	0	0	0	0	0
9	1640.7	20000	0	0.16	38	59	47.0	0.0	0	0	0	0	0	0
10									0	0	0	0	0	0
11	1640.7	20000	0	0.32	42	50	41.0	0.0	0	0	0	0	0	0
12									0	0	0	0	0	0
13									0	0	0	0	0	0
14	1640.6	20000	0	0.00	40	68	31.3	0.0	0	0	0	0	0	0
15									0	0	0	0	0	0
16	1640.6	20000	0	0.24	42	54	31.3	0.0	0	0	0	0	0	0
17									0	0	0	0	0	0
18	1640.6	20000	0	0.09	43	52	28.0	0.0	0	0	0	0	0	0
19									0	0	0	0	0	0
20									0	0	0	0	0	0
21	1640.6	20000	0	0.05	44	53	23.9	0.0	0	0	0	0	0	0
22									0	0	0	0	0	0
23	1640.6	20000	0	0.03	46	63	20.2	0.0	0	0	0	0	0	0
24									0	0	0	0	0	0
25	1640.6	20000	0	0.00	48	69	13.5	0.0	0	0	0	0	0	0
26									0	0	0	0	0	0
27									0	0	0	0	0	0
28	1640.6	20000	0	0.00	46	67	13.0	0.0	0	0	0	0	0	0
29									0	0	0	0	0	0
30	1640.6	20000	0	0.00	40	60	13.0	22.0	0	0	0	0	0	0
Monthly Totals			0	5.54						0		0		0
Year to Date Totals			3350	56.26						127		0		0

BARNEY RESERVOIR OPERATIONS FOR THE MONTH OF JULY 2010

[See Appendix E for breakdown of municipal use by water provider.] Source: Joint Water Commission

DAY	SURFACE ELEVATION	STORAGE	CHANGE IN STORAGE	RAIN @ BARNEY	TEMP @ BARNEY		MEASURED FLOW TO		STORAGE RELEASED TO TRASK—ODFW		STORAGE RELEASED TO TUALATIN			
					Min	Max	TRASK	TUALATIN			CWS		MUNICIPAL	
	feet	ac-ft	ac-ft	in.	°F	°F	cfs	cfs	cfs	ac-ft	cfs	ac-ft	cfs	ac-ft
1									8	16	0	0	22	44
2	1640.5	20000	0	0.21	46	60	8.0	28.1	8	16	0	0	22	44
3									8	16	0	0	28	56
4									8	16	0	0	28	56
5									8	16	0	0	28	56
6	1639.9	19760	-240	0.00	44	64	8.4	28.1	8	16	0	0	28	56
7	1639.8	19700	-60	0.00	59	78	8.4	34.0	8	16	0	0	28	56
8									8	16	0	0	34	67
9	1639.5	19600	-100	0.00	56	81	8.4	34.0	8	16	0	0	34	67
10									8	16	0	0	34	67
11									8	16	0	0	34	67
12	1638.8	19320	-280	0.00	50	81	8.4	34.0	8	16	0	0	34	67
13									8	16	0	0	26	52
14	1638.5	19200	-120	0.00	47	58	8.4	26.2	8	16	0	0	26	52
15									8	16	0	0	26	52
16	1638.3	19120	-80	0.00	46	73	8.4	26.2	8	16	0	0	26	52
17									8	16	0	0	26	52
18									8	16	0	0	26	52
19	1637.8	18900	-220	0.00	44	66	8.4	26.2	8	16	0	0	26	52
20									8	16	0	0	26	52
21	1637.5	18750	-150	0.00	43	66	8.4	26.2	8	16	0	0	26	52
22									8	16	0	0	26	52
23	1637.2	18600	-150	0.00	46	70	8.4	26.2	8	16	0	0	26	52
24									8	16	0	0	26	52
25									8	16	0	0	26	52
26	1636.7	18350	-250	0.00	51	80	8.4	26.2	8	16	0	0	26	52
27									8	16	0	0	26	52
28	1636.4	18200	-150	0.00	48	76	8.4	26.2	8	16	0	0	26	52
29									8	16	0	0	26	52
30	1636.1	18050	-150	0.00	46	71	8.4	26.2	8	16	0	0	26	52
31									8	16	0	0	26	52
Monthly Totals			-1950	0.21						492		0		1682
Year to Date Totals			1400	56.47						619		0		1682

BARNEY RESERVOIR OPERATIONS FOR THE MONTH OF AUGUST 2010

[See Appendix E for breakdown of municipal use by water provider.] Source: Joint Water Commission

DAY	SURFACE ELEVATION	STORAGE	CHANGE IN STORAGE	RAIN @ BARNEY	TEMP @ BARNEY		MEASURED FLOW TO		STORAGE RELEASED TO TRASK—ODFW		STORAGE RELEASED TO TUALATIN			
					Min	Max	TRASK	TUALATIN			CWS		MUNICIPAL	
	feet	ac-ft	ac-ft	in.	ºF	ºF	cfs	cfs	cfs	ac-ft	cfs	ac-ft	cfs	ac-ft
1									8	16	0	0	26	52
2	1635.6	17850	-200	0.00	47	65	8.4	26.2	8	16	0	0	26	52
3									8	16	0	0	26	52
4	1635.3	17738	-112	0.00	47	67	8.4	26.2	8	16	0	0	26	52
5									8	16	0	0	26	52
6	1634.9	17588	-150	0.00	49	74	8.4	26.2	8	16	0	0	26	52
7									8	16	0	0	26	52
8									8	16	0	0	26	52
9	1634.4	17400	-188	0.00	48	70	8.4	26.2	8	16	0	0	26	52
10									8	16	0	0	26	52
11	1634.1	17288	-112	0.00	46	64	8.4	34.0	8	16	0	0	26	52
12									8	16	0	0	34	67
13	1633.6	17100	-188	0.00	47	72	8.4	34.4	8	16	0	0	34	67
14									8	16	0	0	34	67
15									8	16	0	0	34	67
16	1632.8	16800	-300	0.00	64	80	8.4	34.4	8	16	0	0	34	67
17									8	16	0	0	34	67
18									8	16	0	0	34	67
19	1632.3	16613	-187	0.00	49	81	8.4	34.4	8	16	0	0	34	67
20	1632.0	16500	-113	0.00	41	64	8.4	34.4	8	16	0	0	34	67
21									8	16	0	0	34	67
22									8	16	0	0	34	67
23	1631.3	16238	-262	0.00	44	64	8.4	34.4	8	16	0	0	34	67
24									8	16	0	0	34	67
25	1630.8	16050	-188	0.00	56	77	8.4	34.4	8	16	0	0	34	67
26									8	16	0	0	34	67
27	1630.4	15900	-150	0.00	46	78	8.4	34.4	8	16	0	0	34	67
28									8	16	0	0	34	67
29									8	16	0	0	34	67
30	1629.6	15600	-300	0.03	43	61	8.4	34.4	8	16	0	0	34	67
31									8	16	0	0	34	67
Monthly Totals			-2450	0.03						492		0		1916
Year to Date Totals			-1050	56.50						1111		0		3598

BARNEY RESERVOIR OPERATIONS FOR THE MONTH OF SEPTEMBER 2010

[See Appendix E for breakdown of municipal use by water provider.] Source: Joint Water Commission

DAY	SURFACE ELEVATION	STORAGE	CHANGE IN STORAGE	RAIN @ BARNEY	TEMP @ BARNEY		MEASURED FLOW TO		STORAGE RELEASED TO TRASK—ODFW		STORAGE RELEASED TO TUALATIN			
					Min	Max	TRASK	TUALATIN			CWS		MUNICIPAL	
	feet	ac-ft	ac-ft	in.	°F	°F	cfs	cfs	cfs	ac-ft	cfs	ac-ft	cfs	ac-ft
1	1629.3	15489	-111	1.00	46	59	8.4	26.1	8	16	7	14	27	54
2									8	16	14	28	26	52
3	1628.8	15300	-189	0.01	50	68	8.4	26.1	8	16	14	28	26	52
4									8	16	14	28	26	52
5									8	16	14	28	26	52
6									8	16	14	28	26	52
7	1627.7	14888	-412	0.00	43	70	8.4	26.1	8	16	14	28	26	52
8	1627.4	14775	-113	0.00	45	63	8.4	26.1	8	16	14	28	26	52
9									8	16	14	28	26	52
10	1626.8	14550	-225	0.00	47	53	8.4	26.1	8	16	14	28	26	52
11									8	16	14	28	26	52
12									8	16	14	28	26	52
13									8	16	14	28	26	52
14	1625.8	14175	-375	0.02	41	66	8.4	26.1	8	16	14	28	26	52
15	1625.5	14063	-112	0.00	56	62	8.4	26.1	8	16	14	28	26	52
16									8	16	14	28	26	52
17	1625.0	13875	-188	0.87	42	49	8.4	26.1	8	16	14	28	26	52
18									8	16	14	28	26	52
19									8	16	14	28	26	52
20	1624.9	13838	-37	2.00	49	60	8.4	16.0	8	16	14	28	26	52
21									8	16	14	28	16	32
22	1624.0	13500	-338	0.02	45	52	8.4	15.8	8	16	14	28	16	32
23									8	16	14	28	16	32
24	1623.6	13350	-150		41	57	8.4	16.4	8	16	14	28	16	32
25									8	16	14	28	16	32
26									8	16	14	28	16	32
27	1623.1	13163	-187	0.20	48	64	8.4	16.0	8	16	14	28	16	32
28									8	16	14	28	16	32
29	1622.7	13013	-150	0.02	52	66	8.4	16.0	8	16	14	28	16	32
30									8	16	14	28	16	32
Monthly Totals			-2587	4.14						476		819		1351
Year to Date Totals			-3637	60.64						1587		819		4949

BARNEY RESERVOIR OPERATIONS FOR THE MONTH OF OCTOBER 2010

[See Appendix E for breakdown of municipal use by water provider.] Source: Joint Water Commission

DAY	SURFACE ELEVATION	STORAGE	CHANGE IN STORAGE	RAIN @ BARNEY	TEMP @ BARNEY		MEASURED FLOW TO		STORAGE RELEASED TO TRASK—ODFW		STORAGE RELEASED TO TUALATIN			
					Min	Max	TRASK	TUALATIN			CWS		MUNICIPAL	
	feet	ac-ft	ac-ft	in.	ºF	ºF	cfs	cfs	cfs	ac-ft	cfs	ac-ft	cfs	ac-ft
1	1622.2	12825	-188	0.00	52	66	8.4	16.0	8	16	14	28	16	32
2									8	16	14	28	16	32
3									8	16	14	28	16	32
4	1621.6	12600	-225	0.00	49	61	8.4	16.4	8	16	14	28	16	32
5									8	16	14	28	16	32
6	1621.1	12413	-187	0.00	39	62	8.4	16.4	8	16	14	28	16	32
7									8	16	14	28	16	32
8	1620.7	12263	-150	0.02	48	62	8.4	16.4	8	16	14	28	16	32
9									8	16	14	28	16	32
10									8	16	14	28	16	32
11	1620.2	12075	-188	1.32	40	57	8.4	16.0	8	16	14	28	16	32
12									8	16	14	28	16	32
13	1619.8	11933	-142	0.02	40	53	8.4	18.0	8	16	14	28	16	32
14									8	16	14	28	16	32
15	1619.3	11733	-200	0.01	38	56	8.4	16.0	8	16	14	28	16	32
16									8	16	14	28	16	32
17									8	16	14	28	16	32
18	1618.7	11566	-167	0.00	34	50	8.4	16.0	8	16	14	28	16	32
19									8	16	14	28	16	32
20	1618.3	11433	-133	0.00	42	59	8.4	15.6	8	16	14	28	16	32
21									8	16	14	28	16	32
22	1617.8	11266	-167	0.05	42	56	8.4	0.0	8	16	14	28	16	32
23									8	16	14	28	0	0
24									8	16	14	28	0	0
25	1618.4	11466	200	4.71	42	50	9.5	0.0	8	16	14	28	0	0
26									8	16	14	28	0	0
27	1618.5	11500	34	1.32	37	42	9.5	0.0	8	16	14	28	0	0
28									8	16	14	28	0	0
29	1618.6	11533	33	0.38	38	44	8.4	0.0	8	16	14	28	0	0
30									8	16	14	28	0	0
31									8	16	0	0	0	0
Monthly Totals			-1480	7.83						492		833		698
Year to Date Totals			-5117	68.47						2079		1652		5647

BARNEY RESERVOIR OPERATIONS FOR THE MONTH OF NOVEMBER 2010

[See Appendix E for breakdown of municipal use by water provider.] Source: Joint Water Commission

DAY	SURFACE ELEVATION	STORAGE	CHANGE IN STORAGE	RAIN @ BARNEY	TEMP @ BARNEY		MEASURED FLOW TO		STORAGE RELEASED TO TRASK—ODFW		STORAGE RELEASED TO TUALATIN			
					Min	Max	TRASK	TUALATIN			CWS		MUNICIPAL	
	feet	ac-ft	ac-ft	in.	°F	°F	cfs	cfs	cfs	ac-ft	cfs	ac-ft	cfs	ac-ft
1	1618.9	11633	100	1.82	39	53	9.5	0.0	8	16	0	0	0	0
2									8	16	0	0	0	0
3	1619.6	11866	233	1.23	44	55	8.4	0.0	8	16	0	0	0	0
4									8	16	0	0	0	0
5	1619.8	11933	67	0.02	43	60	8.4	0.0	8	16	0	0	0	0
6									8	16	0	0	0	0
7									8	16	0	0	0	0
8	1620.1	12038	105	1.49	44	51	8.4	0.0	8	16	0	0	0	0
9									8	16	0	0	0	0
10	1620.4	12150	112	1.25	35	40	9.5	0.0	8	16	0	0	0	0
11									8	16	0	0	0	0
12	1620.7	12263	113	0.21	38	46	8.4	0.0	8	16	0	0	0	0
13									8	16	0	0	0	0
14									8	16	0	0	0	0
15	1621.0	12375	112	0.26	44	51	8.4	0.0	8	16	0	0	0	0
16									8	16	0	0	0	0
17	1621.2	12450	75	1.19	41	51	9.5	0.0	8	16	0	0	0	0
18									8	16	0	0	0	0
19	1622.4	12900	450	3.20	31	44	9.5	0.0	8	16	0	0	0	0
20									8	16	0	0	0	0
21									8	16	0	0	0	0
22	1623.3	13238	338	1.87	28	36	9.5	0.0	8	16	0	0	0	0
23									8	16	0	0	0	0
24	1623.8	13425	187	1.05	18	24	9.5	0.0	8	16	0	0	0	0
25									8	16	0	0	0	0
26									8	16	0	0	0	0
27									8	16	0	0	0	0
28									8	16	0	0	0	0
29	1624.3	13613	188	1.03	24	39	9.5	0.0	8	16	0	0	0	0
30									8	16	0	0	0	0
Monthly Totals			2080	14.62						476		0		0
Year to Date Totals			-3037	83.09						2555		1652		5647

BARNEY RESERVOIR OPERATIONS FOR THE MONTH OF DECEMBER 2010

[See Appendix E for breakdown of municipal use by water provider.] Source: Joint Water Commission

DAY	SURFACE ELEVATION	STORAGE	CHANGE IN STORAGE	RAIN @ BARNEY	TEMP @ BARNEY		MEASURED FLOW TO		STORAGE RELEASED TO TRASK—ODFW		STORAGE RELEASED TO TUALATIN			
					Min	Max	TRASK	TUALATIN			CWS		MUNICIPAL	
	feet	ac-ft	ac-ft	in.	ºF	ºF	cfs	cfs	cfs	ac-ft	cfs	ac-ft	cfs	ac-ft
1	1625.6	14100	487	2.03	31	40	11.3	0.0	8	16	0	0	0	0
2									8	16	0	0	0	0
3	1626.4	14400	300	0.05	30	37	9.5	0.0	8	16	0	0	0	0
4									8	16	0	0	0	0
5	1626.8	14550	150	0.05	30	38			8	16	0	0	0	0
6	1626.8	14550	0	0.05	30	38	9.5	0.0	8	16	0	0	0	0
7									8	16	0	0	0	0
8	1627.4	14775	225	1.33	33	42	9.5	0.0	8	16	0	0	0	0
9									8	16	0	0	0	0
10	1629.0	15375	600	2.66	36	43	11.3	0.0	8	16	0	0	0	0
11									8	16	0	0	0	0
12									8	16	0	0	0	0
13	1631.9	15713	338	4.02	43	50	13.0	0.0	8	16	0	0	0	0
14									8	16	0	0	0	0
15	1633.2	16575	862	1.81	32	48	11.3	0.0	8	16	0	0	0	0
16									8	16	0	0	0	0
17	1634.1	17288	713	0.45	31	44	11.3	0.0	8	16	0	0	0	0
18									8	16	0	0	0	0
19									8	16	0	0	0	0
20	1635.1	17663	375	1.79	30	34	11.3	0.0	8	16	0	0	0	0
21									8	16	0	0	0	0
22	1635.8	17925	262	0.41	32	36	11.3	0.0	8	16	0	0	0	0
23	1636.0	18000	75	0.03	40	56	11.3	0.0	8	16	0	0	0	0
24									8	16	0	0	0	0
25									8	16	0	0	0	0
26									8	16	0	0	0	0
27	1637.3	18650	650	2.25	32	41	11.3	0.0	8	16	0	0	0	0
28									8	16	0	0	0	0
29									8	16	0	0	0	0
30									8	16	0	0	0	0
31									8	16	0	0	0	0
Monthly Totals			5037	16.93						492		0		0
Year to Date Totals			2000	100.02						3047		1652		5647

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Appendix E

Municipal Water Use Allocations
Monthly Records

MONTHLY SUMMARIES OF MUNICIPAL ALLOCATIONS

MUNICIPAL ALLOCATIONS FOR THE MONTH OF JULY 2009

Source: Joint Water Commission

DAY	TOTAL MUNICIPAL USE	MUNICIPAL USE BY RESERVOIR		BREAKDOWN OF MUNCIPAL USE BY WATER PROVIDER						
				HILLSBORO		FOREST GROVE		BEAVERTON		TVWD
		Barney	Scoggins	Barney	Scoggins	Barney	Scoggins	Barney	Scoggins	Barney
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
1	42	22	20	8.9	12.3	0.5	0.7	5.1	7.0	7.5
2	42	22	20	4.5	9.0	0.4	0.8	5.0	10.2	12.1
3	48	28	20	7.9	9.9	0.1	0.1	8.0	10.0	11.9
4	48	28	20	5.8	8.4	0.1	0.1	7.9	11.4	14.2
5	48	28	20	7.0	8.9	0.8	1.0	7.9	10.1	12.3
6	48	28	20	9.4	10.4	1.2	1.3	7.4	8.2	10.0
7	48	28	20	8.9	9.7	1.6	1.7	8.0	8.6	9.5
8	69	34	35	6.9	16.9	1.4	3.4	6.0	14.7	19.8
9	69	34	35	7.2	17.6	1.4	3.4	5.7	14.0	19.6
10	76	34	42	4.9	21.5	0.7	2.9	4.0	17.6	24.5
11	76	34	42	4.5	21.2	0.7	3.1	3.8	17.7	25.0
12	76	34	42	3.6	19.6	0.4	2.1	3.8	20.3	26.2
13	41	26	15	7.2	7.3	1.2	1.2	6.4	6.4	11.2
14	50	26	24	6.3	11.9	1.0	1.9	5.4	10.2	13.3
15	54	26	28	5.8	14.2	1.0	2.4	4.7	11.4	14.4
16	54	26	28	6.6	15.5	1.1	2.6	4.2	9.9	14.0
17	54	26	28	4.8	13.6	0.7	2.1	4.3	12.3	16.1
18	54	26	28	6.2	15.2	0.6	1.5	4.6	11.3	14.6
19	54	26	28	5.4	13.8	1.0	2.5	4.6	11.8	14.9
20	54	26	28	5.6	14.2	0.9	2.3	4.6	11.5	14.9
21	46	26	20	6.5	10.0	1.2	1.9	5.3	8.1	13.0
22	46	26	20	6.9	10.0	1.4	2.0	5.6	8.0	12.2
23	61	26	35	4.8	17.3	1.0	3.5	3.9	14.2	16.3
24	71	26	45	3.9	23.8	0.7	4.4	2.7	16.8	18.7
25	71	26	45	4.0	24.9	0.7	4.0	2.6	16.0	18.8
26	71	26	45	3.4	23.6	0.6	4.4	2.4	17.0	19.6
27	61	26	35	4.5	17.4	1.1	4.2	3.5	13.4	17.0
28	68	26	42	1.7	20.5	0.4	4.4	1.4	17.1	22.6
29	68	26	42	2.0	21.3	0.4	4.3	1.5	16.4	22.1
30	58	26	32	2.0	12.8	0.8	4.9	2.2	14.3	21.0
31	58	26	32	2.8	14.5	0.8	4.0	2.6	13.6	19.8
Monthly Totals										
cfs	1784	848	936	170.2	467.3	25.7	79.3	145.2	389.4	506.9
ac-ft	3539	1682	1857	337.6	926.8	51.0	157.4	287.9	772.4	1005.5
Year-to-Date Totals										
cfs	1784	848	936	170.2	467.3	25.7	79.3	145.2	389.4	506.9
ac-ft	3539	1682	1857	337.6	926.8	51.0	157.4	287.9	772.4	1005.5

MUNICIPAL ALLOCATIONS FOR THE MONTH OF AUGUST 2009

Source: Joint Water Commission

DAY	TOTAL MUNICIPAL USE	MUNICIPAL USE BY RESERVOIR		BREAKDOWN OF MUNCIPAL USE BY WATER PROVIDER						
				HILLSBORO		FOREST GROVE		BEAVERTON		TVWD
		Barney	Scoggins	Barney	Scoggins	Barney	Scoggins	Barney	Scoggins	Barney
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
1	58	26	32	1.8	13.1	0.5	3.4	2.2	15.6	21.5
2	58	26	32	3.4	15.8	0.7	3.4	2.7	12.8	19.1
3	58	26	32	3.0	14.8	0.8	3.8	2.7	13.4	19.5
4	58	26	32	3.3	15.2	0.8	3.9	2.8	12.9	19.0
5	58	26	32	3.7	15.8	0.9	3.7	2.9	12.4	18.6
6	58	26	32	4.9	15.9	1.2	3.9	3.8	12.1	16.1
7	58	26	32	4.0	15.2	1.1	4.2	3.3	12.6	17.7
8	58	26	32	4.0	15.5	1.0	3.9	3.3	12.6	17.7
9	58	26	32	3.8	15.0	1.0	3.9	3.3	13.1	18.0
10	58	26	32	4.2	15.7	1.0	3.8	3.3	12.5	17.5
11	58	26	32	5.0	16.8	1.1	3.6	3.5	11.7	16.5
12	66	34	32	7.1	16.7	1.8	4.1	4.8	11.2	20.4
13	66	34	32	6.9	16.5	1.9	4.5	4.6	11.1	20.7
14	70	34	36	5.8	18.2	1.4	4.2	4.3	13.6	22.5
15	70	34	36	7.4	19.8	1.6	4.2	4.5	12.0	20.6
16	70	34	36	5.2	16.9	1.5	4.9	4.3	14.1	23.1
17	66	34	32	5.9	14.9	1.9	4.8	4.9	12.4	21.4
18	56	34	22	8.9	12.2	1.8	2.4	5.4	7.4	17.9
19	56	34	22	6.3	9.8	2.0	3.2	5.8	9.1	19.9
20	62	34	28	5.8	12.7	2.0	4.4	5.0	10.9	21.3
21	57	34	23	10.7	13.1	2.3	2.8	5.9	7.2	15.2
22	57	34	23	8.2	11.3	2.2	3.0	6.2	8.6	17.4
23	57	34	23	7.3	10.6	2.3	3.4	6.3	9.1	18.0
24	62	34	28	7.2	14.4	2.0	4.0	4.8	9.6	20.1
25	62	34	28	7.6	14.7	2.1	4.0	4.8	9.3	19.6
26	59	34	25	6.5	11.5	2.4	4.3	5.2	9.2	19.8
27	57	34	23	7.2	11.6	1.9	3.0	5.2	8.4	19.7
28	52	34	18	7.6	9.1	2.2	2.6	5.3	6.3	18.9
29	52	34	18	7.6	9.1	2.1	2.5	5.4	6.4	18.9
30	52	34	18	7.0	8.8	2.0	2.4	5.5	6.8	19.5
31	52	34	18	7.0	7.9	2.3	2.6	6.7	7.6	18.0
Monthly Totals										
cfs	1839	966	873	184.2	428.5	49.4	112.7	138.5	331.8	593.9
ac-ft	3648	1916	1732	365.3	850.0	98.0	223.4	274.8	658.1	1178.0
Year-to-Date Totals										
cfs	3623	1814	1809	354.4	895.8	75.1	192.0	283.7	721.2	1100.8
ac-ft	7186	3598	3588	702.9	1776.8	149.0	380.8	562.7	1430.5	2183.5

MUNICIPAL ALLOCATIONS FOR THE MONTH OF SEPTEMBER 2009

Source: Joint Water Commission

DAY	TOTAL MUNICIPAL USE	MUNICIPAL USE BY RESERVOIR		BREAKDOWN OF MUNCIPAL USE BY WATER PROVIDER						
				HILLSBORO		FOREST GROVE		BEAVERTON		TVWD
		Barney	Scoggins	Barney	Scoggins	Barney	Scoggins	Barney	Scoggins	Barney
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
1	45	27	18	5.2	8.6	1.4	2.3	4.3	7.1	16.2
2	48	26	22	3.5	10.7	0.9	2.7	2.8	8.6	18.8
3	48	26	22	4.2	11.0	1.3	3.3	2.9	7.7	17.6
4	55	26	29	3.2	13.9	0.9	4.1	2.5	10.9	19.5
5	58	26	32	2.3	15.2	0.6	4.3	1.9	12.5	21.2
6	58	26	32	2.5	15.8	0.6	4.0	2.0	12.3	20.9
7	58	26	32	1.5	14.6	0.4	4.2	1.4	13.2	22.7
8	50	26	24	1.8	9.4	0.7	3.5	2.2	11.1	21.3
9	44	26	18	2.8	7.2	0.9	2.3	3.3	8.5	19.0
10	38	26	12	2.7	3.0	1.5	1.7	6.6	7.3	15.1
11	38	26	12	5.5	4.9	1.5	1.3	6.5	5.8	12.5
12	38	26	12	7.7	6.2	1.4	1.1	5.9	4.7	11.1
13	38	26	12	2.5	2.7	2.2	2.3	6.6	7.0	14.6
14	46	26	20	3.1	6.9	1.5	3.4	4.3	9.6	17.1
15	46	26	20	3.6	7.8	1.8	3.8	3.9	8.4	16.7
16	46	26	20	4.5	9.0	1.3	2.7	4.1	8.2	16.1
17	36	26	10	4.2	3.0	1.4	1.0	8.3	6.0	12.1
18	36	26	10	8.7	4.2	1.8	0.9	10.1	4.9	5.4
19	36	26	10	7.2	3.6	2.0	1.0	10.9	5.4	5.9
20	36	26	10	4.0	2.2	2.5	1.4	12.1	6.5	7.3
21	26	16	10	4.1	3.5	1.3	1.1	6.2	5.4	4.4
22	26	16	10	5.4	4.7	1.0	0.8	5.0	4.4	4.6
23	26	16	10	3.9	3.5	1.1	1.0	6.0	5.5	5.0
24	26	16	10	4.1	3.7	1.2	1.0	5.9	5.3	4.9
25	21	16	5	4.0	1.7	1.7	0.7	6.5	2.7	3.8
26	21	16	5	4.5	1.8	1.3	0.5	6.7	2.7	3.5
27	21	16	5	4.4	1.8	1.2	0.5	6.4	2.7	3.9
28	21	16	5	4.5	1.8	1.3	0.5	6.6	2.7	3.7
29	26	16	10	3.4	3.1	1.4	1.3	6.2	5.6	4.9
30	31	16	15	2.7	5.6	0.8	1.6	3.7	7.8	8.9
Monthly Totals										
cfs	1143	681	462	121.8	191.2	39.1	60.5	161.7	210.2	358.4
ac-ft	2267	1351	916	241.5	379.3	77.5	120.1	320.8	417.0	710.9
Year-to-Date Totals										
cfs	4766	2495	2271	476.1	1087.0	114.2	252.5	445.4	931.5	1459.2
ac-ft	9453	4949	4505	944.4	2156.1	226.5	500.9	883.5	1847.5	2894.4

MUNICIPAL ALLOCATIONS FOR THE MONTH OF OCTOBER 2009

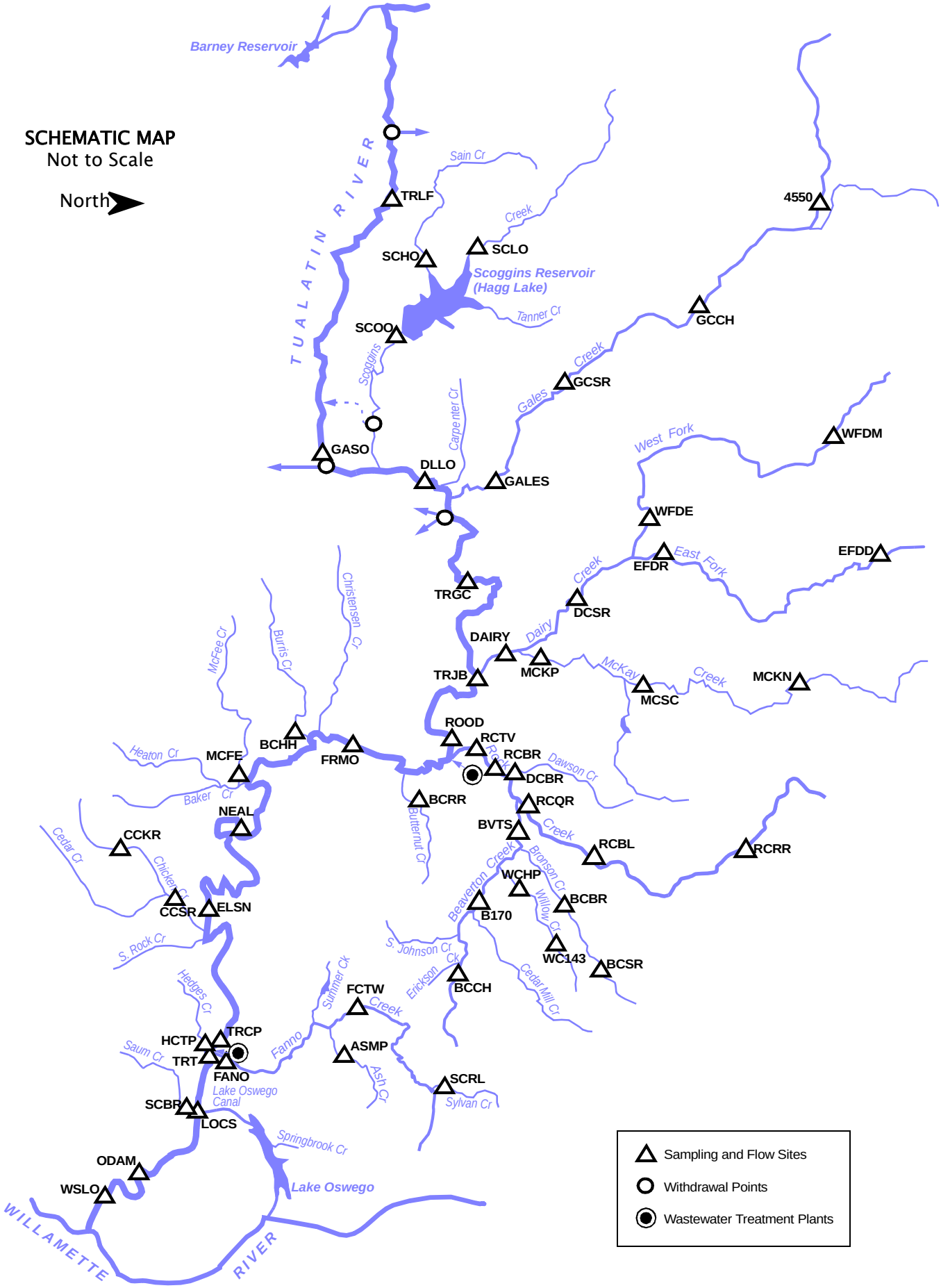
Source: Joint Water Commission

DAY	TOTAL MUNICIPAL USE	MUNICIPAL USE BY RESERVOIR		BREAKDOWN OF MUNCIPAL USE BY WATER PROVIDER						
				HILLSBORO		FOREST GROVE		BEAVERTON		TVWD
		Barney	Scoggins	Barney	Scoggins	Barney	Scoggins	Barney	Scoggins	Barney
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
1	26	16	10	2.8	3.6	0.9	1.1	4.1	5.3	8.2
2	30	16	14	1.8	4.5	0.7	1.7	3.2	7.8	10.2
3	31	16	15	2.3	5.7	0.6	1.5	3.1	7.8	10.0
4	31	16	15	1.8	5.1	0.6	1.8	2.9	8.1	10.7
5	31	16	15	2.4	5.6	0.7	1.7	3.3	7.7	9.7
6	31	16	15	1.4	5.4	0.6	2.1	2.0	7.5	12.1
7	38	16	22	0.3	8.1	0.1	2.9	0.4	11.1	15.2
8	46	16	30	1.3	13.9	0.4	3.8	1.1	12.3	13.2
9	41	16	25	1.3	8.8	0.6	4.6	1.6	11.6	12.4
10	38	16	22	0.3	7.3	0.2	4.5	0.4	10.1	15.2
11	38	16	22	0.2	8.2	0.1	3.5	0.2	10.3	15.6
12	38	16	22	0.9	7.6	0.3	2.9	1.4	11.5	13.4
13	32	16	16	0.7	3.5	0.5	2.5	2.2	10.1	12.6
14	26	16	10	1.2	2.0	0.9	1.5	3.8	6.5	10.2
15	22	16	6	3.3	2.3	1.2	0.8	4.1	2.9	7.4
16	27	16	11	2.8	4.1	0.9	1.3	3.7	5.5	8.6
17	27	16	11	1.3	2.4	0.9	1.7	3.6	6.9	10.2
18	27	16	11	1.0	1.9	1.1	2.1	3.8	7.1	10.1
19	27	16	11	2.8	4.2	1.0	1.6	3.5	5.3	8.7
20	27	16	11	2.0	3.4	0.9	1.5	3.5	6.1	9.6
21	27	16	11	0.7	1.6	0.8	1.8	3.3	7.6	11.2
22	27	16	11	1.3	2.5	1.1	2.1	3.3	6.4	10.3
23	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Monthly Totals										
cfs	688	352	336	33.7	111.7	15.0	48.9	58.5	175.4	244.8
ac-ft	1365	698	666	66.8	221.5	29.7	97.0	116.1	348.0	485.5
Year-to-Date Totals										
cfs	5454	2847	2607	509.8	1198.7	129.2	301.4	504.0	1106.9	1704.0
ac-ft	10818	5647	5171	1011.2	2377.6	256.2	597.9	999.6	2195.5	3379.9

Appendix F

Stream Temperature Records

STREAM TEMPERATURE SITES — LOCATIONS



STREAM TEMPERATURE SITES — ALPHABETICAL LISTING BY SITE CODE

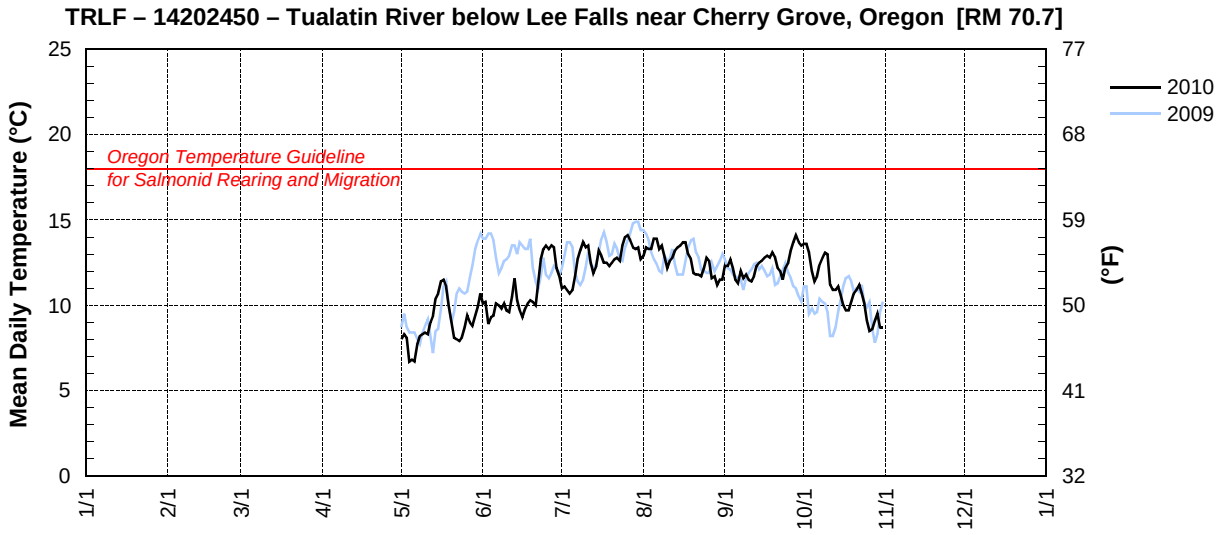
SITE CODE	SITE NAME	RIVER MILE	STATION ID	PAGE
4550	Gales Creek above Glenwood, Oregon	19.9	14204550	F-10
ASMP	Ash Creek at Metzger Park at Metzger, Oregon	1.25	14206933	F-49
B170	Beaverton Creek at 170th Ave, Beaverton, Oregon	4.9	—	F-30
BCBR	Bronson Creek at Bronson Road near Orenco, Oregon	2.1	14206423	F-34
BCCH	Beaverton Creek at Cedar Hills Blvd at Beaverton, Oregon	7.45	14206360	F-29
BCHH	Burris Creek at Hwy 219	0.38	—	F-41
BCRR	Butternut Creek at Rosa Road near Farmington, Oregon	1.0	14206384	F-39
BCSR	Bronson Creek at Saltzman Road near Orenco, Oregon	5.1	14206419	F-33
BVTS	Beaverton Creek at NE Guston Court near Orenco, Oregon	1.2	14206435	F-35
CCKR	Chicken Creek at Kruger Road	4.5	—	F-45
CCSR	Chicken Creek at Roy Rogers Road	2.3	14206750	F-46
DAIRY	Dairy Creek at Hwy 8 near Hillsboro, Oregon	2.06	14206200	F-23
DCBR	Dawson Creek at Brookwood Road near Hillsboro, Oregon	0.7	14206443	F-36
DCSR	Dairy Creek at Susbauer Road	6.02	—	F-19
DLLO	Tualatin River at Dilley, Oregon	58.8	14203500	F-9
EFDD	East Fork Dairy Creek near Dairy Creek Road near Mountaindale, Oregon	12.33	14205480	F-17
EFDR	East Fork Dairy Creek at Roy Road	1.24	—	F-18
ELSN	Tualatin River at Elsner Road near Sherwood, Oregon	16.2	14206600	F-44
FANO	Fanno Creek at Durham Road near Tigard, Oregon	1.2	14206950	F-50
FCTW	Fanno Creek at Tuckerwood	7.3	14206927	F-48
FRMO	Tualatin River at Farmington, Oregon	33.3	14206500	F-40
GALES	Gales Creek at Old Hwy 47 near Forest Grove, Oregon	2.36	14204530	F-13
GASO	Tualatin River at Gaston, Oregon	62.3	14202510	F-9
GCCH	Gales Creek at Clapshaw Hill Road near Gales Creek, Oregon	12.36	14204540	F-11
GCSR	Gales Creek at Stringtown Road	6.98	—	F-12
HCTP	Hedges Creek at Tualatin Community Park at Tualatin, Oregon	0.3	14206958	F-51
LOCS	Tualatin River at Oswego Canal near Lake Oswego, Oregon	6.7	14206990	F-54
MCKN	McKay Creek at Northrup Road near North Plains, Oregon	15.5	14205980	F-20
MCKP	McKay Creek at Padgett Road	1.31	14206190	F-22
MCFE	McFee Creek at Hwy 219 near Scholls, Oregon	0.8	14206670	F-42
MCSC	McKay Creek at Scotch Church Road above Waible Ck near North Plains, Oregon	6.3	14206070	F-21
NEAL	Tualatin River at RM 24.5 near Scholls, Oregon	24.5	14206694	F-43
ODAM	Tualatin River at Oswego Dam near West Linn, Oregon	3.4	14207200	F-55
RCBL	Rock Creek below Bethany Lake	8.9	14206340	F-27
RCBR	Rock Creek at Brookwood Avenue, Hillsboro, Oregon	2.4	—	F-37
RCQR	Rock Creek at Quatama near Orenco, Oregon	4.9	14206347	F-28
RCRR	Rock Creek at Rock Creek Road near Bowers Junction, Oregon	15.8	14206305	F-26
RCTV	Rock Creek at Hwy 8 near Hillsboro, Oregon	1.2	14206450	F-38
ROOD	Tualatin River at Rood Bridge Road near Hillsboro, Oregon	38.4	14206295	F-25
SCBR	Saum Creek at Borland Road	0.6	—	F-53
SCHO	Sain Creek above Henry Hagg Lake near Gaston, Oregon	1.6	14202920	F-6
SCLO	Scoggins Creek above Henry Hagg Lake near Gaston, Oregon	9.3	14202850	F-5
SCOO	Scoggins Creek below Henry Hagg Lake near Gaston, Oregon	4.80	14202980	F-7
SCRL	Sylvan Creek at Raleighwood Lane near West Slope, Oregon	1.0	14206905	ND*
TRCP	Tualatin River at RM 9.9 near Tualatin Oregon	9.9	14206800	F-47
TRGC	Tualatin River at Golf Course Road near Cornelius, Oregon	51.5	14204800	F-14
TRJB	Tualatin River at Hwy 219 Bridge	44.4	14206241	F-24
TRLF	Tualatin River below Lee Falls near Cherry Grove, Oregon	70.7	14202450	F-4
TRT	Tualatin River at Tualatin, Oregon	8.9	14206956	F-52
WC143	Willow Creek at 143rd Avenue near Beaverton, Oregon	3.5	14206410	F-31
WCHP	Willow Creek at Heritage Parkway near Beaverton, Oregon	0.75	14206413	F-32
WFDE	West Fork Dairy Creek at Evers Road	1.96	14205160	F-16
WFDM	West Fork Dairy Creek at Manning, Oregon	12.9	—	F-15
WSLO	Tualatin River at West Linn	1.75	14207500	F-56

*Equipment problem in 2010, site will resume next year

TRLF – 14202450 – TUALATIN RIVER BELOW LEE FALLS NEAR CHERRY GROVE, OREGON [RM 70.7]

Latitude: 45 30 21 Longitude: 123 13 06 Source Agency: WEST Consultants for Clean Water Services

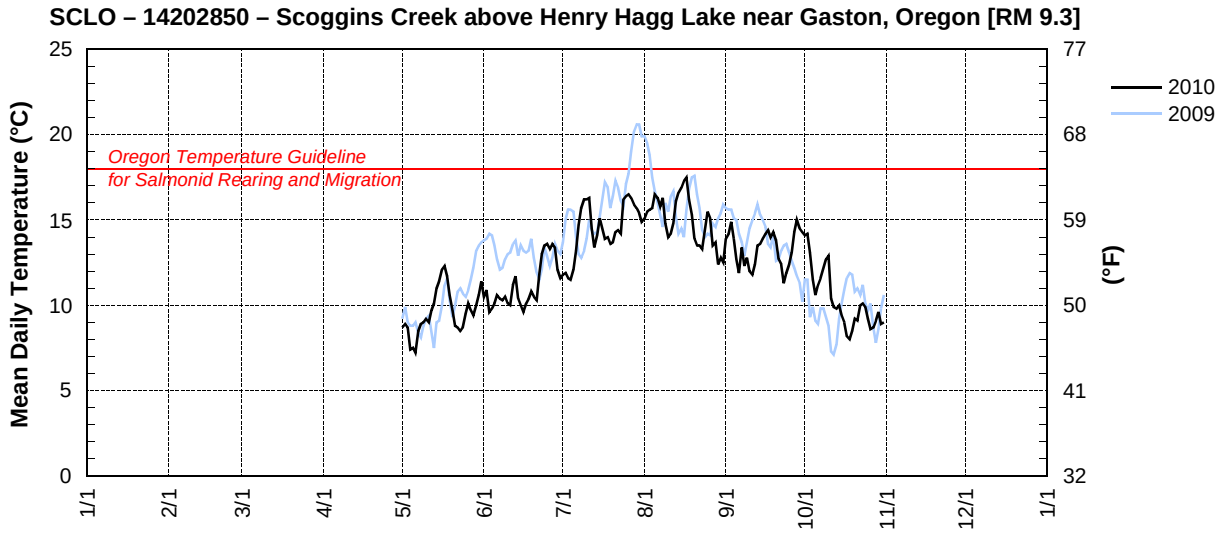
Day	2010 Mean Daily Water Temperature in Degrees Celsius											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1					8.0	10.1	11.0	12.9	12.3	13.6		
2					8.3	10.2	11.1	13.4	12.3	13.6		
3					8.1	8.9	10.9	13.3	12.7	13.1		
4					6.7	9.3	10.7	13.3	12.2	12.0		
5					6.8	9.4	10.9	13.9	11.5	11.4		
6					6.7	10.1	11.7	13.9	11.3	11.7		
7					7.7	10.0	12.7	13.3	12.0	12.4		
8					8.2	9.8	13.2	13.5	11.6	12.8		
9					8.3	10.1	13.7	12.9	11.8	13.1		
10					8.4	9.7	13.4	12.2	11.5	13.0		
11					8.3	9.6	13.5	12.6	11.4	11.2		
12					9.0	10.5	12.5	12.8	11.7	10.9		
13					9.4	11.6	11.9	13.2	12.3	10.9		
14					10.4	10.3	12.3	13.4	12.5	11.1		
15					10.7	9.7	13.2	13.5	12.6	10.6		
16					11.4	9.3	12.9	13.7	12.8	10.0		
17					11.5	9.8	12.5	13.7	12.9	9.7		
18					11.1	10.1	12.5	13.0	12.8	9.7		
19					10.0	10.3	12.3	12.7	13.1	10.2		
20					9.0	10.2	12.5	11.9	12.8	10.7		
21					8.1	10.0	12.7	11.8	12.2	10.9		
22					8.0	11.3	12.8	11.8	12.0	11.2		
23					7.9	12.7	12.6	11.7	11.5	10.7		
24					8.1	13.3	13.5	12.2	12.2	10.1		
25					8.7	13.5	14.0	12.8	12.5	9.1		
26					9.4	13.3	14.1	12.6	13.2	8.5		
27					9.0	13.5	13.8	11.6	13.7	8.6		
28					8.8	13.4	13.4	11.7	14.1	9.1		
29		—			9.4	12.2	13.3	11.2	13.7	9.5		
30		—			9.9	11.7	13.4	11.5	13.5	8.7		
31		—		—	10.7	—	12.7	11.5	—	8.7	—	
MEAN					8.9	10.8	12.6	12.7	12.4	10.9		
MAX					11.5	13.5	14.1	13.9	14.1	13.6		
MIN					6.7	8.9	10.7	11.2	11.3	8.5		



SCLO – 14202850 — SCOGGINS CREEK ABOVE HENRY HAGG LAKE NEAR GASTON, OREGON [RM 9.3]

Latitude: 45 30 06 Longitude: 123 15 06 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Mean Daily Water Temperature in Degrees Celsius											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1					8.7	10.5	11.8	15.1	13.9	14.1		
2					8.9	10.9	11.9	15.5	14.2	14.2		
3					8.7	9.6	11.6	15.6	14.9	13.1		
4					7.4	9.8	11.5	15.7	13.9	11.5		
5					7.5	10.1	12.1	16.5	12.7	10.6		
6					7.2	10.6	13.2	16.3	11.9	11.2		
7					8.5	10.4	14.7	15.8	13.4	11.6		
8					8.9	10.3	15.7	16.3	12.3	12.2		
9					9.0	10.5	16.2	14.8	12.8	12.7		
10					9.2	10.1	16.2	14.0	12.0	12.9		
11					9.0	10.0	16.3	14.2	11.8	10.4		
12					9.7	11.2	14.5	14.8	12.4	9.9		
13					10.1	11.7	13.4	16.1	13.5	9.8		
14					11.0	10.4	14.1	16.6	13.6	10.0		
15					11.4	10.0	15.1	16.9	13.9	9.4		
16					12.1	9.6	14.5	17.3	14.2	9.0		
17					12.3	10.1	13.9	17.5	14.4	8.2		
18					11.7	10.4	14.0	16.2	14.0	8.0		
19					10.6	10.8	13.6	15.3	14.3	8.5		
20					9.7	10.5	13.7	13.9	13.8	9.2		
21					8.8	10.3	14.3	13.5	12.7	9.1		
22					8.7	11.8	14.4	13.5	12.4	10.0		
23					8.5	13.0	14.2	13.3	11.3	10.1		
24					8.7	13.5	16.2	14.5	11.9	9.9		
25					9.5	13.6	16.4	15.5	12.4	9.2		
26					10.1	13.3	16.5	15.1	13.1	8.6		
27					9.7	13.6	16.3	13.5	14.3	8.7		
28					9.4	13.4	15.9	13.7	15.0	9.1		
29		—			10.0	12.1	15.7	12.4	14.5	9.6		
30		—			10.6	11.6	15.4	12.8	14.3	8.9		
31		—		—	11.4	—	14.9	12.5	—	9.0	—	
MEAN					9.6	11.1	14.5	15.0	13.3	10.3		
MAX					12.3	13.6	16.5	17.5	15.0	14.2		
MIN					7.2	9.6	11.5	12.4	11.3	8.0		



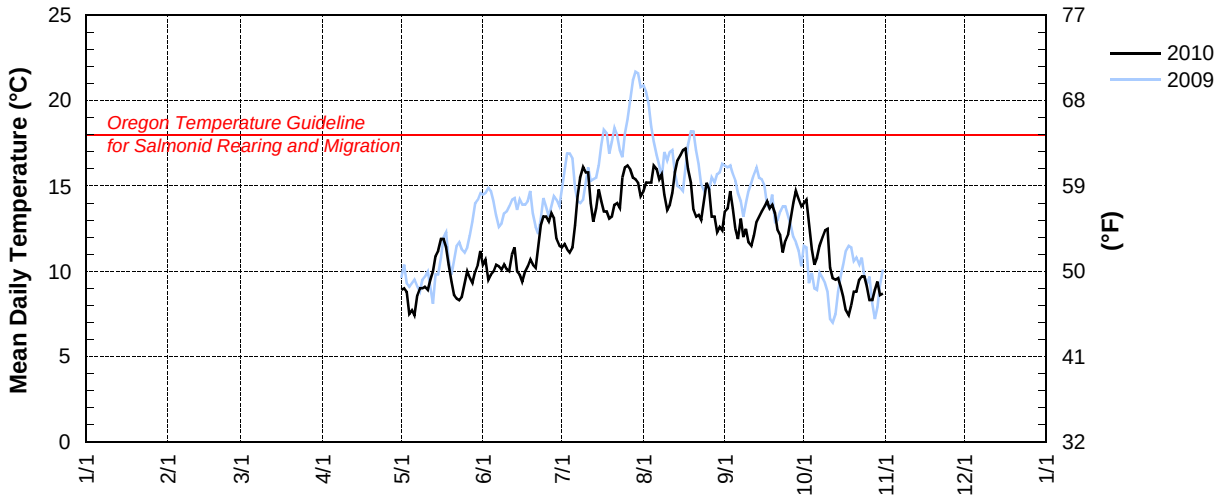
SCHO – 14202920 — SAIN CREEK ABOVE HENRY HAGG LAKE NEAR GASTON, OREGON [RM 1.6]

Latitude: 45 28 50 Longitude: 123 14 40 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Mean Daily Water Temperature in Degrees Celsius											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG*	SEP*	OCT*	NOV	DEC
1					8.9	10.4	11.4	14.7	13.5	14.0		
2					9.0	10.7	11.6	15.2	13.7	14.2		
3					8.8	9.5	11.3	15.2	14.7	12.9		
4					7.5	9.8	11.1	15.2	13.7	11.3		
5					7.7	10.0	11.4	16.2	12.5	10.4		
6					7.4	10.4	12.7	16.0	11.9	10.8		
7					8.6	10.3	14.4	15.4	13.1	11.5		
8					9.0	10.1	15.5	15.7	12.0	12.0		
9					9.0	10.4	16.1	14.5	12.5	12.4		
10					9.1	10.1	15.8	13.6	11.7	12.5		
11					8.9	10.0	15.8	13.9	11.5	10.2		
12					9.5	11.0	14.0	14.6	12.1	9.6		
13					10.0	11.4	12.9	15.8	12.9	9.5		
14					10.9	10.0	13.7	16.5	13.2	9.6		
15					11.2	9.8	14.8	16.8	13.5	9.1		
16					11.9	9.4	14.1	17.1	13.8	8.5		
17					11.9	10.0	13.5	17.2	14.1	7.7		
18					11.4	10.3	13.5	16.0	13.7	7.4		
19					10.4	10.7	13.1	15.2	13.9	8.0		
20					9.4	10.4	13.2	13.6	13.4	8.8		
21					8.6	10.2	13.9	13.2	12.4	8.8		
22					8.4	11.5	14.0	13.3	12.1	9.5		
23					8.3	12.7	13.7	13.0	11.1	9.7		
24					8.5	13.2	15.5	14.2	11.8	9.7		
25					9.3	13.2	16.1	15.2	12.2	9.1		
26					10.0	12.9	16.2	14.8	13.1	8.3		
27					9.6	13.4	16.0	13.2	14.0	8.3		
28					9.3	13.1	15.5	13.2	14.7	8.9		
29		—			10.0	11.9	15.4	12.3	14.2	9.4		
30		—			10.4	11.5	15.2	12.6	13.8	8.6		
31		—		—	11.2	—	14.4	12.4	—	8.7	—	
MEAN					9.5	10.9	14.1	14.7	13.0	10.0		
MAX					11.9	13.4	16.2	17.2	14.7	14.2		
MIN					7.4	9.4	11.1	12.3	11.1	7.4		

*Temperature probe may have been buried in bottom sediment after August 13, 2010

SCHO – 14202920 – Sain Creek above Henry Hagg Lake near Gaston, Oregon [RM 1.6]



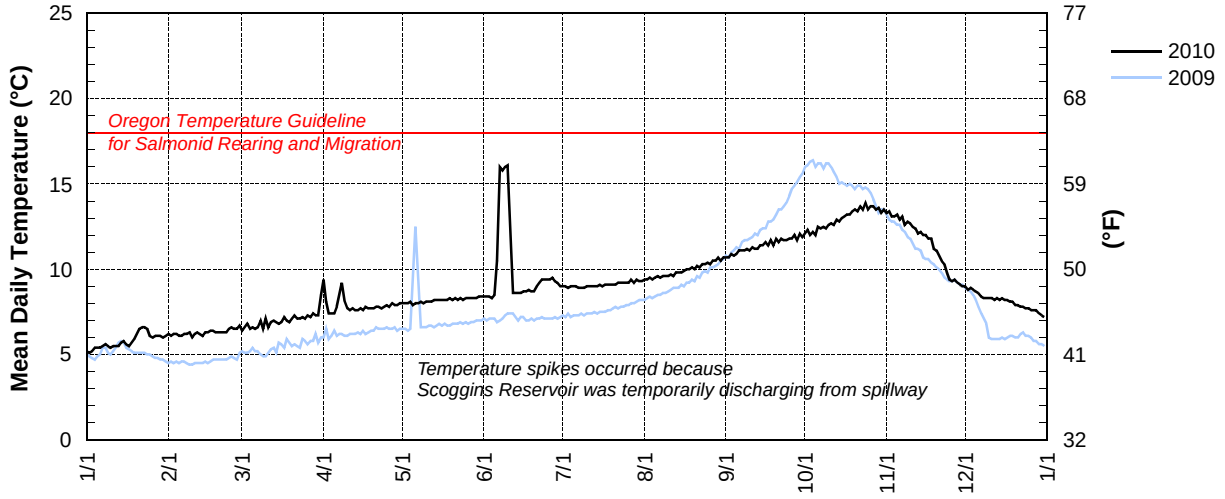
UNITED STATES DEPARTMENT OF THE INTERIOR – GEOLOGICAL SURVEY — OREGON WATER SCIENCE CENTER

STATION NUMBER 14202980 SCOGGINS CK BLW HENRY HAGG LAKE, NR GASTON, OR

LATITUDE: 452810 LONGITUDE: 12311561

Day	2010 Mean Daily Water Temperature in Degrees Celsius											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.2	6.2	6.4	9.4	8.0	8.4	9.0	9.4	10.7	12.1	13.3	9.0
2	5.1	6.1	6.6	8.2	8.0	8.4	9.0	9.4	10.7	12.3	13.4	8.8
3	5.2	6.2	6.8	7.4	8.0	8.4	8.9	9.5	10.9	12.0	13.1	8.9
4	5.4	6.2	6.5	7.4	8.1	8.3	9.0	9.4	10.8	12.2	13.1	8.8
5	5.4	6.1	6.6	7.4	8.0	8.5	9.0	9.5	10.9	12.1	13.2	8.7
6	5.4	6.1	6.5	7.8	8.0	10.4	9.0	9.6	11.1	12.5	12.9	8.6
7	5.5	6.2	6.6	8.5	8.0	16.0	8.9	9.5	11.1	12.4	13.1	8.4
8	5.6	6.2	7.0	9.2	8.1	15.8	8.9	9.6	11.1	12.5	12.6	8.3
9	5.5	6.3	6.5	8.1	8.0	16.0	8.9	9.6	11.2	12.4	12.8	8.3
10	5.4	6.0	7.1	7.7	8.1	16.1	9.0	9.6	11.1	12.6	12.7	8.3
11	5.5	6.2	6.6	7.6	8.1	13.0	9.0	9.7	11.3	12.7	12.5	8.3
12	5.5	6.3	7.0	7.7	8.1	8.6	9.0	9.6	11.2	12.6	12.4	8.2
13	5.5	6.2	7.0	7.6	8.2	8.6	9.0	9.9	11.2	12.9	12.1	8.3
14	5.7	6.1	6.9	7.6	8.2	8.6	9.0	9.8	11.4	12.8	12.2	8.2
15	5.8	6.3	6.8	7.7	8.2	8.6	9.1	9.9	11.4	13.0	12.0	8.3
16	5.6	6.3	6.9	7.6	8.2	8.7	9.0	9.9	11.6	13.1	12.0	8.2
17	5.5	6.4	7.2	7.8	8.2	8.7	9.1	10.0	11.4	13.2	11.8	8.2
18	5.7	6.4	7.0	7.7	8.2	8.8	9.1	10.0	11.7	13.2	11.9	8.1
19	5.9	6.3	6.9	7.7	8.3	8.7	9.1	10.1	11.4	13.4	11.2	8.1
20	6.2	6.3	7.1	7.7	8.2	8.8	9.1	10.0	11.8	13.5	11.1	8.0
21	6.6	6.3	7.3	7.8	8.3	9.0	9.1	10.2	11.6	13.5	10.8	7.9
22	6.6	6.3	7.1	7.8	8.2	9.2	9.2	10.1	11.8	13.7	10.5	7.8
23	6.6	6.3	7.1	7.8	8.3	9.4	9.2	10.3	11.7	13.5	10.3	7.8
24	6.5	6.5	7.2	7.8	8.2	9.4	9.2	10.3	11.7	13.9	9.8	7.7
25	6.1	6.6	7.1	7.9	8.3	9.4	9.2	10.4	11.8	13.5	9.4	7.7
26	6.0	6.5	7.4	7.8	8.3	9.4	9.2	10.3	11.8	13.7	9.3	7.6
27	6.1	6.5	7.2	8.0	8.3	9.5	9.4	10.5	12.0	13.8	9.4	7.6
28	6.1	6.7	7.4	7.9	8.3	9.3	9.2	10.5	11.7	13.5	9.2	7.6
29	6.1	—	7.4	7.9	8.3	9.2	9.4	10.7	12.1	13.6	9.1	7.4
30	6.0	—	7.3	8.0	8.4	9.0	9.4	10.5	11.9	13.3	9.0	7.3
31	6.1	—	8.5	—	8.4	—	9.3	10.7	—	13.5	—	7.2
MEAN	5.8	6.3	7.0	7.9	8.2	10.0	9.1	9.9	11.4	13.0	11.5	8.1
MAX	6.6	6.7	8.5	9.4	8.4	16.1	9.4	10.7	12.1	13.9	13.4	9.0
MIN	5.1	6.0	6.4	7.4	8.0	8.3	8.9	9.4	10.7	12.0	9.0	7.2

SCOO – 14202980 – Scoggins Creek below Henry Hagg Lake near Gaston, Oregon [RM 4.80]



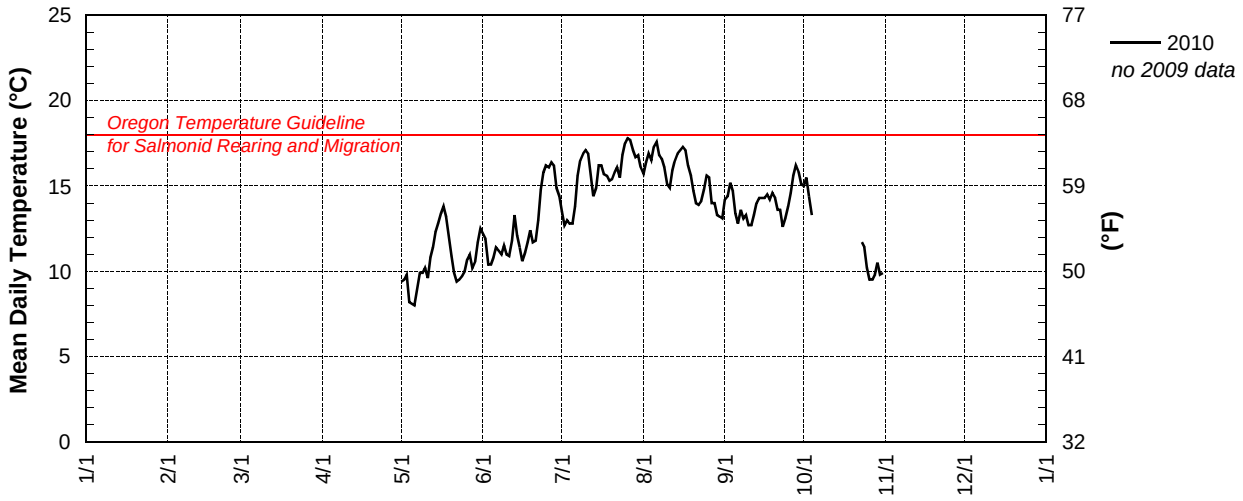
GASO– 14202510 – TUALATIN RIVER AT GASTON, OREGON [RM 62.3]

Latitude: 45 28 30 Longitude: 123 07 23 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Mean Daily Water Temperature in Degrees Celsius											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT*	NOV	DEC
1					9.4	12.2	13.5	15.7	14.2	15.0		
2					9.5	11.9	12.7	16.4	14.4	15.5		
3					9.8	10.4	13.0	16.9	15.2	14.4		
4					8.2	10.4	12.8	16.5	14.7	e13.3		
5					8.1	10.8	12.8	17.3	13.4			
6					8.0	11.4	13.8	17.6	12.8			
7					9.0	11.2	15.6	16.8	13.6			
8					9.9	11.0	16.5	16.6	13.1			
9					9.9	11.5	16.9	16.1	13.3			
10					10.2	11.0	17.1	15.1	12.7			
11					9.6	10.9	16.9	14.9	12.7			
12					10.8	11.8	15.7	15.9	13.3			
13					11.4	13.3	14.4	16.5	14.0			
14					12.3	12.1	14.9	16.9	14.3			
15					12.8	11.4	16.2	17.1	14.3			
16					13.4	10.6	16.2	17.3	14.3			
17					13.8	11.1	15.7	17.1	14.5			
18					13.2	11.7	15.6	16.2	14.2			
19					12.2	12.4	15.3	15.6	14.6			
20					10.9	11.7	15.4	14.7	14.3			
21					9.9	11.8	15.8	14.0	13.6			
22					9.4	13.0	16.1	13.9	13.6			
23					9.5	14.8	15.5	14.1	12.6	e11.7		
24					9.7	15.8	16.8	14.8	13.1	11.4		
25					10.0	16.2	17.5	15.6	13.8	10.2		
26					10.7	16.1	17.8	15.5	14.6	9.5		
27					11.0	16.4	17.7	14.0	15.6	9.5		
28					10.2	16.2	17.1	14.0	16.2	9.8		
29		—			10.6	14.9	16.7	13.3	15.8	10.5		
30		—			11.7	14.4	16.8	13.2	15.1	9.8		
31		—		—	12.5	—	16.1	13.1	—	9.9	—	
MEAN					10.6	12.6	15.6	15.6	14.1			
MAX					13.8	16.4	17.8	17.6	16.2			
MIN					8.0	10.4	12.7	13.1	12.6			

* Incomplete record (monthly statistics computed when at least 80% of the record was complete for the month); e=estimated value;

GASO – 14202510 – Tualatin River at Gaston, Oregon [RM 62.3]

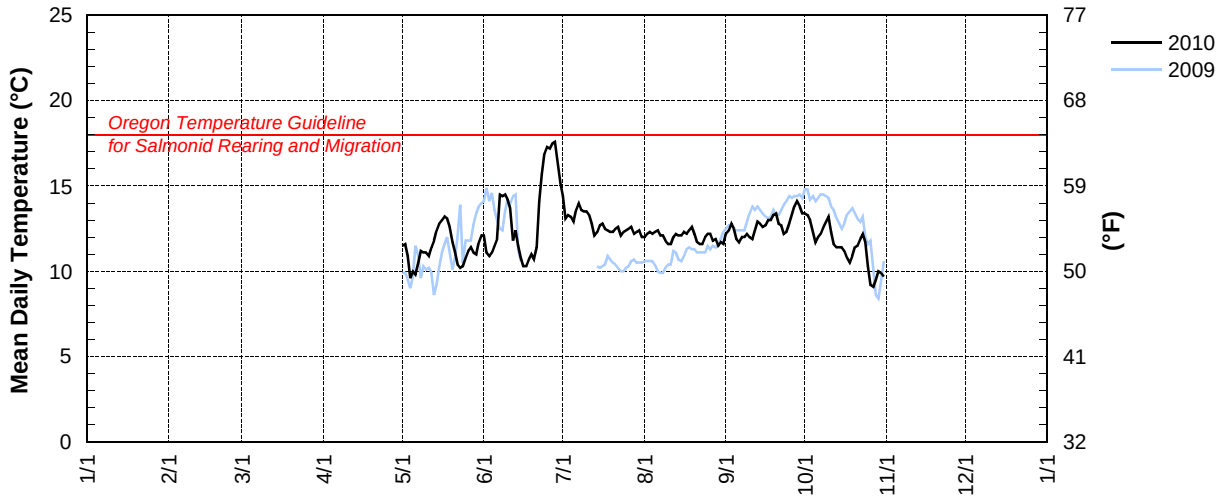


DLLO – 14203500 – TUALATIN RIVER AT DILLEY, OREGON [RM 58.8]

Latitude: 45 28 30 Longitude: 123 07 23 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Mean Daily Water Temperature in Degrees Celsius											
	JAN	FEB	MAR	APR	MAY	JUN*	JUL	AUG	SEP	OCT	NOV	DEC
1					11.5	12.1	14.4	12.0	12.2	13.4		
2					11.6	11.1	13.1	12.2	12.4	13.3		
3					10.9	10.9	13.3	12.3	12.8	13.0		
4					9.6	11.1	13.2	12.2	12.5	12.3		
5					10.0	11.5	12.9	12.3	11.9	11.7		
6					9.8	11.9	13.6	12.4	11.7	12.0		
7					10.5	14.5	14.0	12.1	12.0	12.2		
8					11.2	14.4	13.6	12.1	12.0	12.6		
9					11.1	14.5	13.5	11.8	12.2	12.9		
10					11.1	14.2	13.5	11.6	12.0	13.2		
11					10.9	13.7	13.3	11.6	11.9	12.3		
12					11.4	11.8	12.8	12.0	12.4	11.6		
13					11.8	12.4	12.1	12.2	12.9	11.4		
14					12.4	11.5	12.3	12.1	12.8	11.4		
15					12.8	10.8	12.7	12.1	12.6	11.4		
16					13.0	10.3	12.8	12.3	12.7	11.2		
17					13.2	10.3	12.5	12.2	13.0	10.8		
18					13.1	10.7	12.4	12.4	13.0	10.5		
19					12.6	11.0	12.3	12.6	13.3	10.9		
20					11.7	10.7	12.3	12.2	13.4	11.4		
21					11.1	11.4	12.5	11.7	12.8	11.5		
22					10.4	14.1	12.6	11.6	12.7	11.9		
23					10.2	15.7	12.1	11.6	12.2	12.2		
24					10.3	16.9	12.3	12.0	12.3	11.7		
25					10.8	17.3	12.4	12.2	12.8	10.3		
26					11.2	17.2	12.5	12.2	13.3	9.2		
27					11.4	17.5	12.6	11.8	13.8	9.1		
28					11.1	17.6	12.2	11.9	14.1	9.5		
29		—			11.0	16.4	12.3	11.5	13.8	10.0		
30		—			11.7	15.2	12.4	11.7	13.4	9.9		
31		—		—	12.1	—	12.0	11.6	—	9.7	—	
MEAN					11.3	13.3	12.8	12.0	12.7	11.4		
MAX					13.2	17.6	14.4	12.6	14.1	13.4		
MIN					9.6	10.3	12.0	11.5	11.7	9.1		

DLLO – 14203500 – Tualatin River at Dilley, Oregon [RM 58.8]

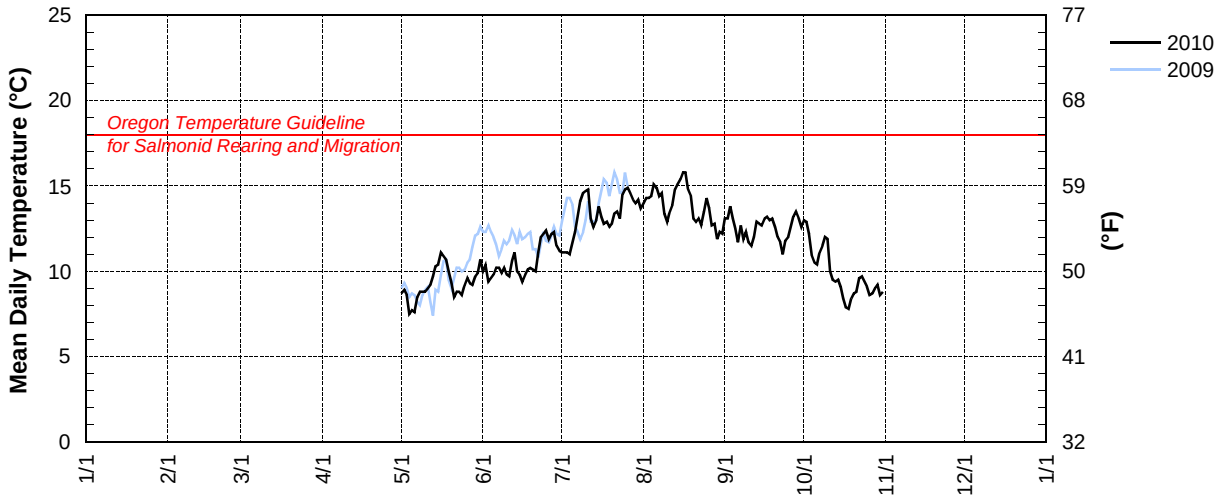


4550 – 14204550 – GALES CREEK ABOVE GLENWOOD, OREGON [RM 19.9]

Latitude: 45 28 30 Longitude: 123 07 23 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Mean Daily Water Temperature in Degrees Celsius											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1					8.7	10.0	11.1	14	13.1	13		
2					8.9	10.4	11.1	14.3	13.1	12.9		
3					8.6	9.4	11.1	14.3	13.8	12.2		
4					7.5	9.6	11.0	14.4	13.1	10.9		
5					7.7	9.8	11.7	15.1	12.5	10.5		
6					7.6	10.2	12.3	14.9	11.7	10.4		
7					8.5	10.2	13.2	14.4	12.7	11.1		
8					8.8	9.9	14.1	14.6	11.9	11.5		
9					8.8	10.2	14.6	13.4	12.3	12		
10					8.8	9.8	14.7	12.9	11.7	11.9		
11					9.0	9.7	14.8	13.5	11.5	10		
12					9.2	10.6	13.1	13.9	12	9.5		
13					9.7	11.1	12.6	14.8	12.9	9.4		
14					10.3	10.0	13.0	15.1	12.8	9.5		
15					10.4	9.8	13.8	15.4	12.7	9.1		
16					11.1	9.4	13.2	15.8	13.1	8.4		
17					10.9	9.8	12.8	15.8	13.2	7.9		
18					10.7	10.1	12.9	14.8	13	7.8		
19					10.0	10.2	12.6	14.4	13.1	8.4		
20					9.3	10.1	12.8	13.1	12.6	8.7		
21					8.5	10.0	13.4	12.9	12	8.8		
22					8.8	11.1	13.5	13.1	11.7	9.6		
23					8.8	12.0	13.1	12.7	11	9.7		
24					8.6	12.2	14.5	13.5	11.8	9.4		
25					9.2	12.4	14.8	14.3	12	9.1		
26					9.6	11.9	14.9	13.7	12.6	8.6		
27					9.3	12.2	14.6	12.7	13.2	8.7		
28					9.2	12.3	14.2	12.8	13.5	9		
29		—			9.7	11.5	14.0	11.9	13.1	9.2		
30		—			9.9	11.2	14.2	12.3	12.6	8.6		
31		—		—	10.7	—	13.7	12.2	—	8.8	—	
MEAN					9.3	10.6	13.3	13.9	12.5	9.8		
MAX					11.1	12.4	14.9	15.8	13.8	13		
MIN					7.5	9.4	11	11.9	11	7.8		

14204550 – Gales Creek above Glenwood, Oregon [RM 19.9]

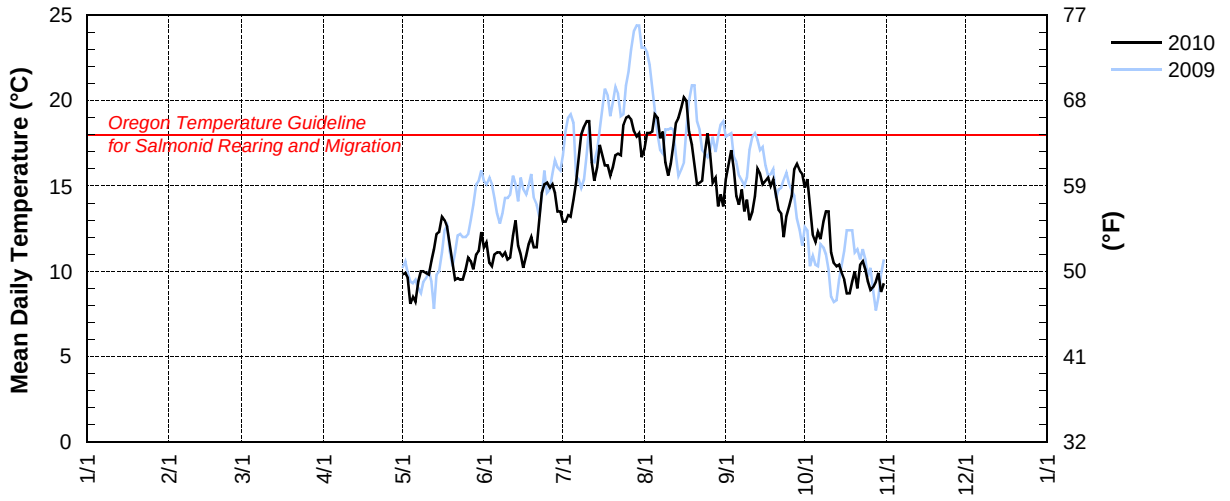


GCCH – 14204540 – GALES CREEK AT CLAPSHAW HILL ROAD NEAR GALES CREEK, OREGON [RM 12.36]

Latitude: 45 35 39 Longitude: 123 12 38 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Mean Daily Water Temperature in Degrees Celsius											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1					9.8	11.4	12.9	17.2	15.4	14.9		
2					9.9	11.7	12.9	18.1	16.3	15.4		
3					9.6	10.5	13.3	18.1	17.1	13.9		
4					8.1	10.3	13.2	18.2	16.0	12.1		
5					8.5	11.0	14.2	19.2	14.4	11.7		
6					8.2	11.1	15.2	19.0	13.9	12.3		
7					9.4	11.1	16.7	17.8	14.8	11.9		
8					10.0	10.9	18.0	18.2	13.5	12.9		
9					10.0	11.1	18.5	16.4	14.2	13.5		
10					9.9	10.7	18.8	15.6	13.0	13.5		
11					9.8	10.8	18.8	16.3	13.5	11.1		
12					10.6	12.1	16.4	17.4	14.4	10.5		
13					11.3	13.0	15.3	18.7	16.0	10.3		
14					12.2	11.5	16.1	19.0	15.7	10.4		
15					12.3	11.0	17.4	19.6	15.1	9.9		
16					13.2	10.2	16.8	20.2	15.3	9.5		
17					13.0	10.9	16.2	20.0	15.5	8.7		
18					12.6	11.6	16.2	18.2	15.0	8.7		
19					11.5	12.0	15.6	17.4	15.4	9.4		
20					10.4	11.4	16.1	16.2	14.4	10.0		
21					9.5	11.4	16.8	15.1	13.6	9.0		
22					9.6	13.0	16.9	15.2	13.4	10.4		
23					9.5	14.6	16.8	15.3	12.0	10.6		
24					9.5	15.1	18.6	17.0	13.2	10.1		
25					10.1	15.2	19.0	18.1	13.8	9.4		
26					10.8	14.9	19.1	16.9	14.4	8.9		
27					10.6	15.1	18.9	15.2	16.0	9.1		
28					10.1	14.6	18.2	15.5	16.3	9.4		
29		—			11.0	13.5	17.9	13.8	15.9	9.9		
30		—			11.2	13.5	18.1	14.5	15.7	8.8		
31		—		—	12.3	—	16.7	13.8	—	9.3	—	
MEAN					10.5	12.2	16.6	17.1	14.8	10.8		
MAX					13.2	15.2	19.1	20.2	17.1	15.4		
MIN					8.1	10.2	12.9	13.8	12.0	8.7		

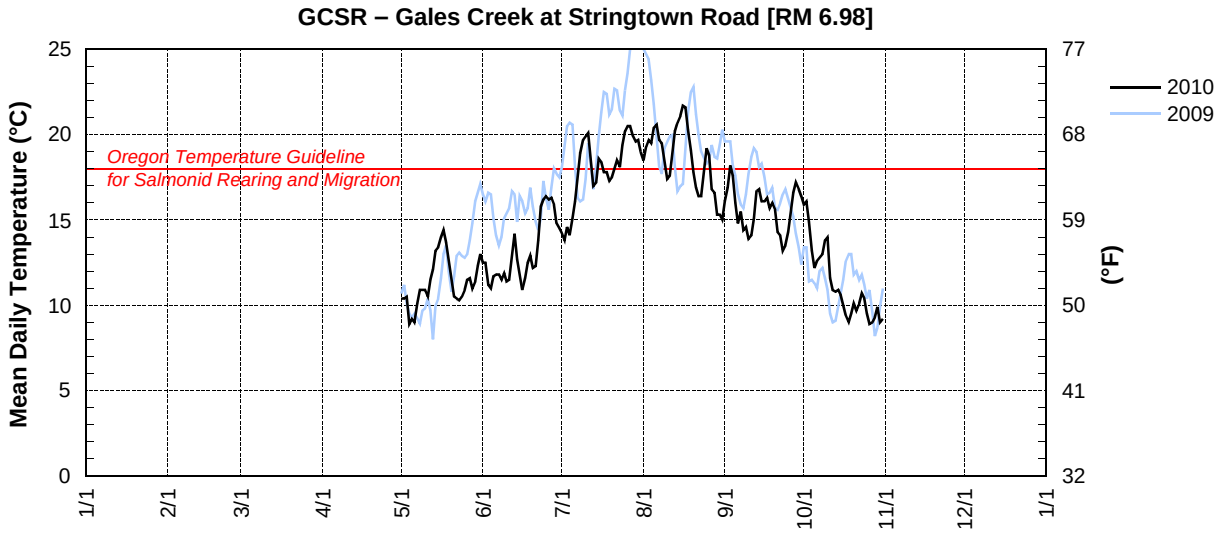
GCCH – 14204540 – Gales Creek at Clapshaw Hill Road near Gales Creek, Oregon [RM 12.36]



GCSR – GALES CREEK AT STRINGTOWN ROAD [RM 6.98]

Latitude: 45 32 26 Longitude: 123 10 09 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Mean Daily Water Temperature in Degrees Celsius											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1					10.4	12.5	14.2	18.5	16.1	15.9		
2					10.4	12.5	13.8	19.3	16.9	16.1		
3					10.5	11.2	14.6	19.7	18.2	14.9		
4					8.9	11.0	14.1	19.5	17.6	13.2		
5					9.2	11.7	15.1	20.4	16.0	12.2		
6					9.0	11.8	16.1	20.6	14.8	12.6		
7					10.1	11.8	17.6	19.7	15.5	12.8		
8					10.9	11.5	18.9	19.5	14.4	13.0		
9					10.9	11.9	19.7	18.5	14.6	13.8		
10					10.9	11.4	19.9	17.4	13.9	14.0		
11					10.5	11.5	20.1	17.6	14.1	11.6		
12					11.5	12.9	18.5	18.9	15.1	10.9		
13					12.1	14.2	17.0	20.2	16.7	10.8		
14					13.2	12.7	17.2	20.7	16.8	10.9		
15					13.4	11.8	18.6	21.1	16.1	10.6		
16					14.0	10.9	18.4	21.7	16.1	10.0		
17					14.4	11.6	17.8	21.6	16.3	9.4		
18					13.7	12.5	17.8	20.3	15.7	9.0		
19					12.7	12.9	17.3	19.1	16.0	9.5		
20					11.5	12.2	17.5	17.8	15.6	10.1		
21					10.5	12.3	18.0	16.9	14.3	9.7		
22					10.4	13.8	18.5	16.4	14.1	10.1		
23					10.3	15.8	18.1	16.4	13.2	10.7		
24					10.5	16.2	19.4	17.9	13.5	10.4		
25					10.9	16.4	20.2	19.2	14.3	9.5		
26					11.5	16.2	20.5	18.8	15.4	8.9		
27					11.6	16.3	20.5	16.8	16.6	9.0		
28					11.0	15.9	19.9	16.6	17.2	9.3		
29		—			11.4	14.8	19.6	15.3	16.8	9.9		
30		—			12.3	14.5	19.7	15.3	16.4	9.0		
31		—		—	13.0	—	19.0	15.0	—	9.2	—	
MEAN					11.3	13.1	18.0	18.6	15.6	11.2		
MAX					14.4	16.4	20.5	21.7	18.2	16.1		
MIN					8.9	10.9	13.8	15.0	13.2	8.9		



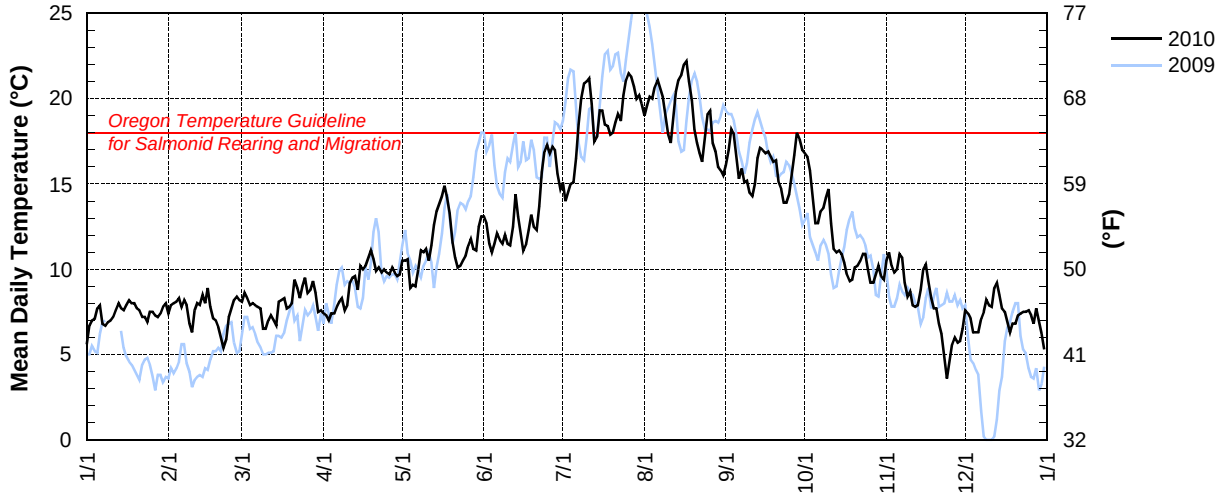
UNITED STATES DEPARTMENT OF THE INTERIOR – GEOLOGICAL SURVEY — OREGON WATER SCIENCE CENTER

STATION NUMBER 453040123065201* GALES CREEK AT OLD HWY 47, FOREST GROVE, OR

LATITUDE: 453039.75 LONGITUDE: 1230652.0

Day	2010 Mean Daily Water Temperature in Degrees Celsius											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.5	7.4	8.1	7.4	10.5	13.2	15.2	19.0	16.1	16.8	10.5	7.6
2	6.7	7.9	8.6	7.3	10.6	12.6	14.0	19.6	17.0	16.6	11.0	7.4
3	7.0	8.0	8.3	7.0	10.6	11.6	14.5	20.1	18.2	15.8	10.3	7.2
4	7.1	8.1	7.9	7.4	8.9	11.0	15.0	20.0	18.0	14.3	9.8	6.4
5	7.7	8.3	8.0	7.4	9.1	11.4	15.0	20.7	16.6	12.8	10.0	6.3
6	8.0	7.8	7.9	7.8	9.0	12.1	16.5	21.2	15.3	12.7	10.9	6.3
7	6.9	8.2	7.8	8.1	10.0	11.7	18.4	20.6	15.9	13.3	10.7	7.1
8	6.7	7.9	7.7	8.3	11.1	11.5	19.9	20.1	15.1	13.6	9.2	7.5
9	6.9	6.8	6.5	7.6	11.0	12.0	20.9	19.1	15.2	14.1	8.4	8.2
10	7.1	6.4	6.5	7.9	11.3	11.5	21.0	18.0	14.6	14.7	8.7	7.9
11	7.2	7.6	7.0	9.2	10.5	11.4	21.2	17.4	14.3	12.7	8.0	7.8
12	7.6	8.0	7.3	9.6	11.3	12.4	19.8	18.8	15.0	11.2	7.8	8.9
13	8.0	7.9	7.0	9.6	12.6	14.4	17.5	20.4	16.5	11.0	7.9	9.2
14	7.7	8.5	6.7	8.8	13.4	13.1	17.7	21.1	17.1	11.1	8.7	8.5
15	7.6	8.0	8.1	10.2	13.8	12.1	19.3	21.4	17.1	10.9	10.0	7.7
16	7.9	8.9	8.2	10.0	14.3	11.1	19.3	22.0	16.8	10.4	10.3	7.5
17	8.2	7.8	8.3	10.2	15.0	11.5	18.5	22.2	16.9	9.8	9.4	6.9
18	8.0	7.1	7.7	10.6	14.2	12.3	18.4	21.0	16.6	9.3	8.3	6.4
19	8.0	6.9	7.8	11.2	13.3	13.2	17.9	19.9	16.3	9.4	7.7	6.8
20	7.7	6.6	8.0	10.6	11.6	12.5	18.0	18.3	16.4	10.1	7.7	6.8
21	7.6	6.0	9.4	9.9	10.8	12.2	18.6	17.4	15.1	10.2	6.8	7.3
22	7.2	5.4	8.9	10.1	10.1	13.6	19.1	16.8	14.7	10.5	6.2	7.4
23	7.2	5.9	8.3	9.8	10.2	15.7	18.7	16.3	14.0	10.8	5.0	7.5
24	6.9	7.2	9.0	10.0	10.5	17.0	20.1	17.7	13.9	11.0	3.6	7.5
25	7.5	7.7	9.5	9.8	10.8	17.3	21.1	19.0	14.4	10.0	4.5	7.6
26	7.5	8.2	8.6	9.7	11.4	16.8	21.5	19.3	15.5	9.2	5.5	7.4
27	7.3	8.4	8.8	10.1	11.8	17.2	21.4	17.4	16.7	9.2	6.0	6.8
28	7.2	8.3	9.3	9.8	11.3	17.0	20.8	16.9	18.0	9.7	5.8	7.7
29	7.4	—	8.6	9.6	11.1	15.6	20.0	16.1	17.6	10.2	5.8	6.9
30	7.8	—	7.5	9.7	12.5	14.7	20.2	15.8	17.0	9.6	6.5	6.3
31	8.0	—	7.6	—	13.0	—	19.8	15.5	—	9.4	—	5.3
MEAN	7.4	7.5	8.0	9.2	11.4	13.3	18.7	19.0	16.1	11.6	8.0	7.3
MAX	8.2	8.9	9.5	11.2	15.0	17.3	21.5	22.2	18.2	16.8	11.0	9.2
MIN	5.5	5.4	6.5	7.0	8.9	11.0	14.0	15.5	13.9	9.2	3.6	5.3

GALES – 453040123065201* – Gales Creek at Old Hwy 47 near Forest Grove, Oregon [RM 2.36]



*USGS #453040123065201 is equivalent to OWRD #14204530.

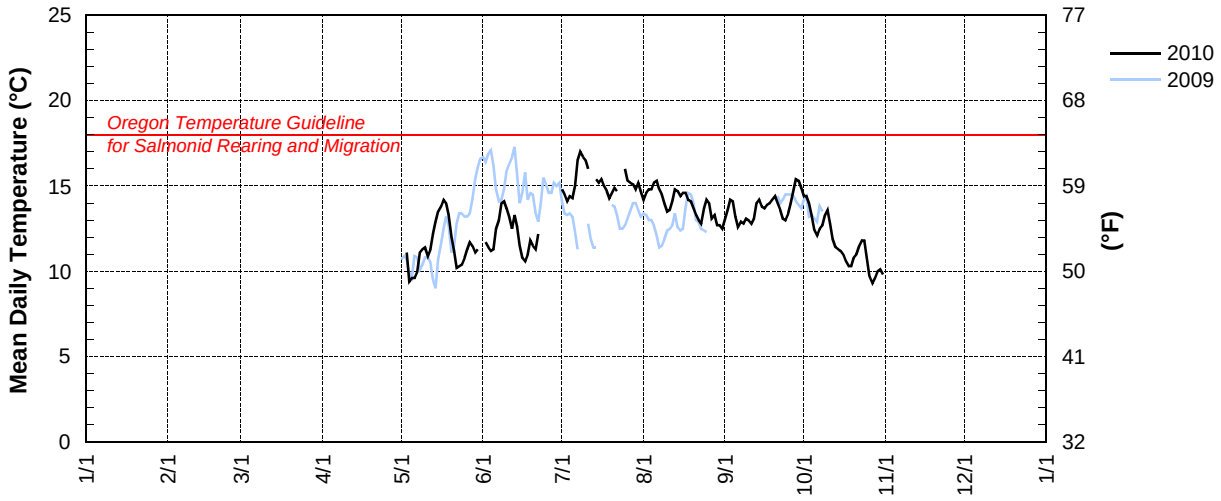
TRGC – 14204800 – TUALATIN RIVER AT GOLF COURSE ROAD NEAR CORNELIUS, OREGON [RM 51.5]

Latitude: 45 30 39 Longitude: 123 06 56 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Mean Daily Water Temperature in Degrees Celsius											
	JAN	FEB	MAR	APR	*MAY	JUN*	JUL*	AUG	SEP	OCT	NOV	DEC
1							e14.8	14.2	13.0	14.4		
2						e11.7	14.5	14.6	13.6	14.4		
3					e11.1	11.4	14.1	14.8	14.2	14.0		
4					9.4	11.2	14.4	14.8	14.1	13.2		
5					9.6	11.3	14.3	15.2	13.2	12.4		
6					9.6	12.5	15.0	15.3	12.6	12.1		
7					10.0	13.0	16.5	14.8	12.9	12.5		
8					11.1	14.0	17.0	14.5	12.8	12.7		
9					11.3	14.1	16.7	14.0	13.1	13.3		
10					11.4	13.7	16.5	13.5	13.0	13.6		
11					10.9	13.2	e16.0	13.6	12.8	12.8		
12					11.3	12.5		14.1	13.1	11.9		
13					12.2	13.3		14.8	14.0	11.4		
14					12.9	12.6	e15.4	14.7	14.2	11.3		
15					13.5	11.5	15.2	14.4	13.8	11.2		
16					13.8	10.8	15.4	14.6	13.7	11.0		
17					14.2	10.6	15.0	14.6	13.9	10.6		
18					14.0	11.0	14.7	14.2	14.0	10.3		
19					13.3	11.8	14.3	14.1	14.2	10.3		
20					12.0	11.5	14.6	13.7	14.4	10.8		
21					11.2	11.3	14.9	13.3	14.0	11.0		
22					10.2	e12.2	e14.7	13.0	13.6	11.5		
23					10.3			12.8	13.1	11.8		
24					10.4			13.7	13.0	11.8		
25					10.8		e16.0	14.2	13.4	10.8		
26					11.3		15.3	14.0	14.0	9.7		
27					11.7		15.2	13.1	14.7	9.3		
28					11.5		15.1	13.3	15.4	9.6		
29		—			11.1		14.8	12.7	15.3	10.0		
30		—			e11.3		15.2	12.7	14.9	10.1		
31		—		—		—	14.7	12.5	—	9.8	—	
MEAN					11.5		15.2	14.0	13.7	11.6		
MAX					14.2		17.0	15.3	15.4	14.4		
MIN					9.4		14.1	12.5	12.6	9.3		

* Incomplete record (monthly statistics computed when at least 80% of the record was complete for the month); e=estimated value

TRCG – 14204800 – Tualatin River at Golf Course Road near Cornelius, Oregon [RM 51.5]



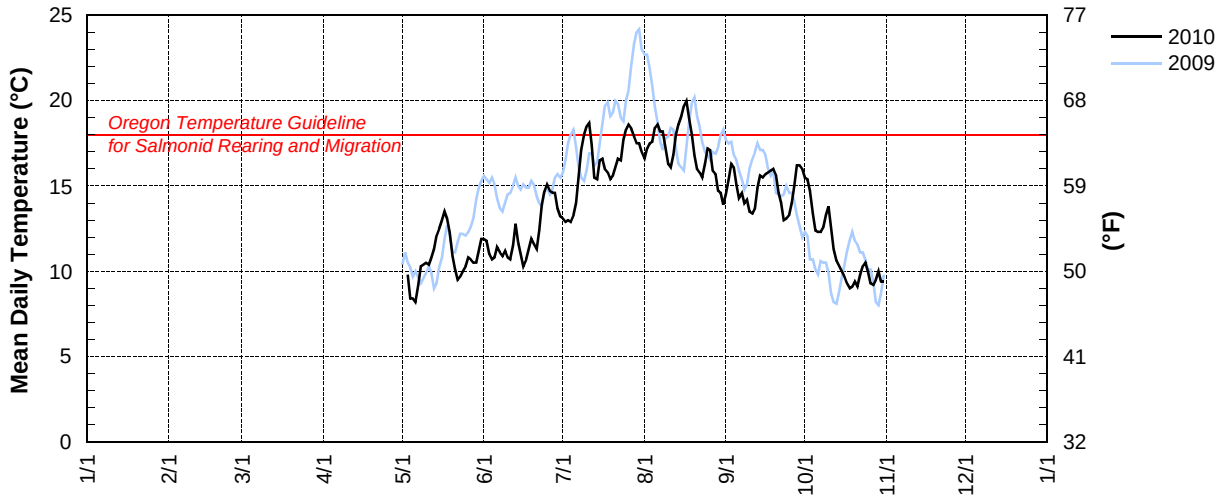
WFDM – WEST FORK DAIRY CREEK AT MANNING, OREGON [RM 12.9]

Latitude: 45 39 36 Longitude 123 09 18 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Mean Daily Water Temperature in Degrees Celsius											
	JAN	FEB	MAR	APR	MAY*	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1						11.9	13.1	16.6	14.5	15.5		
2						11.8	12.9	17.2	15.4	15.4		
3					e9.8	11.0	13.0	17.5	16.3	14.7		
4					8.4	10.7	12.9	17.6	16.1	13.4		
5					8.4	10.8	13.3	18.4	15.1	12.4		
6					8.2	11.4	14.0	18.6	14.3	12.3		
7					9.2	11.1	15.6	18.2	14.6	12.3		
8					10.3	10.9	17.1	18.2	14.0	12.6		
9					10.4	11.2	18.0	17.3	14.2	13.3		
10					10.5	10.8	18.5	16.3	13.5	13.8		
11					10.4	10.7	18.7	16.1	13.4	12.5		
12					10.8	11.5	17.4	16.8	13.7	11.3		
13					11.3	12.8	15.5	18.0	14.9	10.6		
14					12.1	11.7	15.4	18.6	15.6	10.3		
15					12.5	11.0	16.5	19.1	15.5	10.0		
16					13.0	10.3	16.6	19.7	15.7	9.7		
17					13.5	10.7	16.0	20.0	15.8	9.3		
18					13.1	11.3	15.8	19.0	15.9	9.0		
19					12.3	11.9	15.4	18.0	16.0	9.1		
20					10.9	11.6	15.6	16.8	15.6	9.4		
21					10.1	11.3	16.1	16.0	14.6	9.1		
22					9.5	12.4	16.6	15.8	14.0	9.8		
23					9.7	13.9	16.5	15.5	13.0	10.3		
24					10.0	14.7	17.7	16.3	13.1	10.5		
25					10.3	15.1	18.3	17.2	13.3	10.0		
26					10.8	14.7	18.6	17.1	14.0	9.3		
27					10.7	14.6	18.4	15.9	15.0	9.2		
28					10.5	14.6	17.9	15.7	16.2	9.5		
29		—			10.5	13.7	17.5	14.7	16.2	10.0		
30		—			11.2	13.2	17.5	14.6	16.0	9.4		
31		—		—	11.9	—	17.0	13.9	—	9.4	—	
MEAN					10.7	12.1	16.2	17.1	14.9	11.1		
MAX					13.5	15.1	18.7	20.0	16.3	15.5		
MIN					8.2	10.3	12.9	13.9	13.0	9.0		

* Incomplete record (monthly statistics computed when at least 80% of the record was complete for the month); e=estimated value

WFDM – West Fork Dairy Creek at Manning, Oregon [RM 12.9]



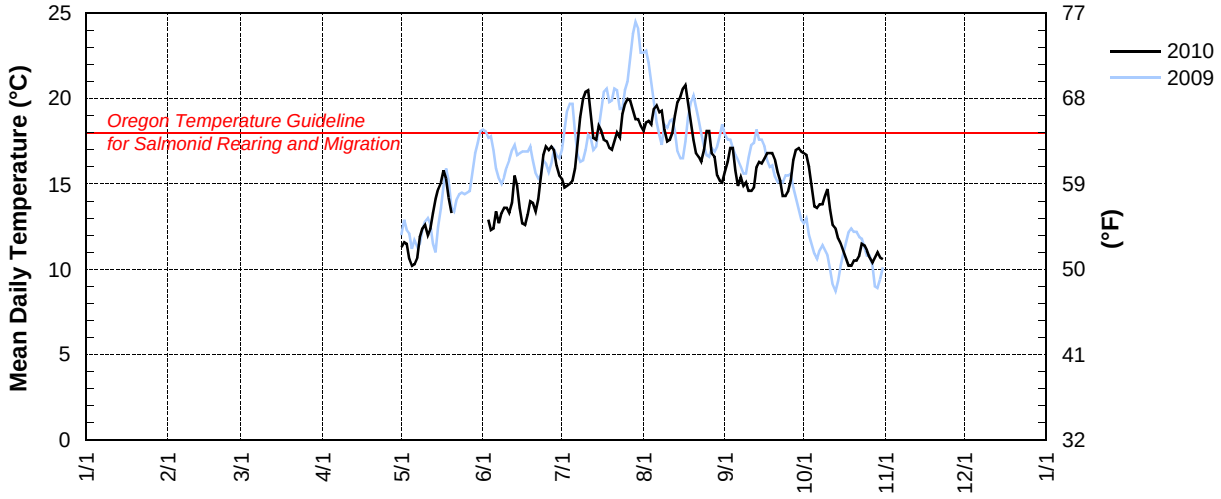
WFDE – 14205160 – WEST FORK DAIRY CREEK AT EVERS ROAD BRIDGE [RM 1.96]

Latitude: 45 34 34 Longitude: 123 05 34 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Mean Daily Water Temperature in Degrees Celsius											
	JAN	FEB	MAR	APR	MAY*	JUN*	JUL	AUG	SEP	OCT	NOV	DEC
1					11.3		15.3	18.1	15.7	16.8		
2					11.6		14.8	18.6	16.3	16.7		
3					11.5	e12.9	14.9	18.7	17.1	16.0		
4					10.6	12.3	15.0	18.5	17.1	14.7		
5					10.2	12.4	15.2	19.4	15.8	13.7		
6					10.3	13.4	15.9	19.6	14.9	13.6		
7					10.7	12.7	17.5	19.2	15.4	13.8		
8					11.9	13.3	18.9	19.3	14.9	13.8		
9					12.4	13.6	20.0	18.2	15.1	14.3		
10					12.6	13.6	20.4	17.5	14.6	14.7		
11					12.0	13.3	20.5	17.6	14.6	13.5		
12					12.4	13.9	19.2	18.0	14.8	12.6		
13					13.3	15.5	17.7	19.0	16.0	12.4		
14					14.1	14.9	17.6	19.8	16.3	11.8		
15					14.7	13.6	18.4	20.1	16.2	11.5		
16					15.1	12.7	18.1	20.6	16.5	11.1		
17					15.8	12.6	17.6	20.8	16.8	10.7		
18					15.3	13.2	17.5	19.8	16.8	10.2		
19					14.2	14.0	17.1	18.6	16.8	10.2		
20					e13.3	13.9	17.0	17.6	16.4	10.5		
21						13.4	17.5	16.8	15.7	10.5		
22						14.1	18.0	16.6	15.2	10.8		
23						15.5	17.7	16.3	14.3	11.5		
24						16.7	19.1	17.0	14.3	11.4		
25						17.2	19.7	18.1	14.6	11.1		
26						17.0	20.0	18.1	15.2	10.7		
27						17.2	19.9	16.8	16.4	10.4		
28						17.0	19.3	16.6	17.0	10.7		
29		—				16.1	18.8	15.5	17.1	11.0		
30		—				15.5	18.8	15.2	16.9	10.7		
31		—		—		—	18.4	15.1	—	10.6	—	
MEAN						14.3	17.9	18.1	15.8	12.3		
MAX						17.2	20.5	20.8	17.1	16.8		
MIN						12.3	14.8	15.1	14.3	10.2		

* Incomplete record (monthly statistics computed when at least 80% of the record was complete for the month); e=estimated value

WFDE – 14205160 – West Fork Dairy Creek at Evers Road Bridge [RM 1.96]

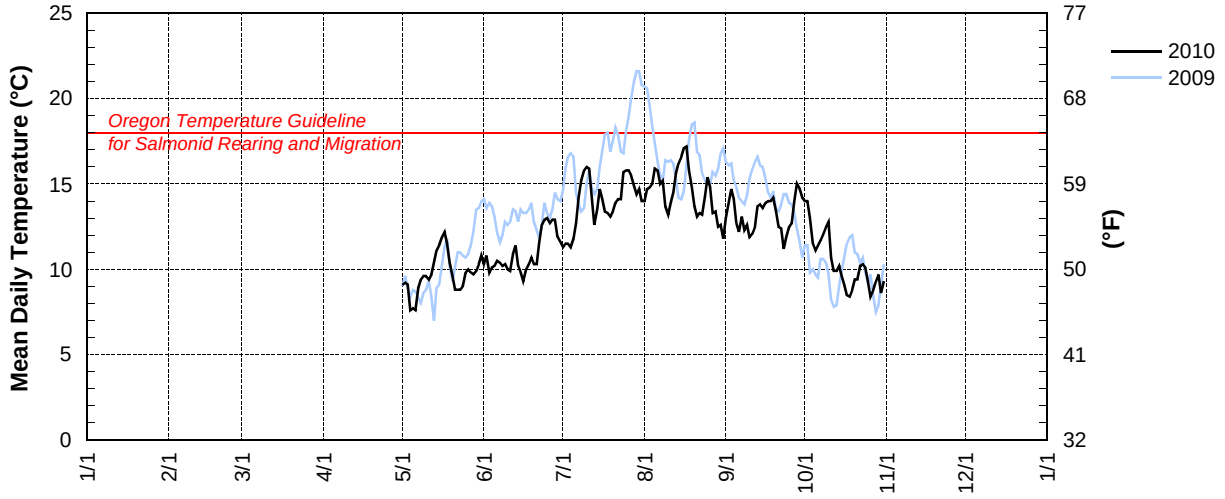


EFDD – 14205480 – EAST FORK DAIRY CREEK AT DAIRY CREEK ROAD NEAR MOUNTAINDALE, OR [RM 12.33]

Latitude: 45 40 32 Longitude: 123 03 54 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Mean Daily Water Temperature in Degrees Celsius											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1					9.1	10.3	11.3	14.0	13.0	14.0		
2					9.2	10.8	11.5	14.7	13.9	14.0		
3					9.1	9.8	11.5	14.8	14.7	13.0		
4					7.6	10.1	11.3	15.0	14.1	11.5		
5					7.7	10.2	11.8	15.9	12.7	11.1		
6					7.6	10.5	12.7	15.8	12.2	11.4		
7					8.9	10.4	14.2	15.0	13.1	11.7		
8					9.4	10.2	15.2	15.2	12.3	12.1		
9					9.6	10.3	15.8	13.7	12.6	12.5		
10					9.6	10.0	16.0	13.2	11.9	12.8		
11					9.4	9.9	15.9	13.9	12.1	10.7		
12					9.7	10.9	14.2	14.5	12.5	9.9		
13					10.4	11.4	12.6	15.6	13.7	9.9		
14					11.1	10.2	13.5	16.2	13.8	10.2		
15					11.4	9.8	14.7	16.6	13.6	9.6		
16					11.9	9.3	14.1	17.1	13.9	9.1		
17					12.2	10.0	13.4	17.2	14.0	8.5		
18					11.5	10.3	13.3	15.8	14.0	8.4		
19					10.4	10.7	13.1	14.8	14.2	8.8		
20					9.6	10.3	13.4	13.7	13.4	9.4		
21					8.8	10.3	13.9	13.1	12.5	9.4		
22					8.8	11.6	14.1	13.3	12.4	10.2		
23					8.8	12.6	14.1	13.2	11.2	10.3		
24					9.0	12.9	15.7	14.3	11.9	10.1		
25					9.8	13.0	15.8	15.4	12.5	9.3		
26					10.0	12.7	15.8	14.8	12.7	8.4		
27					9.8	12.9	15.5	13.3	14.0	8.8		
28					9.7	12.9	14.9	13.4	15.0	9.3		
29		—			9.9	11.9	14.4	12.5	14.7	9.7		
30		—			10.3	11.6	14.7	12.6	14.2	8.6		
31		—		—	10.8	—	14.0	11.8	—	9.3	—	
MEAN					9.7	10.9	13.9	14.5	13.2	10.4		
MAX					12.2	13.0	16.0	17.2	15.0	14.0		
MIN					7.6	9.3	11.3	11.8	11.2	8.4		

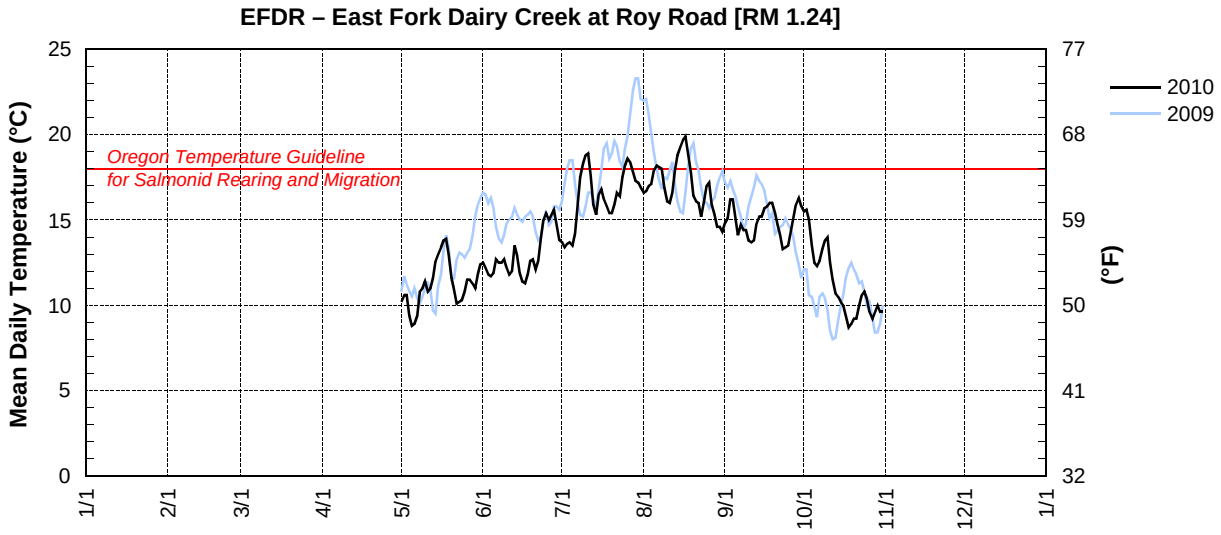
EFDD – 14205480 – East Fork Dairy Creek at Dairy Creek Road near Mountaindale, Oregon [RM 12.33]



EFDR – EAST FORK DAIRY CREEK AT ROY ROAD [RM 1.24]

Latitude: 45 34 43 Longitude: 123 04 14 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Mean Daily Water Temperature in Degrees Celsius											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1					10.2	12.5	13.7	16.6	14.8	15.5		
2					10.6	12.2	13.4	16.7	15.1	15.6		
3					10.6	11.8	13.6	17.0	16.2	15.0		
4					9.4	11.7	13.7	17.1	16.2	13.5		
5					8.8	11.9	13.5	17.9	15.1	12.5		
6					8.9	12.7	14.2	18.2	14.1	12.3		
7					9.4	12.5	16.0	18.1	14.7	12.6		
8					10.8	12.5	17.5	18.0	14.4	13.3		
9					11.0	12.7	18.3	16.9	14.4	13.8		
10					11.4	12.2	18.8	16.1	13.8	14.0		
11					10.8	11.8	18.9	16.0	13.7	12.5		
12					11.0	12.0	17.6	16.6	13.8	11.5		
13					11.6	13.5	15.9	17.9	14.8	10.7		
14					12.6	12.9	15.3	18.8	15.2	10.5		
15					13.0	11.9	16.5	19.3	15.2	10.2		
16					13.4	11.4	16.8	19.7	15.7	10.0		
17					13.8	11.3	16.2	19.9	15.8	9.4		
18					13.9	11.8	15.8	18.9	16.0	8.7		
19					13.0	12.6	15.4	17.8	16.0	8.9		
20					11.6	12.7	15.4	16.4	15.4	9.2		
21					10.9	12.1	15.9	16.1	14.7	9.2		
22					10.1	12.6	16.6	16.0	14.1	10.0		
23					10.2	13.9	16.4	15.2	13.3	10.6		
24					10.3	15.0	17.5	16.1	13.4	10.8		
25					10.8	15.4	18.2	17.0	13.5	10.4		
26					11.5	15.0	18.6	17.2	14.3	9.6		
27					11.5	15.3	18.4	15.9	15.1	9.2		
28					11.3	15.6	17.8	15.3	15.9	9.6		
29		—			11.0	14.8	17.3	14.6	16.3	10.0		
30		—			11.8	13.8	17.2	14.6	15.8	9.6		
31		—		—	12.4	—	16.9	14.3	—	9.6	—	
MEAN					11.2	12.9	16.4	17.0	14.9	11.2		
MAX					13.9	15.6	18.9	19.9	16.3	15.6		
MIN					8.8	11.3	13.4	14.3	13.3	8.7		

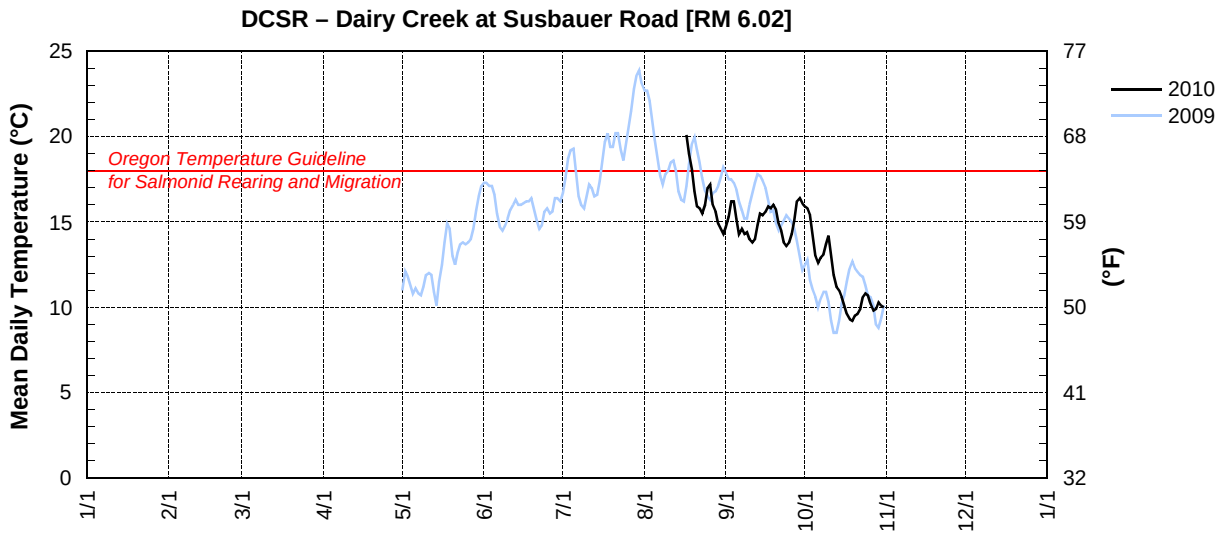


DCSR – DAIRY CREEK AT SUSBAUER ROAD [RM 6.02]

Latitude: 45 32 23 Longitude: 123 02 30 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Mean Daily Water Temperature in Degrees Celsius											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG*	SEP	OCT	NOV	DEC
1									14.7	15.9		
2									15.3	15.8		
3									16.2	15.4		
4									16.2	14.2		
5									15.2	13.0		
6									14.3	12.6		
7									14.6	12.9		
8									14.3	13.1		
9									14.4	13.7		
10									14.0	14.2		
11									13.8	13.0		
12									14.0	11.9		
13									14.8	11.2		
14									15.5	11.0		
15									15.4	10.6		
16									15.6	10.1		
17								e20.1	15.9	9.6		
18								19.0	15.8	9.3		
19								18.1	16.0	9.2		
20								16.8	15.7	9.5		
21								15.9	14.9	9.6		
22								15.8	14.5	9.9		
23								15.5	13.8	10.6		
24								16.0	13.6	10.8		
25								17.0	13.8	10.7		
26								17.2	14.3	10.2		
27								16.0	15.1	9.8		
28								15.6	16.2	9.9		
29		—						14.9	16.4	10.3		
30		—						14.6	16.1	10.1		
31		—		—		—		14.3	—	10.0	—	
MEAN									15.0	11.6		
MAX									16.4	15.9		
MIN									13.6	9.2		

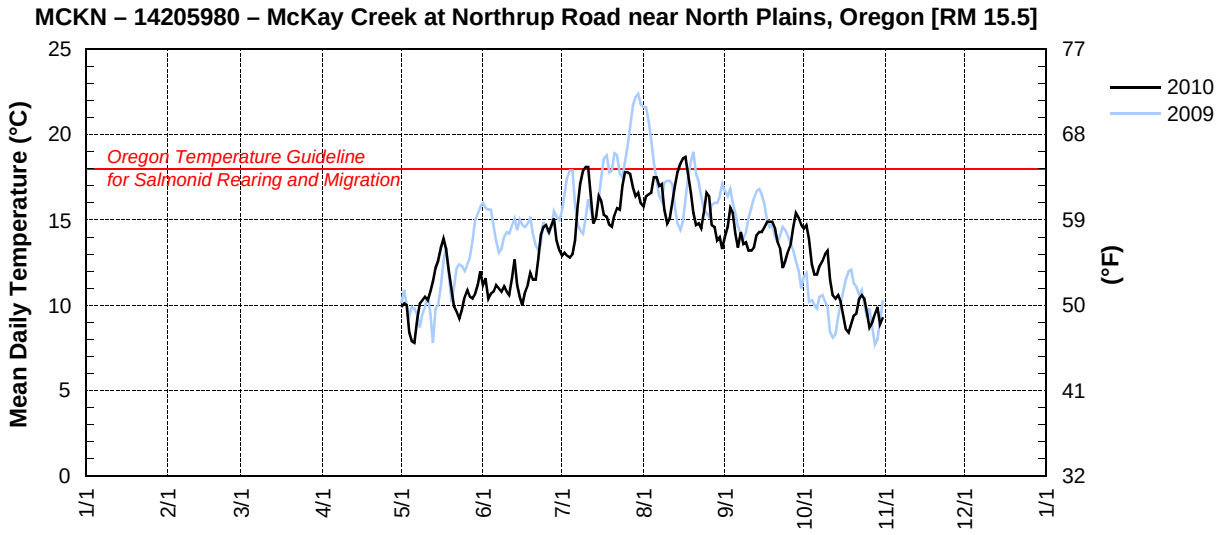
* Incomplete record (monthly statistics computed when at least 80% of the record was complete for the month); e=estimated value;



MCKN – 14205980 – MCKAY CREEK AT NORTHRUP ROAD NEAR NORTH PLAINS, OREGON [RM 15.5]

Latitude: 45 38 36 Longitude: 122 59 32 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Mean Daily Water Temperature in Degrees Celsius											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1					9.9	11.2	12.9	15.8	14.0	14.5		
2					10.1	11.6	13.1	16.4	14.6	14.7		
3					10.0	10.4	12.9	16.5	15.7	13.9		
4					8.4	10.7	12.8	16.6	15.4	12.4		
5					7.9	10.8	13.0	17.5	14.2	11.8		
6					7.8	11.2	13.8	17.5	13.4	11.8		
7					9.2	11.0	15.8	17.0	14.3	12.3		
8					10.1	10.8	17.1	17.1	13.6	12.6		
9					10.3	11.1	17.9	15.6	13.7	13.0		
10					10.5	10.8	18.1	14.8	13.2	13.2		
11					10.3	10.6	18.1	15.1	13.2	11.5		
12					10.8	11.6	16.3	16.0	13.4	10.6		
13					11.4	12.7	14.8	17.0	14.1	10.4		
14					12.2	11.2	15.2	17.8	14.3	10.6		
15					12.6	10.5	16.4	18.3	14.3	10.2		
16					13.4	10.0	16.1	18.6	14.6	9.4		
17					13.9	10.8	15.3	18.7	14.9	8.6		
18					13.3	11.2	15.2	17.7	14.9	8.4		
19					12.1	11.9	14.7	16.6	14.9	8.9		
20					11.0	11.5	14.6	15.4	14.5	9.4		
21					9.9	11.5	15.3	14.7	13.7	9.5		
22					9.6	12.7	15.7	14.8	13.3	10.4		
23					9.2	14.1	15.6	14.5	12.2	10.6		
24					9.7	14.6	17.0	15.5	12.6	10.4		
25					10.5	14.7	17.8	16.6	13.2	9.6		
26					10.9	14.3	17.8	16.4	13.6	8.7		
27					10.5	14.7	17.7	14.7	14.6	9.0		
28					10.4	15.1	16.9	14.6	15.4	9.5		
29		—			10.7	13.8	16.4	13.8	15.1	9.9		
30		—			11.2	13.2	16.6	14.0	14.7	8.9		
31		—		—	12.0	—	16.0	13.3	—	9.3	—	
MEAN					10.6	12.0	15.7	16.1	14.1	10.8		
MAX					13.9	15.1	18.1	18.7	15.7	14.7		
MIN					7.8	10.0	12.8	13.3	12.2	8.4		

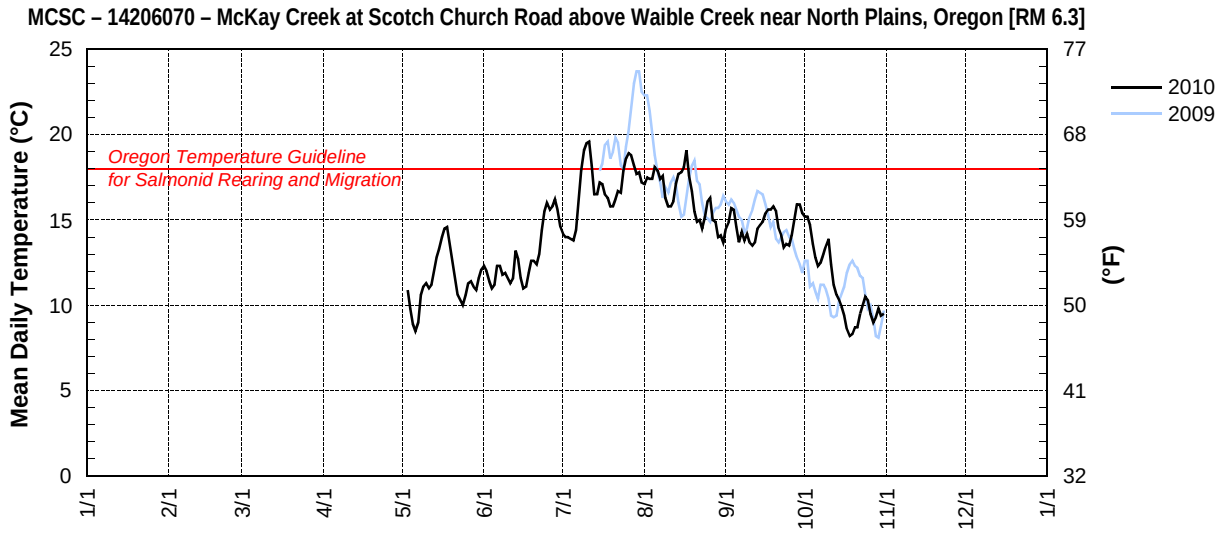


MCSC – 14206070 – MCKAY CREEK AT SCOTCH CHURCH ROAD ABOVE WAIBLE CREEK NEAR NORTH PLAINS, OREGON [RM 6.3]

Latitude: 45 57 21 Longitude: 122 99 18 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Mean Daily Water Temperature in Degrees Celsius											
	JAN	FEB	MAR	APR	MAY*	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1						12.3	14.2	17.1	14.5	15.2		
2						12.0	14.0	17.5	14.9	15.2		
3					10.9	11.4	14.0	17.4	15.7	14.7		
4					9.8	11.0	13.9	17.4	15.6	13.6		
5					8.9	11.2	13.8	18.1	14.6	12.8		
6					8.5	12.3	14.4	17.9	13.7	12.3		
7					9.0	12.3	16.2	17.4	14.3	12.5		
8					10.6	11.8	17.9	17.6	13.8	13.0		
9					11.1	11.9	19.1	16.3	14.2	13.5		
10					11.3	11.6	19.5	15.8	13.7	13.9		
11					11.0	11.3	19.6	15.8	13.5	12.4		
12					11.2	11.6	18.2	16.1	13.7	11.2		
13					12.0	13.2	16.5	17.1	14.5	10.6		
14					12.8	12.7	16.5	17.7	14.7	10.3		
15					13.3	11.6	17.2	17.8	14.9	9.9		
16					14.0	11.0	17.1	18.1	15.4	9.4		
17					14.5	11.1	16.5	19.1	15.6	8.6		
18					14.6	11.9	16.3	17.6	15.6	8.2		
19					13.6	12.6	15.8	16.7	15.8	8.3		
20					12.5	12.6	15.8	15.5	15.5	8.7		
21					11.5	12.4	16.2	14.9	14.5	8.7		
22					10.6	13.0	16.7	15.0	14.1	9.5		
23					10.3	14.4	16.6	14.5	13.4	10.0		
24					10.0	15.5	17.9	15.2	13.6	10.5		
25					10.6	16.0	18.6	16.1	13.5	10.3		
26					11.3	15.6	18.9	16.3	14.1	9.5		
27					11.4	15.8	18.8	15.0	15.0	9.0		
28					11.1	16.2	18.2	14.9	15.9	9.3		
29		—			10.9	15.6	17.7	14.0	15.9	9.8		
30		—			11.6	14.6	17.8	14.1	15.4	9.4		
31		—		—	12.1	—	17.2	13.7	—	9.5	—	
MEAN					11.4	12.9	16.8	16.4	14.7	11.0		
MAX					14.6	16.2	19.6	19.1	15.9	15.2		
MIN					8.5	11.0	13.8	14.0	13.4	8.2		

* Incomplete record (monthly statistics computed when at least 80% of the record was complete for the month)

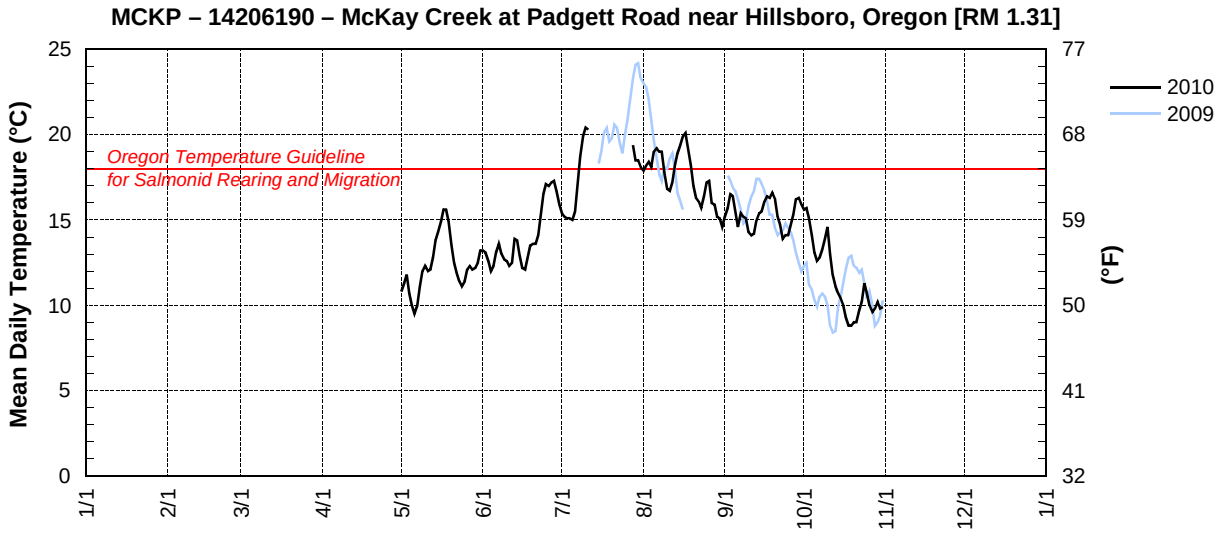


MCKP – 14206190 – MCKAY CREEK AT PADGETT ROAD NEAR HILLSBORO, OREGON [RM 1.31]

Latitude: 45 31 57 Longitude: 123 00 16 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Mean Daily Water Temperature in Degrees Celsius											
	JAN	FEB	MAR	APR	MAY	JUN	JUL*	AUG	SEP	OCT	NOV	DEC
1					10.8	13.2	15.4	17.9	15.2	15.6		
2					11.3	13.1	15.2	18.2	15.7	15.7		
3					11.8	12.6	15.1	18.4	16.5	15.1		
4					10.7	12.0	15.1	18.1	16.4	14.1		
5					10.0	12.3	15.0	19.0	15.5	13.1		
6					9.5	13.1	15.5	19.2	14.6	12.6		
7					10.0	13.6	17.1	19.0	15.4	12.8		
8					11.1	13.0	18.7	19.0	15.2	13.3		
9					12.0	12.7	19.9	17.8	15.1	13.9		
10					12.3	12.6	20.4	16.8	14.3	14.6		
11					12.0	12.3	20.4	16.7	14.1	13.0		
12					12.1	12.5		17.2	14.2	11.8		
13					12.8	13.9		18.2	15.0	11.1		
14					13.8	13.8		18.9	15.4	10.7		
15					14.3	12.9		19.4	15.5	10.4		
16					14.9	12.2		19.9	16.1	10.0		
17					15.6	12.1		20.1	16.4	9.3		
18					15.6	12.8		19.2	16.3	8.8		
19					14.9	13.5		18.2	16.6	8.8		
20					13.5	13.6		17.0	16.2	9.0		
21					12.5	13.6		16.3	15.2	9.0		
22					11.9	14.1		16.1	14.7	9.7		
23					11.4	15.3		15.7	13.9	10.2		
24					11.1	16.5		16.4	14.1	11.3		
25					11.4	17.1		17.2	14.1	10.7		
26					12.1	17.0		17.3	14.7	10.0		
27					12.3	17.2		16.0	15.3	9.6		
28					12.1	17.3	19.4	15.9	16.2	9.8		
29					12.2	16.7	18.5	15.2	16.3	10.2		
30		—			12.5	15.9	18.5	15.1	15.9	9.8		
31		—		—	13.2	—	18.1	14.6	—	9.9	—	
MEAN					12.3	14.0	17.5	17.6	15.3	11.4		
MAX					15.6	17.2	20.4	20.1	16.6	15.7		
MIN					9.5	12.0	15.0	14.6	14.1	8.8		

* Incomplete record (monthly statistics computed when at least 80% of the record was complete for the month)



UNITED STATES DEPARTMENT OF THE INTERIOR – GEOLOGICAL SURVEY — OREGON WATER SCIENCE CENTER

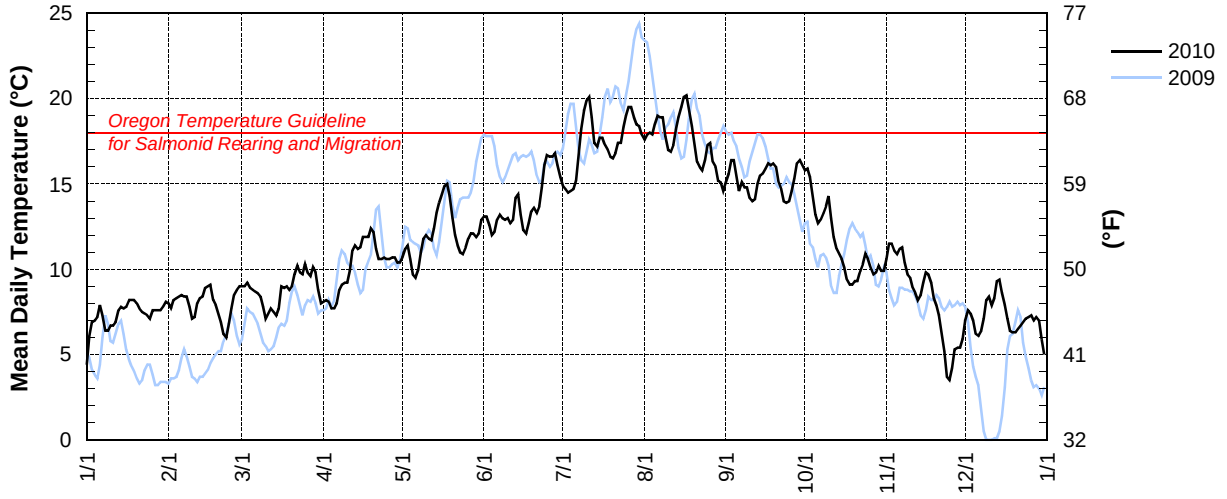
STATION NUMBER 453113123003501* DAIRY CREEK AT HWY 8, HILLSBORO, OR

LATITUDE: 453113.40 LONGITUDE: 1230035.31

Day	2010 Mean Daily Water Temperature in Degrees Celsius											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT†	NOV†	DEC†
1	4.4	8.0	9.0	8.1	10.7	13.1	14.9	17.6	15.1	15.8	10.5	7.0
2	6.1	7.7	9.0	8.2	11.2	13.1	14.7	17.9	15.6	15.9	11.5	7.6
3	6.9	8.2	9.2	8.1	11.4	12.6	14.5	18.0	16.4	15.4	11.5	7.4
4	7.0	8.3	9.0	7.7	10.6	12.1	14.7	17.9	16.4	14.3	11.1	7.0
5	7.2	8.4	8.8	7.7	9.7	12.2	14.8	18.5	15.5	13.3	10.9	6.3
6	7.9	8.5	8.7	8.0	9.5	12.9	15.2	19.0	14.6	12.7	11.2	6.1
7	7.3	8.4	8.6	8.8	10.0	13.2	16.5	18.9	15.1	12.9	11.3	6.4
8	6.4	8.4	8.4	9.1	11.0	13.0	18.2	18.9	14.8	13.3	10.5	7.1
9	6.4	7.8	7.8	9.2	11.8	12.9	19.3	17.9	14.8	13.7	9.7	8.2
10	6.7	7.1	7.1	9.2	12.0	13.0	19.9	17.0	14.2	14.3	9.5	8.4
11	6.7	7.2	7.4	9.8	11.8	12.7	20.1	16.9	14.0	13.1	8.9	7.9
12	6.9	8.0	7.7	11.1	11.7	12.9	19.0	17.3	14.1	11.9	8.6	8.3
13	7.6	8.3	7.5	11.4	12.3	14.2	17.4	18.2	15.0	11.2	8.3	9.3
14	7.8	8.4	7.3	11.2	13.3	14.4	17.2	18.9	15.5	10.9	8.5	9.4
15	7.7	8.9	7.7	11.3	13.9	13.2	17.7	19.5	15.6	10.6	9.2	8.7
16	7.8	9.0	9.0	11.9	14.4	12.3	17.8	20.1	15.9	10.1	9.8	7.9
17	8.2	9.2	8.9	11.9	14.9	12.1	17.3	20.2	16.2	9.5	9.7	7.1
18	8.2	8.2	9.0	11.9	15.0	12.6	17.0	19.4	16.1	9.1	9.2	6.4
19	8.2	7.9	8.8	12.4	14.3	13.4	16.6	18.4	16.2	9.1	8.3	6.3
20	8.0	7.5	9.0	12.2	13.0	13.6	16.5	17.3	16.1	9.3	7.9	6.3
21	7.7	6.9	9.7	11.2	12.1	13.3	16.8	16.4	15.1	9.3	7.3	6.5
22	7.5	6.3	10.2	10.6	11.4	13.6	17.4	16.0	14.7	9.9	6.3	6.7
23	7.4	6.0	9.8	10.7	11.0	14.8	17.4	15.8	14.0	10.3	5.3	6.9
24	7.3	6.7	9.7	10.7	10.9	16.0	18.3	16.4	13.9	10.9	3.7	7.1
25	7.1	7.7	10.3	10.6	11.3	16.7	19.0	17.2	14.0	10.6	3.5	7.2
26	7.6	8.5	9.9	10.6	11.8	16.6	19.5	17.4	14.6	10.1	4.2	7.3
27	7.6	8.8	9.6	10.7	12.1	16.6	19.5	16.3	15.3	9.7	5.3	7.0
28	7.6	9.0	10.1	10.7	12.1	16.8	19.0	16.0	16.2	9.8	5.4	7.2
29	7.6	—	9.9	10.4	11.9	16.2	18.5	15.3	16.4	10.2	5.4	7.0
30	7.8	—	8.8	10.4	12.1	15.4	18.4	15.1	16.1	10.0	5.9	6.0
31	8.1	—	8.0	—	12.9	—	17.9	14.6	—	9.9	—	5.0
MEAN	7.3	8.0	8.8	10.2	12.0	13.9	17.4	17.6	15.3	11.5	8.3	7.2
MAX	8.2	9.2	10.3	12.4	15.0	16.8	20.1	20.2	16.4	15.9	11.5	9.4
MIN	4.4	6.0	7.1	7.7	9.5	12.1	14.5	14.6	13.9	9.1	3.5	5.0

† Provisional data–subject to revision

DAIRY – 453113123003501* – Dairy Creek at Hwy 8 near Hillsboro, Oregon [RM 2.06]

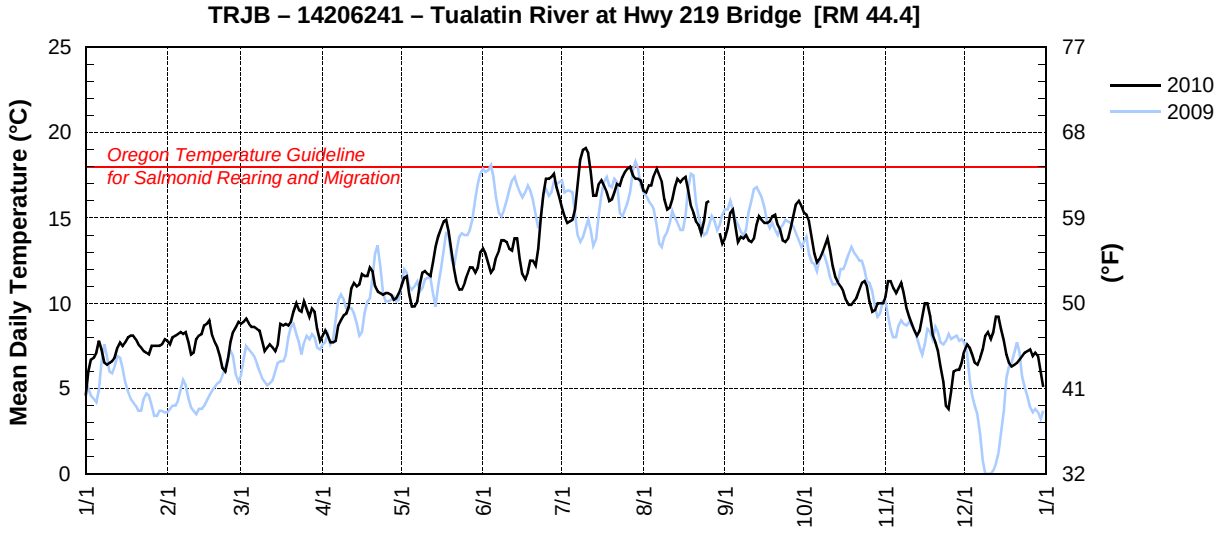


*USGS #453113123003501 is equivalent to OWRD #14206200.

TRJB – 14206241 – TUALATIN RIVER AT HWY 219 BRIDGE [RM 44.4]

Latitude: 45 30 01 Longitude: 122 59 24 Source Agency: Jackson Bottom Wetland Education Center

Day	2010 Mean Daily Water Temperature in Degrees Celsius											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	4.6	7.8	8.8	8.1	11.0	13.2	15.6	16.6	13.8	15.3	10.4	7.2
2	6.0	7.6	8.9	8.4	11.5	12.9	15.1	16.5	14.4	15.2	11.3	7.6
3	6.7	8.0	9.1	8.1	11.6	12.3	14.7	16.9	15.3	14.8	11.3	7.4
4	6.8	8.1	8.8	7.7	10.5	11.8	14.8	16.9	15.5	13.8	10.9	7.0
5	7.1	8.2	8.6	7.7	9.8	12.0	14.9	17.5	14.6	12.9	10.6	6.5
6	7.8	8.3	8.6	7.8	9.8	12.7	15.5	17.9	13.6	12.4	10.9	6.4
7	7.3	8.2	8.5	8.7	10.1	13.1	16.9	17.5	13.9	12.6	11.2	6.8
8	6.5	8.3	8.4	9.0	11.1	13.7	18.4	17.1	13.8	13.0	10.6	7.3
9	6.4	7.7	7.8	9.3	11.8	13.7	19.0	16.1	14.0	13.4	9.7	8.1
10	6.5	7.0	7.2	9.4	11.9	13.6	19.1	15.5	13.7	13.8	9.2	8.3
11	6.6	7.1	7.4	9.8	11.7	13.2	18.8	15.6	13.6	13.1	8.8	7.9
12	6.8	7.9	7.6	10.9	11.6	13.1	17.7	16.1	13.8	12.2	8.4	8.3
13	7.4	8.1	7.4	11.2	12.4	13.8	16.3	16.8	14.6	11.5	8.1	9.2
14	7.7	8.2	7.2	11.0	13.3	13.8	16.3	17.3	15.1	11.2	8.4	9.2
15	7.5	8.7	7.6	11.1	13.9	12.6	17.0	17.1	14.9	11.0	9.2	8.5
16	7.7	8.8	8.8	11.7	14.4	11.7	17.2	17.3	14.7	10.7	10.0	7.8
17	8.0	9.0	8.7	11.6	14.8	11.4	16.9	17.4	14.7	10.2	10.0	7.0
18	8.1	8.1	8.8	11.6	14.9	11.8	16.5	16.7	14.8	9.9	9.2	6.5
19	8.1	7.7	8.7	12.1	14.2	12.5	16.0	15.7	15.1	9.9	8.1	6.3
20	7.9	7.4	8.9	11.9	13.0	12.5	16.1	15.3	15.2	10.1	7.7	6.4
21	7.6	6.9	9.5	11.0	12.0	12.2	16.5	14.8	14.6	10.3	7.2	6.5
22	7.4	6.2	10.0	10.7	11.2	13.2	17.0	14.6	14.3	10.8	6.3	6.7
23	7.2	6.0	9.6	10.6	10.8	15.0	16.9	14.1	13.7	11.2	5.4	6.9
24	7.1	6.7	9.5	10.5	10.8	16.4	17.4	14.8	13.6	11.3	4.0	7.1
25	7.0	7.7	10.1	10.6	11.2	17.3	17.7	15.9	13.8	11.0	3.8	7.2
26	7.5	8.3	9.7	10.6	11.7	17.3	17.9	16.0	14.4	10.1	4.8	7.3
27	7.5	8.6	9.2	10.5	12.1	17.4	18.0	0.0	15.1	9.5	6.0	6.9
28	7.5	8.9	9.7	10.2	12.1	17.6	17.5	0.0	15.8	9.6	6.1	7.1
29	7.5	—	9.5	10.3	11.8	16.8	17.3	0.0	16.0	10.0	6.1	6.9
30	7.6	—	8.5	10.6	12.1	16.2	17.3	14.1	15.7	10.0	6.5	6.0
31	7.9	—	7.8	—	13.0	—	17.2	13.5	—	10.0	—	5.1
MEAN	7.2	7.8	8.7	10.1	12.0	13.8	16.9	14.6	14.5	11.6	8.3	7.2
MAX	8.1	9.0	10.1	12.1	14.9	17.6	19.1	17.9	16.0	15.3	11.3	9.2
MIN	4.6	6.0	7.2	7.7	9.8	11.4	14.7	0.0	13.6	9.5	3.8	5.1

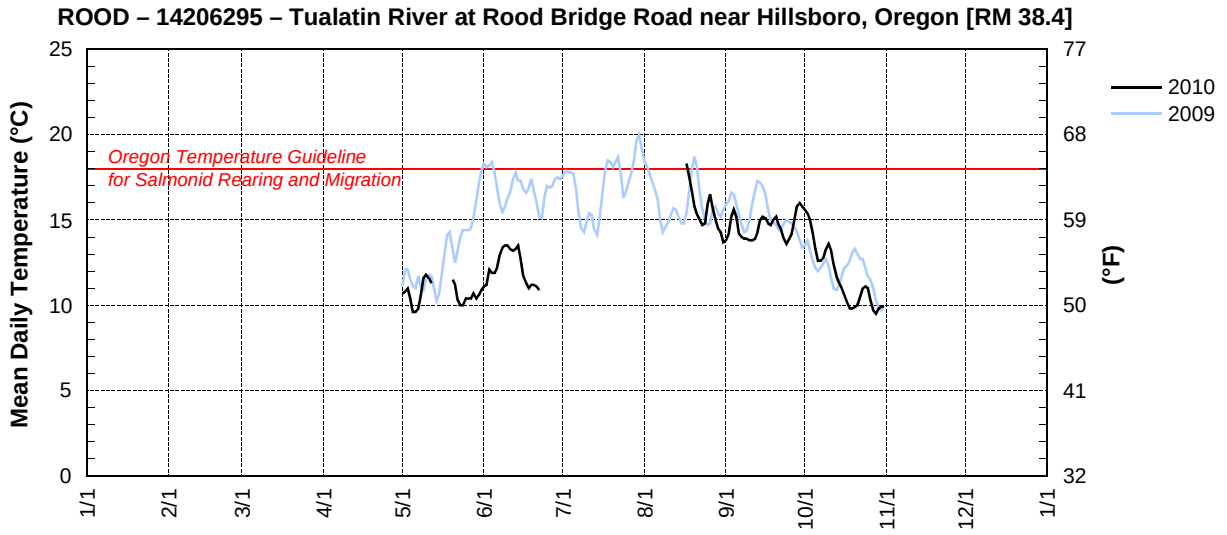


ROOD – 14206295 – TUALATIN RIVER AT ROOD BRIDGE ROAD NEAR HILLSBORO, OREGON [RM 38.4]

Latitude: 45 30 38 Longitude: 123 06 56 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Mean Daily Water Temperature in Degrees Celsius											
	JAN	FEB	MAR	APR	MAY*	JUN*	JUL*	AUG*	SEP	OCT	NOV	DEC
1					10.7	11.1			13.8	15.6		
2					10.8	11.2			14.2	15.4		
3					11.0	12.1			15.2	15.0		
4					10.4	11.9			15.6	14.2		
5					9.6	11.9			15.2	13.3		
6					9.6	12.2			14.2	12.6		
7					9.8	13.0			14.0	12.6		
8					10.6	13.4			13.9	12.8		
9					11.6	13.5			13.9	13.3		
10					11.8	13.5			13.8	13.6		
11					11.6	13.3			13.8	13.2		
12					e11.3	13.2			13.9	12.4		
13						13.3			14.3	11.7		
14						13.5			15.0	11.3		
15						12.7			15.2	11.0		
16						11.7			15.1	10.6		
17						11.3		e18.3	14.8	10.2		
18						11.0		17.6	14.7	9.8		
19						11.2		16.7	15.0	9.8		
20					e11.5	11.2		15.8	15.2	9.9		
21					11.2	11.1		15.3	14.7	10.0		
22					10.3	e10.9		15.0	14.4	10.5		
23					10.0			14.7	13.9	11.0		
24					10.0			14.8	13.6	11.1		
25					10.4			15.9	13.9	11.0		
26					10.4			16.5	14.2	10.3		
27					10.4			15.7	15.0	9.7		
28					10.7			15.0	15.8	9.5		
29		—			10.4			14.5	16.0	9.8		
30		—			10.6			14.3	15.8	9.9		
31		—		—	10.9	—		13.7	—	9.9	—	
MEAN					10.7				14.6	11.6		
MAX					11.8				16.0	15.6		
MIN					e9.6				13.6	9.5		

* Incomplete record (monthly statistics computed when at least 80% of the record was complete for the month); e=estimated value



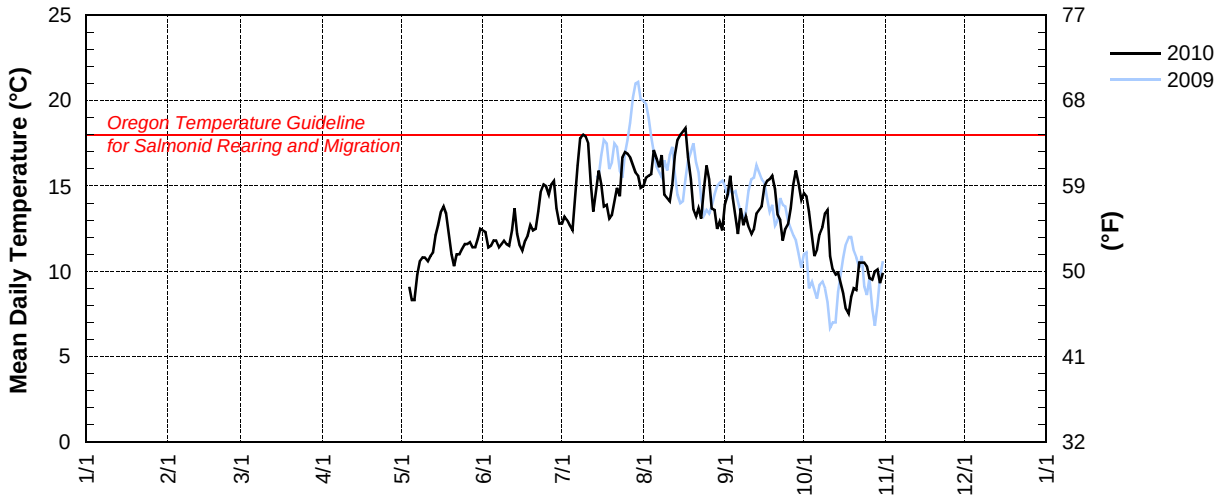
RCRR – 14206305 – ROCK CREEK AT ROCK CREEK ROAD NEAR BOWERS JUNCTION, OREGON [RM 15.8]

Latitude: 45 37 04 Longitude: 122 53 13 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Mean Daily Water Temperature in Degrees Celsius											
	JAN	FEB	MAR	APR	MAY*	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1						12.4	12.8	15.0	13.9	14.6		
2						12.3	13.2	15.5	14.5	14.4		
3						11.4	13.0	15.6	15.6	13.5		
4					e9.1	11.5	12.7	15.7	14.3	12.1		
5					8.3	11.8	12.4	17.1	13.2	10.9		
6					8.3	11.8	14.1	16.6	12.2	11.3		
7					9.8	11.4	16.2	16.1	13.7	12.2		
8					10.6	11.6	17.8	16.8	12.7	12.6		
9					10.8	11.8	18.0	14.5	13.2	13.4		
10					10.8	11.6	17.9	14.3	12.6	13.6		
11					10.6	11.5	17.5	14.1	12.2	10.9		
12					10.9	12.4	15.2	15.1	12.5	10.1		
13					11.1	13.7	13.5	16.8	13.4	9.8		
14					12.1	12.2	14.8	17.7	13.6	9.9		
15					12.7	11.5	15.9	18.0	13.8	9.3		
16					13.5	11.2	15.1	18.2	15.0	8.7		
17					13.8	11.8	13.8	18.4	15.3	7.8		
18					13.4	12.1	13.9	16.7	15.4	7.5		
19					12.2	12.7	13.1	15.4	15.6	8.5		
20					11.0	12.4	13.3	13.6	14.8	9.0		
21					10.3	12.5	14.1	13.2	13.3	8.9		
22					11.0	13.5	14.9	13.7	13.0	10.5		
23					11.0	14.7	14.4	13.1	11.8	10.5		
24					11.3	15.1	16.7	14.9	12.5	10.5		
25					11.6	15.0	17.0	16.2	12.8	10.3		
26					11.6	14.5	16.9	15.4	13.7	9.6		
27					11.7	15.1	16.7	13.7	15.1	9.5		
28					11.4	15.3	16.2	13.6	15.9	10.0		
29		—			11.4	13.7	15.8	12.5	15.1	10.1		
30		—			11.9	12.8	15.6	12.9	14.2	9.3		
31		—		—	12.5	—	14.9	12.4	—	9.9		
MEAN					11.2	12.7	15.1	15.3	13.8	10.6		
MAX					13.8	15.3	18.0	18.4	15.9	14.6		
MIN					8.3	11.2	12.4	12.4	11.8	7.5		

* Incomplete record (monthly statistics computed when at least 80% of the record was complete for the month); e=estimated value

RCRR – 14206305 – Rock Creek at Rock Creek Road near Bowers Junction, Oregon [RM 15.8]

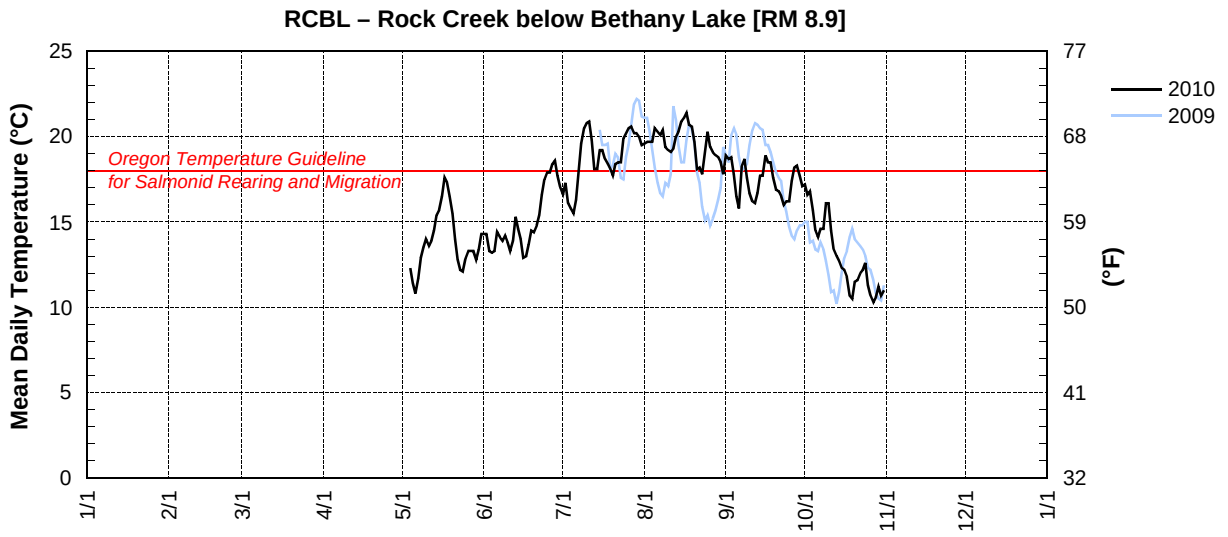


RCBL – ROCK CREEK BELOW BETHANY LAKE [RM 8.9]

Latitude: 45 33 21 Longitude: 122 52 25 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Mean Daily Water Temperature in Degrees Celsius											
	JAN	FEB	MAR	APR	MAY*	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1						14.3	16.6	19.6	18.9	17.2		
2						14.3	17.3	19.7	18.7	16.6		
3						13.3	16.1	19.7	18.8	16.8		
4					e12.3	13.2	15.8	19.7	17.8	15.7		
5					11.4	13.3	15.5	20.5	16.5	14.5		
6					10.8	14.4	16.3	20.3	15.8	14.1		
7					11.7	14.1	18.1	20.1	18.3	14.6		
8					12.9	13.9	19.6	20.4	18.7	14.6		
9					13.5	14.2	20.5	19.4	17.6	16.1		
10					14.0	13.8	20.8	19.2	16.7	16.1		
11					13.6	13.3	20.9	19.1	16.2	14.5		
12					13.9	13.9	19.8	19.3	16.1	13.4		
13					14.5	15.3	18.1	20.0	16.7	13.0		
14					15.4	14.6	18.1	20.3	17.7	12.7		
15					15.7	14.0	19.2	20.9	17.7	12.3		
16					16.5	12.9	19.2	21.1	18.9	12.2		
17					17.6	13.0	18.7	21.4	18.5	11.8		
18					17.3	13.7	18.4	20.7	18.5	10.7		
19					16.5	14.5	18.1	20.6	17.6	10.5		
20					15.5	14.4	17.7	19.7	16.9	11.5		
21					14.0	14.8	18.4	18.1	16.8	11.6		
22					12.8	15.4	18.5	18.2	16.5	12.0		
23					12.2	16.6	18.5	17.8	16.0	12.2		
24					12.1	17.5	19.9	19.1	16.2	12.6		
25					12.9	17.9	20.2	20.3	16.2	11.3		
26					13.3	17.9	20.5	19.4	17.4	10.7		
27					13.3	18.4	20.6	19.1	18.2	10.3		
28					13.3	18.6	20.2	18.9	18.3	10.6		
29		—			12.8	17.7	20.2	18.8	17.7	11.2		
30		—			13.4	17.0	20.0	18.5	17.1	10.7		
31		—		—	14.3	—	19.5	17.8	—	11.0		
MEAN					13.8	15.0	18.8	19.6	17.4	13.0		
MAX					17.6	18.6	20.9	21.4	18.9	17.2		
MIN					10.8	12.9	15.5	17.8	15.8	10.3		

* Incomplete record (monthly statistics computed when at least 80% of the record was complete for the month); e=estimated value

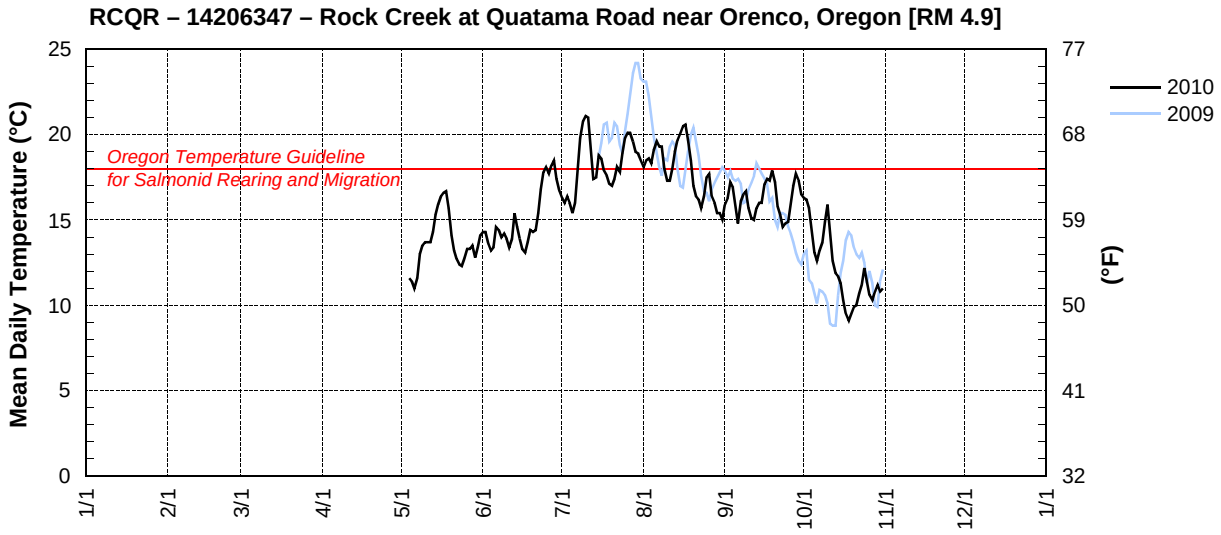


RCQR – 14206347 – ROCK CREEK AT QUATAMA ROAD NEAR ORENCO, OREGON [RM 4.9]

Latitude: 45 31 25 Longitude: 122 54 34 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Mean Daily Water Temperature in Degrees Celsius											
	JAN	FEB	MAR	APR	MAY*	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1						14.3	16.3	18.1	15.9	16.3		
2						14.3	16.0	18.5	16.3	16.2		
3						13.6	16.4	18.6	17.2	15.7		
4					e11.6	13.2	16.0	18.3	16.9	14.4		
5					11.4	13.4	15.4	19.1	15.9	13.1		
6					11.0	14.6	16.0	19.6	14.8	12.6		
7					11.6	14.4	18.0	19.3	16.1	13.2		
8					13.0	14.0	19.8	19.3	16.5	13.7		
9					13.5	14.2	20.8	18.0	16.7	14.9		
10					13.7	13.9	21.1	17.3	15.7	15.9		
11					13.7	13.4	21.0	17.3	15.1	14.2		
12					13.7	13.9	19.3	18.0	15.0	12.6		
13					14.3	15.4	17.4	19.0	15.7	11.9		
14					15.3	14.6	17.5	19.7	16.0	11.7		
15					15.9	13.9	18.8	20.1	16.0	11.3		
16					16.4	13.3	18.6	20.5	17.1	10.3		
17					16.6	13.1	17.9	20.6	17.4	9.5		
18					16.7	13.7	17.6	19.7	17.3	9.1		
19					15.7	14.4	17.1	18.5	17.9	9.5		
20					14.1	14.3	17.0	17.0	17.2	9.9		
21					13.2	14.4	17.4	16.4	15.8	10.0		
22					12.7	15.4	18.1	16.2	15.3	10.7		
23					12.4	16.8	17.8	15.7	14.6	11.2		
24					12.3	17.8	18.9	16.4	14.8	12.2		
25					12.8	18.1	19.8	17.5	14.9	11.4		
26					13.3	17.7	20.1	17.7	15.9	10.6		
27					13.3	18.2	20.1	16.4	17.0	10.3		
28					13.5	18.5	19.6	16.0	17.7	10.8		
29		—			12.8	17.4	19.0	15.4	17.3	11.2		
30		—			13.4	16.7	18.9	15.4	16.5	10.8		
31		—		—	14.1	—	18.5	15.0	—	11.0	—	
MEAN					13.6	15.0	18.3	17.9	16.2	12.1		
MAX					16.7	18.5	21.1	20.6	17.9	16.3		
MIN					11.0	13.1	15.4	15.0	14.6	9.1		

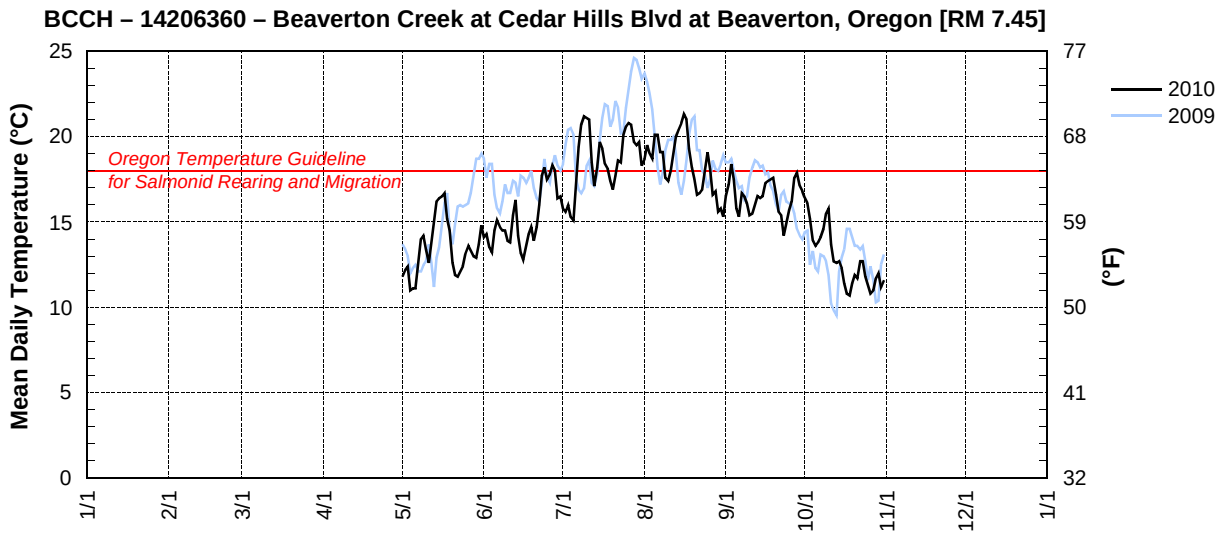
* Incomplete record (monthly statistics computed when at least 80% of the record was complete for the month); e=estimated value



BCCH – 14206360 – BEAVERTON CREEK AT CEDAR HILLS BLVD AT BEAVERTON, OREGON [RM 7.45]

Latitude: 45 49 31 Longitude: 122 81 05 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Mean Daily Water Temperature in Degrees Celsius											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1					11.8	14.1	15.8	18.7	16.5	16.4		
2					12.2	14.3	15.6	19.5	17.2	16.1		
3					12.4	13.5	16.0	19.0	18.4	15.2		
4					11.0	13.2	15.3	18.7	17.5	13.9		
5					11.1	14.5	15.1	20.1	15.8	13.6		
6					11.1	15.1	17.2	20.1	15.3	13.8		
7					12.6	14.7	19.4	19.1	16.7	14.1		
8					14.0	14.5	20.7	19.1	16.5	14.6		
9					14.2	14.5	21.2	17.6	16.1	15.5		
10					13.4	13.9	21.1	17.4	15.4	15.8		
11					12.6	13.8	21.0	18.0	15.5	13.7		
12					13.8	15.4	18.5	19.0	16.0	12.7		
13					15.0	16.3	17.1	20.0	16.5	12.6		
14					16.2	14.2	18.2	20.4	16.4	12.7		
15					16.4	13.2	19.7	20.8	16.5	12.3		
16					16.5	12.8	19.3	21.3	17.3	11.4		
17					16.7	13.6	18.4	21.0	17.4	10.8		
18					15.2	14.3	18.1	19.3	17.5	10.7		
19					14.5	14.7	17.4	18.2	17.6	11.4		
20					12.6	13.9	16.9	17.5	16.6	11.9		
21					11.9	14.7	17.7	16.6	15.6	11.7		
22					11.8	16.0	18.6	16.7	15.4	12.7		
23					12.1	17.7	18.5	16.9	14.2	12.7		
24					12.4	18.2	20.1	18.0	14.9	11.8		
25					13.2	17.5	20.6	19.1	15.7	11.3		
26					13.6	17.8	20.8	18.1	16.2	10.8		
27					13.3	18.3	20.7	16.6	17.6	11.0		
28					13.0	18.0	19.7	16.8	17.9	11.7		
29		—			12.9	16.4	19.5	15.6	17.1	12.0		
30		—			13.7	16.5	19.7	15.8	16.8	11.2		
31		—		—	14.8	—	18.3	15.3	—	11.6	—	
MEAN					13.4	15.2	18.6	18.4	16.5	12.8		
MAX					16.7	18.3	21.2	21.3	18.4	16.4		
MIN					11.0	12.8	15.1	15.3	14.2	10.7		



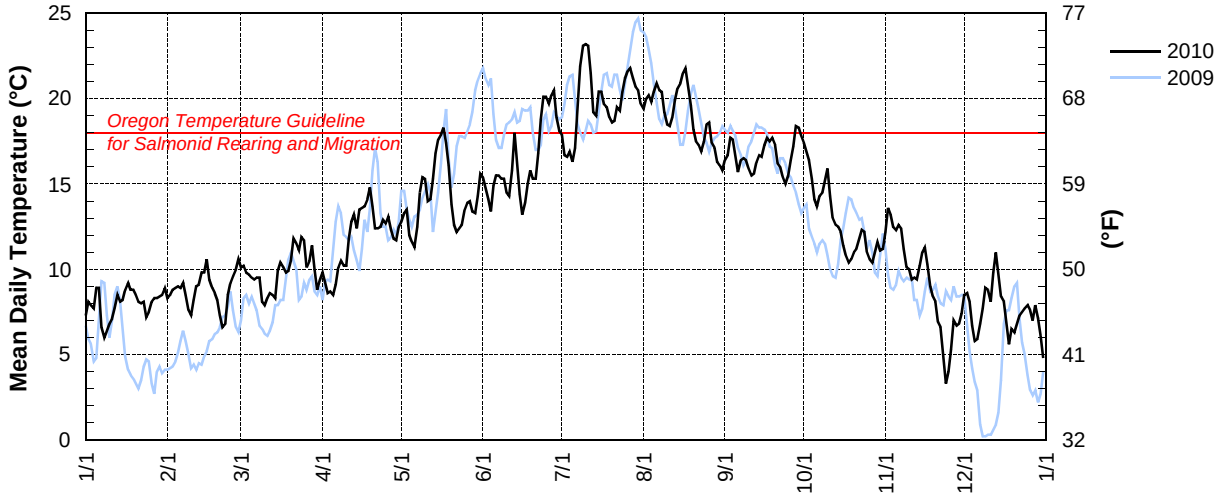
UNITED STATES DEPARTMENT OF THE INTERIOR – GEOLOGICAL SURVEY — OREGON WATER SCIENCE CENTER

STATION NUMBER 453004122510301 BEAVERTON CREEK AT 170TH AVE, BEAVERTON, OR.

LATITUDE: 453004 LONGITUDE: 1225103

Day	2010 Mean Daily Water Temperature in Degrees Celsius											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	7.3	8.3	10.1	9.8	12.8	15.4	18.0	19.4	16.4	17.4	12.2	8.5
2	8.1	8.5	10.2	9.2	13.3	14.8	16.7	20.0	16.7	17.0	13.6	8.6
3	7.9	8.8	9.9	8.7	13.5	14.2	16.6	20.2	17.7	16.4	13.2	8.1
4	7.7	8.9	9.7	8.7	12.1	13.5	16.9	19.8	17.7	15.3	12.6	6.7
5	8.8	9.0	9.5	8.5	11.6	14.8	16.3	20.4	16.6	14.1	12.3	5.8
6	9.0	9.0	9.4	9.1	11.3	15.5	17.1	20.9	15.7	13.8	12.6	5.8
7	6.6	9.2	9.5	10.1	12.4	15.5	19.7	20.5	16.4	14.3	12.4	6.8
8	6.0	8.5	9.5	10.5	14.5	15.3	21.8	20.4	16.5	14.5	11.3	7.7
9	6.4	7.6	8.1	10.2	15.4	15.4	23.1	19.2	16.4	15.2	10.1	8.9
10	6.8	7.3	8.0	10.2	15.3	14.5	23.2	18.5	15.9	15.9	10.1	8.8
11	7.1	8.2	8.3	11.7	14.0	14.3	23.1	18.3	15.5	14.3	9.4	8.2
12	7.7	9.0	8.7	12.8	14.1	15.7	21.6	18.9	15.6	13.1	9.5	9.8
13	8.5	9.1	8.5	13.2	15.3	18.0	19.2	19.9	16.3	12.6	9.4	11.0
14	8.1	9.8	8.3	12.4	16.8	16.2	19.0	20.6	16.7	12.5	10.2	9.8
15	8.2	9.8	9.9	13.5	17.6	14.5	20.4	20.9	16.6	12.2	11.0	8.4
16	8.8	10.6	10.4	13.6	18.0	13.2	20.5	21.5	17.3	11.4	11.3	8.1
17	9.2	9.4	10.1	13.7	18.3	13.9	19.8	21.8	17.7	10.8	10.4	6.8
18	8.8	8.9	9.8	14.1	17.4	15.0	19.5	20.8	17.5	10.4	9.1	5.7
19	8.8	8.7	9.9	14.8	16.2	15.8	18.9	19.7	17.7	10.6	8.4	6.5
20	8.5	8.2	10.5	13.7	13.8	15.3	18.6	18.2	17.3	11.0	8.1	6.3
21	8.1	7.3	11.8	12.4	12.7	15.2	18.7	17.5	16.2	11.2	6.9	6.8
22	8.0	6.6	11.5	12.4	12.2	16.7	19.5	17.3	16.0	11.8	6.6	7.2
23	8.1	6.8	11.1	12.5	12.4	18.8	19.3	16.9	15.4	12.3	5.0	7.5
24	7.2	8.4	11.8	12.9	12.6	20.1	20.4	17.5	15.0	12.2	3.3	7.7
25	7.5	9.2	11.7	12.7	13.5	20.2	21.2	18.5	15.5	11.0	4.0	7.9
26	8.1	9.6	10.1	13.1	13.9	19.7	21.6	18.6	16.4	10.6	5.3	7.6
27	8.3	10.0	10.5	12.3	14.0	20.2	21.8	17.4	17.2	10.4	7.0	7.0
28	8.3	10.6	11.4	11.8	13.4	20.6	21.3	17.1	18.4	11.0	6.7	7.9
29	8.4	—	10.0	11.7	13.3	19.0	20.7	16.3	18.3	11.6	6.8	7.2
30	8.5	—	8.8	12.4	14.3	18.1	20.5	16.1	17.8	11.1	7.3	6.2
31	8.9	—	9.3	—	15.6	—	19.7	15.8	—	11.1	—	4.8
MEAN	8.0	8.8	9.9	11.8	14.2	16.3	19.8	19.0	16.7	12.8	9.2	7.6
MAX	9.2	10.6	11.8	14.8	18.3	20.6	23.2	21.8	18.4	17.4	13.6	11.0
MIN	6.0	6.6	8.0	8.5	11.3	13.2	16.3	15.8	15.0	10.4	3.3	4.8

B170 – Beaverton Creek at 170th Ave, Beaverton, Oregon [RM 4.9]



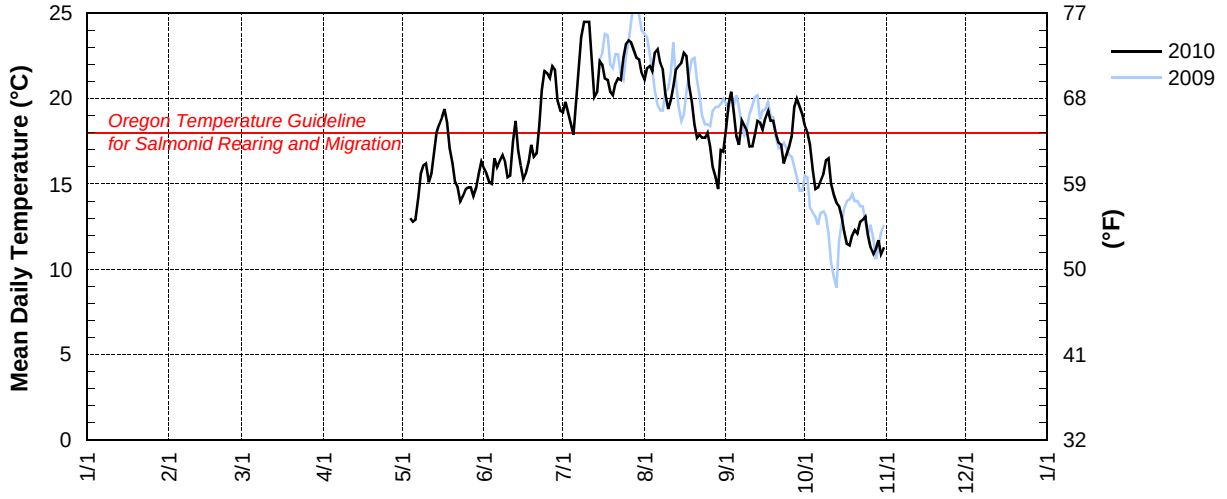
WC143 – 14206410 – WILLOW CREEK AT 143RD AVENUE NEAR BEAVERTON, OREGON [RM 3.5]

Latitude: 45 32 12 Longitude: 122 49 24 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Mean Daily Water Temperature in Degrees Celsius											
	JAN	FEB	MAR	APR	MAY*	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1						15.9	19.2	21.1	18.1	18.4		
2						15.6	19.8	21.8	19.7	18.0		
3						15.1	19.2	21.9	20.4	17.3		
4					e13.0	15.0	18.6	21.6	19.2	15.8		
5					12.8	16.5	17.9	22.7	17.8	14.7		
6					12.9	16.0	19.6	22.9	17.3	14.8		
7					14.2	16.4	21.7	22.1	18.7	15.2		
8					15.6	16.7	23.6	21.7	18.4	15.6		
9					16.1	16.3	24.5	20.3	18.1	16.4		
10					16.2	15.4	24.5	19.4	17.2	16.5		
11					15.1	15.5	24.5	19.9	17.2	15.0		
12					15.6	17.5	22.2	20.7	17.9	14.4		
13					16.8	18.7	20.1	21.7	18.7	13.9		
14					18.0	17.0	20.4	21.9	18.6	13.7		
15					18.5	16.1	22.2	22.1	18.2	13.1		
16					18.9	15.3	22.0	22.7	18.9	12.2		
17					19.4	15.7	21.2	22.5	19.3	11.5		
18					18.6	16.3	21.1	20.8	18.7	11.4		
19					17.1	17.3	20.4	19.8	18.7	12.0		
20					16.2	16.6	20.2	18.5	17.9	12.3		
21					15.1	16.8	20.9	17.7	17.4	12.1		
22					14.8	18.4	21.2	17.9	17.3	12.8		
23					14.0	20.5	21.1	17.7	16.2	12.9		
24					14.3	21.6	22.4	17.7	16.7	13.1		
25					14.7	21.5	23.2	18.0	17.2	12.0		
26					14.8	21.2	23.4	17.2	17.8	11.3		
27					14.8	21.9	23.3	16.0	19.5	10.9		
28					14.3	21.7	22.8	15.4	20.0	11.2		
29		—			14.8	19.9	22.4	14.7	19.5	11.7		
30		—			15.6	19.3	22.3	17.0	19.1	10.9		
31		—		—	16.3	—	21.5	16.9	—	11.3	—	
MEAN					15.7	17.6	21.5	19.8	18.3	13.6		
MAX					19.4	21.9	24.5	22.9	20.4	18.4		
MIN					12.8	15.0	17.9	14.7	16.2	10.9		

* Incomplete record (monthly statistics computed when at least 80% of the record was complete for the month); e=estimated value

WC143 – 14206410 – Willow Creek at 143rd Avenue near Beaverton, Oregon [RM 3.5]



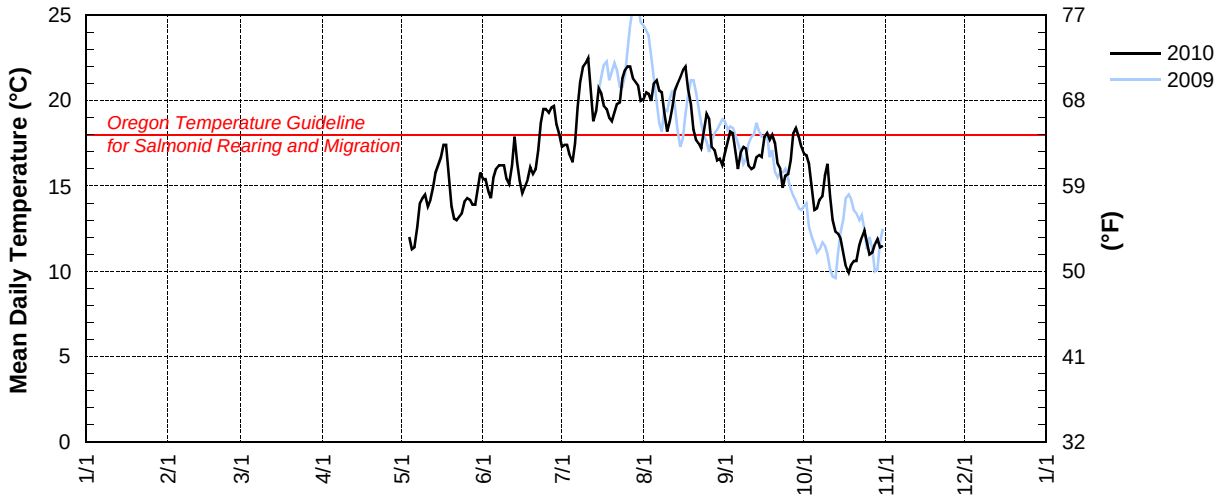
WCHP – 14206413 – WILLOW CREEK AT HERITAGE PARKWAY NEAR BEAVERTON, OREGON [RM 0.75]

Latitude: 45 31 12 Longitude: 122 51 35 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Mean Daily Water Temperature in Degrees Celsius											
	JAN	FEB	MAR	APR	MAY*	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1						15.4	17.3	20.1	16.9	16.9		
2						15.4	17.4	20.5	17.6	16.8		
3						14.7	17.4	20.4	18.2	16.3		
4					e12.0	14.3	16.8	20.0	18.1	14.9		
5					11.3	15.5	16.4	21.0	17.0	13.6		
6					11.4	16.0	17.5	21.2	16.0	13.7		
7					12.6	16.2	19.6	20.6	17.0	14.2		
8					14.0	16.2	21.1	20.5	17.3	14.4		
9					14.3	16.2	22.0	19.3	17.2	15.6		
10					14.5	15.4	22.2	18.2	16.2	16.3		
11					13.8	15.1	22.5	18.8	16.0	14.4		
12					14.2	16.2	20.5	19.6	16.1	13.0		
13					14.9	17.9	18.8	20.6	16.7	12.3		
14					15.8	16.4	19.4	21.0	16.8	12.2		
15					16.2	15.3	20.7	21.4	16.7	11.9		
16					16.7	14.6	20.4	21.8	17.9	11.1		
17					17.4	15.0	19.7	22.0	18.1	10.3		
18					17.4	15.4	19.5	20.7	17.7	9.9		
19					15.8	16.1	19.0	19.8	18.0	10.4		
20					13.8	15.7	18.8	18.3	17.5	10.6		
21					13.1	16.0	19.3	17.7	16.3	10.6		
22					13.0	17.1	19.8	17.5	16.0	11.5		
23					13.2	18.7	19.9	17.2	14.9	12.0		
24					13.4	19.5	21.3	18.3	15.6	12.4		
25					14.1	19.5	21.8	19.2	15.7	11.7		
26					14.3	19.3	22.0	18.9	16.5	11.0		
27					14.2	19.6	22.0	17.3	18.1	11.1		
28					13.9	19.7	21.3	17.1	18.4	11.6		
29		—			13.9	18.6	21.1	16.5	17.9	11.9		
30		—			14.8	18.0	20.9	16.6	17.3	11.4		
31		—		—	15.8	—	20.0	16.2	—	11.5	—	
MEAN					14.3	16.6	19.9	19.3	17.0	12.8		
MAX					17.4	19.7	22.5	22.0	18.4	16.9		
MIN					11.3	14.3	16.4	16.2	14.9	9.9		

* Incomplete record (monthly statistics computed when at least 80% of the record was complete for the month); e=estimated value

WCHP – 14206413 – Willow Creek at Heritage Parkway near Beaverton, Oregon [RM 0.75]



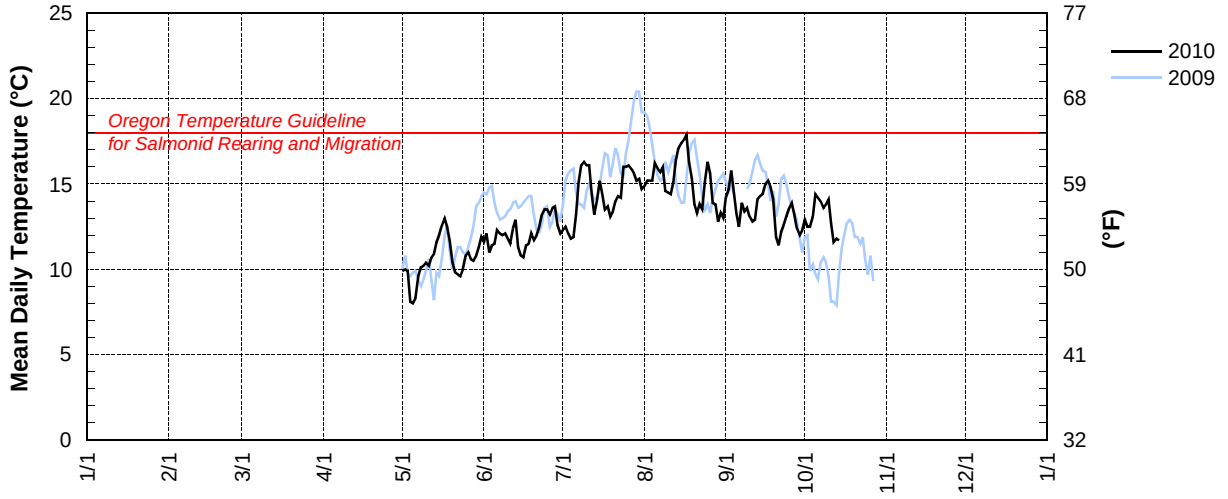
BCSR – 14206419 – BRONSON CREEK AT SALTZMAN ROAD NEAR ORENCO, OREGON [RM 5.1]

Latitude: 45 33 19 Longitude: 122 48 25 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Mean Daily Water Temperature in Degrees Celsius											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT*	NOV	DEC
1					9.9	11.6	12.3	14.9	14.2	12.9		
2					10.0	12.1	12.5	15.2	14.7	12.5		
3					9.9	11.0	12.1	15.2	15.8	12.5		
4					8.1	11.4	11.8	15.2	14.5	13.1		
5					8.0	11.5	11.9	16.2	13.3	14.4		
6					8.3	12.3	13.2	15.9	12.5	14.2		
7					9.6	12.1	15.1	15.7	13.9	14.0		
8					10.1	12.0	16.1	16.0	13.4	13.6		
9					10.2	12.1	16.3	14.6	13.6	13.8		
10					10.4	11.8	16.1	14.5	13.1	14.1		
11					10.2	11.5	16.1	14.4	12.8	12.7		
12					10.7	12.4	14.4	15.1	12.9	11.6		
13					10.9	12.9	13.2	16.4	14.1	11.8		
14					11.6	11.3	14.1	17.1	14.3	e11.7		
15					12.0	10.8	15.2	17.4	14.4			
16					12.6	10.7	14.4	17.6	15.0			
17					13.0	11.4	13.5	17.9	15.2			
18					12.5	11.5	13.7	16.3	14.8			
19					11.7	12.1	13.1	15.3	14.1			
20					10.4	11.7	13.4	13.8	11.9			
21					9.8	12.0	14.0	13.3	11.4			
22					9.7	12.5	14.3	13.8	12.2			
23					9.6	13.2	14.2	13.5	12.6			
24					10.0	13.5	16.0	15.2	13.1			
25					10.8	13.5	16.0	16.3	13.6			
26					11.0	13.2	16.1	15.6	13.9			
27					10.6	13.6	15.9	13.9	13.2			
28					10.5	13.7	15.6	13.8	12.4			
29		—			10.8	12.6	15.2	12.8	12.0			
30		—			11.3	12.1	15.3	13.3	12.3			
31		—		—	11.9	—	14.7	13.0	—		—	
MEAN					10.5	12.1	14.4	15.1	13.5			
MAX					13.0	13.7	16.3	17.9	15.8			
MIN					8.0	10.7	11.8	12.8	11.4			

* Incomplete record (monthly statistics computed when at least 80% of the record was complete for the month); e=estimated value

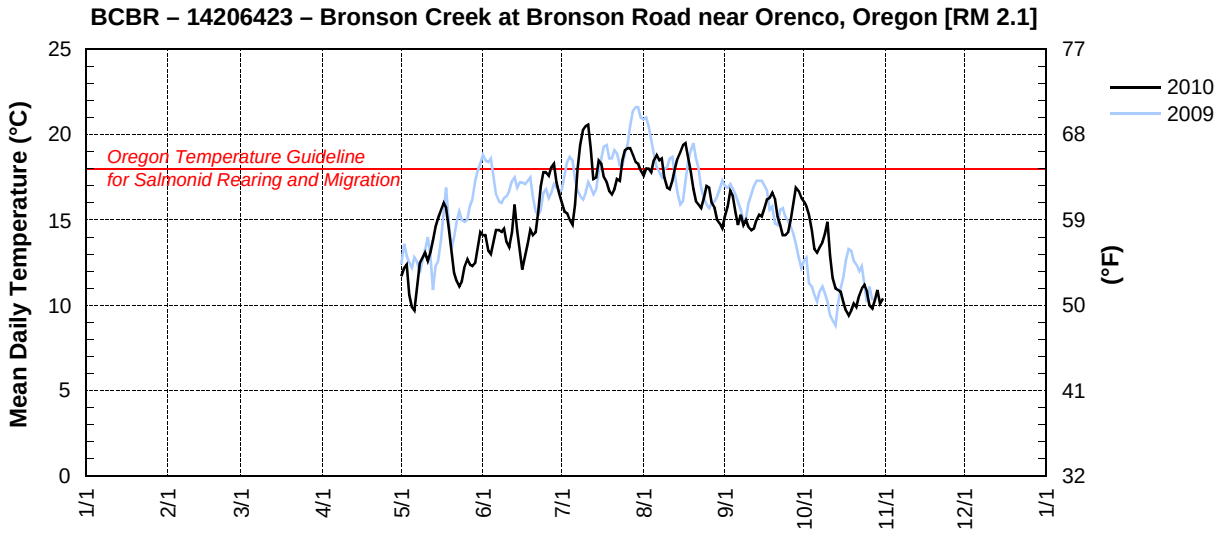
BCSR – 14206419 – Bronson Creek at Saltzman Road near Orenco, Oregon [RM 5.1]



BCBR – 14206423 – BRONSON CREEK AT BRONSON ROAD NEAR ORENCO, OREGON [RM 2.1]]

Latitude: 45 32 18 Longitude: 122 51 15 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Mean Daily Water Temperature in Degrees Celsius											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1					11.7	14.1	16.0	17.6	15.2	16.1		
2					12.2	14.1	15.5	18.0	15.8	15.8		
3					12.4	13.2	15.4	18.0	16.7	15.3		
4					10.6	13.0	15.0	17.8	16.4	14.4		
5					9.9	13.7	14.7	18.5	15.5	13.3		
6					9.7	14.4	15.9	18.8	14.7	13.1		
7					11.1	14.4	18.0	18.5	15.3	13.4		
8					12.5	14.3	19.4	18.6	14.7	13.7		
9					12.8	14.5	20.3	17.5	15.0	14.2		
10					13.1	13.7	20.5	16.9	14.6	14.9		
11					12.6	13.4	20.6	16.8	14.4	12.9		
12					13.1	14.3	19.2	17.3	14.5	11.6		
13					13.8	15.9	17.4	18.0	15.0	11.0		
14					14.6	14.4	17.5	18.6	15.3	10.9		
15					15.1	13.2	18.5	19.0	15.2	10.8		
16					15.6	12.1	18.3	19.4	15.7	10.2		
17					16.0	12.9	17.5	19.5	16.2	9.7		
18					15.7	13.6	17.2	18.7	16.3	9.4		
19					14.6	14.4	16.7	17.8	16.6	9.7		
20					13.1	14.1	16.5	16.8	16.2	10.1		
21					11.9	14.3	16.8	16.1	15.2	9.9		
22					11.4	15.5	17.4	15.9	14.7	10.6		
23					11.1	17.0	17.3	15.7	14.1	11.0		
24					11.4	17.8	18.5	16.3	14.1	11.2		
25					12.3	17.8	19.1	17.0	14.3	10.8		
26					12.7	17.6	19.2	16.9	15.0	10.0		
27					12.4	18.1	19.2	16.0	16.0	9.8		
28					12.3	18.3	18.8	15.7	16.9	10.3		
29		—			12.5	17.2	18.4	15.0	16.7	10.9		
30		—			13.4	16.5	18.3	14.8	16.3	10.1		
31		—		—	14.3	—	17.9	14.5	—	10.4	—	
MEAN					12.8	14.9	17.8	17.3	15.4	11.8		
MAX					16.0	18.3	20.6	19.5	16.9	16.1		
MIN					9.7	12.1	14.7	14.5	14.1	9.4		



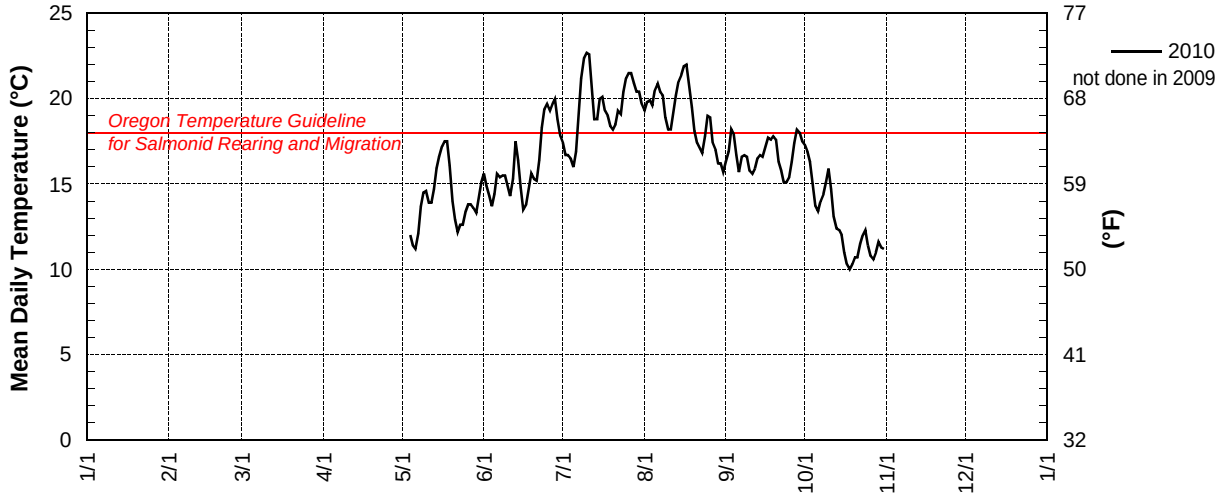
BVTS – 14206435 – BEAVERTON CREEK AT NE GUSTON COURT NEAR ORENCO, OREGON [RM 1.2]]

Latitude: 45 31 15 Longitude: 122 53 59 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Mean Daily Water Temperature in Degrees Celsius											
	JAN	FEB	MAR	APR	MAY*	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1						15.6	17.4	19.3	16.3	17.3		
2						14.9	16.7	19.8	16.9	16.9		
3						14.3	16.7	19.9	18.2	16.3		
4					e12.0	13.7	16.5	19.6	17.9	14.9		
5					11.4	14.4	16.0	20.5	16.7	13.7		
6					11.2	15.6	16.9	20.9	15.7	13.4		
7					12.1	15.4	19.2	20.4	16.6	14.0		
8					13.7	15.5	21.2	20.2	16.7	14.4		
9					14.5	15.5	22.4	18.9	16.6	15.1		
10					14.6	14.9	22.7	18.2	15.8	15.9		
11					13.9	14.3	22.6	18.2	15.6	14.7		
12					13.9	15.3	20.8	19.2	15.9	13.1		
13					14.7	17.5	18.8	20.2	16.5	12.4		
14					15.9	16.4	18.8	21.0	16.7	12.3		
15					16.6	14.8	20.0	21.4	16.6	12.0		
16					17.2	13.5	20.1	21.9	17.2	11.0		
17					17.5	13.8	19.3	22.0	17.7	10.3		
18					17.5	14.7	19.0	20.8	17.6	10.0		
19					16.1	15.6	18.4	19.5	17.8	10.3		
20					14.0	15.3	18.2	18.1	17.6	10.7		
21					12.9	15.2	18.5	17.4	16.3	10.7		
22					12.2	16.4	19.3	17.1	15.8	11.5		
23					12.6	18.3	19.1	16.8	15.1	12.0		
24					12.6	19.4	20.4	17.8	15.1	12.3		
25					13.4	19.7	21.2	19.0	15.4	11.4		
26					13.8	19.3	21.5	18.9	16.3	10.8		
27					13.8	19.7	21.5	17.4	17.4	10.6		
28					13.6	20.0	20.9	17.0	18.2	11.0		
29		—			13.3	18.8	20.4	16.2	18.0	11.6		
30		—			14.2	17.8	20.4	16.2	17.5	11.3		
31		—		—	15.1	—	19.7	15.7	—	11.2	—	
MEAN					14.1	16.2	19.5	19.0	16.7	12.7		
MAX					17.5	20.0	22.7	22.0	18.2	17.3		
MIN					11.2	13.5	16.0	15.7	15.1	10.0		

* Incomplete record (monthly statistics computed when at least 80% of the record was complete for the month); e=estimated value

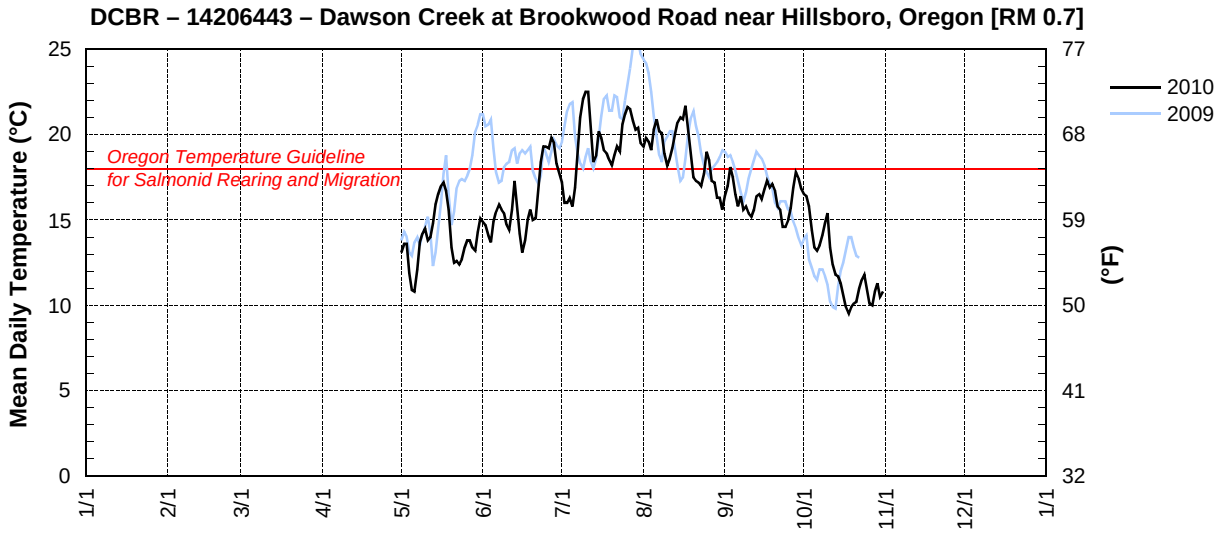
BVTS – 14206435 – Beaverton Creek at NE Guston Court near Orenco, Oregon [RM 1.2]



DCBR – 14206443 – DAWSON CREEK AT BROOKWOOD ROAD NEAR HILLSBORO, OREGON [RM 0.7]

Latitude: 45 31 27 Longitude:122 56 01 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Mean Daily Water Temperature in Degrees Celsius											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1					13.1	14.9	17.2	19.3	16.4	16.5		
2					13.6	14.7	16.0	19.8	17.0	16.4		
3					13.6	14.1	16.0	19.6	18.1	15.8		
4					11.9	13.7	16.3	19.1	17.5	14.4		
5					10.9	14.9	15.8	20.3	16.5	13.4		
6					10.8	15.5	16.9	20.9	15.8	13.2		
7					12.1	15.9	19.1	20.2	16.4	13.5		
8					13.7	15.6	21.0	20.1	15.6	14.1		
9					14.2	15.4	22.1	18.9	15.8	14.8		
10					14.5	14.7	22.5	18.2	15.4	15.4		
11					13.8	14.4	22.5	18.6	15.2	13.4		
12					14.0	15.6	20.3	19.2	15.6	12.4		
13					14.8	17.3	18.4	20.0	16.4	11.8		
14					15.9	15.8	18.8	20.7	16.5	11.7		
15					16.5	14.2	20.2	21.0	16.2	11.3		
16					17.0	13.1	19.8	20.9	16.8	10.6		
17					17.2	13.8	19.1	21.7	17.3	9.9		
18					16.7	15.0	18.9	20.3	16.9	9.5		
19					15.6	15.6	18.5	18.8	17.1	9.9		
20					13.4	15.0	18.2	17.5	16.7	10.1		
21					12.5	15.1	18.8	17.3	15.8	10.2		
22					12.6	16.6	19.3	17.2	15.6	11.0		
23					12.4	18.4	19.0	17.0	14.6	11.5		
24					12.7	19.3	20.6	17.7	14.6	11.8		
25					13.4	19.3	21.2	19.0	15.0	11.0		
26					13.8	19.2	21.6	18.5	15.7	10.1		
27					13.8	19.8	21.5	17.3	16.9	10.0		
28					13.4	19.5	20.8	17.2	17.8	10.8		
29		—			13.2	18.3	20.3	16.3	17.4	11.3		
30		—			14.3	17.7	20.4	16.3	16.8	10.5		
31		—		—	15.1	—	19.5	15.6	—	10.8	—	
MEAN					13.9	16.1	19.4	18.9	16.3	12.2		
MAX					17.2	19.8	22.5	21.7	18.1	16.5		
MIN					10.8	13.1	15.8	15.6	14.6	9.5		

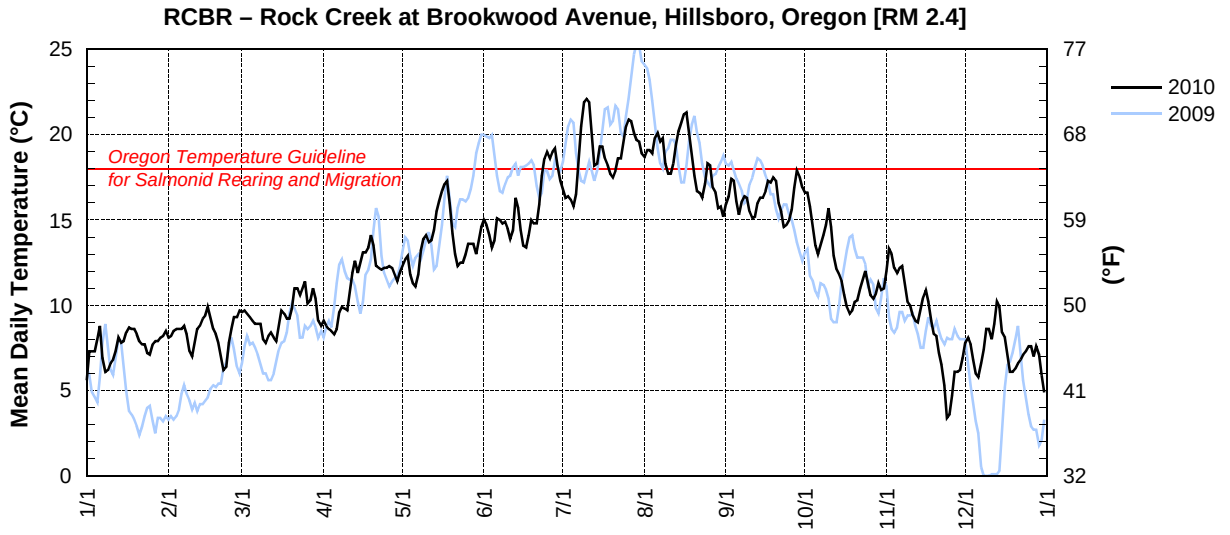


UNITED STATES DEPARTMENT OF THE INTERIOR – GEOLOGICAL SURVEY — OREGON WATER SCIENCE CENTER

STATION NUMBER 453030122560101 ROCK CREEK AT BROOKWOOD AVENUE, HILLSBORO, OR.

LATITUDE: 453029.5 LONGITUDE: 1225600.6

Day	2010 Mean Daily Water Temperature in Degrees Celsius											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.6	8.1	9.6	9.1	12.3	15.0	16.8	18.7	15.9	16.6	12.0	7.8
2	7.2	8.2	9.7	8.8	12.7	14.7	16.3	19.1	16.4	16.6	13.3	8.1
3	7.3	8.5	9.6	8.6	13.0	14.2	16.4	19.2	17.4	15.9	13.0	7.7
4	7.3	8.6	9.3	8.5	11.9	13.4	16.2	18.9	17.3	14.6	12.2	6.8
5	8.0	8.6	9.1	8.3	11.3	13.8	15.9	19.8	16.2	13.5	11.9	6.0
6	8.8	8.6	8.9	8.6	11.1	15.1	16.4	20.1	15.3	13.0	12.2	5.8
7	7.0	8.8	8.9	9.6	11.7	15.0	18.4	19.6	16.1	13.5	12.3	6.5
8	6.1	8.3	8.9	9.9	13.2	14.8	20.5	19.9	16.4	14.1	11.4	7.4
9	6.2	7.3	8.0	9.8	13.9	14.9	21.9	18.3	16.3	14.6	10.2	8.6
10	6.6	7.0	7.8	9.7	14.1	14.6	22.1	17.6	15.5	15.7	10.0	8.6
11	6.8	7.8	8.2	10.8	13.7	14.0	21.9	17.7	15.1	14.7	9.4	8.0
12	7.3	8.6	8.5	11.9	13.8	14.4	20.2	18.3	15.2	12.9	9.2	8.9
13	8.1	8.8	8.1	12.6	14.4	16.3	18.2	19.4	16.0	12.1	9.0	10.2
14	7.9	9.1	7.9	11.9	15.5	15.7	18.3	20.2	16.3	11.8	9.7	9.9
15	7.9	9.4	8.8	12.5	16.1	14.4	19.3	20.7	16.3	11.4	10.5	8.5
16	8.4	9.9	9.7	13.1	16.7	13.5	19.3	21.2	16.7	10.6	10.9	8.1
17	8.7	9.3	9.5	13.1	17.0	13.4	18.6	21.4	17.3	9.9	10.3	7.1
18	8.6	8.6	9.2	13.3	17.3	14.1	18.2	20.2	17.2	9.5	9.2	6.2
19	8.6	8.3	9.2	14.1	16.0	15.0	17.7	19.0	17.5	9.7	8.3	6.1
20	8.3	7.8	9.8	13.6	14.3	14.9	17.5	17.6	17.3	10.2	8.2	6.3
21	7.9	7.0	11.0	12.4	13.0	14.8	17.9	16.8	16.1	10.3	7.2	6.6
22	7.7	6.2	11.0	12.2	12.3	15.8	18.6	16.7	15.5	11.0	6.6	6.8
23	7.7	6.3	10.6	12.1	12.5	17.5	18.6	16.3	14.6	11.5	5.4	7.1
24	7.2	7.7	11.0	12.2	12.5	18.6	19.6	17.1	14.7	12.0	3.5	7.3
25	7.1	8.6	11.4	12.2	13.0	19.0	20.5	18.3	15.0	11.3	3.6	7.6
26	7.7	9.3	10.1	12.3	13.6	18.6	20.9	18.3	15.6	10.6	4.7	7.6
27	7.9	9.3	10.3	12.2	13.6	19.0	20.8	16.9	16.9	10.4	6.1	7.0
28	7.9	9.7	11.0	11.8	13.6	19.2	20.1	16.6	17.9	10.7	6.1	7.6
29	8.1	—	10.4	11.4	13.0	18.2	19.7	15.7	17.5	11.3	6.2	7.1
30	8.2	—	9.1	11.9	13.7	17.3	19.6	15.8	16.9	11.0	6.9	5.9
31	8.5	—	8.8	—	14.6	—	18.9	15.2	—	11.0	—	4.9
MEAN	7.6	8.4	9.5	11.3	13.7	15.6	18.8	18.4	16.3	12.3	9.0	7.4
MAX	8.8	9.9	11.4	14.1	17.3	19.2	22.1	21.4	17.9	16.6	13.3	10.2
MIN	5.6	6.2	7.8	8.3	11.1	13.4	15.9	15.2	14.6	9.5	3.5	4.9

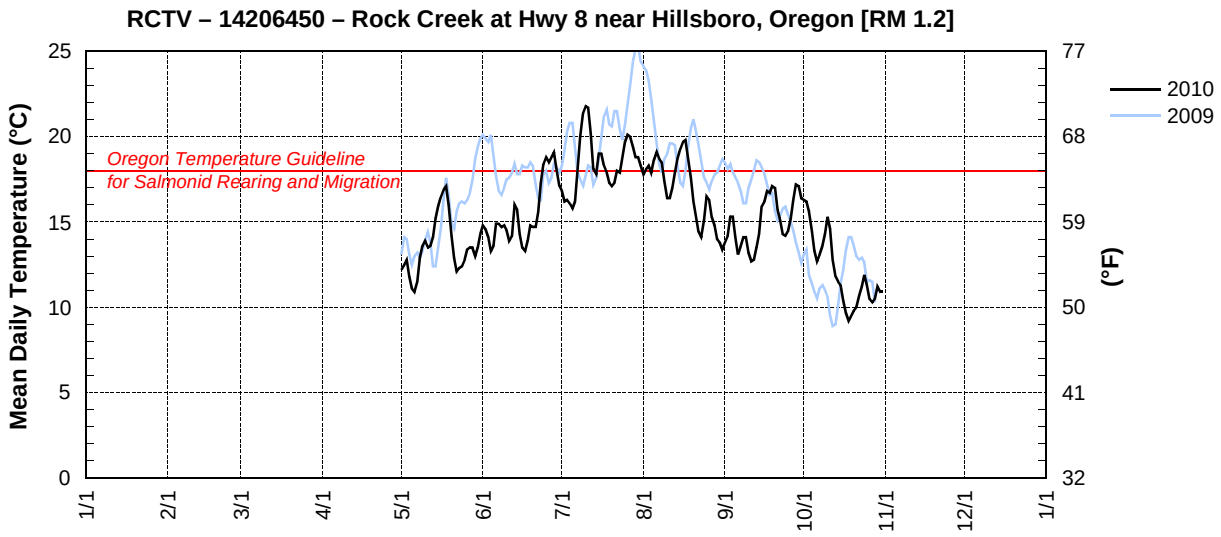


RCTV – 14206450 – ROCK CREEK AT HWY 8 NEAR HILLSBORO, OREGON [RM 1.2]

Latitude: 45 30 08 Longitude: 122 56 52 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Mean Daily Water Temperature in Degrees Celsius											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1					12.2	14.8	16.8	17.8	13.8	16.3		
2					12.5	14.6	16.2	18.1	14.2	16.2		
3					12.8	14.1	16.3	18.3	15.3	15.6		
4					11.8	13.3	16.1	17.9	15.3	14.5		
5					11.1	13.6	15.8	18.6	14.1	13.3		
6					10.9	14.9	16.2	19.1	13.1	12.7		
7					11.5	14.9	18.0	18.7	13.6	13.1		
8					12.9	14.7	20.0	18.5	14.1	13.6		
9					13.6	14.8	21.4	17.4	14.1	14.3		
10					13.9	14.5	21.8	16.4	13.2	15.3		
11					13.5	13.9	21.7	16.4	12.7	14.6		
12					13.6	14.2	20.2	17.0	12.8	12.8		
13					14.1	16.0	18.1	17.9	13.5	11.8		
14					15.2	15.7	17.8	18.7	e14.3	11.5		
15					15.9	14.3	19.0	19.3	e15.9	11.3		
16					16.5	13.5	19.0	19.7	16.2	10.4		
17					16.9	13.3	18.3	19.8	16.8	9.7		
18					17.1	13.9	17.9	18.8	16.7	9.2		
19					16.0	14.8	17.3	17.6	17.1	9.5		
20					14.2	14.7	17.1	16.2	17.0	9.8		
21					12.9	14.7	17.3	15.3	15.7	10.0		
22					12.1	15.6	18.0	14.4	15.1	10.7		
23					12.3	17.3	17.9	14.1	14.3	11.2		
24					12.4	18.4	18.8	15.1	14.2	11.9		
25					12.8	18.8	19.7	16.5	14.5	11.3		
26					13.4	18.5	20.1	16.3	15.2	10.5		
27					13.5	18.8	20.0	15.3	16.3	10.3		
28					13.5	19.1	19.4	14.8	17.2	10.5		
29		—			13.0	18.1	18.8	14.0	17.1	11.2		
30		—			13.5	17.1	18.8	13.8	16.4	10.9		
31		—		—	14.3	—	18.3	13.4	—	10.9	—	
MEAN					13.5	15.5	18.5	16.9	e15.0	12.1		
MAX					17.1	19.1	21.8	19.8	e17.2	16.3		
MIN					10.9	13.3	15.8	13.4	e12.7	9.2		

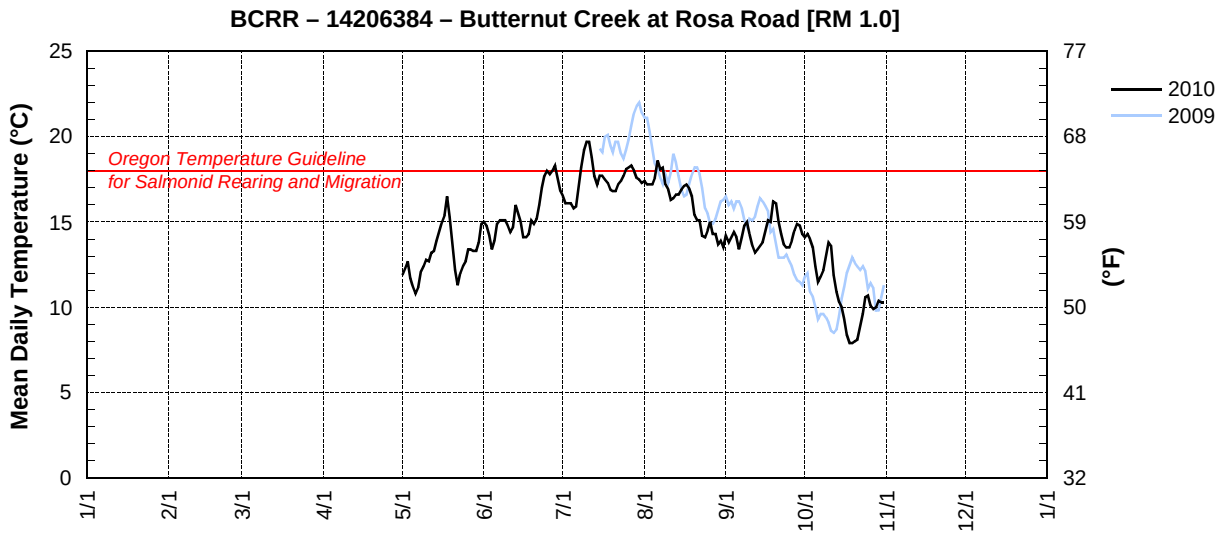
e=estimated value



BCRR – 14206384 – BUTTERNUT CREEK AT ROSA ROAD [RM 1.0]

Latitude: 43 28 42 Longitude:122 55 05 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Mean Daily Water Temperature in Degrees Celsius											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1					11.9	15.0	16.5	17.4	14.2	14.1		
2					12.3	14.8	16.1	17.2	13.8	14.3		
3					12.7	14.2	16.1	17.2	14.1	14.0		
4					11.7	13.4	16.1	17.2	14.4	13.5		
5					11.2	13.9	15.8	17.6	14.1	12.4		
6					10.8	14.9	15.9	18.6	13.4	11.5		
7					11.2	15.1	17.0	18.1	14.1	11.8		
8					12.1	15.1	18.2	18.2	14.8	12.2		
9					12.4	15.1	19.2	17.2	15.0	13.0		
10					12.8	14.8	19.7	16.9	14.3	13.8		
11					12.7	14.4	19.7	16.3	13.6	13.6		
12					13.2	14.7	18.8	16.4	13.2	11.9		
13					13.3	16.0	17.7	16.6	13.4	10.9		
14					13.9	15.5	17.2	16.6	13.6	10.3		
15					14.4	15.0	17.7	16.9	13.8	10.0		
16					15.0	14.1	17.7	17.1	14.5	9.3		
17					15.4	14.1	17.5	17.2	15.1	8.4		
18					16.5	14.3	17.3	17.0	15.0	7.9		
19					15.3	15.1	16.9	16.5	16.2	7.9		
20					13.7	14.9	16.8	15.4	16.1	8.0		
21					12.2	15.2	16.8	15.1	15.0	8.1		
22					11.3	16.0	17.2	15.1	14.3	8.9		
23					12.0	17.0	17.4	14.2	13.7	9.6		
24					12.4	17.7	17.7	14.1	13.5	10.6		
25					12.7	18.0	18.1	14.5	13.5	10.7		
26					13.4	17.8	18.2	15.0	13.9	10.1		
27					13.4	18.0	18.3	14.3	14.5	9.9		
28					13.3	18.3	18.0	14.3	14.9	10.0		
29		—			13.3	17.6	17.6	13.7	14.8	10.4		
30		—			13.8	16.8	17.5	13.9	14.3	10.3		
31		—		—	14.9	—	17.3	13.5	—	10.3	—	
MEAN					13.1	15.6	17.5	16.1	14.3	10.9		
MAX					16.5	18.3	19.7	18.6	16.2	14.3		
MIN					10.8	13.4	15.8	13.5	13.2	7.9		



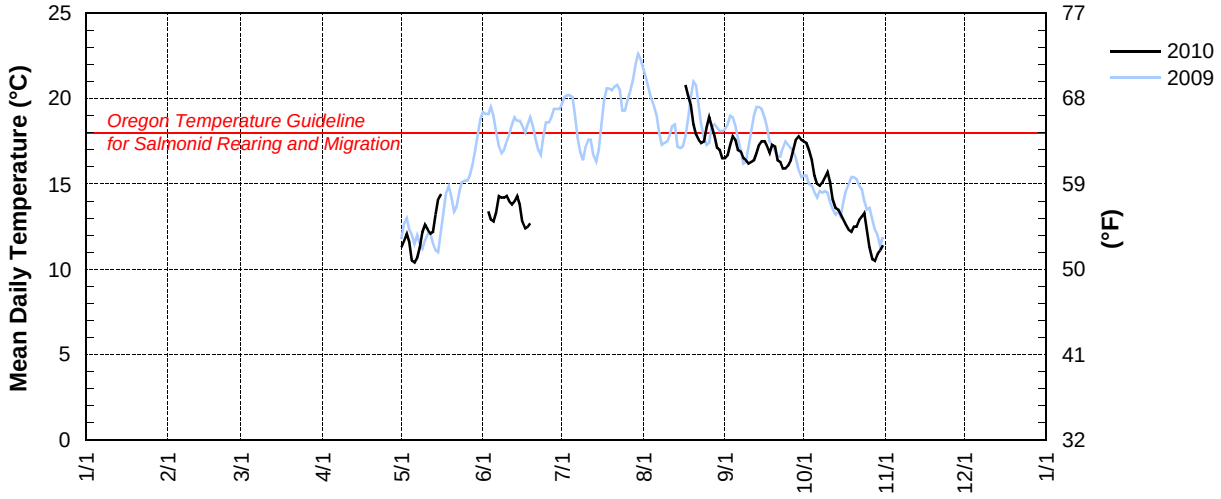
FRMO – 14206500 – TUALATIN RIVER AT FARMINGTON, OREGON [RM 33.3]

Latitude: 45 26 58 Longitude: 122 57 02 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Mean Daily Water Temperature in Degrees Celsius											
	JAN	FEB	MAR	APR	MAY*	JUN*	JUL*	AUG*	SEP	OCT	NOV	DEC
1					11.3				16.5	17.5		
2					11.7				16.7	17.4		
3					12.1	e13.4			17.3	17.0		
4					11.6	12.9			17.8	16.4		
5					10.5	12.8			17.6	15.5		
6					10.4	13.3			17.0	15.0		
7					10.7	14.3			16.9	14.9		
8					11.3	14.2			16.5	15.1		
9					12.2	14.2			16.4	15.4		
10					12.6	14.3			16.2	15.7		
11					12.3	14.0			16.3	15.1		
12					12.1	13.8			16.4	14.1		
13					12.2	14.0			16.8	13.6		
14					13.2	14.3			17.3	13.5		
15					14.1	13.8			17.5	13.2		
16					e14.4	12.8			17.5	12.9		
17						12.4		e20.8	17.2	12.6		
18						12.5		20.2	16.8	12.3		
19						e12.7		19.6	17.3	12.2		
20								18.5	17.2	12.5		
21								17.9	16.4	12.5		
22								17.6	16.3	12.9		
23								17.4	15.9	13.1		
24								17.5	15.9	13.3		
25								18.3	16.1	12.3		
26								18.9	16.4	11.3		
27								18.4	17.0	10.6		
28								17.8	17.6	10.5		
29		—						17.1	17.8	10.9		
30		—						17.0	17.6	11.1		
31		—		—		—		16.5	—	11.4	—	
MEAN									16.9	13.6		
MAX									17.8	17.5		
MIN									15.9	10.5		

* Incomplete record (monthly statistics computed when at least 80% of the record was complete for the month); e=estimated value

FRMO – 14206500 – Tualatin River at Farmington, Oregon [RM 33.3]

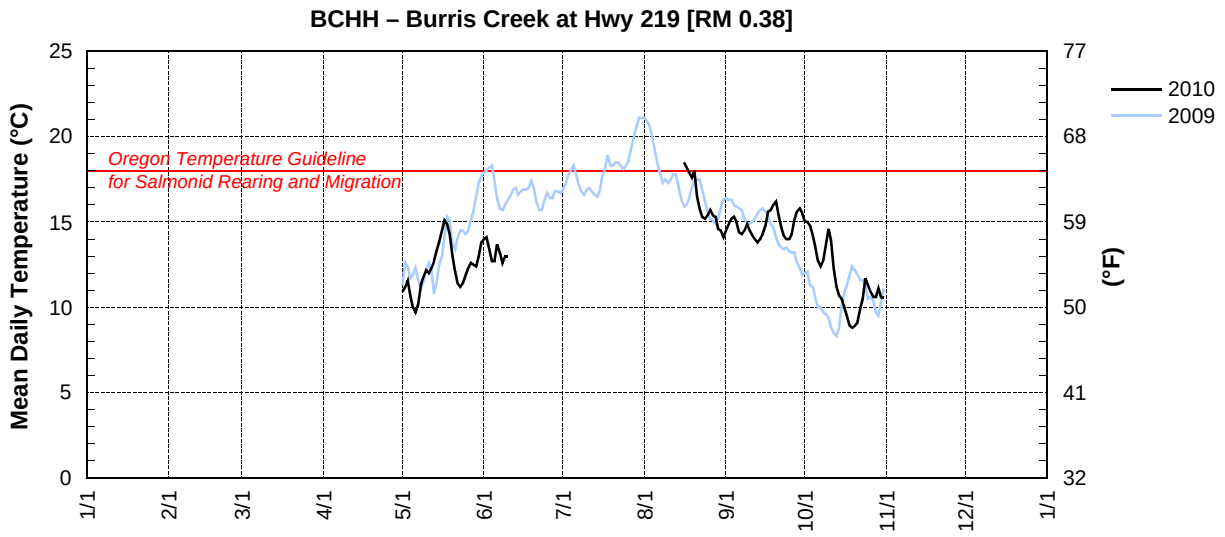


BCHH – BURRIS CREEK AT HWY 219 [RM 0.38]

Latitude: 45 25 34 Longitude: 122 57 40 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Mean Daily Water Temperature in Degrees Celsius											
	JAN	FEB	MAR	APR	MAY	JUN*	JUL*	AUG*	SEP	OCT	NOV	DEC
1					10.9	14.0			14.5	15.0		
2					11.2	14.1			14.9	15.0		
3					11.6	13.4			15.2	14.8		
4					10.7	12.7			15.3	14.2		
5					10.0	12.7			15.0	13.5		
6					9.7	13.7			14.4	12.7		
7					10.2	13.2			14.3	12.4		
8					11.3	12.6			14.5	12.8		
9					11.8	13.0			14.9	13.7		
10					12.2	e13.0			14.5	14.6		
11					12.0				14.2	13.9		
12					12.3				14.0	12.3		
13					12.7				13.8	11.2		
14					13.3				14.0	10.7		
15					13.8				14.3	10.5		
16					14.5			e18.5	14.8	10.0		
17					15.1			18.2	15.6	9.5		
18					14.9			17.9	15.7	8.9		
19					14.3			17.6	16.0	8.8		
20					13.0			18.0	16.2	8.9		
21					12.1			16.5	15.4	9.1		
22					11.4			15.8	14.7	9.9		
23					11.2			15.3	14.2	10.5		
24					11.4			15.2	14.0	11.7		
25					11.9			15.4	14.0	11.3		
26					12.3			15.7	14.3	10.9		
27					12.6			15.4	15.1	10.6		
28					12.5			15.3	15.6	10.6		
29		—			12.4			14.6	15.8	11.1		
30		—			13.0			14.5	15.5	10.6		
31		—		—	13.8	—		14.1	—	10.6	—	
MEAN					12.3	e13.2		e16.1	14.8	11.6		
MAX					15.1	e14.1		e18.5	16.2	15.0		
MIN					9.7	e12.6		e14.1	13.8	8.8		

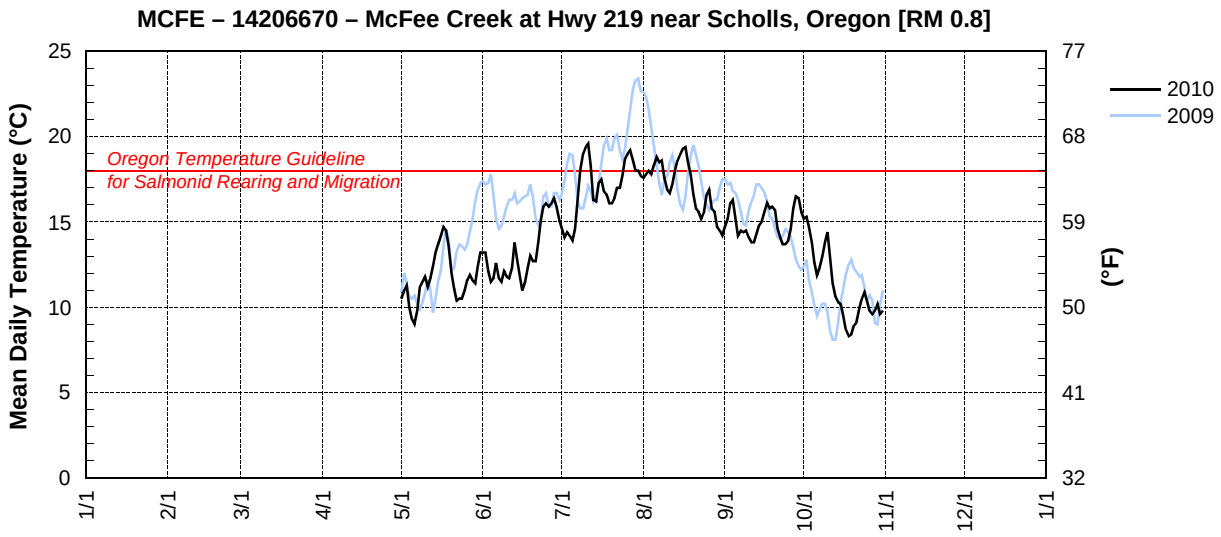
* Incomplete record (monthly statistics computed when at least 80% of the record was complete for the month); e=estimated value



MCFE – 14206670 – MCFEE CREEK AT HWY 219 NEAR SCHOLLS, OREGON [RM 0.8]

Latitude: 45 24 19 Longitude: 122 56 19 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Mean Daily Water Temperature in Degrees Celsius											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1					10.5	13.2	14.6	17.6	14.7	15.2		
2					11.0	13.2	14.1	17.8	15.2	15.3		
3					11.3	12.1	14.4	18.0	16.1	14.7		
4					10.0	11.5	14.2	17.8	16.3	13.8		
5					9.3	11.7	13.9	18.3	15.3	12.6		
6					9.0	12.6	14.6	18.8	14.2	11.9		
7					9.8	11.7	16.3	18.5	14.5	12.3		
8					11.2	11.5	18.0	18.6	14.4	13.0		
9					11.5	12.1	19.0	17.6	14.5	13.8		
10					11.8	11.8	19.4	16.9	14.1	14.4		
11					11.2	11.7	19.6	16.7	13.8	12.9		
12					11.7	12.3	18.3	17.2	13.8	11.4		
13					12.4	13.8	16.3	18.0	14.3	10.6		
14					13.2	12.8	16.2	18.6	14.8	10.3		
15					13.7	11.9	17.3	19.0	15.0	10.2		
16					14.2	11.0	17.5	19.3	15.6	9.5		
17					14.7	11.5	16.8	19.4	16.1	8.7		
18					14.5	12.3	16.6	18.5	15.8	8.3		
19					13.6	13.0	16.1	17.7	15.9	8.4		
20					12.0	12.7	16.1	16.6	15.7	8.9		
21					11.1	12.7	16.4	15.8	14.6	9.1		
22					10.4	13.8	17.0	15.6	14.1	9.9		
23					10.5	15.1	17.0	15.2	13.7	10.5		
24					10.5	15.9	17.7	15.6	13.7	10.9		
25					11.0	16.1	18.7	16.6	13.9	10.4		
26					11.6	15.9	19.0	16.9	14.6	9.8		
27					11.9	16.1	19.2	15.8	15.8	9.6		
28					11.6	16.4	18.6	15.6	16.5	9.8		
29		—			11.4	15.9	18.0	14.7	16.4	10.2		
30		—			12.4	15.1	18.0	14.5	15.6	9.6		
31		—		—	13.2	—	17.7	14.2	—	9.8	—	
MEAN					11.7	13.2	17.0	17.1	15.0	11.2		
MAX					14.7	16.4	19.6	19.4	16.5	15.3		
MIN					9.0	11.0	13.9	14.2	13.7	8.3		



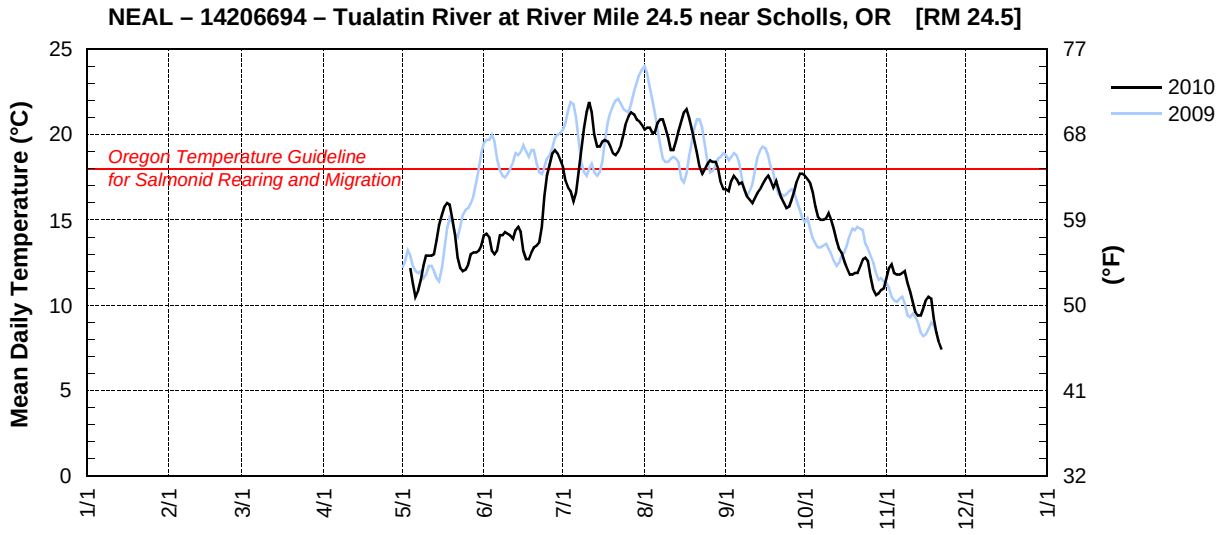
UNITED STATES DEPARTMENT OF THE INTERIOR – GEOLOGICAL SURVEY — OREGON WATER SCIENCE CENTER

STATION NUMBER 14206694 TUALATIN RIVER AT RIVER MILE 24.5, NR SCHOLLS, OR

LATITUDE: 452406 LONGITUDE: 1225338

Day	2010 Mean Daily Water Temperature in Degrees Celsius											
	JAN	FEB	MAR	APR	MAY*	JUN	JUL	AUG	SEP	OCT	NOV*	DEC
1						14.1	18.1	20.3	16.8	17.6	11.6	
2						14.2	17.3	20.4	16.7	17.4	12.2	
3						14.1	16.9	20.4	17.3	17.2	12.5	
4					12.2	13.2	16.7	20.1	17.6	16.6	11.9	
5					11.4	13.0	16.2	20.1	17.4	15.8	11.8	
6					10.5	13.2	16.6	20.7	17.1	15.2	11.8	
7					10.9	14.1	17.8	20.9	17.2	15.0	11.9	
8					11.5	14.1	19.0	20.9	16.8	15.0	12.0	
9					12.2	14.3	20.4	20.5	16.4	15.1	11.3	
10					12.9	14.2	21.3	19.8	16.2	15.4	10.8	
11					12.9	14.1	21.9	19.1	16.0	15.1	10.2	
12					12.9	13.9	21.4	19.1	16.3	14.5	9.6	
13					13.0	14.4	20.1	19.6	16.6	13.8	9.4	
14					13.8	14.5	19.3	20.2	16.8	13.3	9.4	
15					14.7	14.3	19.3	20.8	17.1	13.1	9.8	
16					15.3	13.3	19.6	21.3	17.4	12.7	10.3	
17					15.8	12.7	19.7	21.5	17.7	12.2	10.5	
18					16.0	12.7	19.6	21.0	17.3	11.8	10.4	
19					15.9	13.1	19.3	20.3	16.9	11.8	9.3	
20					15.1	13.4	18.9	19.7	17.3	11.9	8.4	
21					14.1	13.5	18.8	18.9	16.8	11.9	7.8	
22					12.8	13.7	19.0	18.1	16.3	12.3	7.4	
23					12.3	14.6	19.4	17.7	16.0	12.7		
24					12.0	16.4	20.0	18.0	15.7	12.8		
25					12.1	17.6	20.7	18.3	15.8	12.6		
26					12.4	18.3	21.1	18.5	16.2	11.7		
27					13.0	18.9	21.3	18.4	16.7	10.9		
28					13.1	19.1	21.2	18.4	17.3	10.6		
29		—			13.1	18.9	20.9	18.0	17.7	10.7		
30		—			13.2	18.5	20.8	17.2	17.7	10.9		
31		—		—	13.5	—	20.6	16.8	—	11.0	—	
MEAN					13.2	14.8	19.4	19.6	16.8	13.5		
MAX					16.0	19.1	21.9	21.5	17.7	17.6		
MIN					10.5	12.7	16.2	16.8	15.7	10.6		

* Incomplete record (monthly statistics computed when at least 80% of the record was complete for the month)

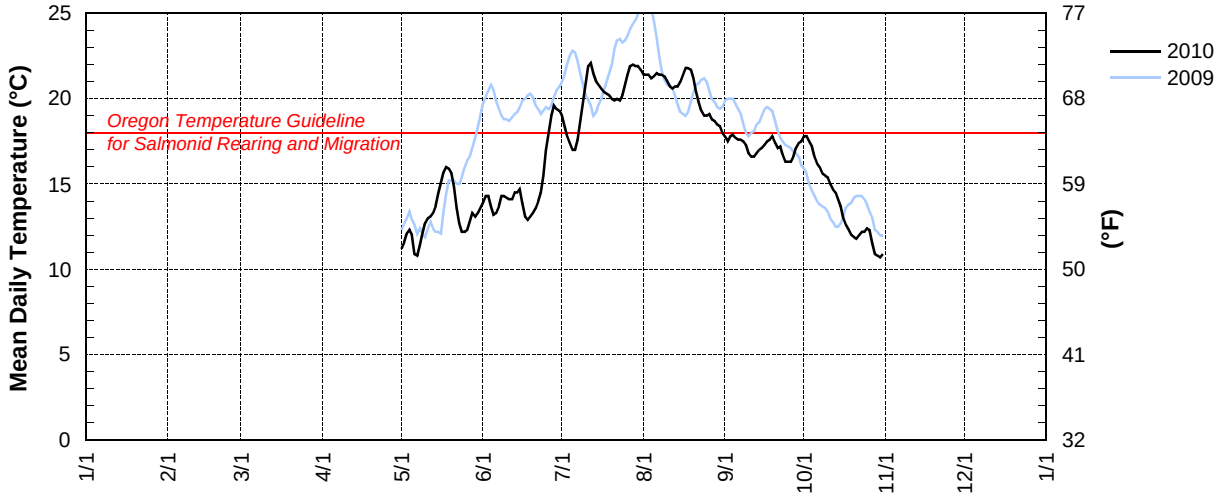


ELSN – 14206600 – TUALATIN RIVER AT ROY ROGERS ROAD (ELSNER) NEAR SHERWOOD, OREGON [RM 16.2]

Latitude: 45 23 17 Longitude: 122 51 03 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Mean Daily Water Temperature in Degrees Celsius											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1					11.2	13.9	19.0	21.4	17.8	17.8		
2					11.6	14.3	18.4	21.4	17.5	17.8		
3					12.1	14.3	17.8	21.4	17.8	17.5		
4					12.3	13.7	17.4	21.2	17.9	17.2		
5					12.0	13.2	17.0	21.3	17.7	16.6		
6					10.9	13.3	17.0	21.5	17.6	16.2		
7					10.8	13.7	17.6	21.4	17.6	16.0		
8					11.4	14.3	18.7	21.4	17.5	15.6		
9					12.1	14.3	19.9	21.3	17.3	15.5		
10					12.7	14.2	20.9	21.0	16.8	15.4		
11					13.0	14.1	21.9	20.7	16.6	15.0		
12					13.1	14.1	22.1	20.6	16.6	14.7		
13					13.3	14.5	21.5	20.7	16.8	14.5		
14					13.7	14.5	21.0	20.7	17.0	14.1		
15					14.4	14.7	20.8	21.0	17.1	13.7		
16					15.1	13.9	20.6	21.4	17.3	13.0		
17					15.7	13.1	20.4	21.8	17.5	12.6		
18					16.0	12.9	20.3	21.8	17.6	12.3		
19					15.9	13.1	20.2	21.7	17.8	12.0		
20					15.6	13.3	20.0	21.2	17.4	11.9		
21					14.8	13.6	19.9	20.4	17.1	11.8		
22					13.6	14.0	20.0	19.8	17.2	12.0		
23					12.7	14.5	19.9	19.3	16.7	12.2		
24					12.2	15.5	20.2	19.0	16.3	12.2		
25					12.2	17.0	20.8	19.0	16.3	12.4		
26					12.3	18.0	21.4	19.1	16.3	12.3		
27					12.8	19.0	21.9	18.8	16.6	11.5		
28					13.3	19.6	22.0	18.7	17.1	10.9		
29		—			13.1	19.4	21.9	18.5	17.4	10.8		
30		—			13.3	19.3	21.9	18.4	17.5	10.7		
31		—		—	13.6	—	21.7	18.0	—	10.9	—	
MEAN					13.1	14.9	20.1	20.4	17.2	13.8		
MAX					16.0	19.6	22.1	21.8	17.9	17.8		
MIN					10.8	12.9	17.0	18.0	16.3	10.7		

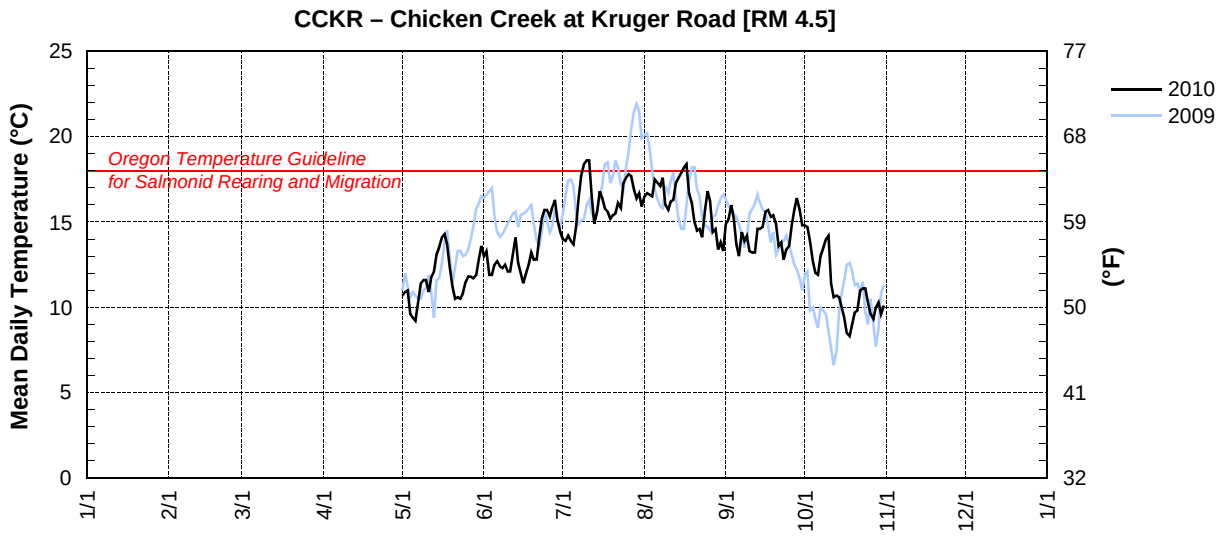
ELSN – 14206600 – Tualatin River at Roy Rogers Road (Elsner) near Sherwood, Oregon [RM 16.2]



CCKR – CHICKEN CREEK AT KRUGER ROAD [RM 4.5]

Latitude: 45 22 05 Longitude: 122 51 22 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Mean Daily Water Temperature in Degrees Celsius											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1					10.7	13.0	14.0	16.5	14.9	14.8		
2					10.9	13.3	13.9	16.7	15.2	14.7		
3					11.0	11.9	14.2	16.6	16.0	13.9		
4					9.6	11.9	13.9	16.5	15.2	12.7		
5					9.4	12.5	13.7	17.5	13.7	12.0		
6					9.2	12.7	14.7	17.3	13.0	11.9		
7					10.4	12.4	16.4	17.1	14.4	13.0		
8					11.4	12.3	17.7	17.6	13.9	13.5		
9					11.6	12.5	18.4	16.0	14.2	14.0		
10					11.6	12.1	18.6	15.7	13.3	14.2		
11					10.9	12.1	18.6	16.2	13.2	11.4		
12					11.8	13.2	16.5	16.3	13.2	10.6		
13					12.1	14.1	14.9	17.3	14.6	10.7		
14					13.1	12.6	15.6	17.6	14.6	10.6		
15					13.5	12.0	16.8	17.9	14.7	10.0		
16					14.1	11.4	16.4	18.2	15.6	9.4		
17					14.3	12.0	15.8	18.4	15.7	8.5		
18					13.7	12.5	15.6	16.7	15.3	8.3		
19					12.4	13.2	15.2	16.1	15.4	9.0		
20					11.2	12.8	15.4	15.0	14.9	9.7		
21					10.5	12.8	15.5	14.5	13.6	9.8		
22					10.6	14.1	16.1	14.6	13.8	11.0		
23					10.5	15.2	15.8	14.1	12.8	11.1		
24					10.8	15.7	17.3	15.7	13.4	11.1		
25					11.5	15.7	17.6	16.8	13.6	10.3		
26					11.8	15.3	17.8	16.2	14.8	9.6		
27					11.8	15.9	17.7	14.4	15.7	9.3		
28					11.7	16.3	16.9	14.6	16.4	10.0		
29		—			11.9	15.1	16.4	13.4	15.7	10.3		
30		—			12.8	14.4	16.7	13.8	14.8	9.6		
31		—		—	13.6	—	15.9	13.3	—	10.1	—	
MEAN					11.6	13.4	16.1	16.1	14.5	11.1		
MAX					14.3	16.3	18.6	18.4	16.4	14.8		
MIN					9.2	11.4	13.7	13.3	12.8	8.3		



UNITED STATES DEPARTMENT OF THE INTERIOR – GEOLOGICAL SURVEY — OREGON WATER SCIENCE CENTER

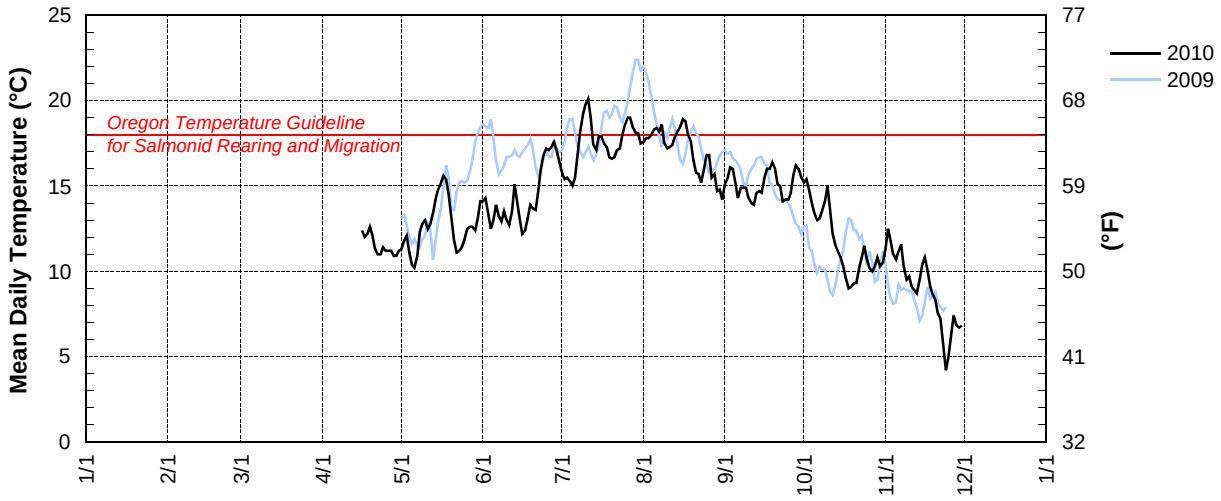
STATION NUMBER 452230122512201* CHICKEN CREEK AT ROY ROGERS ROAD, SHERWOOD OR

LATITUDE: 452230.09 LONGITUDE: 1225121.76

Day	2010 Mean Daily Water Temperature in Degrees Celsius											
	JAN	FEB	MAR	APR*	MAY	JUN	JUL	AUG	SEP	OCT	NOV*	DEC
1					11.3	14.1	15.8	17.6	15.1	15.2	11.2	
2					11.7	14.3	15.4	17.8	15.4	15.4	12.5	
3					12.1	13.3	15.5	17.8	16.1	14.8	11.8	
4					11.1	12.5	15.3	18.0	16.0	14.0	11.0	
5					10.4	13.0	15.0	18.2	15.2	13.4	10.7	
6					10.2	13.9	15.5	18.5	14.3	12.9	11.2	
7					10.8	13.2	16.8	18.2	14.9	13.1	11.6	
8					12.3	12.9	18.2	18.6	14.9	13.6	10.3	
9					12.8	13.5	19.2	17.5	14.9	14.1	9.5	
10					13.0	13.1	19.8	17.2	14.3	15.0	9.7	
11					12.5	12.7	20.1	17.3	14.0	13.6	9.1	
12					12.8	13.4	19.0	17.4	13.9	12.3	9.0	
13					13.4	15.1	17.4	17.9	14.6	11.5	8.7	
14					14.2	14.1	17.1	18.2	14.6	11.1	9.5	
15					14.8	13.1	17.8	18.5	14.6	10.8	10.4	
16				12.4	15.3	12.2	17.9	18.9	15.5	10.3	10.8	
17				12.0	15.6	12.4	17.5	18.8	16.0	9.6	10.1	
18				12.2	15.5	13.1	17.3	18.0	16.0	9.0	9.1	
19				12.6	14.5	13.9	16.7	17.6	16.4	9.1	8.6	
20				12.1	13.0	13.7	16.6	16.5	16.1	9.3	8.4	
21				11.3	11.9	13.6	16.7	15.8	15.1	9.3	7.5	
22				11.0	11.1	14.6	17.1	15.7	15.0	10.2	7.2	
23				11.0	11.2	16.0	17.2	15.2	14.1	10.8	5.7	
24				11.4	11.4	16.8	18.0	16.0	14.2	11.5	4.2	
25				11.2	11.9	17.2	18.6	16.8	14.2	10.7	5.0	
26				11.2	12.5	17.1	19.0	16.8	14.6	10.2	6.2	
27				11.2	12.6	17.3	19.0	15.5	15.6	10.0	7.4	
28				10.9	12.7	17.6	18.5	15.7	16.2	10.2	6.8	
29		—		10.9	12.4	17.1	18.1	14.8	16.0	10.8	6.7	
30		—		11.2	13.1	16.4	18.1	14.8	15.6	10.3		
31		—		—	14.1	—	17.6	14.2	—	10.5	—	
MEAN					12.6	14.4	17.5	17.1	15.1	11.7	9.0	
MAX					15.6	17.6	20.1	18.9	16.4	15.4	12.5	
MIN					10.2	12.2	15.0	14.2	13.9	9.0	4.2	

* Incomplete record (monthly statistics computed when at least 80% of the record was complete for the month)

CCSR – 452230122512201* – Chicken Creek at Roy Rogers Road near Sherwood, Oregon [RM 2.3]



*USGS #452230122512201 is equivalent to OWRD #14206750.

UNITED STATES DEPARTMENT OF THE INTERIOR – GEOLOGICAL SURVEY — OREGON WATER SCIENCE CENTER

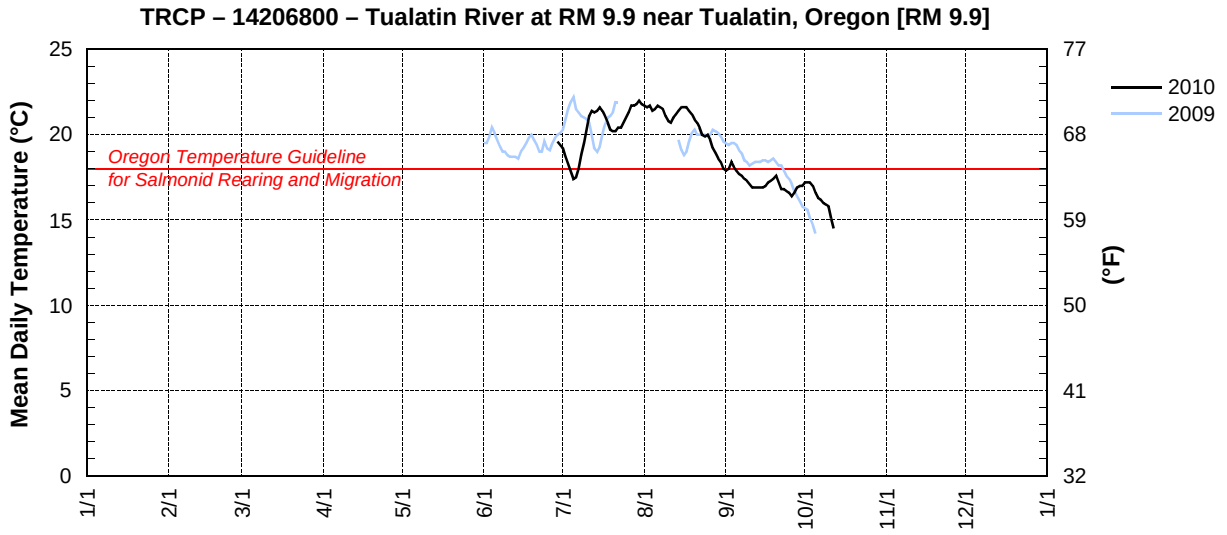
STATION NUMBER 14206800 TUALATIN RIVER AT RM 9.9 NEAR TUALATIN, OR

LATITUDE: 452338 LONGITUDE: 1224612

Water Temperature, degrees Celsius, Calendar Year January to December 2010 Daily Mean Values

Day	JAN	FEB	MAR	APR	MAY	JUN*	JUL	AUG	SEP	OCT*	NOV	DEC
1							19.2	21.7	17.9	17.2		
2							18.7	21.7	18.0	17.3		
3							18.3	21.7	18.4	17.2		
4							18.0	21.4	18.2	17.0		
5							17.5	21.5	17.9	16.6		
6							17.5	21.7	17.7	16.3		
7							18.0	21.6	17.6	16.2		
8							18.8	21.5	17.4	16.0		
9							19.5	21.1	17.3	15.9		
10							20.3	20.8	17.1	15.8		
11							21.1	20.7	16.9	15.1		
12							21.4	21.0	16.9	14.5		
13							21.3	21.2	16.9			
14							21.4	21.4	16.9			
15							21.6	21.6	16.9			
16							21.5	21.6	17.0			
17							21.1	21.7	17.2			
18							20.7	21.4	17.3			
19							20.3	21.2	17.4			
20							20.2	20.9	17.6			
21							20.2	20.7	17.2			
22							20.4	20.4	16.8			
23							20.4	20.0	16.8			
24							20.7	19.9	16.7			
25							21.0	20.0	16.6			
26							21.3	19.7	16.4			
27							21.7	19.2	16.6			
28							21.7	18.9	16.9			
29		—				19.6	21.8	18.6	17.0			
30		—				19.4	22.0	18.4	17.0			
31		—		—		—	21.8	18.0	—		—	
MEAN							20.3	20.7	17.2			
MAX							22.0	21.7	18.4			
MIN							17.5	18.0	16.4			

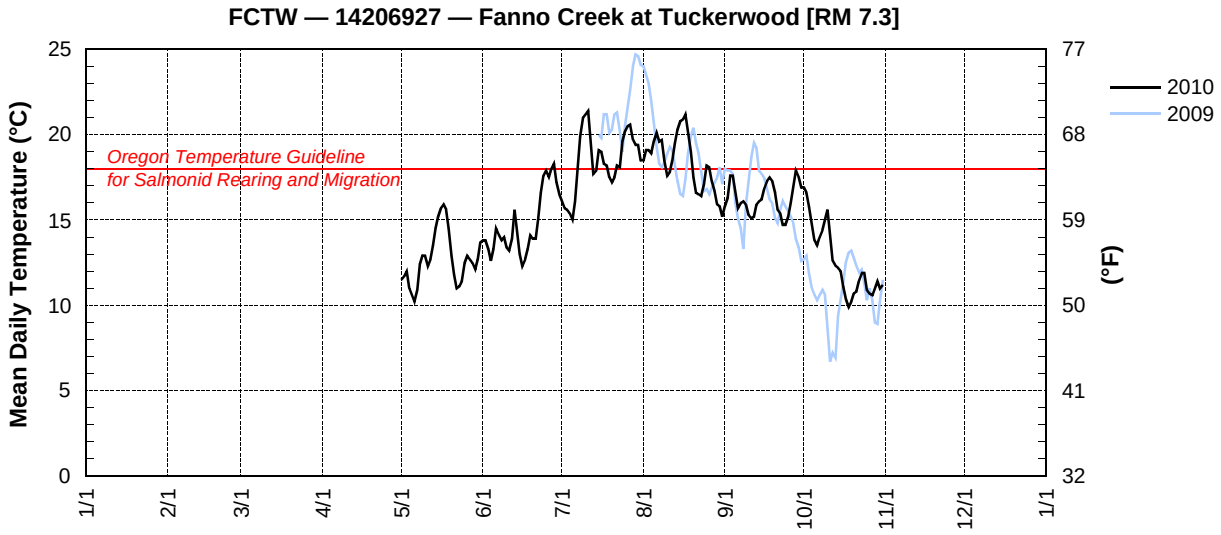
* Incomplete record (monthly statistics computed when at least 80% of the record was complete for the month)



FCTW – 14206927 – FANNO CREEK AT TUCKERWOOD [RM 7.3]

Latitude: 45 27 27 Longitude: 122 47 49 Source Agency: WEST Consultants for Clean Water Services

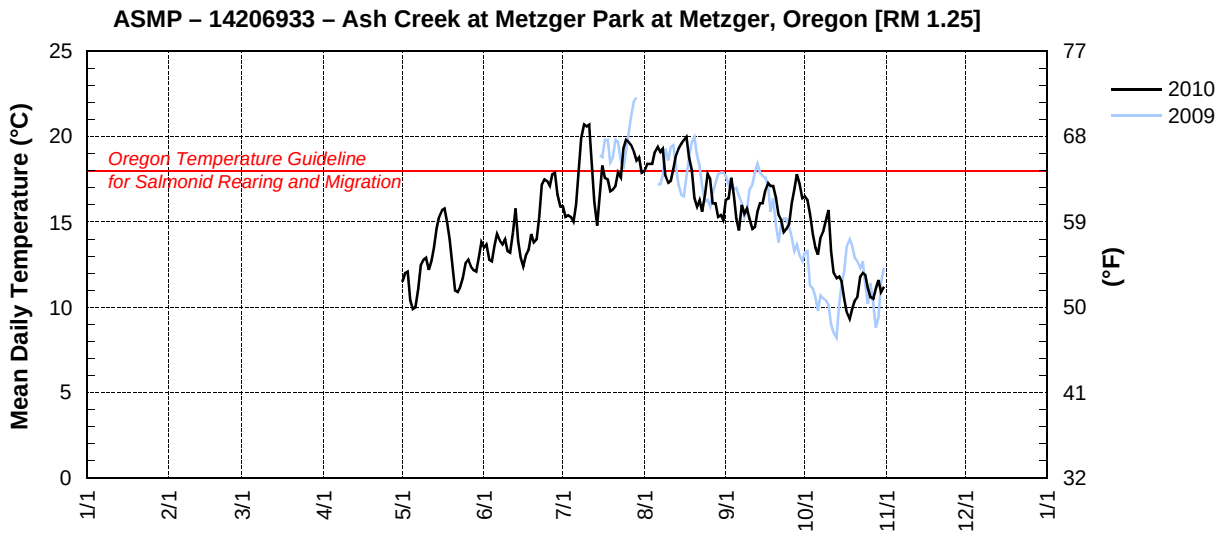
Day	2010 Mean Daily Water Temperature in Degrees Celsius											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1					11.5	13.8	16.1	18.5	15.8	16.9		
2					11.7	13.8	15.7	19.1	16.3	16.6		
3					12.0	13.3	15.6	19.1	17.6	15.8		
4					11.0	12.6	15.4	18.9	17.6	14.7		
5					10.6	13.3	15.0	19.6	16.6	13.8		
6					10.2	14.5	16.1	20.1	15.7	13.5		
7					10.9	14.1	18.1	19.6	16.0	14.0		
8					12.4	13.8	19.9	19.7	16.1	14.4		
9					12.9	14.0	21.0	18.5	15.9	15.0		
10					12.9	13.4	21.2	17.6	15.3	15.6		
11					12.3	13.2	21.4	17.8	15.1	14.1		
12					12.7	13.9	19.6	18.5	15.2	12.6		
13					13.5	15.6	17.7	19.5	15.9	12.3		
14					14.5	14.3	17.9	20.3	16.1	12.2		
15					15.2	13.0	19.1	20.8	16.2	12.0		
16					15.7	12.3	19.0	20.9	16.9	11.1		
17					15.9	12.7	18.3	21.2	17.3	10.4		
18					15.6	13.3	18.2	20.1	17.5	9.9		
19					14.5	14.1	17.5	19.0	17.3	10.2		
20					12.9	13.9	17.2	17.5	16.6	10.7		
21					11.8	13.9	17.5	16.6	15.6	10.8		
22					11.0	15.1	18.2	16.5	15.4	11.5		
23					11.1	16.6	18.1	16.4	14.7	11.9		
24					11.4	17.6	19.6	17.1	14.7	11.9		
25					12.5	17.9	20.2	18.2	15.2	10.9		
26					12.9	17.5	20.5	18.1	16.0	10.7		
27					12.7	18.0	20.6	17.3	17.0	10.6		
28					12.5	18.3	19.7	16.7	17.9	11.0		
29		—			12.1	17.2	19.4	15.9	17.5	11.4		
30		—			12.7	16.5	19.4	15.8	16.9	11.0		
31		—		—	13.7	—	18.5	15.2	—	11.2	—	
MEAN					12.7	14.7	18.4	18.4	16.3	12.5		
MAX					15.9	18.3	21.4	21.2	17.9	16.9		
MIN					10.2	12.3	15.0	15.2	14.7	9.9		



ASMP – 14206933 – ASH CREEK AT METZGER PARK AT METZGER, OREGON [RM 1.25]

Latitude: 45 27 00 Longitude: 122 45 45 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Mean Daily Water Temperature in Degrees Celsius											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1					11.5	13.5	15.9	18.0	16.3	16.5		
2					12.0	13.7	15.3	18.4	16.4	16.3		
3					12.1	12.8	15.4	18.4	17.6	15.5		
4					10.4	12.7	15.3	18.4	16.6	14.3		
5					9.9	13.6	15.0	19.1	15.2	13.5		
6					10.0	14.3	16.0	19.4	14.5	13.1		
7					11.1	13.9	18.1	19.1	16.0	14.1		
8					12.5	13.7	19.9	19.3	15.5	14.5		
9					12.8	14.0	20.7	17.7	15.8	15.1		
10					12.9	13.3	20.6	17.3	15.2	15.7		
11					12.2	13.2	20.7	17.4	14.6	13.3		
12					12.7	14.4	18.3	18.1	14.7	12.0		
13					13.5	15.8	16.2	18.9	15.6	11.7		
14					14.6	13.9	14.8	19.3	16.1	11.8		
15					15.3	12.9	16.7	19.6	16.1	11.5		
16					15.7	12.4	18.3	19.8	16.9	10.5		
17					15.8	13.1	17.6	20.0	17.3	9.7		
18					15.0	13.4	17.5	18.8	17.1	9.3		
19					14.0	14.3	16.8	18.0	17.1	9.9		
20					12.4	13.8	16.9	16.4	16.4	10.4		
21					11.0	14.0	17.1	15.9	15.4	10.6		
22					10.9	15.3	17.9	16.3	15.1	11.8		
23					11.2	17.2	17.6	15.6	14.4	12.0		
24					11.7	17.5	19.3	16.6	14.6	11.9		
25					12.6	17.4	19.8	17.8	14.9	11.1		
26					12.8	17.1	19.7	17.5	16.1	10.6		
27					12.4	17.8	19.5	16.1	16.9	10.5		
28					12.2	17.9	19.1	16.1	17.8	11.1		
29		—			12.1	16.6	18.6	15.3	17.2	11.6		
30		—			12.9	15.9	18.8	15.4	16.4	10.9		
31		—		—	13.8	—	17.9	15.1	—	11.2	—	
MEAN					12.6	14.6	17.8	17.7	16.0	12.3		
MAX					15.8	17.9	20.7	20.0	17.8	16.5		
MIN					9.9	12.4	14.8	15.1	14.4	9.3		



UNITED STATES DEPARTMENT OF THE INTERIOR – GEOLOGICAL SURVEY — OREGON WATER SCIENCE CENTER

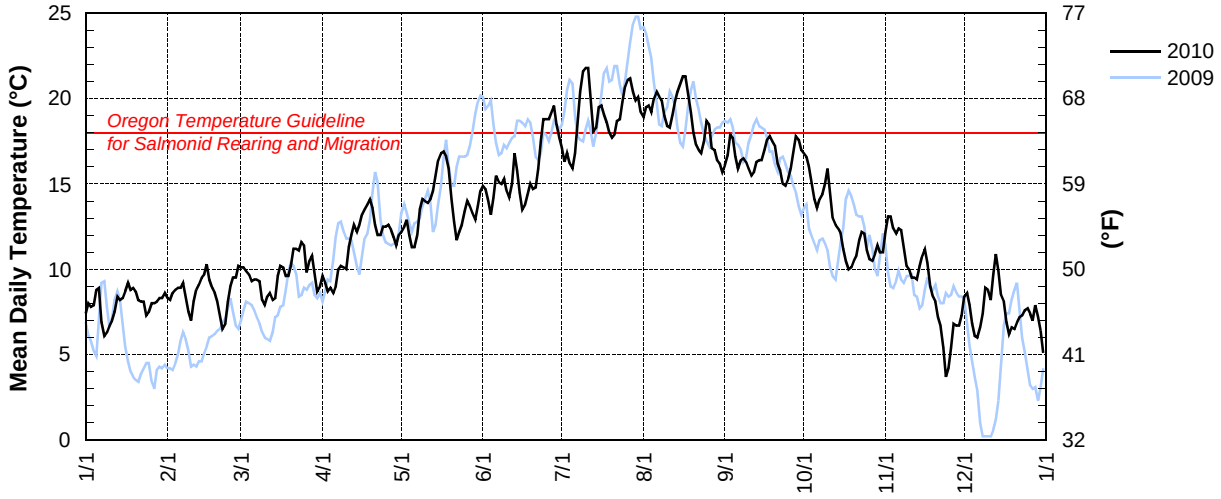
STATION NUMBER 14206950 FANNO CREEK AT DURHAM, OR

LATITUDE: 452413 LONGITUDE: 1224513

Water Temperature, degrees Celsius, Calendar Year January to December 2010 Daily Mean Values

Day	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	7.3	8.3	10.1	9.6	12.2	15.0	17.1	18.8	16.1	16.8	12.1	8.4
2	8.0	8.2	10.1	9.2	12.5	14.7	16.3	19.5	16.7	16.6	13.1	8.6
3	7.8	8.6	9.9	8.7	12.9	14.0	16.7	19.6	17.8	16.0	13.1	7.9
4	7.8	8.8	9.7	8.9	12.0	13.2	16.2	19.2	17.7	15.1	12.4	6.8
5	8.8	8.9	9.3	8.6	11.3	14.2	15.9	20.0	16.6	14.1	12.1	6.1
6	8.9	8.9	9.4	9.0	11.3	15.5	16.8	20.4	15.9	13.6	12.4	6.0
7	6.9	9.2	9.4	9.9	12.0	15.1	18.6	20.1	16.4	14.1	12.3	6.6
8	6.1	8.4	9.3	10.2	13.5	15.0	20.4	19.9	16.5	14.4	11.3	7.4
9	6.3	7.5	8.2	10.1	14.1	15.3	21.5	19.0	16.3	15.0	10.2	8.9
10	6.7	7.0	7.9	10.0	14.0	14.6	21.8	18.4	15.9	15.9	10.0	8.8
11	7.0	8.0	8.4	11.3	13.9	14.2	21.8	18.3	15.5	14.5	9.5	8.2
12	7.5	8.8	8.6	11.9	14.1	15.0	20.1	19.0	15.6	13.0	9.5	9.7
13	8.4	9.1	8.2	12.6	14.6	16.8	18.1	19.8	16.3	12.6	9.4	10.9
14	8.2	9.5	8.3	12.2	15.5	15.9	18.2	20.4	16.4	12.4	10.2	9.9
15	8.3	9.7	9.6	12.6	16.4	14.5	19.4	20.9	16.4	12.1	10.8	8.5
16	8.7	10.3	10.2	13.2	16.8	13.6	19.6	21.3	17.0	11.2	11.2	8.1
17	9.2	9.5	10.1	13.5	16.9	13.8	19.1	21.4	17.6	10.5	10.4	7.0
18	8.8	8.9	9.6	13.8	16.6	14.3	18.7	20.3	17.8	10.0	9.0	6.2
19	8.9	8.6	9.6	14.1	15.9	15.0	18.0	19.2	17.5	10.1	8.4	6.6
20	8.7	8.1	10.2	13.6	14.1	14.7	17.8	18.0	17.2	10.5	8.1	6.5
21	8.2	7.3	11.2	12.7	12.8	14.8	17.9	17.3	16.2	10.8	7.2	6.9
22	8.1	6.5	11.2	12.0	11.7	15.9	18.7	17.1	15.8	11.7	6.7	7.2
23	8.1	6.7	11.1	12.0	12.2	17.5	18.8	16.8	15.0	12.2	5.4	7.3
24	7.3	8.1	11.6	12.5	12.6	18.7	19.8	17.5	14.9	12.1	3.7	7.6
25	7.4	9.0	11.4	12.5	13.4	18.8	20.7	18.7	15.3	11.1	4.2	7.7
26	8.0	9.5	9.8	12.6	14.0	18.8	21.0	18.5	15.9	10.6	5.4	7.4
27	8.0	9.5	10.5	12.3	13.7	19.2	21.2	17.1	16.9	10.5	6.7	7.0
28	8.1	10.2	10.8	11.9	13.3	19.6	20.4	17.0	17.8	10.9	6.7	7.9
29	8.2	—	9.8	11.4	12.9	18.6	19.9	16.4	17.6	11.4	6.6	7.2
30	8.3	—	8.8	12.0	13.7	17.7	20.1	16.2	17.0	11.0	7.3	6.4
31	8.6	—	9.0	—	14.5	—	19.2	15.8	—	11.0	—	5.1
MEAN	7.9	8.5	9.8	11.4	13.7	15.8	19.1	18.7	16.5	12.6	9.2	7.6
MAX	9.2	10.2	11.6	14.1	16.9	19.6	21.8	21.4	17.8	16.8	13.1	10.9
MIN	6.1	6.5	8.2	8.6	11.3	13.2	15.9	15.8	14.9	10.0	3.7	5.1

FANO – 14206950 – Fanno Creek at Durham Road near Tigard, Oregon [RM 1.2]

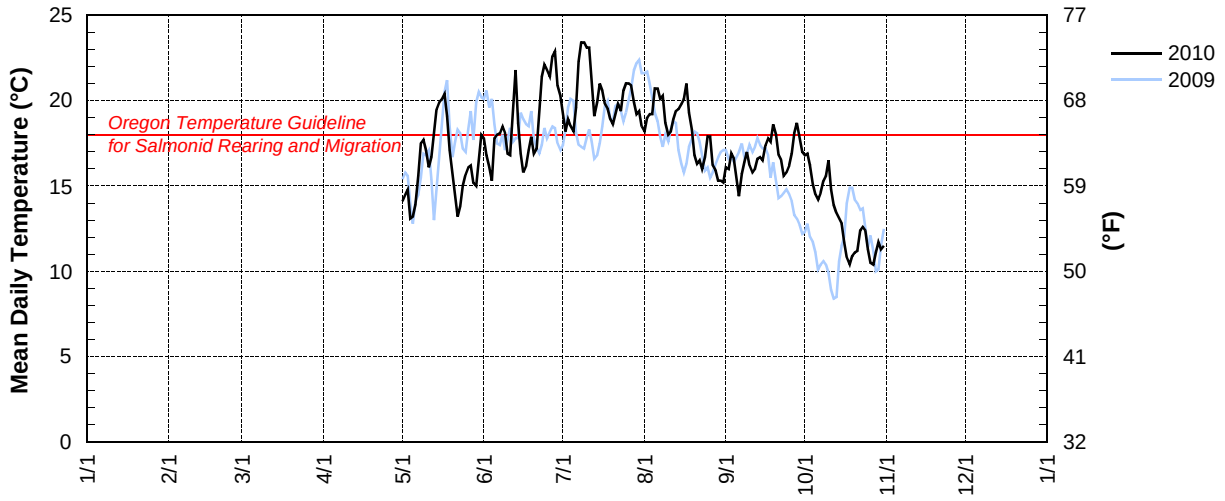


HCTP – 14206958 – HEDGES CREEK AT TUALATIN COMMUNITY PARK AT TUALATIN, OREGON [RM 0.3]

Latitude: 45 23 08 Longitude: 122 45 37 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Mean Daily Water Temperature in Degrees Celsius											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1					14.1	17.8	19.3	18.2	16.1	16.8		
2					14.5	16.8	18.2	19.0	16.0	16.9		
3					14.8	16.1	18.9	19.2	16.9	16.2		
4					13.1	15.3	18.5	19.2	16.6	15.1		
5					13.2	17.8	18.2	20.7	15.5	14.5		
6					13.9	18.0	19.6	20.7	14.4	14.2		
7					15.6	18.1	22.3	20.1	15.7	14.6		
8					17.5	18.5	23.4	20.3	16.4	15.3		
9					17.7	18.1	23.4	18.7	17.0	15.6		
10					17.1	16.9	23.1	18.0	16.2	16.5		
11					16.1	16.8	23.1	18.2	15.8	14.8		
12					16.7	19.3	21.1	18.9	16.0	13.9		
13					18.1	21.8	19.1	19.4	16.6	13.4		
14					19.5	18.7	19.9	19.5	16.7	13.1		
15					19.9	16.9	21.0	19.8	16.5	12.8		
16					20.1	15.8	20.6	20.1	17.4	11.7		
17					20.4	16.2	19.8	21.0	17.8	10.8		
18					19.1	17.1	19.5	19.3	17.6	10.4		
19					17.1	17.9	18.9	18.3	18.6	10.9		
20					15.6	16.9	18.6	16.8	18.0	11.1		
21					14.4	17.2	19.2	16.3	16.8	11.2		
22					13.2	19.2	19.8	16.5	16.5	12.4		
23					13.8	21.4	19.4	16.0	15.6	12.6		
24					15.0	22.1	20.6	16.7	15.8	12.4		
25					15.7	21.8	21.0	17.9	16.2	11.3		
26					16.1	21.4	21.0	17.9	16.9	10.5		
27					16.2	22.6	20.9	16.2	18.1	10.4		
28					15.2	22.9	19.9	15.9	18.7	11.1		
29		—			15.0	20.9	19.2	15.3	17.8	11.7		
30		—			16.5	20.3	19.4	15.3	17.0	11.3		
31		—		—	18.0	—	18.5	15.2	—	11.5	—	
MEAN					16.2	18.7	20.2	18.2	16.7	13.1		
MAX					20.4	22.9	23.4	21.0	18.7	16.9		
MIN					13.1	15.3	18.2	15.2	14.4	10.4		

HCTP – 14206958 – Hedges Creek at Tualatin Community Park at Tualatin, Oregon [RM 0.3]

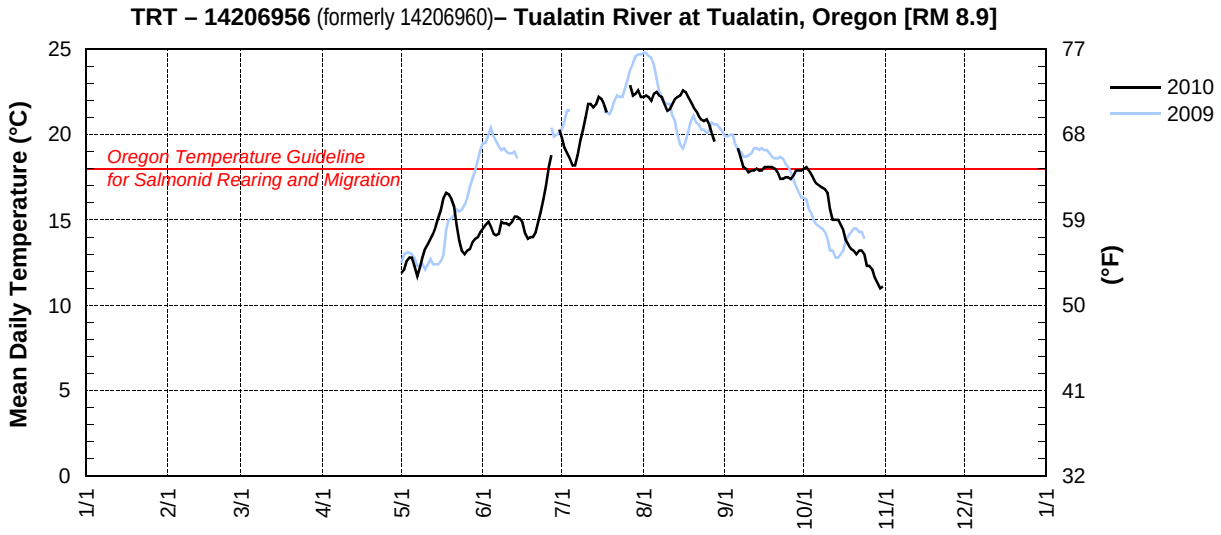


TRT – 14206956 (formerly 14206960) – TUALATIN RIVER AT TUALATIN, OREGON [RM 8.9]

Latitude: 45 23 14 Longitude: 122 45 46 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Mean Daily Water Temperature in Degrees Celsius											
	JAN	FEB	MAR	APR	MAY	JUN	JUL*	AUG	SEP*	OCT	NOV	DEC
1					11.9	14.5	19.8	22.2		18.0		
2					12.1	14.7	19.2	22.3		18.1		
3					12.6	14.9	18.9	22.2		17.9		
4					12.8	14.6	18.6	22.0		17.6		
5					12.8	14.2	18.2	22.4		17.3		
6					12.3	14.1	18.2	22.5	e19.2	17.1		
7					11.7	14.2	18.8	22.3	18.6	17.0		
8					12.2	14.9	19.6	22.2	18.1	16.9		
9					12.8	14.8	20.3	21.8	18.0	16.8		
10					13.3	14.8	21.0	21.4	17.8	16.6		
11					13.6	14.7	21.8	21.5	17.9	15.6		
12					13.9	14.9	21.8	21.8	17.9	15.0		
13					14.2	15.2	21.6	22.1	18.0	15.0		
14					14.6	15.2	21.8	22.2	17.9	15.0		
15					15.1	15.1	22.2	22.3	17.9	14.7		
16					15.6	14.9	22.1	22.6	18.1	14.4		
17					16.3	14.2	21.8	22.5	18.1	13.8		
18					16.6	13.9	e21.3	22.2	18.1	13.5		
19					16.5	14.0		21.9	18.1	13.3		
20					16.2	14.0		21.6	18.0	13.2		
21					15.8	14.3		21.4	17.8	13.0		
22					14.7	14.9		21.1	17.4	13.2		
23					13.8	15.5		20.9	17.4	13.2		
24					13.2	16.2		20.8	17.5	13.0		
25					13.0	17.0		20.9	17.5	12.3		
26					13.2	18.1		20.6	17.4	12.3		
27					13.3	e18.8	e22.9	20.1	17.6	12.1		
28					13.7		22.3	e19.6	17.9	11.6		
29		—			13.9		22.4		17.9	11.3		
30		—			14.0	e20.3	22.6		17.9	11.0		
31		—		—	14.3	—	22.2		—	11.1	—	
MEAN					13.9	15.2	20.8	21.7	17.9	14.5		
MAX					16.6	20.3	22.9	22.6	19.2	18.1		
MIN					11.7	13.9	18.2	19.6	17.4	11.0		

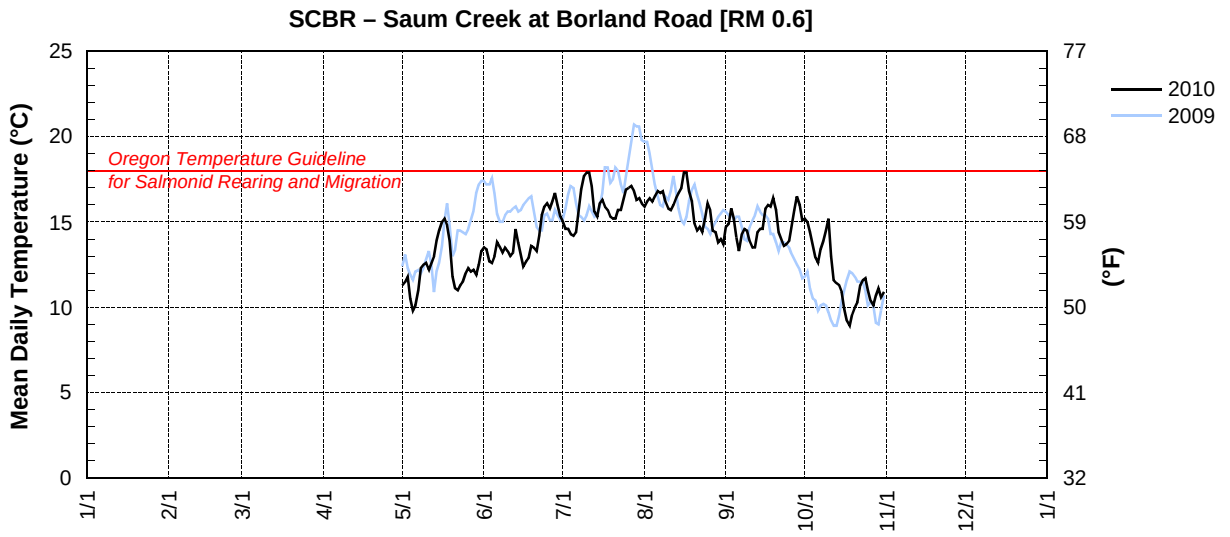
* Incomplete record (monthly statistics computed when at least 80% of the record was complete for the month); e=estimated value



SCBR – SAUM CREEK AT BORLAND ROAD [RM 0.6]

Latitude: 45 22 32 Longitude: 122 43 22 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Mean Daily Water Temperature in Degrees Celsius											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1					11.3	13.5	15.0	15.9	14.7	15.2		
2					11.5	13.4	14.6	16.2	14.9	15.0		
3					11.8	12.7	14.6	16.4	15.8	14.4		
4					10.5	12.6	14.3	16.2	15.2	13.6		
5					9.8	13.0	14.2	16.5	14.1	12.9		
6					10.1	13.8	14.4	16.8	13.3	12.6		
7					11.0	13.5	15.7	16.7	14.3	13.4		
8					12.3	13.2	16.9	16.8	14.6	13.9		
9					12.5	13.5	17.7	16.2	14.5	14.5		
10					12.6	13.3	17.9	15.8	13.9	15.2		
11					12.2	13.0	17.9	15.7	13.5	13.0		
12					12.6	13.2	17.1	16.0	13.5	11.6		
13					13.0	14.6	15.6	16.4	14.4	11.4		
14					13.9	13.8	15.3	16.7	14.6	11.3		
15					14.5	13.1	16.1	17.0	14.6	10.9		
16					15.0	12.4	16.3	17.9	15.8	9.9		
17					15.2	12.7	15.9	17.9	16.0	9.2		
18					14.8	12.9	15.7	16.8	15.9	8.9		
19					13.9	13.6	15.3	16.2	16.4	9.6		
20					11.8	13.5	15.2	14.9	15.7	10.0		
21					11.1	13.3	15.2	14.5	14.4	10.3		
22					11.0	14.2	15.7	14.7	14.0	11.3		
23					11.3	15.4	15.7	14.4	13.6	11.6		
24					11.5	15.9	16.3	15.2	13.7	11.7		
25					12.0	16.1	16.9	16.1	13.9	11.0		
26					12.3	15.8	17.0	15.7	14.8	10.4		
27					12.1	16.2	17.1	14.5	15.7	10.1		
28					12.2	16.7	16.8	14.4	16.5	10.7		
29		—			11.9	16.0	16.3	13.8	16.0	11.1		
30		—			12.5	15.3	16.4	14.0	15.1	10.6		
31		—		—	13.3	—	16.1	13.7	—	10.9	—	
MEAN					12.3	14.0	16.0	15.8	14.8	11.8		
MAX					15.2	16.7	17.9	17.9	16.5	15.2		
MIN					9.8	12.4	14.2	13.7	13.3	8.9		

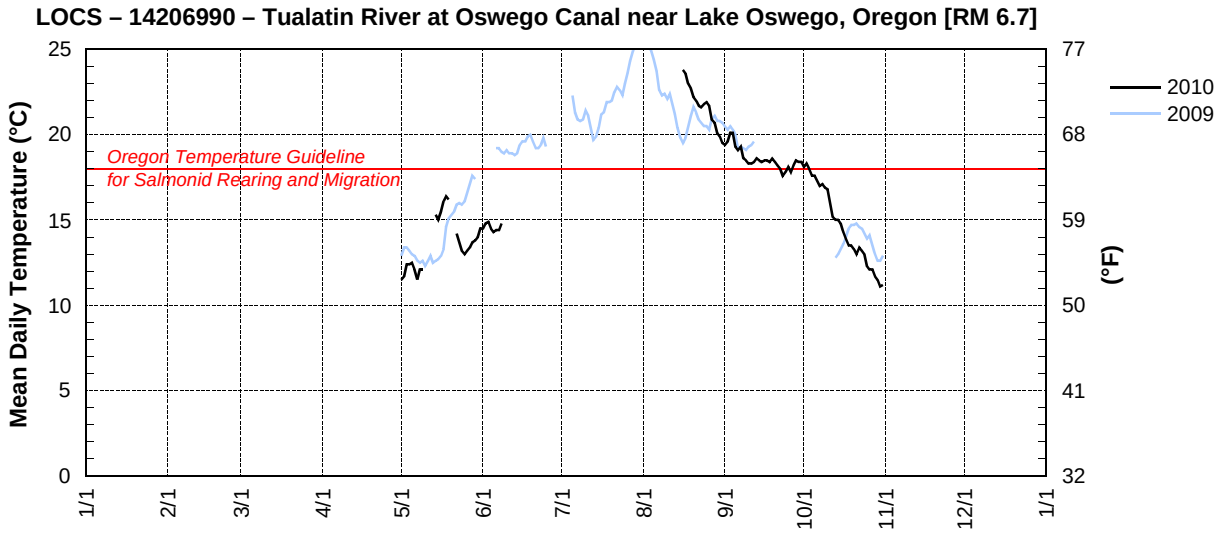


LOCS – 14206990 – TUALATIN RIVER AT OSWEGO CANAL NEAR LAKE OSWEGO, OREGON [RM 6.7]

Latitude: 45 22 57 Longitude: 122 43 17 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Mean Daily Water Temperature in Degrees Celsius											
	JAN	FEB	MAR	APR	MAY*	JUN*	JUL*	AUG*	SEP	OCT	NOV	DEC
1					11.5	14.5			19.4	18.1		
2					11.7	14.8			19.6	18.3		
3					12.4	14.9			20.1	18.0		
4					12.4	14.5			20.1	17.6		
5					12.5	14.3			19.3	17.6		
6					12.1	14.4			19.1	17.3		
7					11.5	14.4			19.3	17.0		
8					12.1	e14.8			18.6	17.1		
9					e12.1				18.5	16.9		
10									18.3	16.8		
11									18.3	16.0		
12									18.4	15.2		
13									18.6	15.0		
14					e15.3				18.5	15.0		
15					15.0				18.4	14.8		
16					15.5			e23.8	18.5	14.3		
17					16.1			23.6	18.5	13.9		
18					16.4			23.0	18.4	13.5		
19					e16.2			22.7	18.6	13.5		
20								22.2	18.4	13.3		
21								22.0	18.2	13.0		
22					e14.2			21.7	18.0	13.4		
23					13.7			21.6	17.6	13.2		
24					13.2			21.8	17.8	13.0		
25					13.0			21.9	18.1	12.3		
26					13.2			21.7	17.8	12.1		
27					13.4			20.9	18.2	12.1		
28					13.7			20.7	18.5	11.7		
29					13.8			20.1	18.4	11.5		
30		—			14.0			19.9	18.4	11.1		
31		—		—	14.5	—		19.5	—	11.2	—	
MEAN					13.6				18.6	14.6		
MAX					16.4				20.1	18.3		
MIN					11.5				17.6	11.1		

* Incomplete record (monthly statistics computed when at least 80% of the record was complete for the month); e=estimated value



UNITED STATES DEPARTMENT OF THE INTERIOR – GEOLOGICAL SURVEY — OREGON WATER SCIENCE CENTER

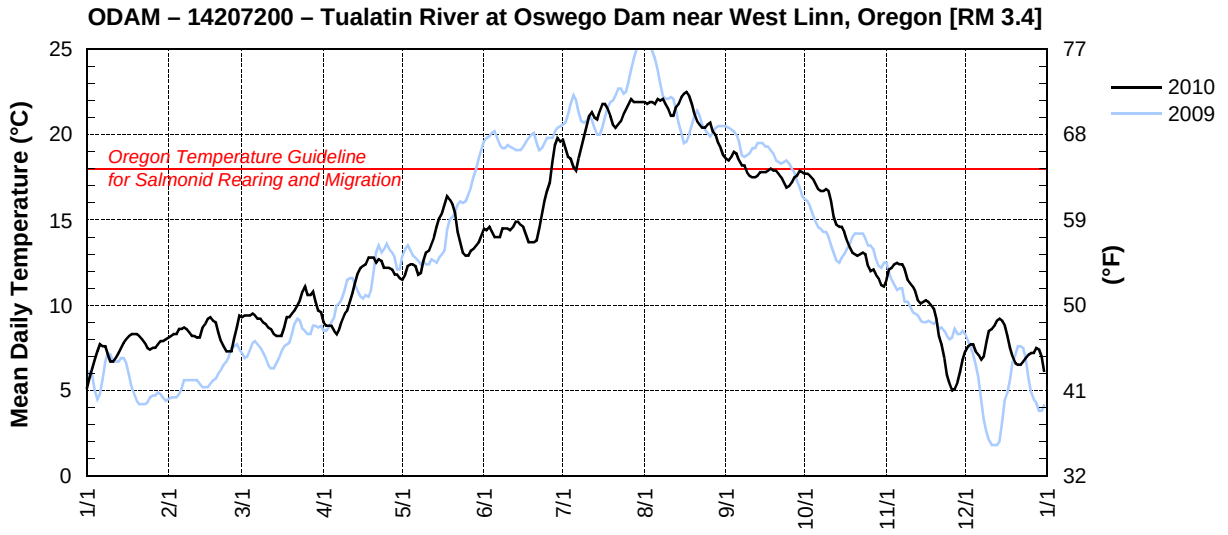
STATION NUMBER 14207200 TUALATIN RIVER AT OSWEGO DAM, NEAR WEST LINN, OR.

LATITUDE: 452124 LONGITUDE: 1224102

Water Temperature, degrees Celsius, Calendar Year January to December 2010 Daily Mean Values

Day	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT†	NOV†	DEC†
1	5.0	8.1	9.3	9.1	11.5	14.5	19.7	21.9	18.6	17.7	11.5	7.3
2	5.7	8.2	9.4	8.8	11.8	14.4	19.2	21.8	18.5	17.7	12.1	7.6
3	6.2	8.3	9.4	8.8	12.3	14.6	18.7	21.9	18.7	17.6	12.2	7.7
4	6.8	8.3	9.4	8.8	12.4	14.3	18.6	21.9	19.0	17.4	12.4	7.7
5	7.3	8.6	9.5	8.5	12.4	14.0	18.1	21.8	18.9	17.1	12.5	7.3
6	7.7	8.6	9.4	8.3	12.3	14.0	17.9	22.1	18.5	16.8	12.4	7.1
7	7.6	8.7	9.2	8.6	11.8	14.0	18.6	22.0	18.2	16.7	12.4	6.8
8	7.6	8.6	9.2	9.1	11.9	14.5	19.2	22.1	18.2	16.7	12.1	7.0
9	7.1	8.4	9.0	9.4	12.6	14.5	19.9	21.8	17.9	16.8	11.5	7.8
10	6.7	8.2	8.9	9.7	13.1	14.5	20.5	21.5	17.6	16.7	11.3	8.5
11	6.7	8.2	8.7	10.2	13.2	14.4	21.1	21.1	17.5	16.1	11.1	8.6
12	6.9	8.1	8.7	10.7	13.6	14.6	21.3	21.1	17.5	15.2	10.8	8.8
13	7.2	8.1	8.3	11.3	14.0	14.9	21.0	21.6	17.6	14.7	10.3	9.1
14	7.5	8.7	8.2	11.9	14.6	14.9	20.9	21.8	17.8	14.6	10.2	9.2
15	7.8	8.9	8.2	12.2	15.0	14.7	21.4	22.1	17.8	14.6	10.2	9.1
16	8.0	9.1	8.2	12.3	15.4	14.7	21.8	22.4	17.8	14.3	10.3	8.8
17	8.1	9.3	8.7	12.4	15.9	14.1	21.8	22.5	17.9	13.8	10.2	8.2
18	8.3	9.1	9.3	12.7	16.4	13.7	21.6	22.3	18.0	13.4	10.0	7.6
19	8.3	9.0	9.3	12.8	16.3	13.7	21.1	21.9	17.9	13.1	9.8	7.0
20	8.3	8.4	9.5	12.8	15.9	13.7	20.6	21.2	17.9	13.0	9.2	6.6
21	8.2	7.9	9.7	12.6	15.4	13.8	20.4	20.8	17.7	12.9	8.2	6.5
22	8.0	7.6	10.0	12.7	14.3	14.5	20.5	20.6	17.5	13.0	7.7	6.5
23	7.8	7.3	10.3	12.6	13.7	15.3	20.8	20.4	17.2	13.1	6.9	6.7
24	7.5	7.3	10.8	12.2	13.1	16.1	21.1	20.4	16.9	13.0	5.9	6.9
25	7.4	7.3	11.1	12.2	12.9	16.7	21.5	20.6	17.0	12.4	5.4	7.1
26	7.5	7.9	10.7	12.2	12.9	17.1	21.8	20.7	17.2	12.0	5.0	7.2
27	7.5	8.6	10.6	12.2	13.2	18.4	22.1	20.2	17.5	12.1	5.1	7.2
28	7.7	9.4	10.8	11.8	13.3	19.4	21.9	20.0	17.6	11.8	5.5	7.5
29	7.9	—	10.2	11.8	13.5	19.8	21.9	19.5	17.9	11.6	6.1	7.4
30	7.9	—	9.7	11.6	13.7	19.6	21.9	19.2	17.8	11.3	6.8	7.1
31	8.0	—	9.6	—	14.1	—	21.9	18.8	—	11.1	—	6.2
MEAN	7.4	8.4	9.5	11.0	13.6	15.3	20.6	21.2	17.9	14.5	9.5	7.6
MAX	8.3	9.4	11.1	12.8	16.4	19.8	22.1	22.5	19.0	17.7	12.5	9.2
MIN	5.0	7.3	8.2	8.3	11.5	13.7	17.9	18.8	16.9	11.1	5.0	6.2

† Provisional data–subject to revision



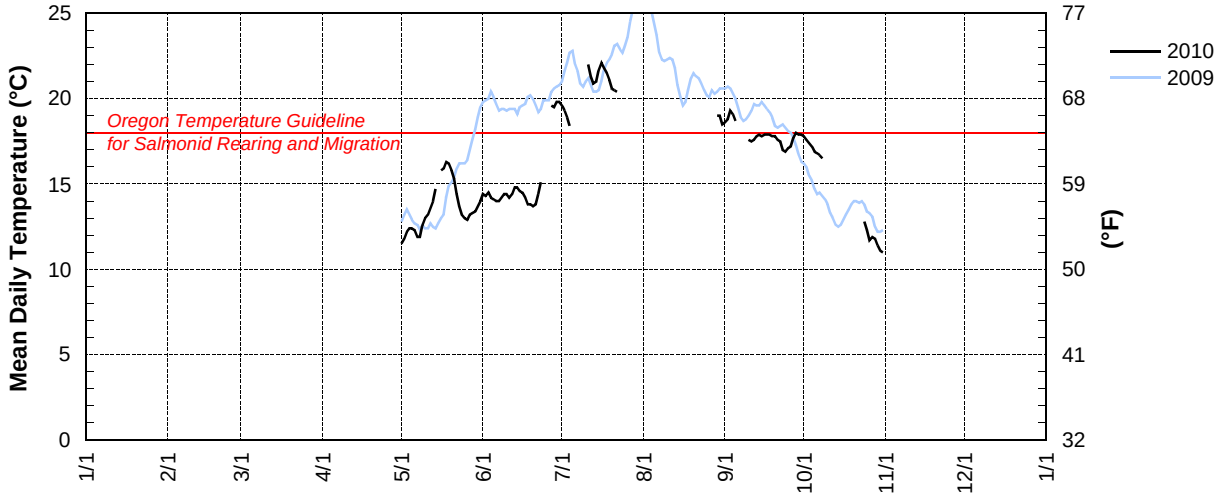
WSLO – 14207500 – TUALATIN RIVER AT WEST LINN, OREGON [RM 1.75]

Latitude: 45 22 57 Longitude: 122 43 17 Source Agency: WEST Consultants for Clean Water Services

Day	2010 Mean Daily Water Temperature in Degrees Celsius											
	JAN	FEB	MAR	APR	MAY*	JUN*	JUL*	AUG*	SEP*	OCT*	NOV	DEC
1					11.5	14.4	19.6		18.6	17.8		
2					11.8	14.3	19.3		18.8	17.6		
3					12.2	14.5	18.9		19.3	17.4		
4					12.4	14.2	e18.4		19.1	17.2		
5					12.4	14.1			e18.7	16.9		
6					12.3	14.0				16.8		
7					11.9	14.0				16.7		
8					11.9	14.2				e16.5		
9					12.6	14.4						
10					13.0	14.4			e17.6			
11					13.2	14.2	e22.0		17.5			
12					13.6	14.4	21.3		17.6			
13					14.0	14.8	20.9		17.8			
14					e14.7	14.8	21.0		17.9			
15						14.6	21.7		17.8			
16					e15.8	14.5	22.1		17.9			
17					15.9	14.2	21.8		17.9			
18					16.3	13.8	21.5		17.9			
19					16.2	13.8	21.1		17.8			
20					15.8	13.7	20.6		17.8			
21					15.3	13.8	20.5		17.6			
22					14.4	14.4	e20.4		17.5			
23					13.7	e15.1			17.0			
24					13.2				16.9	e12.8		
25					13.0				17.1	12.3		
26					12.9				17.2	11.7		
27					13.2	e19.6			17.7	11.9		
28					13.3	19.5			18.0	11.8		
29		—			13.4	19.8		e19.0	17.9	11.4		
30		—			13.7	19.8		19.0	17.9	11.1		
31		—		—	14.0	—		18.5	—	11.0	—	
MEAN					13.6	15.1			17.9			
MAX					16.3	19.8			19.3			
MIN					11.5	13.7			16.9			

* Incomplete record (monthly statistics computed when at least 80% of the record was complete for the month); e=estimated value

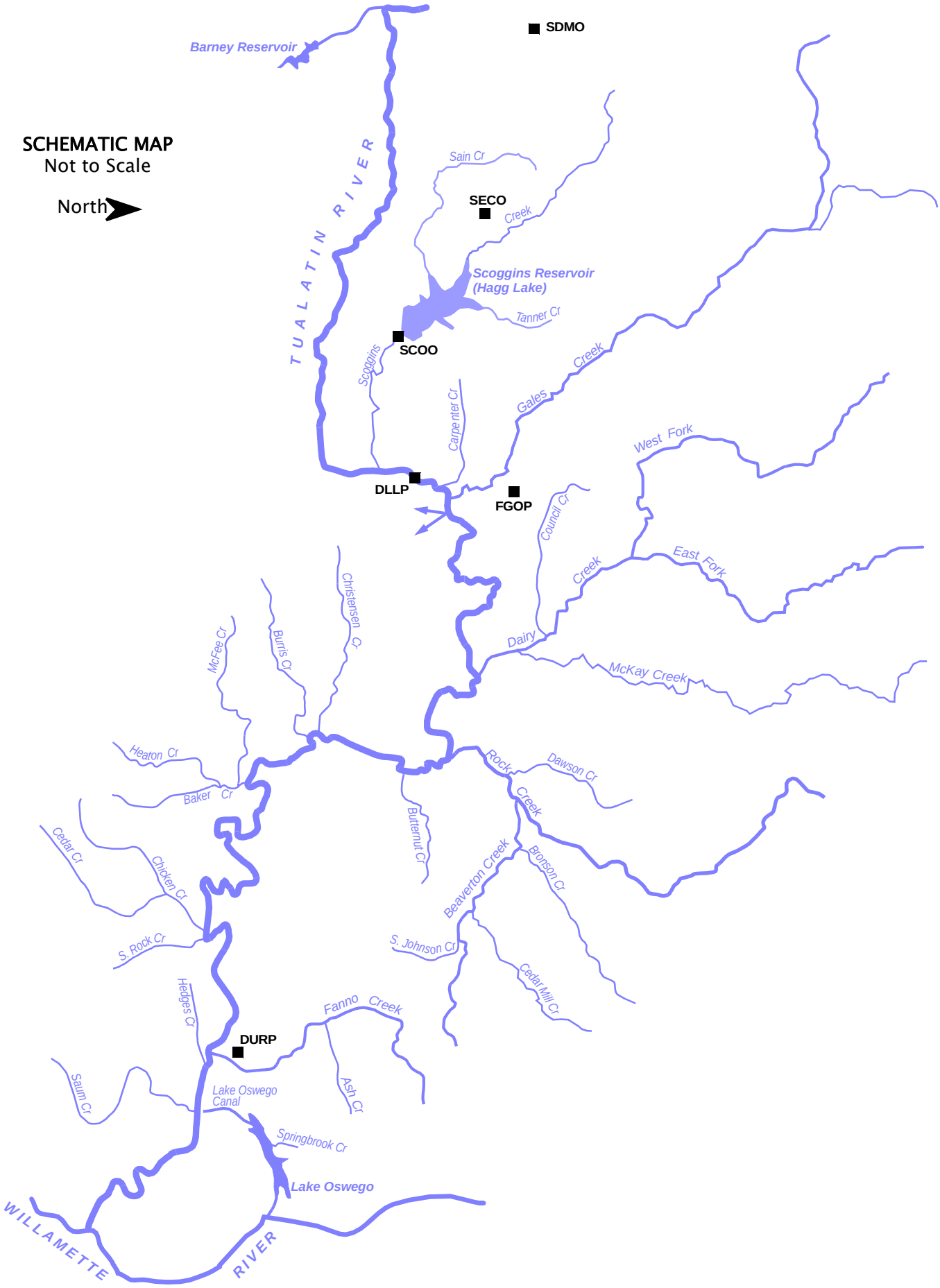
WSLO – 14207500 – Tualatin River at West Linn, Oregon [RM 1.75]



Appendix H

Precipitation Data

PRECIPITATION MONITORING STATIONS — LOCATIONS



PRECIPITATION SITES — ALPHABETICAL LISTING BY SITE CODE

SITE CODE	SITE NAME	Elevation (ft)	PAGE
DLLP	Dilley Precipitation Station	170	H-10
DURP	Durham Wastewater Treatment Plant Precipitation Station	140	H-14
FGOP	Forest Grove Precipitation Station (Verboort)	180	H-12
SCOO	Scoggins Creek below Henry Hagg Lake	215	H-8
SDMO	South Saddle Mountain Precipitation Station	3250	H-4
SECO	Sain Creek Precipitation Station	2000	H-6

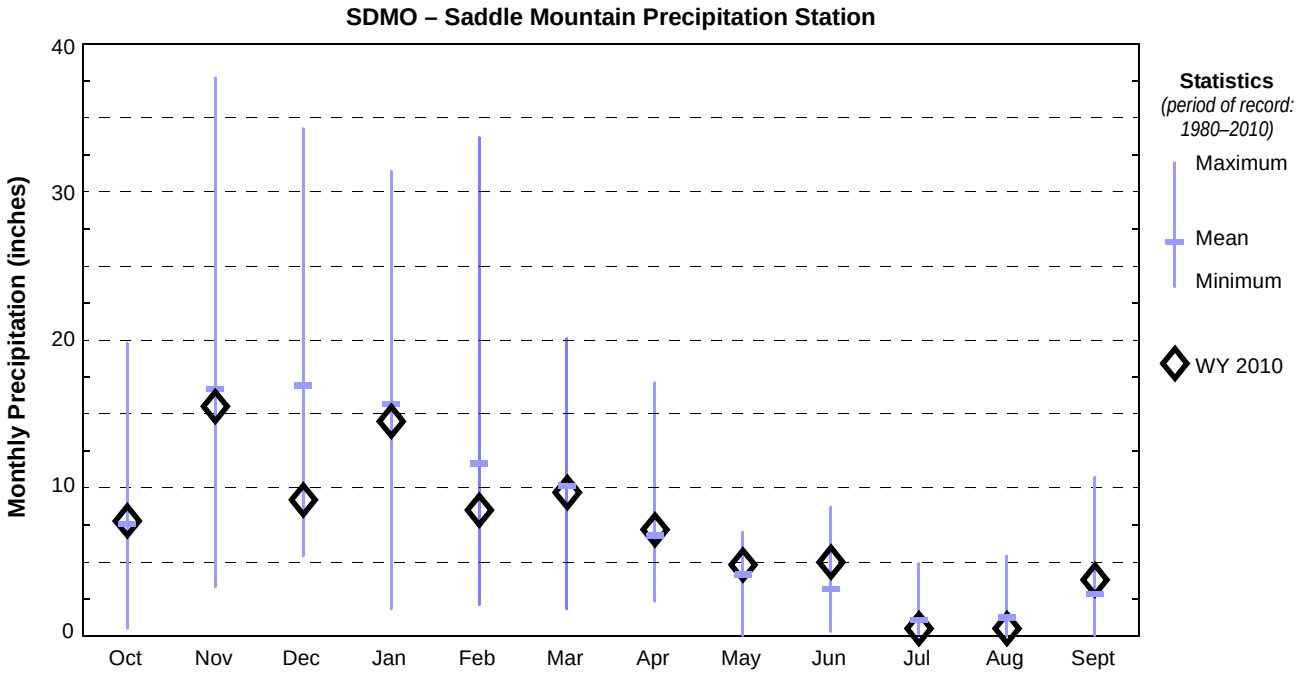
SDMO – SOUTH SADDLE MOUNTAIN PRECIPITATION STATION

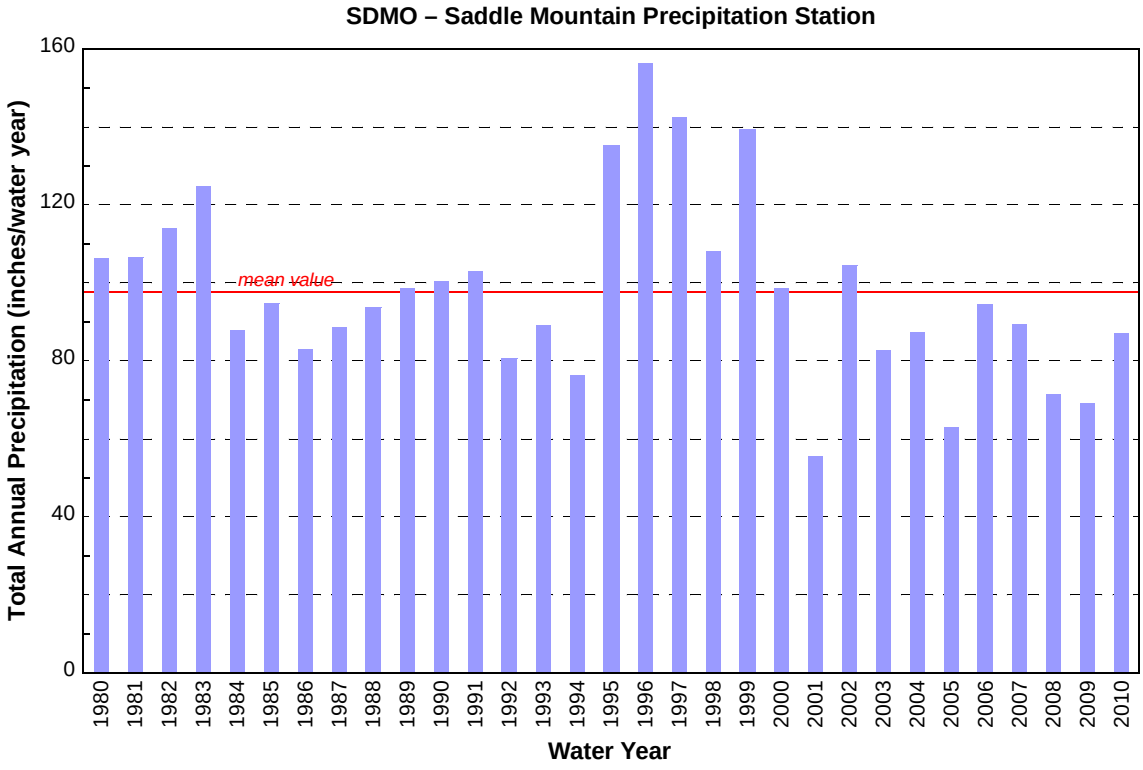
Elevation: 3250 ft
Latitude: 45 31 48 Longitude: 123 22 12

Source Agency: Natural Resources Conservation Service
http://www.wcc.nrcs.usda.gov/cgibin/tab.pl?state=OR

Water Year*	Total Monthly Precipitation (inches)											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1980	10.8	7.5	19.2	19.3	11.2	10.1	6.5	6.4	8.7	1.0	0.6	4.9
1981	4.2	19.3	26.8	5.2	18.6	7.5	7.9	4.1	7.2	0.4	0.7	4.4
1982	13.0	14.9	26.6	19.3	17.2	7.5	7.2	0.0	2.0	1.1	1.9	3.3
1983	13.4	16.7	21.5	17.3	15.2	11.5	7.1	4.3	4.7	4.9	3.4	4.7
1984	1.7	23.3	11.8	8.3	12.6	8.1	6.3	6.4	3.8	0.6	1.1	3.8
1985	11.4	28.6	12.9	1.8	10.2	11.8	4.8	1.5	4.3	0.2	1.4	5.9
1986	12.2	11.1	5.4	15.8	13.4	7.2	5.7	3.2	1.1	1.4	0.2	6.2
1987	5.3	20.2	11.1	17.1	7.7	16.0	2.3	4.9	1.1	1.7	0.2	0.9
1988	0.7	10.8	22.2	14.1	9.6	15.0	7.8	6.1	2.4	2.0	0.3	2.7
1989	2.5	28.5	11.4	14.9	10.2	17.4	5.3	2.8	1.7	1.9	2.0	0.0
1990	5.8	9.6	8.6	31.4	20.8	7.0	6.4	3.3	4.9	0.4	0.8	1.5
1991	11.4	18.7	10.0	12.7	12.7	12.1	15.3	4.4	2.7	1.0	1.2	0.6
1992	2.8	14.4	11.8	19.1	8.8	1.8	10.5	2.4	1.2	1.4	1.1	5.3
1993	6.8	13.8	16.2	10.8	3.3	12.4	13.7	6.4	3.2	1.6	0.9	0.0
1994	2.7	3.3	18.8	11.0	15.2	9.3	5.5	3.6	4.2	0.9	0.5	1.2
1995	14.7	20.9	31.0	19.7	13.5	14.8	6.8	1.5	4.3	3.0	1.3	3.7
1996	8.5	34.8	21.7	21.2	32.6	6.0	17.1	6.4	2.0	1.2	1.0	3.7
1997	11.6	16.9	34.3	17.2	7.3	20.1	8.3	5.9	5.3	2.1	2.6	10.7
1998	19.8	15.3	9.3	24.2	14.7	10.4	3.3	6.1	1.6	0.2	0.4	2.7
1999	7.7	25.9	28.7	20.3	33.7	12.9	2.8	5.0	0.9	0.2	1.3	0.0
2000	6.1	23.6	18.6	17.7	10.1	6.3	2.9	4.9	6.0	0.1	0.6	1.6
2001	4.3	5.6	9.2	5.5	4.8	6.2	6.1	5.2	3.3	1.4	3.1	0.7
2002	6.6	23.0	20.3	21.7	7.5	10.7	7.6	2.9	3.6	0.2	0.3	0.1
2003	0.5	5.8	17.2	21.5	5.4	19.5	7.5	2.3	0.3	0.3	0.4	1.9
2004	9.4	12.1	13.5	15.0	8.7	5.4	4.4	4.9	2.7	0.1	5.4	5.7
2005	7.4	5.0	10.9	9.3	2.1	11.0	6.5	5.8	2.2	1.0	0.4	1.4
2006	9.4	12.4	18.2	29.8	6.1	7.3	3.5	3.0	2.0	0.7	0.0	2.1
2007	1.9	37.7	15.1	9.0	10.3	4.9	3.7	0.5	2.0	0.9	1.1	2.1
2008	7.7	9.5	21.9	11.5	4.7	7.6	4.9	1.1	2.3	0.3	2.4	0.0
2009	6.6	11.9	10.7	11.5	4.4	7.1	4.8	7.0	0.8	0.5	1.3	2.4
2010	7.8	15.5	9.2	14.5	8.5	9.7	7.2	4.8	5.0	0.5	0.5	3.8
MIN	0.5	3.3	5.4	1.8	2.1	1.8	2.3	0.0	0.3	0.1	0.0	0.0
MAX	19.8	37.7	34.3	31.4	33.7	20.1	17.1	7.0	8.7	4.9	5.4	10.7
MEAN	7.57	16.66	16.91	15.65	11.65	10.15	6.76	4.10	3.15	1.07	1.24	2.84

*Water Year (WY) begins October 1st of the previous calendar year and ends September 30th of current year.


SDMO – Saddle Mountain Precipitation Station
Monthly Precipitation (inches)
0
10
20
30
40
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sept
Statistics
(period of record: 1980–2010)
Maximum
Mean
Minimum
WY 2010


SDMO – Saddle Mountain Precipitation Station
Total Annual Precipitation (inches/water year)
0
40
80
120
160
mean value
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
Water Year

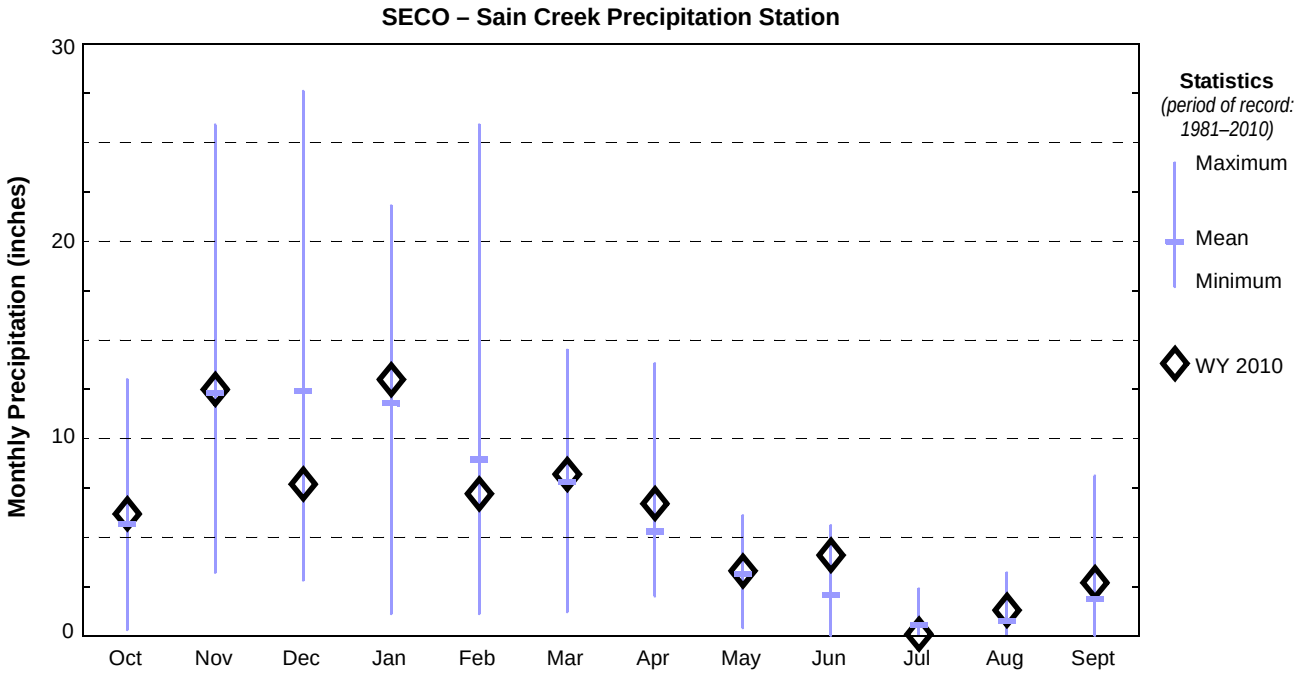
SECO – SAIN CREEK PRECIPITATION STATION

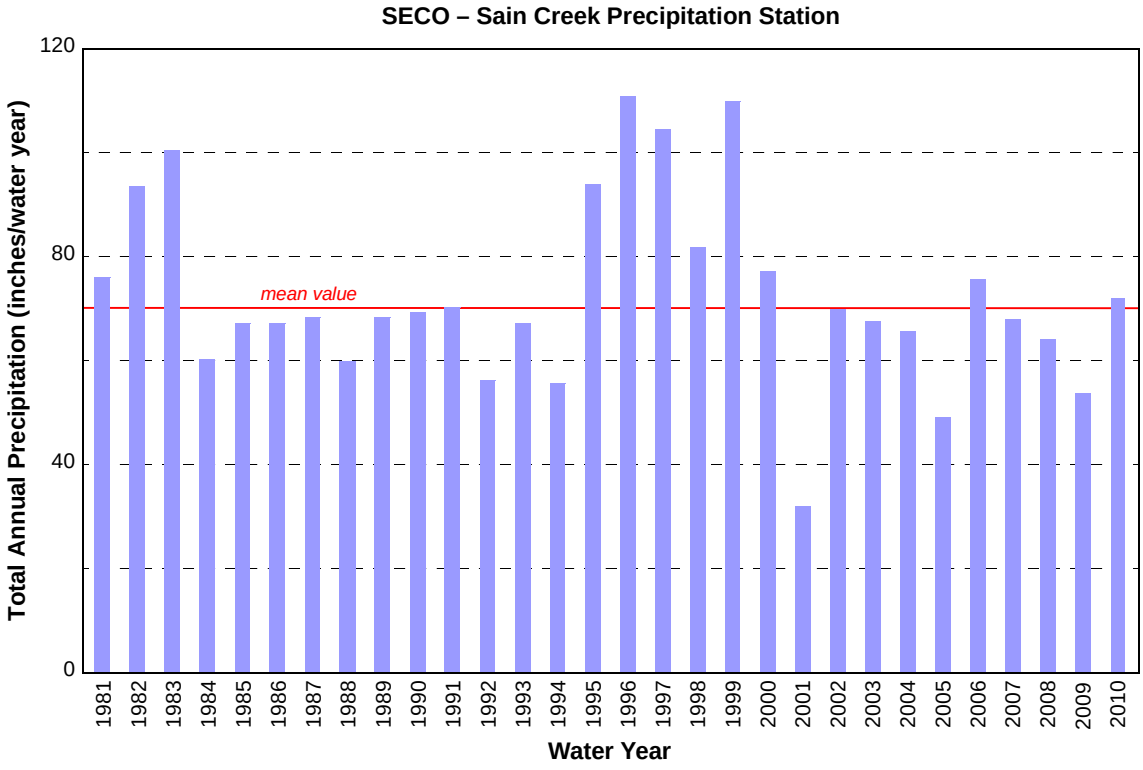
Elevation: 2000 ft
Latitude: 45 31 12 Longitude: 123 16 48

Source Agency: Natural Resources Conservation Service
http://www.wcc.nrcs.usda.gov/cgibin/tab.pl?state=OR

Water Year*	Total Monthly Precipitation (inches)											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1981	2.3	13.5	17.8	5.8	12.8	5.3	6.0	3.6	5.6	0.0	0.2	3.0
1982	10.3	11.8	20.8	13.2	14.9	7.9	6.4	0.7	2.0	1.1	1.9	2.4
1983	11.1	11.4	17.0	15.5	17.3	14.5	6.3	2.5	3.1	1.6	0.0	0.1
1984	1.4	16.7	3.5	3.5	12.1	9.1	2.5	5.3	3.3	0.0	0.0	2.8
1985	10.4	22.6	7.0	1.1	4.0	7.9	4.3	1.4	3.5	0.1	1.6	3.2
1986	9.3	4.9	2.8	13.2	15.1	2.9	5.2	6.1	0.2	1.0	0.2	6.3
1987	4.5	15.3	8.4	12.4	6.4	12.3	3.6	3.3	0.4	1.2	0.2	0.3
1988	0.7	6.8	15.8	12.2	2.8	9.1	4.4	4.0	2.0	0.7	0.0	1.4
1989	1.3	21.5	7.4	9.1	7.3	11.6	3.7	1.7	1.9	0.9	1.7	0.1
1990	4.5	6.2	5.8	21.8	14.5	6.4	3.2	2.6	2.5	0.3	0.7	0.8
1991	8.4	10.9	6.1	7.4	9.1	8.3	12.9	2.8	2.1	0.8	0.8	0.5
1992	2.5	9.7	8.4	12.2	6.7	1.2	9.2	1.1	1.1	0.6	0.4	3.1
1993	5.0	9.3	11.9	8.9	2.0	8.8	9.9	5.7	2.7	2.4	0.5	0.0
1994	1.7	4.5	12.7	8.5	10.7	5.9	4.2	3.1	2.4	0.1	0.2	1.6
1995	13.0	13.4	16.6	16.0	9.3	11.2	5.2	1.9	2.9	1.1	0.8	2.5
1996	6.6	24.6	15.7	15.3	21.9	3.4	13.8	4.8	1.4	0.4	0.4	2.6
1997	8.4	12.7	27.6	13.3	4.7	13.7	5.6	4.8	3.4	0.4	1.9	8.1
1998	13.0	12.0	6.4	19.8	12.0	8.5	2.5	5.1	0.8	0.0	0.2	1.5
1999	5.6	20.5	22.3	16.1	25.9	11.1	2.0	4.0	1.0	0.2	1.2	0.0
2000	4.6	18.3	15.4	13.5	8.5	5.3	2.6	3.8	4.0	0.0	0.2	0.9
2001	2.9	3.7	6.4	3.2	3.1	3.7	3.7	2.4	1.1	0.3	1.2	0.2
2002	3.8	16.7	13.3	14.9	5.1	6.6	5.1	2.0	2.0	0.1	0.0	0.3
2003	0.3	7.8	16.5	15.8	4.3	14.1	5.9	1.4	0.0	0.0	0.0	1.5
2004	5.8	7.3	12.0	12.2	7.6	3.9	4.7	2.3	2.0	0.2	3.2	4.4
2005	5.6	3.2	8.3	8.4	1.1	8.5	4.9	5.3	2.5	0.4	0.2	0.6
2006	9.1	10.4	14.7	21.8	3.7	6.9	3.3	3.1	1.5	0.2	0.0	0.9
2007	1.8	25.9	12.0	6.1	9.5	4.0	3.2	0.4	1.1	1.2	0.9	1.9
2008	4.7	7.5	20.0	11.2	5.0	7.5	4.5	0.5	0.6	0.6	1.9	0.0
2009	5.8	7.4	11.3	7.9	3.0	5.9	2.9	5.3	0.8	0.0	1.3	2.0
2010	6.2	12.5	7.7	13.0	7.2	8.2	6.7	3.3	4.1	0.1	0.2	2.7
MIN	0.3	3.2	2.8	1.1	1.1	1.2	2.0	0.4	0.0	0.0	0.0	0.0
MAX	13.0	25.9	27.6	21.8	25.9	14.5	13.8	6.1	5.6	2.4	3.2	8.1
MEAN	5.69	12.30	12.39	11.78	8.92	7.79	5.28	3.14	2.07	0.53	0.73	1.86

*Water Year (WY) begins October 1st of the previous calendar year and ends September 30th of current year.


SECO – Sain Creek Precipitation Station
Monthly Precipitation (inches)
30
20
10
0
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sept
Statistics
(period of record:
1981–2010)
Maximum
Mean
Minimum
WY 2010


SECO – Sain Creek Precipitation Station
Total Annual Precipitation (inches/water year)
120
80
40
0
mean value
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
Water Year

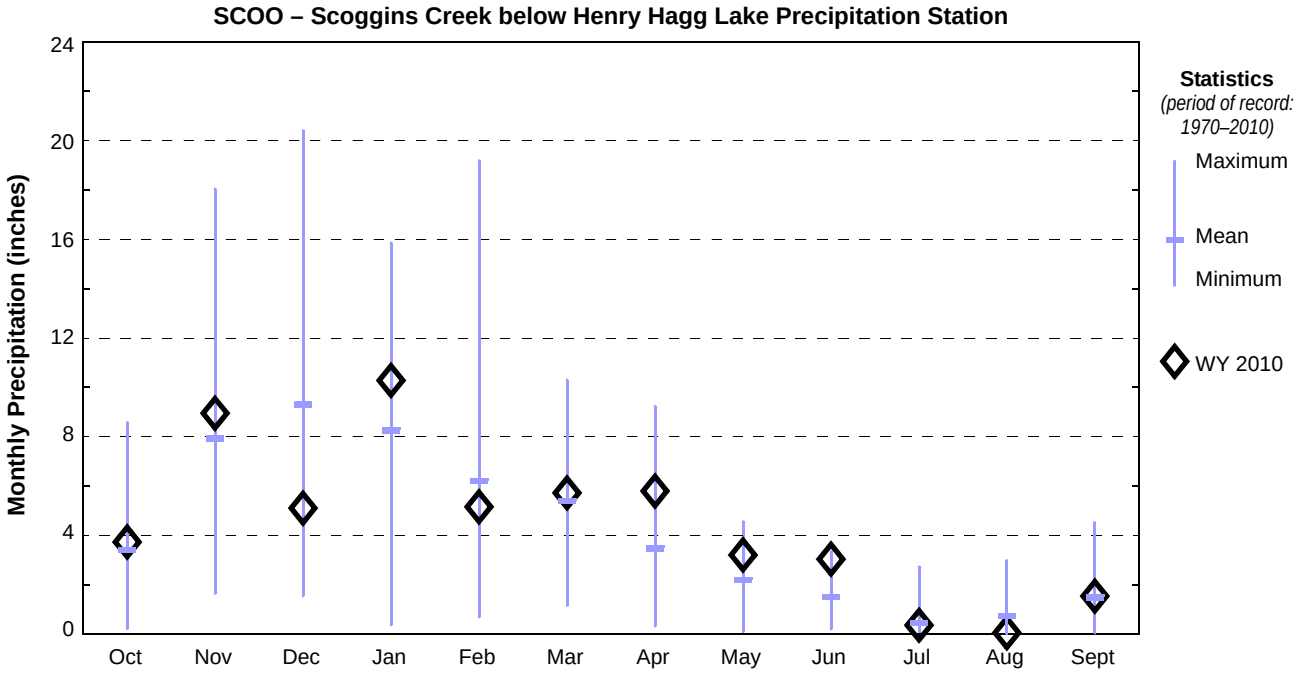
SCOO – SCOGGINS CREEK BELOW HENRY HAGG LAKE PRECIPITATION STATION

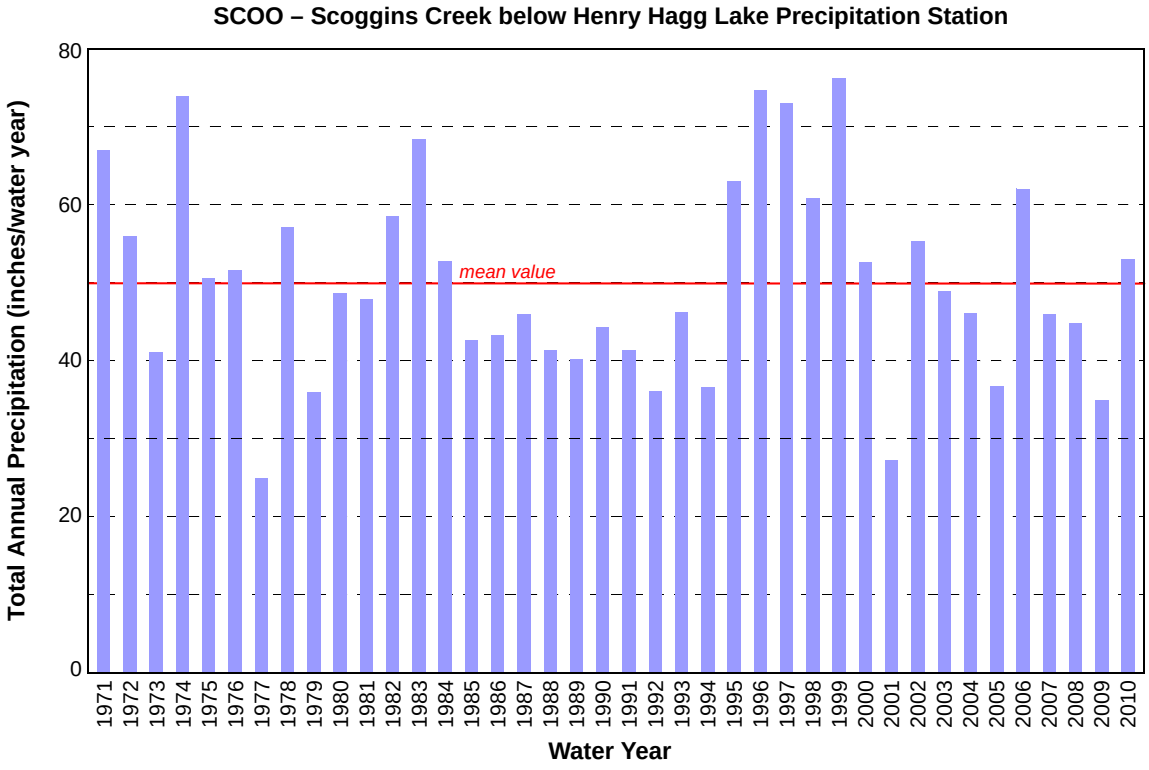
Elevation: 187.5 ft
Latitude: 45 28 10 Longitude: 123 11 56

Source Agency: Tualatin Valley Irrigation District
data not available online

Water Year*	Total Monthly Precipitation (inches)											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1970			8.53	15.85	6.30	3.47	3.49	1.27	0.77	0.01	0.00	1.10
1971	4.40	6.86	16.85	10.82	5.60	10.30	3.96	1.54	2.03	0.14	0.52	3.92
1972	4.02	8.68	12.12	10.20	5.05	6.79	3.92	0.92	0.58	0.28	0.25	3.12
1973	0.72	6.31	12.28	6.44	2.36	3.75	2.15	1.19	1.37	0.04	0.86	3.54
1974	3.82	18.05	14.64	12.46	7.92	9.31	3.98	1.31	0.86	1.38	0.02	0.06
1975	1.33	8.02	9.94	10.45	8.11	5.71	2.00	2.12	0.67	0.47	1.72	0.03
1976	6.69	6.38	9.50	7.68	8.25	5.98	1.81	1.63	0.48	0.70	1.80	0.69
1977	1.26	1.65	1.54	1.05	3.37	5.33	0.32	2.50	1.11	0.41	2.99	3.42
1978	2.76	8.11	13.47	7.92	6.66	2.47	5.04	2.95	1.00	0.65	2.11	3.94
1979	0.81	4.29	3.77	3.16	9.75	3.30	2.83	2.99	0.68	0.15	1.71	2.42
1980	6.69	4.25	9.21	8.30	7.13	4.09	4.38	1.10	1.81	0.22	0.05	1.37
1981	1.76	8.71	11.80	3.60	6.07	3.22	2.88	2.67	3.14	0.08	0.06	3.77
1982	5.55	6.77	13.00	7.21	8.43	4.85	6.45	0.51	1.41	0.37	1.46	2.49
1983	5.82	6.90	13.00	8.13	13.46	9.93	2.88	1.54	2.10	2.73	1.19	0.67
1984	1.34	15.16	7.91	3.09	7.92	4.81	4.05	3.95	3.34	0.00	0.00	1.13
1985	5.16	14.86	4.88	0.37	4.03	5.22	1.50	0.73	2.58	0.41	0.68	2.17
1986	4.48	4.55	2.93	9.23	8.42	4.13	2.57	2.65	0.59	1.07	0.00	2.60
1987	3.43	7.85	5.96	8.19	6.67	8.51	1.80	2.10	0.31	0.79	0.11	0.23
1988	0.23	3.09	12.51	9.46	1.67	4.50	3.32	2.78	2.59	0.15	0.09	0.89
1989	0.27	12.19	4.64	4.61	4.59	8.21	1.26	1.63	0.89	0.48	0.83	0.55
1990	2.74	4.39	3.52	13.00	8.87	2.60	2.20	3.01	2.02	0.26	1.18	0.49
1991	4.35	4.49	3.87	4.69	4.72	5.38	9.03	2.29	1.44	0.22	0.54	0.23
1992	1.80	6.31	5.74	7.72	4.66	1.16	5.63	0.09	0.71	0.42	0.35	1.47
1993	2.84	5.94	8.85	6.25	1.21	5.40	6.71	3.95	2.26	2.59	0.17	0.04
1994	1.21	1.92	9.97	6.47	7.71	3.41	2.49	0.96	1.30	0.00	0.13	0.98
1995	4.94	9.30	11.54	12.00	5.36	7.88	4.53	1.47	2.44	0.58	1.01	1.89
1996	3.70	12.24	12.17	11.53	13.61	2.81	9.23	4.49	1.59	0.58	0.34	2.32
1997	5.44	8.73	20.40	10.71	2.98	9.22	3.38	2.68	3.34	0.29	1.28	4.52
1998	8.57	9.32	4.41	14.18	9.08	6.26	2.31	4.56	0.96	0.24	0.00	0.91
1999	4.51	15.20	13.27	11.84	19.20	6.25	1.77	2.15	0.93	0.08	0.96	0.06
2000	3.13	12.68	9.50	9.02	6.51	4.08	1.40	2.94	2.26	0.03	0.19	0.81
2001	3.24	3.08	5.11	2.30	2.36	3.05	2.19	2.20	1.79	0.23	1.12	0.52
2002	3.28	12.10	11.86	11.36	4.11	5.84	2.79	1.58	1.46	0.13	0.19	0.57
2003	0.73	4.37	13.26	9.33	4.20	9.29	5.17	0.86	0.20	0.01	0.62	0.86
2004	3.34	5.26	9.92	8.84	5.96	3.11	3.12	1.63	0.90	0.00	2.01	2.00
2005	4.60	2.75	4.95	4.92	0.70	7.73	3.34	4.52	1.99	0.38	0.39	0.38
2006	5.54	8.57	12.92	15.72	4.10	6.13	3.63	2.96	1.53	0.15	0.00	0.75
2007	0.83	17.64	7.76	4.37	6.42	2.79	2.15	0.90	0.76	0.69	0.58	0.99
2008	3.91	4.68	13.42	8.69	3.30	5.03	2.50	0.92	1.25	0.02	0.98	0.09
2009	2.89	6.29	4.58	6.36	2.20	4.13	1.99	3.95	0.76	0.21	0.66	0.82
2010	3.73	8.95	5.11	10.29	5.16	5.72	5.79	3.20	3.04	0.36	0.05	1.54
MIN	0.23	1.65	1.54	0.37	0.70	1.16	0.32	0.09	0.20	0.00	0.00	0.03
MAX	8.57	18.05	20.40	15.85	19.20	10.30	9.23	4.56	3.34	2.73	2.99	4.52
MEAN	3.40	7.92	9.28	8.24	6.20	5.39	3.46	2.18	1.49	0.44	0.71	1.47

*Water Year (WY) begins October 1st of the previous calendar year and ends September 30th of current year.


SCOO – Scoggins Creek below Henry Hagg Lake Precipitation Station
Monthly Precipitation (inches)
0
4
8
12
16
20
24
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sept
Statistics
(period of record: 1970–2010)
Maximum
Mean
Minimum
WY 2010


SCOO – Scoggins Creek below Henry Hagg Lake Precipitation Station
Total Annual Precipitation (inches/water year)
0
20
40
60
80
mean value
1971
1972
1973
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
Water Year

DLLP – DILLEY PRECIPITATION STATION (ID# 352325)

Elevation: 170 ft
Latitude: 45 29 Longitude: 123 07

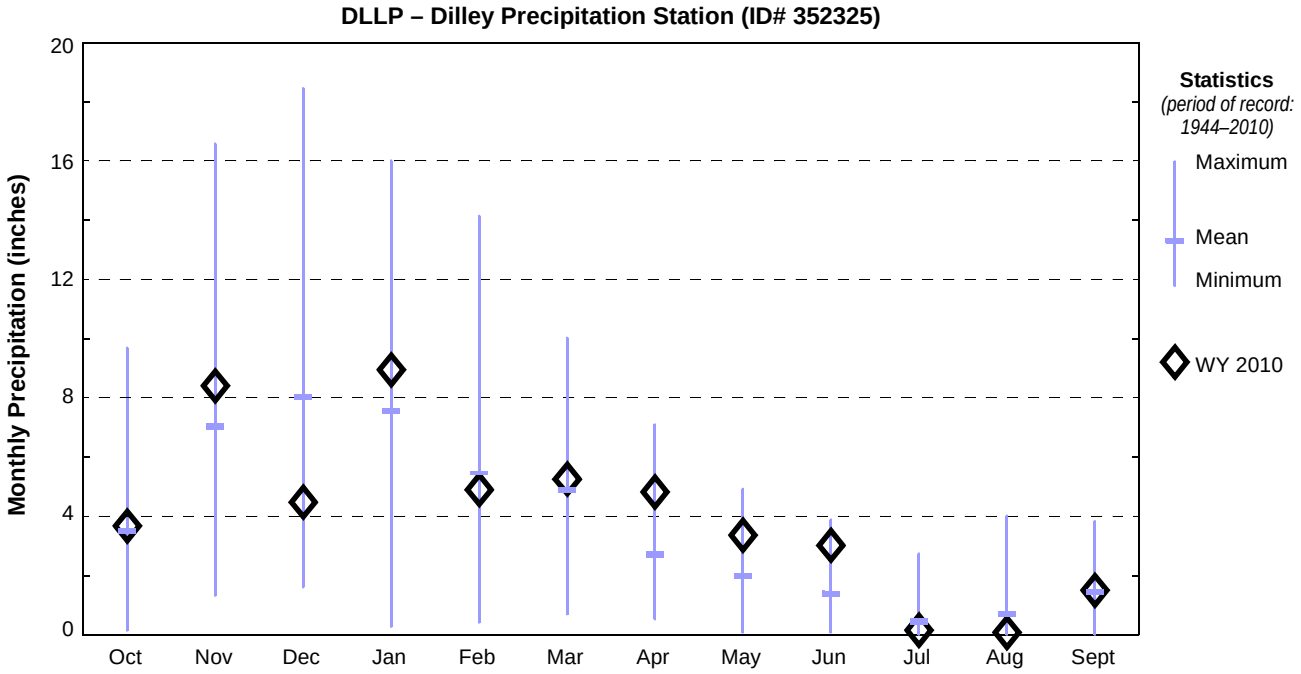
Source Agency: Western Climatic Data Center
www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?or2325

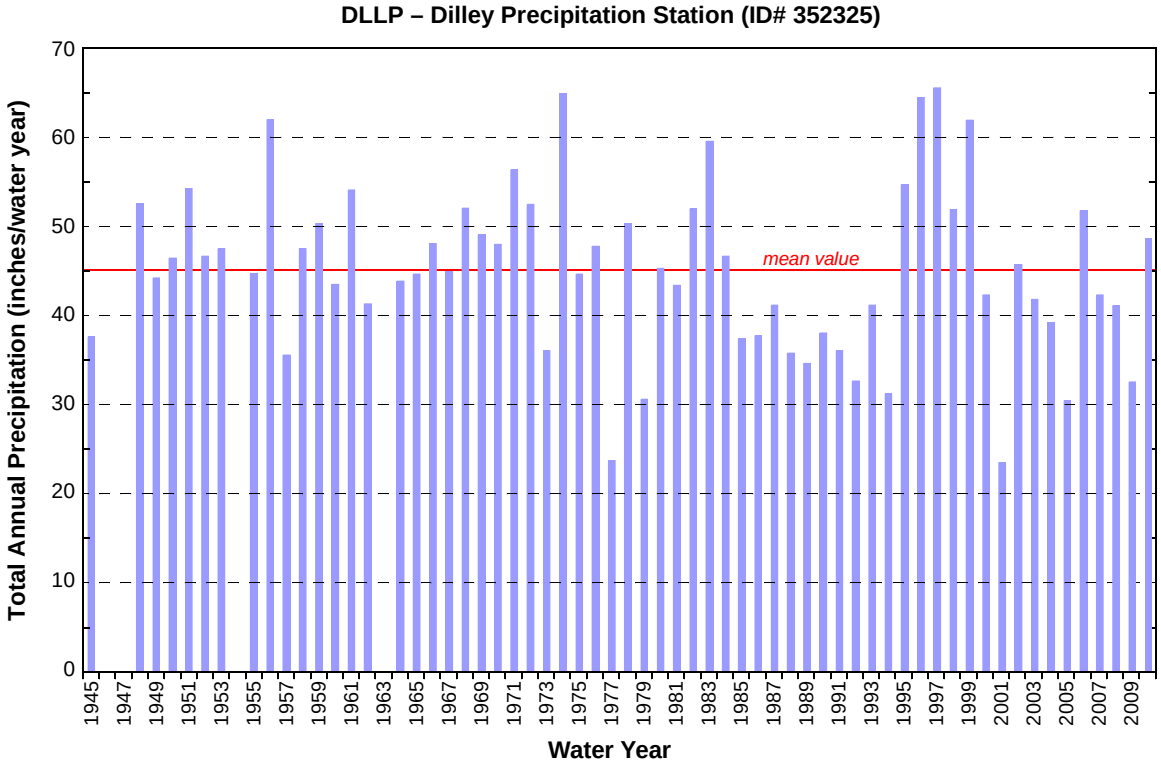
Water	Total Monthly Precipitation (inches)											
Year*	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1944			4.08	5.12	3.98	3.22	3.93	0.94	0.74	1.06	0.20	2.80
1945	1.56	5.5	2.74	4.13	6.99	7.18	2.09	3.71	0.22	0.20	0.13	3.17
1946	1.45	11.82	7.56	7.21	7.61	6.09	1.41	1.51	1.74			
1947		10.27	5.38	5.47	4.46	4.69	1.30	0.09	3.12	0.86	0.50	1.28
1948	9.68	4.08	4.99	7.28	7.52	4.55	3.97	4.92	0.90	0.59	1.35	2.72
1949	2.52	8.69	10.59	2.06	11.83	2.99	0.55	2.98	0.55	0.82	0.03	0.58
1950	2.48	7.55	5.93	10.43	6.58	6.77	1.46	0.48	2.19	0.54	0.84	1.13
1951	9.62	9.55	8.93	11.03	5.01	4.74	0.88	1.67	0.15	0.11	0.15	2.38
1952	6.96	7.89	9.70	7.08	5.65	4.20	1.35	0.77	2.62	0.00	0.03	0.38
1953	0.61	2.29	9.28	14.98	4.86	5.36	2.74	2.87	1.25	0.10	1.51	1.60
1954	3.55	7.37	7.48	13.80	7.32	2.95	3.26	1.33	2.06	0.56		1.97
1955	3.92	7.61	7.66	4.41	4.36	5.55	4.56	0.77	1.78	1.41	0.00	2.65
1956	6.97	10.49	12.90	13.36	4.43	7.27	0.64	1.42	1.29	0.03	1.32	1.84
1957	4.83	1.98	4.69	3.02	5.77	7.09	2.09	3.03	1.52	0.27	0.47	0.75
1958	3.55	3.77	10.90	9.29	8.50	2.62	4.24	1.05	2.96	0.02	0.00	0.59
1959	2.34	8.74	6.09	12.18	5.10	4.42	1.76	2.55	2.57	0.92	0.08	2.75
1960	2.71	4.44	4.86	6.56	6.94	7.27	4.65	4.37	0.43	0.00	0.74	0.53
1961	4.24	10.95	3.64	7.05	11.15	10.02	2.94	2.36	0.24	0.48	0.52	0.46
1962	5.98	4.95	7.67	1.61	4.14	5.78	4.79	2.43	0.44	0.00	1.43	2.08
1963		11.23	3.48	1.91	5.39	6.65	4.03	2.82	1.94	1.01	1.64	1.42
1964	3.68	7.10	5.24	16.01	1.47	5.23	1.34	0.85	1.53	0.66	0.54	0.23
1965	1.87	9.80	14.38	9.04	2.72	0.69	2.21	1.14	0.91	1.02	0.87	0.00
1966	1.92	8.73	9.87	9.62	2.67	8.47	0.66	1.28	1.84	1.10	0.46	1.39
1967	3.62	6.98	11.57	10.14	1.83	6.07	2.63	0.64	0.76	0.00	0.00	0.65
1968	6.35	3.28	7.17	7.94	9.00	5.53	1.41	3.01	2.10	0.11	4.01	2.08
1969	5.45	7.48	12.91	9.61	4.33	1.21	2.19	1.72	2.01	0.02	0.00	2.14
1970	4.64	3.26	11.18	14.21	5.81	3.12	2.64	1.26	0.57	0.01	0.00	1.26
1971	4.01	5.89	14.28	8.96	4.74	8.29	3.68	1.22	1.61	0.13	0.36	3.19
1972	3.21	8.35	10.45	8.19	4.90	7.32	4.41	1.39	0.56	0.28	0.25	3.12
1973	0.61	4.78	11.33	5.37	2.18	3.40	1.57	1.40	1.27	0.05	0.76	3.30
1974	3.36	16.59	12.01	11.25	6.75	8.51	2.96	1.46	0.65	1.25	0.00	0.07
1975	1.32	7.50	8.64	8.99	7.00	4.86	1.75	1.94	0.62	0.44	1.60	0.00
1976	6.42	5.16	8.59	6.85	7.20	5.54	2.31	1.30	0.39	0.82	2.41	0.79
1977	1.30	1.32	1.60	1.05	2.98	4.46	0.51	2.50	1.12	0.60	3.07	3.18
1978	2.94	7.21	11.39	7.37	5.92	2.27	3.70	2.67	0.99	0.99	1.65	3.23
1979	0.71	3.85	3.77	3.06	8.00	2.49	2.41	2.07	0.58	0.13	0.94	2.54
1980	6.67	3.93	7.50	8.14	6.25	4.02	3.70	1.21	2.24	0.22	0.06	1.36
1981	1.63	8.35	11.43	2.65	5.17	2.98	2.17	1.96	3.00	0.15	0.05	3.83
1982	5.90	5.89	12.15	5.82	7.75	3.89	4.83	0.44	1.31	0.36	1.24	2.40
1983	4.87	5.36	11.31	7.40	12.20	8.23	2.49	1.40	1.65	2.74	1.38	0.54
1984	1.32	13.07	6.87	2.70	5.95	4.29	3.95	3.36	3.88	0.00	0.00	1.21
1985	4.63	12.83	3.87	0.27	3.18	4.56	1.20	0.36	2.94	0.45	1.45	1.63
1986	3.97	3.95	2.77	8.38	7.35	3.81	1.59	1.99	0.37	0.85	0.00	2.74
1987	3.31	6.52	5.47	8.25	5.18	7.47	1.72	1.85	0.19	0.85	0.15	0.20
1988	0.20	3.66	10.41	8.14	1.16	3.67	2.6	2.23	2.27	0.07	0.17	1.16
1989	0.14	10.98	3.81	4.14	3.51	7.05	0.81	1.62	0.78	0.36	0.93	0.51
1990	2.47	4.02	3.47	10.42	7.14	2.08	1.71	2.98	1.82	0.27	0.93	0.72
1991	4.14	4.15	3.36	3.97	4.46	5.07	6.36	2.19	1.39	0.29	0.39	0.24
1992	1.91	6.26	4.91	6.62	3.97	1.19	4.79	0.07	0.80	0.31	0.51	1.28
1993	2.79	5.44	7.42	5.39	0.78	5.00	6.76	3.79	1.95	1.76	0.08	0.00
1994	1.26	1.49	9.12	5.67	6.45	3.14	1.41	0.89	0.95	0.00	0.24	0.58
1995	4.64	8.12	10.29	10.56	5.02	6.53	3.74	1.29	1.76	0.45	0.49	1.74
1996	3.41	9.78	10.09	9.69	12.68	2.46	7.09	4.84	1.12	0.60	0.26	2.43
1997	5.37	8.05	18.46	9.63	2.51	8.29	2.98	2.65	2.38	0.47	1.38	3.33
1998	6.58	8.36	3.54	12.10	7.66	5.20	1.76	4.82	1.05	0.09	0.00	0.73
1999	3.24	13.00	10.81	10.29	14.15	4.85	1.90	1.71	0.76	0.02	1.14	0.04
2000	2.55	10.10	7.10	7.81	5.46	3.25	1.52	2.15	1.21	0.00	0.22	0.89
2001	3.09	2.46	4.20	2.17	1.98	2.25	1.72	1.60	1.84	0.32	1.27	0.54
2002	2.91	10.26	10.66	9.00	3.61	4.04	1.93	1.14	1.32	0.19	0.07	0.57
2003	0.59	3.35	12.22	8.61	3.69	7.41	4.24	0.46	0.07	0.01	0.32	0.79
2004	2.87	4.10	9.01	7.70	5.21	2.32	2.24	1.25	1.21	0.00	1.66	1.56
2005	3.80	2.53	3.89	4.25	0.41	5.97	2.79	4.26	1.84	0.29	0.13	0.24
2006	4.16	7.58	11.79	14.09	3.38	4.21	2.58	2.26	0.92	0.17	0.00	0.63
2007	1.01	15.05	8.03	4.03	4.62	2.48	2.32	1.22	0.83	0.82	0.63	1.21
2008	3.80	4.35	10.41	7.03	2.93	4.66	2.91	2.72	0.97	0.00	0.96	0.32

DLLP – DILLEY PRECIPITATION STATION (ID# 352325) – CONTINUED

	Total Monthly Precipitation (inches)											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
2009	2.42	6.01	4.85	5.53	2.04	3.43	1.72	3.53	0.23	0.17	1.29	1.32
2010	3.67	8.41	4.48	8.95	4.91	5.26	4.82	3.36	3.03	0.16	0.08	1.5
MIN	0.14	1.32	1.60	0.27	0.41	0.69	0.51	0.07	0.07	0.00	0.00	0.00
MAX	9.68	16.59	18.46	16.01	14.15	10.02	7.09	4.92	3.88	2.74	4.01	3.83
MEAN	3.50	7.03	8.02	7.54	5.46	4.86	2.71	1.99	1.38	0.44	0.70	1.43

*Water Year (WY) begins October 1st of the previous calendar year and ends September 30th of current year.





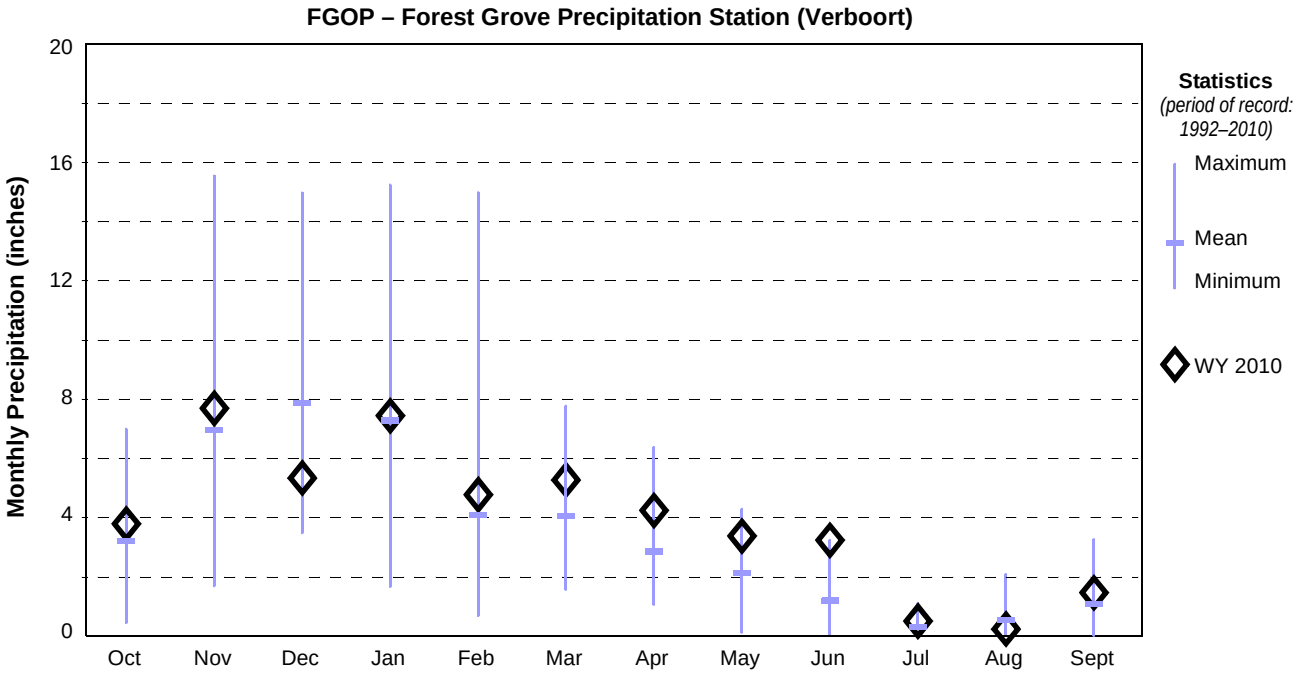
FGOP – FOREST GROVE PRECIPITATION STATION (VERBOORT)

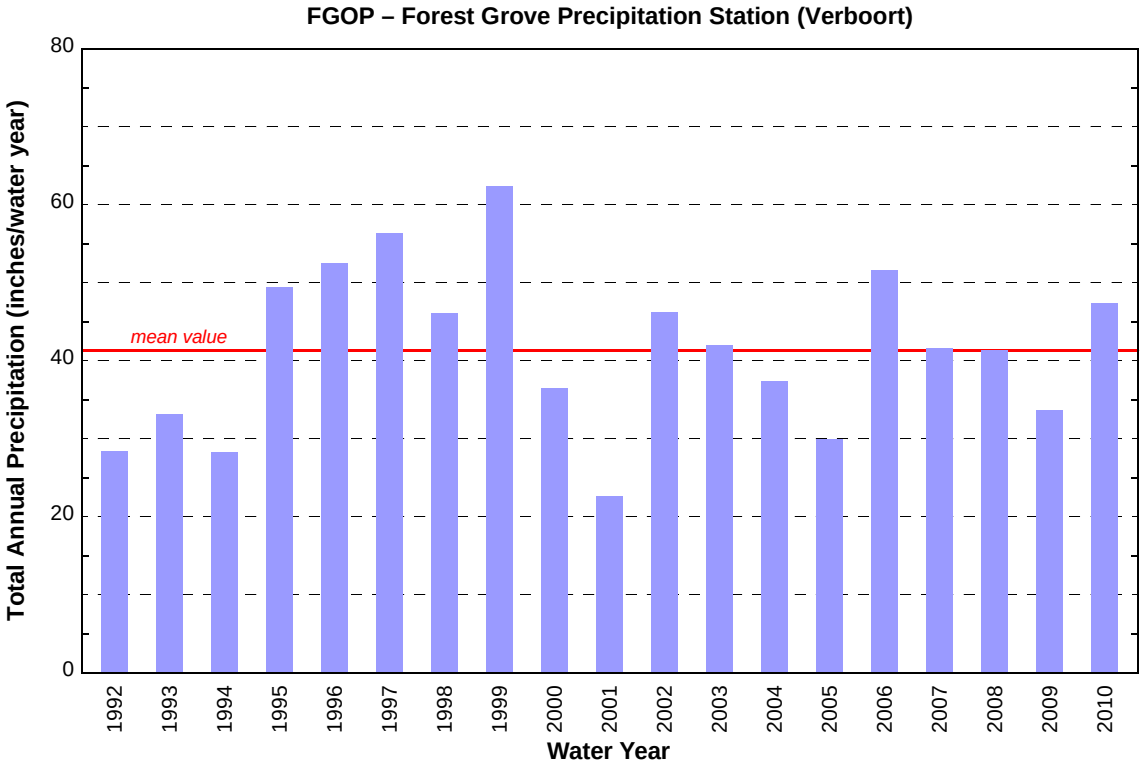
Elevation: 180 ft
Latitude: 45 33 11 Longitude: 123 05 01

Source Agency: US Bureau of Reclamation – Agrimet
http://www.usbr.gov/pn/agrimet/wxdata.html

Water Year*	Total Monthly Precipitation (inches)											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1992	1.5	5.1	3.7	5.9	3.6	1.6	4.4	0.1	0.9	0.3	0.3	1.1
1993	2.4	4.2	6.0	3.2	2.2	4.2	4.9	4.2	0.6	1.1	0.1	0.0
1994	1.1	1.7	7.6	5.0	5.8	2.3	1.5	1.3	1.0	0.0	0.2	0.8
1995	6.3	7.5	7.6	9.7	4.1	5.8	3.1	1.6	1.2	0.5	0.5	1.6
1996	3.1	11.7	8.6	9.1	3.6	2.3	6.4	4.1	0.9	0.5	0.3	2.0
1997	4.5	8.0	15.0	7.6	1.8	7.8	3.3	1.8	1.8	0.2	1.3	3.3
1998	7.0	7.1	3.5	9.1	7.2	4.6	1.4	4.3	1.1	0.1	0.0	0.8
1999	3.4	13.7	9.8	9.7	15.0	5.4	1.7	1.7	1.0	0.4	0.7	0.0
2000	2.8	7.8	5.9	7.7	4.0	2.4	1.1	2.1	1.6	0.1	0.1	0.9
2001	3.1	2.6	4.3	1.7	1.7	2.1	1.7	1.1	2.1	0.4	1.2	0.6
2002	2.8	11.2	9.7	9.3	3.5	4.6	1.6	1.2	1.2	0.2	0.0	0.9
2003	0.4	3.0	12.2	10.1	3.2	6.2	5.1	0.6	0.1	0.0	0.4	0.7
2004	3.5	4.6	7.9	6.1	5.2	1.9	2.6	1.1	0.8	0.0	2.1	1.5
2005	3.8	2.8	4.4	2.5	0.7	6.0	2.6	4.1	1.6	0.2	0.1	1.3
2006	4.3	7.4	11.4	15.2	2.2	4.4	2.2	2.9	0.7	0.2	0.1	0.6
2007	1.0	15.6	8.6	3.9	4.2	2.5	2.1	0.8	0.6	0.6	0.5	1.3
2008	3.1	4.5	13.0	8.8	2.7	4.1	2.5	0.7	0.8	0.0	1.0	0.1
2009	2.7	5.7	4.7	6.1	1.9	3.7	1.8	3.4	1.2	0.1	1.1	1.3
2010	3.8	7.7	5.3	7.4	4.8	5.3	4.2	3.4	3.2	0.5	0.2	1.5
MIN	0.4	1.7	3.5	1.7	0.7	1.6	1.1	0.1	0.1	0.0	0.0	0.0
MAX	7.0	15.6	15.0	15.2	15.0	7.8	6.4	4.3	3.2	1.1	2.1	3.3
MEAN	3.18	6.94	7.85	7.26	4.06	4.05	2.84	2.12	1.17	0.28	0.53	1.07

*Water Year (WY) begins October 1st of the previous calendar year and ends September 30th of current year.


FGOP – Forest Grove Precipitation Station (Verboort)
Monthly Precipitation (inches)
20
16
12
8
4
0
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sept
Statistics
(period of record: 1992–2010)
Maximum
Mean
Minimum
WY 2010


FGOP – Forest Grove Precipitation Station (Verboort)
Total Annual Precipitation (inches/water year)
80
60
40
20
0
mean value
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
Water Year

DURP – DURHAM WASTEWATER TREATMENT PLANT PRECIPITATION STATION

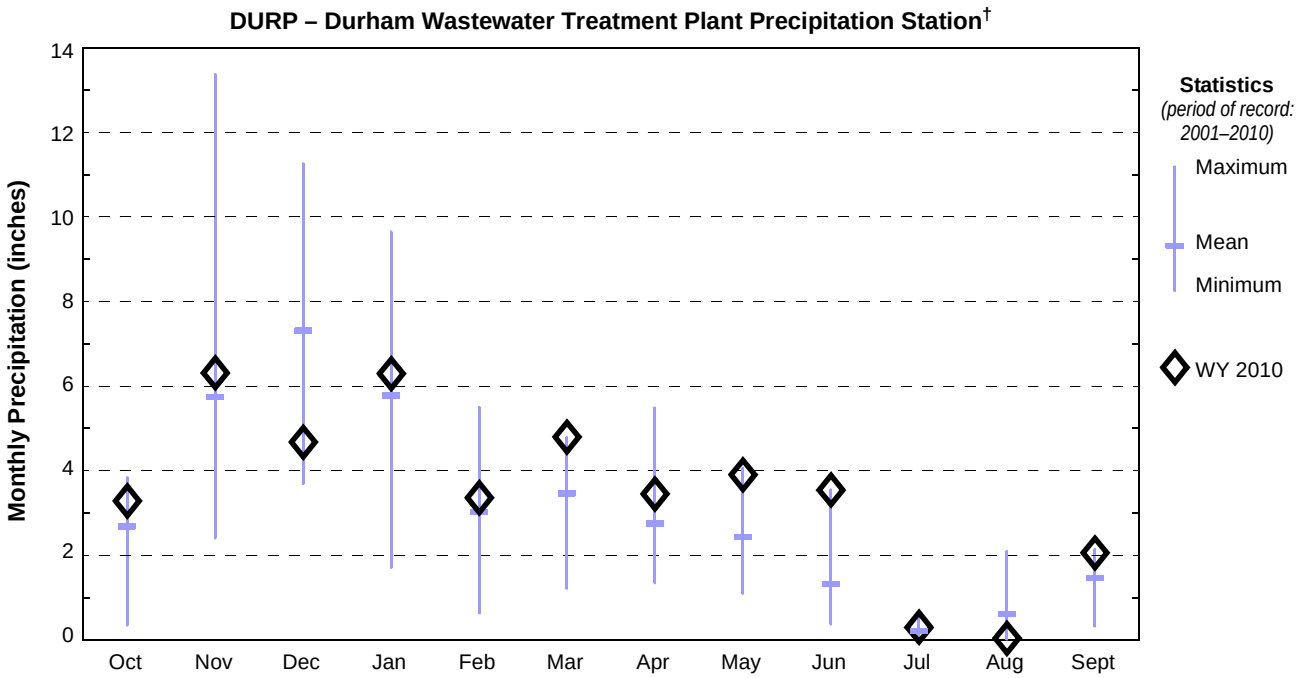
Elevation: 140 ft
Latitude: 45 23 59 Longitude: 122 45 45

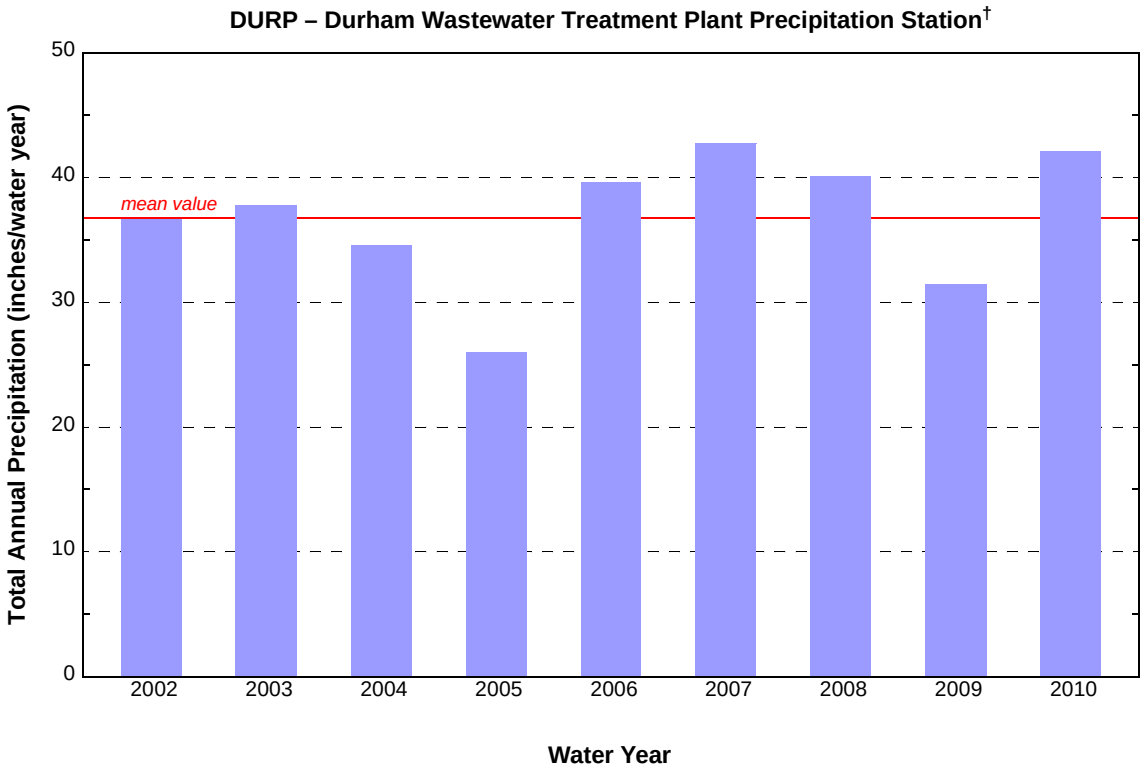
Source Agency: US Geological Survey
http://or.water.usgs.gov/cgi-bin/grapher/table_setup.pl

Water Year*	Total Monthly Precipitation (inches)†											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
2001									1.5	0.8	0.7	0.7
2002	3.8	6.9	5.9	5.4	3.4	3.5	2.1	1.6	1.3	0.5	0.2	2.2
2003	0.4	2.6	10.4	8.1	3.2	4.7	5.5	1.3	0.4	0.0	0.4	0.9
2004	2.5	4.7	8.9	4.8	4.7	1.2	1.3	1.1	1.3	0.0	2.1	1.8
2005	3.1	2.4	3.7	1.7	0.6	3.5	3.1	4.1	1.6	0.4	0.0	1.8
2006	2.9	5.8	9.7	9.7	2.1	2.7	2.1	3.0	0.9	0.0	0.0	0.6
2007	1.1	13.4	7.5	3.6	5.5	3.2	2.6	1.6	0.9	0.5	0.7	2.0
2008	3.9	4.1	11.3	6.9	2.4	4.4	2.8	1.6	1.2	0.1	1.3	0.3
2009	3.2	5.4	3.7	5.5	1.9	3.1	1.8	3.7	0.8	0.1	0.7	1.4
2010	3.3	6.3	4.7	6.3	3.4	4.8	3.5	3.9	3.6	0.3	0.0	2.1
MIN	0.4	2.4	3.7	1.7	0.6	1.2	1.3	1.1	0.4	0.0	0.0	0.3
MAX	3.9	13.4	11.3	9.7	5.5	4.8	5.5	4.1	3.6	0.5	2.1	2.2
MEAN	2.68	5.74	7.31	5.78	3.02	3.47	2.75	2.43	1.32	0.21	0.61	1.45

*Water Year (WY) begins October 1st of the previous calendar year and ends September 30th of current year.

†The USGS adjusted all historical values for precipitation at the Durham Wastewater Treatment Plant in 2006 to correct for systematic undercatch of rainfall.





†The USGS adjusted all historical values for precipitation at the Durham Wastewater Treatment Plant in 2006 to correct for systematic undercatch of rainfall.

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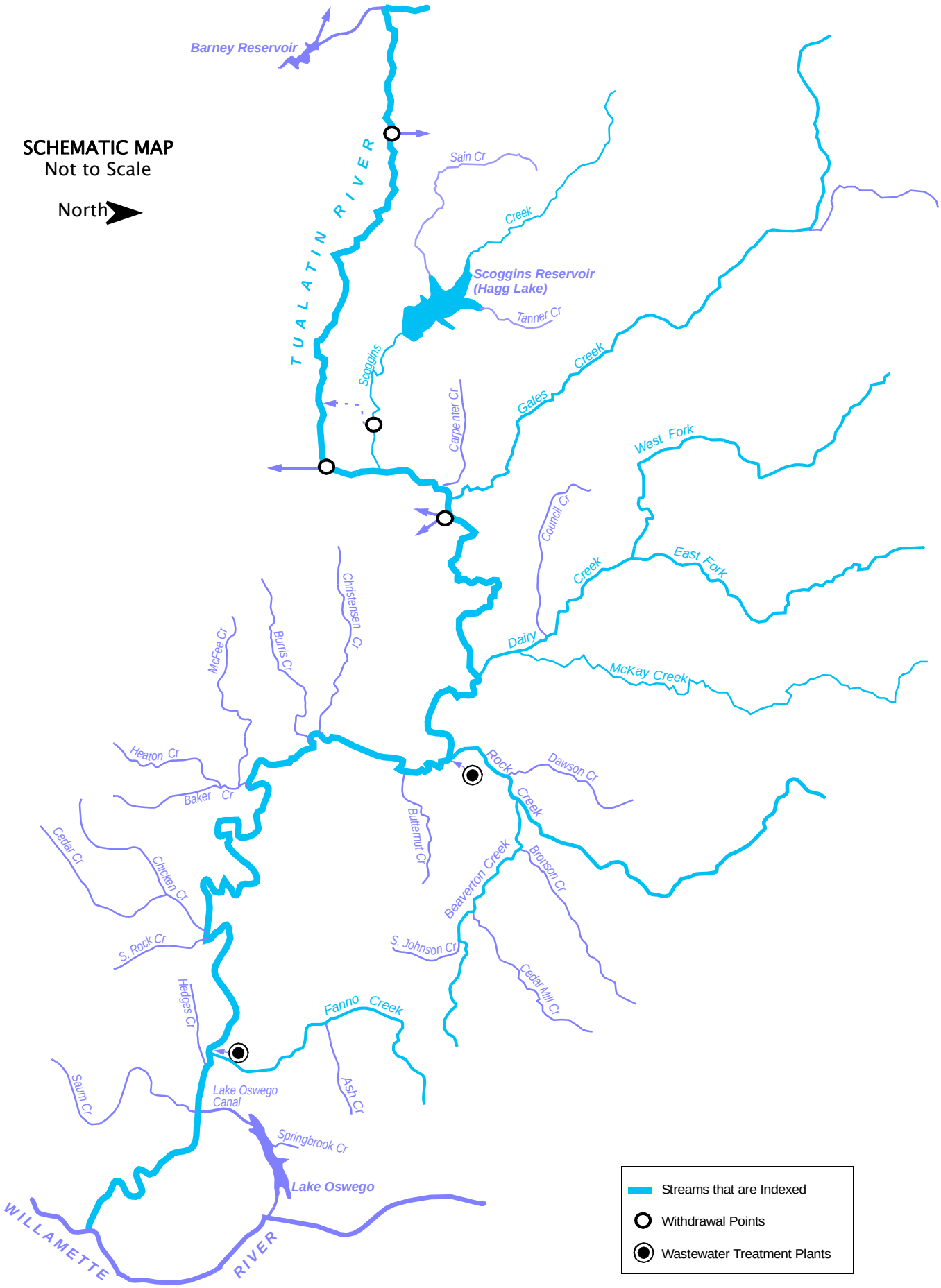
Appendix I

River Mile Indices

STREAMS INDEXED



STREAMS INDEXED

TUALATIN RIVER — RIVER MILE INDEX

HUC: 211400300

[Elevation measured relative to 0.00 gage datum; Abbreviations: RB= right bank, LB= left bank, HUC= Hydrologic Unit Code]

River Mile	Bank	Description	Drainage Area (square miles)	Elevation (feet)
0.00		Mouth of Tualatin River at Willamette River (LB of Willamette River @ River Mile 28.5)	712	
0.20		Weiss Bridge – Petes Mtn Rd.		
1.60	RB	Fields Creek (HUC: 02114003000010)		
1.69		State Hwy 212 Bridge (Fields Bridge)		
1.75	LB	West Linn Stream Gage Station – USGS #14207500	706	85.61
2.40	LB	Tate Creek (HUC: 02114003000020)		
3.45		Lake Oswego Corp. Diversion Dam		
4.25		Interstate 205 Bridge		
4.56	LB	Wilson Creek (HUC: 02114003000080)		
5.34	LB	Boat Launch		
5.36	LB	Shipley Creek (HUC: 02114003000100)		
5.38		Shipley Bridge– Stafford Rd. NWS Wire Weight Gage		
5.62	LB	Pecan Creek (HUC: 02114003000120)		
6.02	RB	Athey Creek (HUC: 02114003000123)		
6.70	RB	Saum Creek (HUC: 02114003000130)		
6.70	LB	Oswego Canal Diversion River Elevation Recording Gage #14206990, Headgate, and Canal Recording Gage #14207000		
7.36	LB	Boat Launch – Dogwood Drive		
7.67	RB	Browns Ferry Park Canoe Launch		
7.83		Clackamas County – Washington County Boundary (Underground Cable Crossing Sign)		
8.18		Interstate 5 Bridge		
8.60		Boones Ferry Road Bridge		
8.64	RB	Hedges Creek (HUC: 02114003000150)		
8.90	RB	Tualatin Park Boat Launch		
8.91	RB	Southern Pacific RR Bridge Tualatin River at Tualatin Elevation Recording Station #14206956 (formerly #14206960)		
9.32	LB	Fanno Creek (HUC: 02114003000180) *[Index on page I-13]*	26.8	
9.33	LB	Durham Wastewater Treatment Plant Outfall		
9.34		Oregon Electric RR Bridge		
9.80	LB	Cook Park Boat Launch		
11.50	LB	US Hwy. 99W Bridge (Pacific Highway) Canoe Launch(access from southeast of bridge)		
12.68		Overhead BPA Transmission Line; Vancouver–Eugene		
12.80	LB	Rivermeade Boat Launch (Private)		
15.20	RB	Rock Creek–South (HUC: 02114003000250)	13.7	
15.50	RB	Chicken Creek (HUC: 02114003000270)		
16.09	RB	Chicken Creek Drainage Ditch		
16.22	RB	Shamberg Bridge (Elsner Road) Rated Staff Gage for Stream Flow		

TUALATIN RIVER — RIVER MILE INDEX

HUC: 211400300

[Elevation measured relative to 0.00 gage datum; Abbreviations: RB= right bank, LB= left bank, HUC= Hydrologic Unit Code]

River Mile	Bank	Description	Drainage Area (square miles)	Elevation (feet)
21.12		Overhead BPA Transmission Line; Big Eddy–Keeler		
26.90		State Hwy. 210 bridge (Scholls)		
28.20	RB	McFee Creek (HUC: 02114003000310)		
30.76	LB	Unnamed Stream (HUC: 02114003000320) (Jacktown)		
31.62	RB	Burris Creek (HUC: 02114003000330)		
31.92	RB	Christensen Creek (HUC: 02114003000350)		
33.30		Harris Bridge (State Highway 208)	568	100.42
	LB	Farmington Recording Stream Gage #14206500		
35.68	LB	Butternut Creek (HUC: 02114003000380)		
37.38	LB	Gordon Creek (HUC: 02114003000400)		
38.08	LB	Rock Creek Wastewater Treatment Plant Outfall		
38.09	LB	Rock Creek (HUC: 02114003000420	74.6	
		Beaverton Creek (HUC:02114003000420060)	36	
38.44	LB	Rood Bridge Small Watercraft Launch		
		Rood Bridge Road Bridge		
	LB	Recording Stream Gage #14206295		105.16
40.44	RB	Davis Creek (HUC: 02114003000430)		
41.64		Minter Bridge Road Bridge		
43.88	LB	Jackson Slough		
		Jackson Bottom Wetlands		
	LB	Hillsboro Wastewater Treatment Plant Effluent Outfall		
44.40		State Highway 219 Bridge		
	RB	Recording Stream Gage #14206241		
44.73	LB	Dairy Creek (HUC: 02114003000480) *[Index on page I-9]*	226	
		McKay Creek (LB) (HUC: 02114003000480020) *[Index on page I-10]*	63.4	
		East Fork Dairy Creek (HUC: 02114003000480080) *[Index on page I-11]*		
		West Fork Dairy Creek (HUC: 02114003000480090) *[Index on page I-12]*		
51.54		Golf Course Road Bridge		
	RB	Golf Course Recording Stream Gage #14204800		
53.74		LaFollett Road (Bridge removed)		
55.24	LB	Forest Grove Wastewater Treatment Plant Outfall		
		Fern Hill Wetlands		
55.32		Fernhill Road Bridge		
56.10		Springhill Pump Plant Intake		
56.80	LB	Gales Creek (HUC: 02114003000560) *[Index on page I-8]*	78.6	
57.38	LB	Carpenter Creek (HUC: 02114003000580)		
57.84	LB	Dilley Creek (HUC: 02114003000600)		
58.04	LB	Johnson Creek (HUC: 02114003000602)		
58.82		Springhill Road Bridge	125	147.57
	LB	Tualatin River at Dilley Stream Gage; USGS #14203500		
59.02	LB	O'Neil Creek (HUC: 02114003000620)		
60.00	LB	Scoggins Creek (HUC: 02114003000640) *[Index on page I-7]*		
60.80	RB	Wapato Creek (HUC: –02114003000670)		
		Wapato Creek Improvement District Return Flow		
62.00	RB	Wapato Improvement District Headgate)		
62.24		Southern Pacific RR Bridge		

TUALATIN RIVER — RIVER MILE INDEX

HUC: 211400300

[Elevation measured relative to 0.00 gage datum; Abbreviations: RB= right bank, LB= left bank, HUC= Hydrologic Unit Code]

River Mile	Bank	Description	Drainage Area (square miles)	Elevation (feet)
62.25		State Highway 47 Bridge (Gaston) New Tualatin River at Gaston Recording Stream Gage #14202510		
62.30		Bates Road Bridge		
62.80	LB	Black Jack Creek (HUC: 02114003000700)		
62.90		Overhead BPA Transmission Line; Forest Grove–McMinnville		
63.13		TVID Patten Valley Pump Station Outfall #1		
63.87	RB	Discontinued Tualatin River at Gaston Recording Stream Gage	48.5	
64.26		TVID Patten Valley Pump Station Outfall #2		
65.34	RB	Williams Canyon (HUC: 02114003000730)		
65.90		Mt. Richmond Road Bridge		
67.30	LB	Hering Creek (HUC: 02114003000760)		
67.83		South Road Bridge (Cherry Grove)		
68.44	RB	Roaring Creek (HUC: 02114003000790)		
69.42		Little Lee Falls		
70.70	LB	Raines Bridge– Tualatin River below Lee Falls Rated Staff Gage for Stream Flow		
71.07		Lee Falls		
73.28		Haines Falls		
73.30	LB	City of Hillsboro Haines Falls Intake		
74.00	LB	Lee Creek (LB–02114003000860)		
74.05	RB	Patten Creek (HUC: 02114003000870)		
75.70	LB	Sunday Creek (HUC: 02114003000900)		
76.60	LB	Maple Creek (HUC: –02114003000940)		
76.95		Ki–A–Cut Falls		
78.00	RB	Barney Reservoir Aqueduct Outfall		
79.3+		Headwaters of Tualatin River		

FANNO CREEK — STREAM MILE INDEX

HUC: 2114003000180

[Abbreviations: RB= right bank, LB= left bank, HUC= Hydrologic Unit Code, ISWR= Instream Water Right]

River Mile	Bank	Description
0.00		Confluence with the Tualatin River (HUC: 02114003000) at River Mile 9.32
0.86		Oregon Electric RR Bridge
1.19		Durham Road Bridge USGS Gage #14206950
2.00	LB	Ball Creek (HUC: 02114003000180020)
2.12		Bonita Street Bridge – Rated Staff Gage
3.28		SW Hall Blvd Bridge
3.95		SW Ash Avenue Bridge
4.28		SW Main St Bridge
4.30		State Hwy 99W Bridge
4.49		SW Grant Ave Bridge
5.07		SW Tiederman Ave. Bridge
5.08	RB	Summer Creek (HUC: 02114003000180070) Rated Staff Gage at Fowler School
5.32		SW Tigard Ave Bridge
5.53		SW North Dakota St Bridge
5.54	LB	Ash Creek (HUC: 02114003000180080) Rated Staff Gage at Greenburg Road
6.38		Scholls Ferry Road Bridge
7.30		Tuckerwood – Rated Staff Gage
7.66		SW Hall Blvd Bridge
8.40		SW Denny Rd Bridge
8.60		Oregon Electric RR Bridge
8.70		State Hwy 217 Bridge
9.42		Scholls Ferry Road Bridge Rated Staff Gage
9.66		SW 92nd Ave Bridge
9.90		SW Bohmann Parkway Bridge
10.16		SW 86th Ave Bridge
10.78		SW Nicol Road Bridge
11.76		Olson Road Bridge
11.96	RB	Sylvan Creek (HUC: 02114003000180190)
11.98		SW Beaverton–Hillsdale Hwy (State Hwy 10)
12.10		Washington County – Multnomah County Line
12.58		SW 56th Ave Bridge USGS Gage #14206900
12.81		SW Shattuck Road Bridge
13.22		SW 45th Ave Bridge
13.23	RB	Ivey Creek (HUC: 02114003000180250)
13.32		SW 43rd Ave Bridge
13.38		SW 42nd Ave Bridge
13.48		SW 39th Ave Bridge
13.98		SW Beaverton–Hillsdale Hwy (State Hwy 10)
14.10		SW 30th Ave Bridge

ROCK CREEK — STREAM MILE INDEX

HUC: 2114003000420
[Abbreviations: RB= right bank, LB= left bank, HUC= Hydrologic Unit Code]

River Mile	Bank	Description
0.8		River Road Bridge
1.2		Southern Pacific RR Bridge
1.2+		State Highway 8 Bridge – Rated Staff Gage for Stream Flow
2.4		SW Brookwood Avenue Bridge
3.1	RB	Dawson Creek
4.4	LB	Beaverton Creek
4.5		Baseline Road Bridge
4.9		NW Quatama Road Bridge – Rated Staff Gage for Stream Flow
5.5		Oregon Electric RR Bridge
5.7		NW 216th Avenue Bridge
6.7		NW Cornell Road Bridge
7.8		US Highway 26 Bridge
9.0		West Union Road Bridge – Rated Staff Gage for Stream Flow
9.3	RB	Holcomb Creek
10.0		NW 185th Avenue Bridge
10.9	LB	Abbey Creek
11.0		Germantown Road Bridge
11.9		Cornelius Pass Road Bridge
13.0		Old Cornelius Pass Road Bridge
14.1		Burlington Northern RR Bridge
15.1		Rated Staff Gage for Stream Flow
16.4		Rock Creek Road Bridge
16.5		Van Raden Reservoir
19.1		Headwaters

BEAVERTON CREEK — STREAM MILE INDEX

HUC: 2114003000420060
[Abbreviations: RB= right bank, LB= left bank, HUC= Hydrologic Unit Code]

River Mile	Bank	Description
0.00		Confluence with Rock Creek (LB, HUC: 02114003000480080260) @ River Mile 4.3
0.40		Southwest Baseline Road
1.16		Southwest 216th Avenue Road Bridge– Rated Staff Gage for Stream Flow
2.20	RB	Bronson Creek (HUC: 02114003000420060010)
3.32	RB	Willow Creek (HUC: 02114003000420060050)
4.90		Southwest 170th Avenue Road Bridge– Rated Staff Gage for Stream Flow
5.47	LB	Unnamed Stream (HUC: 02114003000420060096)
6.06	LB	Johnson Creek (HUC: 02114003000420060100)
6.30	LB	Unnamed Stream (HUC: 02114003000420060120)
6.66		Oregon Electric Railroad
7.45		Cedar Hills Boulevard
7.90	RB	Reasoners Creek (HUC: 02114003000420060130)
8.75+		Headwaters

DAIRY CREEK — STREAM MILE INDEX

HUC: 02114003000480
[Abbreviations: RB= right bank, LB= left bank, HUC= Hydrologic Unit Code]

River Mile	Bank	Description
0.00		Confluence with Tualatin River (HUC: 0211400300) @ River Mile 44.73
1.65		Southern Pacific RR Bridge
2.06		State Highway 8 Bridge Dairy Creek at TV Hwy Recording Stream Gage #14206200
2.20		Oregon Electric RR Bridge
2.26	LB	McKay Creek (HUC: 02114003000480020)
3.53	RB	Council Creek (HUC: 02114003000480040)
6.02		Susbauer Road Bridge (County Road 196)
7.39		BPA Power Line Crossing
8.51		Cornelius–Schefflin Road Bridge (County Road 2161) Rated Staff Gage for Stream Flow
10.55		Confluence of East Fork Dairy Ck (HUC: 02114003000480080) & West Fork Dairy Ck (02114003000480090)

MC KAY CREEK — STREAM MILE INDEX

HUC: 2114003000480020
[Abbreviations: RB= right bank, LB= left bank, HUC= Hydrologic Unit Code]

River Mile	Bank	Description
0.00		Confluence with Dairy Creek (HUC: 02114003000480) @ River Mile 2.26
1.31		Padgett Road Bridge (County Road 2245)
2.25		Hornecker Road Bridge (County Road 2393) Rated Staff Gage for Stream Flow
2.30		Southern Pacific RR Crossing
4.32		Glencoe Road Bridge (County Road A–146½) Rated Staff Gage for Stream Flow
4.46		BPA Transmission Line Crossing
5.34	LB	Waible Creek (HUC: 02114003000480020040)
6.30		NW Old Scotch Church Road Bridge (County Road A–66)
8.00		US Hwy 26 Bridge – Sunset Highway
9.36		NW West Union Road Bridge (County Road 2496) City of North Plains to West
9.38		Southern Pacific RR Crossing
10.94	LB	Jackson Creek (HUC: 02114003000480020100)
12.80		NW Shadybrook Road Bridge (County Road A–110)
15.56		NW Collins Road Bridge (County Road 1889) Rated Staff Gage for Stream Flow
16.56	RB	Brunswick Canyon (HUC: 02114003000480020179)
16.66	LB	East Fork McKay Creek (HUC: 02114003000480020180)
24.0+		Headwaters

EAST FORK DAIRY CREEK — STREAM MILE INDEX

HUC: 2114003000480080

[Abbreviations: RB= right bank, LB= left bank, HUC= Hydrologic Unit Code, ISWR= Instream Water Right]

River Mile	Bank	Description
0.00		Confluence with West Fork Dairy Creek (HUC: 02114003000480090) @ River Mile 10.56 of Dairy Creek (HUC: 02114003000480)
1.24		Roy Road Bridge (County Road A–159) Rated Staff Gage for Stream Flow
2.34		Port of Tillamook Bay RR Bridge
3.04	RB	Bledsoe Creek (HUC: 02114003000480080030)
3.20		Harrington Road Bridge (County Road 1989)
4.80		SP&S RR Bridge
5.56		US Highway 26 Bridges
6.91		Mountaindale Road Bridge (County Road 12)
6.97	LB	Baker Creek (HUC: 02114003000480080080)
8.44		Dairy Creek Road Bridge (County Road 2067) Rated Staff Gage for Stream Flow
8.55		East Fork Dairy Creek at Mountaindale, OR – Former USGS Gage #14205500 (10/40–9/51) Drainage Area = 43.0 square miles
9.62		NW Uebel Road Bridge (County Road 304)
12.50		Murphy Lane Bridge (Private) Rated Staff Gage for Stream Flow
12.82	RB	Big Canyon (HUC: 02114003000480080150)
13.00		***ISWR:*** C–59525 5/25/66
13.95	RB	Murtaugh Creek (HUC: 02114003000480080170)
14.04	LB	Meadow Brook Creek (HUC: 02114003000480080180)
14.17		Meacham Road Bridge (County Road 742)
15.55	LB	Plentywater Creek (HUC: 02114003000480080200) ***ISWR:*** C–59527 5/25/66
16.52	RB	Denny Creek (HUC: 02114003000480080210) ***ISWR:*** C–59526 5/25/66
16.56		Bacona Road Bridge (County Road 422) Snooseville Corner
17.21		Greener Road Bridge (County Road 1990)
17.34	LB	Rock Creek (HUC: 02114003000480080260)
17.50		Little Bend Park
17.60		Fern Flat Road Crossing (County Road 241)
18.15	LB	Panther Creek (HUC: 02114003000480080280)
18.31		Fern Flat Road Crossing (County Road 241)
18.84	RB	Roundy Creek (HUC: 02114003000480080290)
19.10	RB	Campbell Creek (HUC: 02114003000480080310)
21.30		Washington County – Columbia County Boundary
21.48		BPA Power Line Crossing
22.0+		Headwaters

WEST FORK DAIRY CREEK — STREAM MILE INDEX

HUC: 2114003000480090

[Abbreviations: RB= right bank, LB= left bank, HUC= Hydrologic Unit Code]

River Mile	Bank	Description
0.00		Confluence with East Fork Dairy Creek (HUC: 02114003000480080) @ River Mile 10.56 of Dairy Creek (HUC: 02114003000480)
1.96		Evers Road Bridge (County Road A–187) Rated Staff Gage for Stream Flow
2.09	RB	Lousignant Canal (HUC: 02114003000480090010)
2.82		State Highway 47 Bridge
5.28		Greenville Road Bridge (County Road A–159)
6.20		State Highway 6 Bridge
6.22	RB	Cedar Canyon Creek (HUC: 02114003000480090110)
7.53		Cedar Canyon Road Bridge (County Road 1938) City of Banks to SE
7.70		State Hwy 47 Bridge – Rated Staff Gage for Stream Flow West Fork Dairy Creek at Banks, OR –Former USGS Gage #14205000 (10/40 – 9/43) Drainage Area = 47.5 square miles
7.72		Port of Tillamook Bay RR Bridge
9.30		US Highway 26 Bridge
10.60		NW Green Mountain Road Bridge (County Road 127)
11.02	LB	Garrigus Creek (HUC: 02114003000480090180)
12.19		NW Turk Road Bridge (County Road 233)
12.36	RB	Kuder Creek (HUC: 02114003000480090190)
12.90		NW Pihl Road Bridge (County Road 1045) Community of Manning
13.33		Port of Tillamook Bay RR Bridge
13.48		Port of Tillamook Bay RR Bridge
13.58	LB	Witcher Creek (HUC: 02114003000480090200)
14.37		Port of Tillamook Bay RR Bridge
14.50		US Highway 26 Bridge
15.00		NW Fisher Road Bridge (County Road 394)
15.11	LB	Mendenhall Creek (HUC: 02114003000480090220)
15.58	RB	Burgholzer Creek (HUC: 02114003000480090230)
15.60		US Highway 26 Bridge
16.00		Community of Buxton – ½ mile east
17.02	LB	Williams Creek (HUC: 02114003000480090240)
17.98	RB	Cummings Creek (HUC: 02114003000480090250)
18.10		State Highway 47 Bridge
18.85		Port of Tillamook Bay RR Bridge
22+		Headwaters

GALES CREEK — STREAM MILE INDEX

HUC: 2114003000560

[Abbreviations: RB= right bank, LB= left bank, HUC= Hydrologic Unit Code, ISWR= Instream Water Right]

River Mile	RB	Description
0.00		Confluence with Tualatin River (HUC: 0211400300) @ River Mile 56.80 ***ISWR*: C–59523 5/25/66**
1.63		Southern Pacific RR Bridge
1.75		Forest Grove Bypass Bridge – State Highway 47 to State Highway 8
2.36		State Highway 47 Bridge Gales Creek Recording Stream Gage #14204530
3.66		Ritchey Road Bridge (County Road 461)
6.53	RB	Prickett Creek (HUC: 02114003000560090)
6.98		Stringtown Road Bridge (County Road A–176)
7.70	RB	Roderick Creek (HUC: 02114003000560110)
8.56		Roderick Road Bridge (County Road 395) Gales Creek near Forest Grove Oregon – Former USGS Gage #14204500 (10/40–9/56 & 10/70–9/81)
8.94	RB	Godfrey Creek (HUC: 02114003000560130)
9.22	LB	Kelly Creek (HUC: 02114003000560120)
10.68	RB	Clear Creek (HUC: 02114003000560150)
11.44	RB	Iler Creek (HUC: 02114003000560170)
11.46		NW Gales Creek Road (County Road 1312) Community of Gales Creek
11.47	RB	Fir Creek (HUC: 02114003000560190)
12.00		***ISWR:* C–59509 5/25/66 above this point**
12.36		Clapshaw Hill Road Bridge (County Road 2037) Rated Staff Gage for Stream Flow
12.40	LB	Little Beaver Creek (HUC: 02114003000560200)
		***ISWR:* C–59512 5/25/66**
12.92		Parson Road Bridge
14.44	RB	White Creek (HUC: 02114003000560210)
14.68		NW Wilson River Highway Bridge (State Highway 6)
15.74	RB	Lyda Creek (HUC: 02114003000560230)
16.26	RB	Bateman Creek (HUC: 02114003000560250)
17.50		Gales Creek near Gales Creek, OR – Former USGS Gage #1420400 (10/35–9/45 & 10/639/70)
18.00	LB	Beaver Creek (HUC: 02114003000560280) Community of Glenwood ***ISWR:* C–59524 5/25/66**
18.45		NW Timber Road Bridge (County Road 374)
18.65		Wilson River Highway Bridge (State Highway 6)
19.70		Wilson River Highway Bridge (State Highway 6)
19.88	LB	Coffee Creek (HUC: 02114003000560300)
20.07	LB	Finger Creek (HUC: 02114003000560305)
20.70	RB	South Fork Gales Creek (HUC: 02114003000560310) ***ISWR:* C–59514 5/25/66**
21.60	LB	North Fork Gales Creek (HUC: 02114003000560320) ***ISWR:* C–59513 5/25/66**
22.76	RB	Low Divide Creek (HUC: 02114003000560330)
		Gales Creek Forest Park
23.20		Gales Creek near Glenwood, OR – USGS Gage #14203750 (7/94 – present)

SCOGGINS CREEK — STREAM MILE INDEX

HUC: 2114003000640
[Abbreviations: RB= right bank, LB= left bank, HUC= Hydrologic Unit Code]

River Mile	Bank	Description
0.00		Confluence with Tualatin River (HUC: 0211400300) @ River Mile 60.00
0.94		RR Bridge
1.00		State Highway 47 Bridge
1.70		Old State Highway 47 Bridge
1.71		Scoggins Creek near Gaston, OR – Former USGS Gage #14203000 (10/1940 – 9/1974) Drainage Area = 43.3 square miles
4.80		Scoggins Creek below Henry Hagg Lake, near Gaston, OR – USGS Gage #14202980 (1/1975 –present) Drainage Area = 38.8 square miles
5.10		Scoggins Dam
7.00	RB	Sain Creek (HUC: 02114003000640170)
7.62	LB	Tanner Creek (HUC: 02114003000640200)
8.40	LB	Wall Creek (HUC: 02114003000640220)
9.00		Lake Loop Road Bridge
9.30		Scoggins Creek above Henry Hagg, near Gaston, OR – Gage #14202850 (10/1972 – present) Drainage Area = 15.9 square miles
10.52	LB	Parson Creek (HUC: 02114003000640240)
15.50	LB	Fisher Creek (HUC: 02114003000640300)