Water Management and Conservation Plan

Draft Report

Prepared for:

City of Falls City

Date:

April 2025

Prepared by:

Oregon Association of Water Utilities

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City of Falls City

WATER MANAGEMENT CONSERVATION PLAN

Executive Summary:

A Water Management and Conservation Plan (WMCP), is required by the Oregon Water Resources Department (OWRD), found in the Oregon Administrative Rules (OAR) Chapter 690, Division 86 directly tied to criteria relating to water rights and permitting. Quantities of water consumed for municipal purposes are increasing as populations grow, and developing strategies to manage the water rights of an entity will become more essential in the future. Key components in the WMCP are, a) water conservation measures stretching those existing water rights with substantive evidence proving the need to maintain and or grow the total required water, b) considering future water needs as it relates to both existing and potential alternative sources of water for the city of Falls City.

The WMCP is formed with five primary points, building on the current resources and parlaying said information to the calculated estimates of water demand in the future. The population served, types of service (residential vs commercial) and the gallons per capita daily are measurements that substantiate necessary resources for the future, initially using five-year data set of water pumped.

The regulations that pertain to the “conservation” element of the WMCP delves into the current measures the water system is performing or not, i.e., water audit, metering, rates, leak detection as well as education of the public. Public water (municipal) systems (PWS) are encouraged to upgrade infrastructure that reduces the total amount of water used. If this step is deemed successful, the management team must also look at the financial impact of selling less water.

The curtailment section of the WMCP should coincide with the emergency response plan already implemented per rule OAR 333-061-0064. In this section of the WMCP, the decision makers create stages of alert and establish trigger points to assist when the water system applies curtailment actions, either voluntarily or mandated. These actions should be initiated with the water system’s ability to supply water during all levels of demand or continue to supply minimal water during a partial disruption of services.

The water supply element of the WMCP looks at the forecasted demand as it relates to projected needs of water and the available sources of water. This piece of the WMCP is part of the overall coordination of demands for water from other prevailing claims on a water source.

Long-term permitting and extensions of time are becoming increasingly more difficult to obtain. Maintaining the ability to prove beneficial use towards certification will require public water systems additional time and resources. These actions are very different today than in the past

as data collection should become a higher priority for operations. Operationally, the accuracy in the data supports the necessary decisions to negotiate the water permitting and certification process.

Additional future costs for system upgrades and repairs will be required to meet the minimal unaccounted-for water (water loss). Water loss above ten percent will require development and implementation of a regularly scheduled and systematic program to detect and repair leaks in the transmission and distribution system. These requirements will require staff time and contractual workforce, both requiring additional monetary resources, a point decision makers must address.

The table below is a snapshot depicting the current "average" water usage calculated for both a typical daily usage, known as gallons per capita daily (GPCD) and usage as it relates to "peak" demand, a number ascertained as it relates to a system operations and performance. A comparative set of figures details the current quantity of water allowed by the water system's permitted rights against the current actual usage for the city of Falls City**,** as well as the projected needs in maximum volume of water. The percentages shown indicate the water used against the total available water. Assuming conditions remain consistent with water production and water sold, it is speculated that the city of Falls City will be using ≈ 20 percent of the allotted water rights during the timeframe of this WMCP.

Future Usage – Remaining Balance:

Table ES-1 Future Usage and Remaining Balance

Permits	Certificates	Allowed Rate with Development Limitations CFS	Maximum GPM	Ave Daily Usage CFS	Peak Day Usage CFS	Balance of Permit CFS	Bal of Permit Daily Gals (MG)	Remaining CFS	% of Balance per Permit	Remaining Percentage All Permits
S-2700	1832	1.00	449	0.15	0.54	0.46	0.29449	0.46	46%	81%
S-4592	5072	0.50	224	0.00	0.00	0.50	0.32314	0.50	100%	
S-13970	14247	0.50	224	0.00	0.54	0.46	0.29449	0.50	100%	
S-46807	82931	2.00	898	0.12	0.40	1.60	1.03709	1.60	80%	
S-35215	39319	0.26	117	0.00	0.00	0.26	0.16803	0.26	100%	
S-35222	NA	0.77	346	0.00	0.00	0.77	0.49763	0.77	100%	
Total		5.03	2257	0.27				4.09		

Figures shaded have development limitation, If applicable, and its unused portion available for future

Balance of permits show unused water (CFS) (MG) available for the future growth of the PWS

Balance % shows precentage of water available from the existing right(s) for the future growth of the PWS

The table is a method to assess two aspects relating to water rights, a) comparative view to resolve if the total permitted quantity of water meets the future needs of the public water system, b) to understand the balance of remaining (unused) quantity of total permitted water

rights complements the projected need. The maximum allowed rate is the amount of water originally allocated, the development limitation is an adjusted amount of water a PWS can divert that cannot be exceeded and is less than the maximum allowed rate.

Development limitation is a criterion placed on water under an extended permit as a condition to limit any diversion beyond the stated limits. The undeveloped portions of any single permit may be categorized under “Greenlight” water. Greenlight water refers to the undeveloped portion of the water that has yet to be diverted for beneficial use. Water being recorded and accounted for during the writing of the WMCP becomes the developed portion. The development limitations, “undeveloped portion” freezes any amount of water until an application requesting additional water is placed in the WMCP. Many PWS must obtain approval and authority granted by OWRD to use any water identified as Greenlight water. The development limitation amount is not figured based on the findings in this WMCP but has been established based on annual water reports remitted to OWRD. The single criterion for this WMCP is the extension of time for Permit S-35222 with a development limitation of 0.77 CFS out of 1.00 CFS. All other permits for the city of Falls City have been certified.

These specific points are emphasized due to the nature of retaining permitted water rights, the total amount of water currently allowed, and any potential or real State policy or rule amendments that can occur.

As the uncertainty of the future cannot guarantee the findings discovered in this WMCP, the city of Falls City is encouraged to seek professional advice from consultants, engineering firms and water rights legal counsel for guidance relating to water permitting, certification.

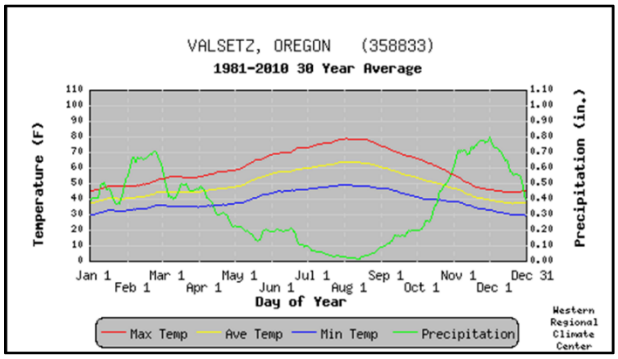
Introduction:

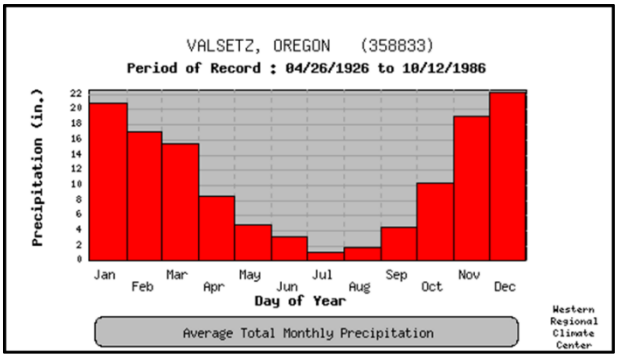
Situated in the southern part of Polk County, founded in 1893, named after a waterfall (Berry Creek Falls) in the Little Luckiamute River that passes through the center of town.[1] The city of Falls City serves 1,051 (2024 census) residences through 468 [2] water connections with most parcels being almost four acres in size.

The median household income for the Polk County area is $77,350.00 [3] while the current population, per US Census Bureau is 89,800 people.[4] The community is surrounded in hills of the Oregon Coast Range that supported the timber industry for decades.

Weather related information is taken from the averages substantiated by the Western Regional Climate Center over a period of 1981 through 2010. Annual rainfall is 128 inches, with 50 percent occurring over a five-month period between October through March. Like many areas of Oregon, the hottest month occurs in July while the coldest month is usually December or January. The average minimum temperature is 37^0 F as the average mean maximum temperature is 68^0 F.[5]

City of Falls City	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temperature (F)	45.3	49.8	52.5	57.9	65.3	71.4	77.6	77.5	72.9	63.5	52.4	46.7	61.1
Average Min. Temperature (F)	31.4	33.6	33.9	35.8	39.6	44.5	46.6	47.5	44.4	40	35.9	33.6	38.9
Average Total Precipitation (in.)	20.7	16.68	14.91	8.58	4.72	3.17	1.08	1.83	4.53	10.33	19.17	22.31	128.02





1 - https://en.wikipedia.org/wiki/Falls_City,_Oregon#History
2 - https://yourwater.oregon.gov/inventory.php?pwsno=00297
3 - https://www.incomebyzipcode.com/oregon/97344
4- https://www.census.gov/quickfacts/fact/table/polkcountyoregon/LFE305222
5 - https://wrcc.dri.edu/summary/Climsmor.html

Scope:

The scope of this WMCP is to consider the functions of the water system from various points as it is run by the City of Falls City. The primary concern is the management of existing water sources and the sustainability of the sources as they relate to the growth in and around the area. Equally important is continuing to supply water to both existing and future customers. Implementing conservation ideals and methods will be another tool to manage beneficial water use. Management of the water under continual satisfactory conditions will be an effort for both water system personnel and the community.

Purpose:

The purpose of this WMCP is to gain a better understanding of the balance of water from the source, through the water system and how it is consumed by the customers, coordinate with OAR requirements and guidelines towards water management and conservation. The City of Falls City currently meets the criteria proven under OAR 690-086-0150(5), serving a population of 1,051 through 468 connections.[1]

This WMCP is the second report sent to Water Resources Department and is written as a guideline for the City of Falls City and continued efforts towards water conservation. The current WMCP is in effect until October 6, 2025. The next update for a WMCP is due in 2035.

Every five years, the City of Falls City will update the Water Resources Department with a progress report, due in 2030, on how the benchmarks are being implemented as well as any changes in the efforts of water management and conservation.

Following the administrative rules, the City of Falls City proposes to send a progress report as key benchmarks are obtained, and water use reported. Progress reports will be written and sent to the Water Resources Department as addendums to this water management and conservation plan.

Key benchmarks presented will be dependent on both the monetary and available work force to complete the tasks. At a minimum the City of Falls City will:

- Supply educational information on water conservation to the customers via a website.
- Perform annual water audit, reviewing past production, consumption records.
- Verify accuracy of production meters.
- Continue with routine leak detection.

This document has been compiled by the Oregon Association of Water Utilities with authorization from the City of Falls City. This WMCP follows the Oregon Administrative Rules (OAR) Chapter 690, Division 86.

1 - https://yourwater.oregon.gov/inventory.php?pwsno=00297

SECTION ONE
MUNICIPAL WATER SUPPLIER

1.1 Affected Local Governments: OAR 690-086-0125 (5)

A list of the affected local governments to whom the draft plan was made available pursuant to OAR 690-086-0120 (6) and a copy of any comments on the plan provided by the local governments.

In February 2025, City of Falls City submitted a copy of this water management conservation plan for review to all affected governments listed below, requesting for comments on the awareness of water management and conservation planning. The following details are:

- Polk County Planning Director – Austin McGuigan – 503.623.9237
    - mcguigan.austin@co.polk.or.us
- Luckiamute Domestic Water – Charles Prouty – 503-838-2075
    - office@luckiamute.com

Thirty (30) days before submitting this WMCP to OWRD, the City made the WMCP draft available for review and comment from those entities listed above. A copy of the notification letter and comments are included in Appendix A

1.2 Updated Plan Submittal: OAR 690-086-0125 (6)

A proposed date for submittal of an updated plan within no more than 10 years based on the proposed schedule for implementation of conservation measures, any relevant schedules for other community planning activities, and the rate of growth or other changes expected by the water supplier; or an explanation of why submittal of an updated plan is unnecessary and should not be required by the Department.

OAR 690-086-0125 (6) says an updated plan to be sent within no more than 10 years unless significant changes are expected by the water supplier, or the State ruling dictates a plan to be submitted prior to the 10 years. This is based on the proposed schedule for implementing conservation measures, rate of growth or other expected changes by the water supplier. A "Progress Report" will be sent on or before the 5-year period (2030) to review benchmarks and water use progress and to give an updated WMCP at the end of the 10-year period. All efforts towards management and conservation will be noted and kept for the progress report which will be given every five years by City of Falls City.

Conservation and water use practices are constantly evolving. Listed conservation efforts at the end of section two will be reviewed annually by assigned administrative staff, enabling the City of Falls City to decide the progress of the management conservation plan.

1.3 Additional Time: OAR 690-086-0125 (7)

If the municipal water supplier is requesting additional time to implement metering as required under OAR 690-086-0150 (4)(b) or a benchmark established in a previously approved plan, documentation showing additional time is necessary to avoid unreasonable and excessive costs.

The city of Falls City is not requesting an extension of time to implement metering, as the benchmark set up in a previously approved water management conservation, installation of new meters completed in 25 years, was completed in July 2024, with all service connections upgraded. City of Falls City is a fully metered water system.

1.4 Municipal Water Supplier Description: OAR 690-086-0140 (1)

A description of the supplier's source(s) of water; including diversion, storage, and regulation facilities; exchange agreements; intergovernmental cooperation agreements; and water supply or delivery contracts.

The City of Falls City supplies water to the community from Glaze and Teal Creek, which is diverted to a three-cell slow sand filtration plant. Both creeks are considered tributaries to the Luckiamute River. The watershed supporting water flows to the two creeks is predominantly forest zone land or Timber Conservation Zone. This area is comprised of ≈ 3,000 acres. Transmissions lines are placed on private lands with easements granted. [1] The water treatment also includes disinfection added prior to the reservoir and distribution. The capacity of the WTP is 390 gallons per minute (GPM) or 0.87 cubic feet per second (CFS).

The WTP capacity equates to 0.562 MG daily, which said information will be used to compare current and twenty-year timeline for additional water demand. A clear well at 250K gallons is designed as the contact chamber to assure proper disinfection. The city also maintains a 600K gallon reservoir, positioned to provide sufficient pressure to all users. The city's distribution system consists of varied sized pipe (4"-12") and pipe materials with a total length of combined sizes at > 66,000 feet.[1]

The city of Falls City has an agreement and two interconnections with Luckiamute Domestic Water (LDW). These connections support LDW to serve water to constituents, which are located outside the city's urban growth boundary (UGB). **Copy of water agreement.**

1 – Water Master plan – HBH Consulting Engineers, Inc.

1.4.1 Points of Diversion

Table 1-1: POD Locations / Production Rates

Table 1-1: POD Locations / Permitted Rates								
Permit	Town-ship	Range	Section	Qtr Qtr	Notes		Rate [1] (CFS)	Rate (GPM)
S-2700	8-S	6-W	31	NA			1.00	449
S-4592	8-S	6-W	29	NW - SE			0.50	224
S-13970	8-S	6-W	21	NW - NW	DLC -55		0.50	224
S-46807	8-S	6-W	31	NW - SE			2.00	898
S-35215	8-S	6-W	32	NW - NE			0.26	117
S-35222	8-S	6-W	20	SW - NW			1.00	449
Total							5.26	2,361
NA - not applicable								
S-13970 - Industrial usage - Mill Pond								
All of the permits, with the exception of S-35222 have certificates associated with them								

1.4.2 Water Storage - Reservoirs

Table 1-2: Water Storage Reservoirs

Table: 1-2: Storage Reservoirs		
Reservoir	Storage Capacity (MG)	Elevation
1	0.60	683
Clearwell	0.25	731
Total Capacity	0.85	NA

1.5 Current Service Area: OAR 690-086-0140 (2)

A delineation of the current service areas and an estimate of the population served, and a description of the methodology used to make the estimate.

The City of Falls City's water system serves an incorporated area in Polk County which encloses approximately 775 acres of land at the base of the eastern slopes of the Central Oregon Coast Range [1] with the Little Luckiamute River traversing through the City.

1 -https://en.wikipedia.org/wiki/Oregon_Coast_Range

The population served is approximately 1,051 through 468 connections,[1] equaling 2.4 persons per household. Review of Portland State University – Population Research Center (PSU-PRC) estimates that the city of Falls City had a population at 1,000 people in 2020.[2]

1.6 Adequacy / Reliability of Existing Source: OAR 690-086-0140 (3)

An assessment of the adequacy and reliability of the existing water supply considering potential limitations on continued or expanded use under existing water rights resulting from existing and potential future restrictions on the community's water supply.

The adequacy and reliability of the existing water supply can be proven from two focal points, a) sustaining flows from the two creeks throughout the year, and b) manage the existing water during distribution which includes the total water stored. A sound approach for the City is detailed data measurements of water drawn from the source, and the ability to manage supplies without loss.

Water production figures from Tables 1-4, 1-4-1 and 1-5 on the following pages give evidence for the consistency of water production at an average of 4.2 MG (0.22 CFS) monthly. Existing water rights show 4.26 CFS (1,912 GPM) of certificated water and 0.77 CFS (345 GPM) allowances with development limitations on a single permit. The 5.03 CFS is assessed using the development limitation on Permit S-35222 for 0.77 CFS of the total 1.00 CFS. The city of Falls City uses four (4) percent of the allowed water under normal GPCD and eleven (11) percent under maximum demand.

Shortfalls associated with water delivery are two, a) the reduction in flows from Glaze Creek, which is mitigated by the more consistent flows from Teal Creek and b) the aging infrastructure of the distribution system. Part B is being planned and discussed during the writing of this WMCP.

With a firm supply of water, the City of Falls City has a production capacity of 1.22 CFS, (545 GPM). Table 1-5 indicating a five-year average usage rate at 0.21 CFS (97 GPM) averaging (4.22 MG/month). The maximum measured peak demand for City of Falls City is 0.57 CFS (256 GPM) occurring in September 2024. Peak demand, represented from a single month basis is ≈ 11 percent of permitted water allowances.

1 - https://yourwater.oregon.gov/inventory.php?pwsno=00297
2- PSU-PRC Coordinated Population Forecast – 2021 through 2071 – Prepared June 2021

1.8.0 Water Rights: OAR 690-086-0140 (5)

A tabular list of water rights held by the municipal water supplier that includes the following information.
(a) Application, permit, transfer, and certificate numbers (as applicable)
(b) Priority date(s)
(c) Source(s) of water
(d) Type(s) of beneficial uses specified in the right
(e) Maximum instantaneous and annual quantity of water allowed under each right
(f) Maximum instantaneous and annual quantity of water diverted under each right to date
(g) Average monthly and daily diversions under each right for the previous year, and if available for the previous five years
(h) Currently authorized date for completion of development under each right; and
(i) Identification of any stream flow-dependent species listed by a state or federal agency as sensitive, threatened or endangered that are present in the source, any listing of the source as water quality limited and the water quality parameters for which the source was listed, and any designation of the source as being in a critical ground water area.

Table 1-3: City of Falls City Water Permits, Certificates Inventory:

Table 1:3 Water Permits, Certificates Inventory													
									Actual Diversion				
Application No. (5)(a)	**Permit No. (5)(a)**	**Certificate No. (5)(a)**	**Priority Date (5)(b)**	**Transfer No.(5)(a)**	**Source (5)(c)**	**Use (5)(d)**	**Maximum Allowed Rate (cfs) (5)(e)**	**Allowed Rate under Development Limitations (cfs) (5)(e)**	**Maximum Instantaneous Rate Diverted to Date (cfs) (5)(f)**	**Maximum Annual Quantity Diverted to Date (MG) (5)(f)**	**Average Monthly Diversion (MG) (5)(g)**	**Average Daily Diversion (Gallons) (5)(g)**	**Authorized Completion Date (5)(h)**
S-4606	S-2700	1832	11/4/1915	NA	Teal Creek	M	1.00	NA	0.544	39.68	2.868	0.096	NA
S-4592	S-4592	5072	5/11/1920	NA	Boughey Creek	M	0.50	NA	0.000	0.00	0.000	0.000	NA
S-18337	S-13970	14247	8/12/1939	NA	Lil Luckiamute	I	0.50	NA	0.000	0.00	0.000	0.000	NA
S-63381	S-46807	82931	3/4/1982	NA	Glaze Creek	M	2.00	NA	0.395	41.29	2.336	0.078	NA
S-47360	S-35215	39319	8/6/1970	NA	Teal Spring	M	0.26	NA	0.000	0.00	0.000	0.000	NA
S-47642	S-35222	NA	10/14/1970	NA	Berry Creek	M	1.00	0.77	0.000	0.00	0.000	0.000	10/1/2043
					Total		5.26	5.03	0.81	80.97	5.20	0.173	NA
I - Industrial - Manfuacturing Use - Supply Mill Pond													
M - Municipal Use													
0.173 MG = 0.27 CFS Average daily diversion													
0.368 MG = 0.57 CFS Max Rate Diverted													

Table 1-4: Water Production, Sales, Unaccounted:

Table 1-4: Water Production, Sales, Unaccounted										
PERMIT	**PRODUCTION YEARS**					**Total Diverted Water (MG)**	**Raw Water Pumped**	**Operations Usage**	**Ave. GPM**	**Ave. CFS**
	2024	**2023**	**2022**	**2021**	**2020**					
	Million Gallons (MG) [A]								**5-yr Average**	
1832	37.05	39.68	23.41	36.12	36.12	172.38	172,379,303	**Annual Average**	65.59	0.15
5072	0.00	0.00	0.00	0.00	0.00	0.00	-		0.00	0.00
14247	0.00	0.00	0.00	0.00	0.00	0.00	-		0.00	0.00
82931	41.29	33.06	37.84	27.94	0.00	140.14	140,138,623		53.33	0.12
39319	0.00	0.00	0.00	0.00	0.00	0.00	-		0.00	0.00
S-35222	0.00	0.00	0.00	0.00	0.00	0.00	-		0.00	0.00
Production	78.35	72.74	61.25	64.06	36.12	312.52	312,517,926	62.504	118.92	0.265
Oper Usage	0.13	0.16	0.14	0.14	0.13	0.70	698,000	0.140	0.33	0.001
Monthly Average (MG)	6.53	6.06	5.10	5.34	3.01	**5.21**		**Operations [B]**		
	Annual Water Sales (MG)					**Total Water Sales (MG)**	**Total Water Pumped**	**Operations Usage**	**Unaccounted Water**	
2024					52,822,131	52.96	78.35	0.13	32.2%	
2023					50,230,143	50.39	72.74	0.16	30.5%	
2022					53,426,912	53.57	61.25	0.14	12.3%	
2021					50,508,460	50.65	64.06	0.14	20.7%	
2020					46,783,003	46.91	36.12	0.13	30.2%	

Table 1-4-1: Water Production, Sales Unaccounted Summary Averages								
2024-2020	**2024**	**2023**	**2022**	**2021**	**2020**	**Five Year Loss Ave ***		**23.93%**
Max MG	41.29	39.68	37.84	36.12	36.12	Notes:		
Max CFS	0.18	0.17	0.16	0.15	0.15	A - Figures taken from Water Use Report timeframe coinciding with WMCP		
(5e) Allowed [C]	5.26	5.26	5.26	5.26	5.26	B - Line flush, PSI - flow testing, general operations,		
Allowed DL [D]	5.03	5.03	5.03	5.03	5.03	C - figures calculated in CFS without development limitations		
(5f) Max Inst [C]	0.81	0.81	0.81	0.81	0.81	D - figures calculated in CFS with development limitations		
(5f) Max Ann [E]	78.35	72.74	61.25	64.06	36.12	E - figures calculated in MG		
(5g) Ave Mo. [E]	6.53	6.06	5.10	5.34	3.01	* - Average loss calculated during the timeframe of this WMCP		
(5g) Ave Daily [E]	0.218	0.202	0.170	0.178	0.100			

1.7 Quantification of Present and Historical Use: OAR 690-086-0140 (4)

A quantification of the water delivered by the water supplier identifies current and available historic, average annual water use, peak seasonal use, and average and peak day use.

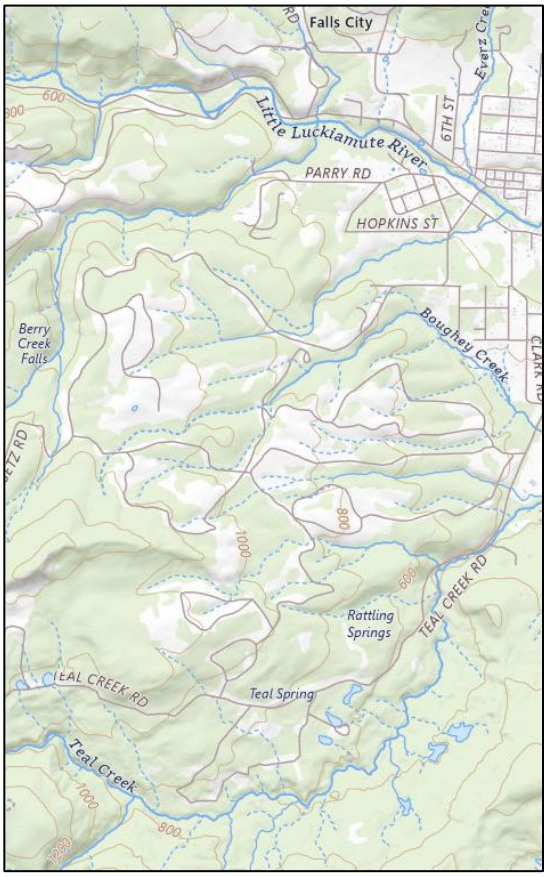
Table 1-5 outlines the quantification of water delivered both from an average monthly and annual quantity and the peak months for the past five-years. Highlighted are the months which the peak demand was created.

Table 1-5: City of Falls City Water Usage

Table 1-5: City of Falls City Water Usage								
	Total Gallons						**Gallons**	
Month	**2024**	**2023**	**2022**	**2021**	**2020**	**Mo. Averages**	**GPD**	**CFS**
January	3,889,009	4,073,002	3,479,004	3,227,010	4,051,000	3,743,805	120,768	0.19
February	2,450,010	3,815,900	3,217,004	2,867,500	2,358,000	2,941,683	94,893	0.15
March	2,494,011	5,425,014	3,161,004	6,897,587	2,572,000	4,109,923	132,578	0.21
April	2,489,003	2,804,037	3,224,004	3,822,101	2,498,000	2,967,429	95,724	0.15
May	5,299,025	2,962,016	3,155,002	3,795,061	2,530,000	3,548,221	114,459	0.18
June	4,873,023	5,041,021	6,937,006	4,345,003	4,458,000	5,130,811	165,510	0.26
July	6,125,008	**7,505,058**	4,657,000	**7,718,182**	5,445,000	6,290,050	202,905	0.31
August	5,586,542	6,089,032	**7,763,000**	6,060,003	**7,714,000**	6,642,515	214,275	**0.33**
September	**11,012,900**	4,951,032	4,957,000	4,087,003	5,762,000	6,153,987	198,516	0.31
October	3,060,000	2,653,012	2,190,876	2,024,003	3,099,000	2,605,378	84,044	0.13
November	2,563,000	2,317,010	7,276,000	2,823,004	3,081,000	3,612,003	116,516	0.18
December	2,980,600	2,594,009	3,410,012	2,842,003	3,215,003	3,008,325	97,043	0.15
Annual Averages - Million Gallons								
Annual Totals	52,822,131	50,230,143	53,426,912	50,508,460	46,783,003	4,229,511	140,984	0.22
Annual Daily Ave	144,718	137,617	146,375	138,001	128,173	138,977	138,977	0.22
Mo. Maximum	11,012,900	7,505,058	7,763,000	7,718,182	7,714,000	11,012,900	367,097	**0.57**
Peak Seasonal	August	July	July	July	August			
Peak Day Use	367,097	250,169	258,767	257,273	257,133	367,097		0.57
User Averages								
Population	1051	1810	1803	1765	1750			
Ave GPCD	**138**	76	81	78	73	89	138	
Peak GPCD	**349**	138	144	146	147	185	349	

1.8.1 Environmental Resource Issues of Concern OAR 690-086-0140 (5)(i)

Identification of any stream-flow dependent species listed by the State or Federal Agency as sensitive, threatened, or endangered that are present in their source(s). Any listing of the source as being water quality limited and the water quality parameters, any designation of the source as being in a critical ground water area.



The City of Falls City obtains its water from two primary water sources, Teal and Glaze Creeks, with other tributaries that support flows to the intakes. All tributaries flow to the Little Luckiamute River and eventually to the Luckiamute River. The map shows various named water sources. Glaze Creek would be positioned outside the lower left corner of the map.

The Luckiamute River Watershed, found in the Upper Willamette Basin, hydrological unit code 17090003, has westside drainages to the Willamette River, in the Willamette Valley ecoregion.

The map below shows the position of Falls City to the rearing, migration of Spring Chinook end stop. Shown in lower right corner, accented in bold orange. Winter Steelhead has been identified as found in the source waters as the water traverses through town, but not present closer to the intakes of Teal and Glaze Creeks. Winter Steelhead are considered “threatened” by both Oregon Department of Fish and Wildlife and the US Fish & Wildlife Services.

Identification of any stream-flow species listed in table 1-6, are those species found in the Upper Willamette Basin, but not necessarily within the adjacent area of the city of Falls City.

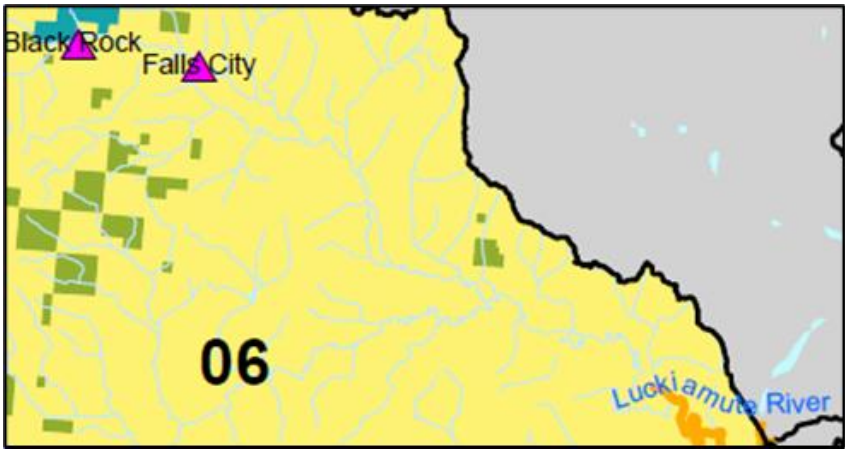


Table 1-6: Environmental Concerns, Endangered Species

Table 1-6: Endangered Species					
Species	**Ecoregion**	**ODFW Listing**	**Federal Listing**	**Area Designation**	**ESA Critical Habitat**
Luckiamute River					
Upper Willamette River - HUC 17090008					
Bull Trout	Will Valley	S	Threatened	SMU	No
Chinook Salmon - Fall	Will Valley	SC	Threatened	ESU / SMU	Yes -2024
Chinook Salmon - Spring	Will Valley	SC	Threatened	ESU / SMU	Yes -2024
Coastal Cutthroat	Will Valley	S		SMU	Yes - 2021
Chum Salmon	Will Valley	SC		ESU / SMU	Yes - 2021
Oregon Chub	Will Valley	S	Threatened	Range Wide	Yes - 2024
Pacific Brook Lamprey	Will Valley	S		Range Wide	No -2021
Pacific Lamprey	Will Valley	S		Range Wide	No - 2021
Steelhead Trout *	Will Valley	SC	Threatened	ESU / SMU	Yes - 2024
Western Brook Lamprey	Will Valley	S		Range Wide	Yes - 2021
Western River Lamprey	Will Valley	S		Range Wide	Yes - 2021
Will Valley - Willamette Valley					
E - endangered, S - sensitive, SC -sensitive-critical, SMU - significant management unit, ESU - evolutionary significant unit, DPS - Distinct Population Segment					
* - Winter Steelhead,					

1.9 Water use characteristics: OAR 690-086-0140 (6)

A description of customers served including other water suppliers and the estimated numbers; general water uses characteristics of residences, commercial and industrial facilities, and any other uses; and a comparison of the quantities of water used in each sector with the quantities reported in the water supplier's previously submitted water management and conservation plan and progress reports.

The City of Falls City serves an approximate population of 1,051 through 468 connections (2.2 people per connection) in a land area typically appointed for a small rural city. The majority of the area is zoned residential with a small section along Main Street with a commercial designation. See maps in appendix B.

Commercial services normally associated with a water system service are convenience stores, small businesses which account for ten percent of the water services. Approximately 25 acres

are allocated for commercial industrial zoning in the southwest corner of the community. Of the 25 acres, the entire industrial area is segregated into five separate parcels. LDW uses ≈ 18 percent of the water produced by the city of Falls City.

Information from the City's billing system shows data from meter connections for each of the classes of customers. LDW is the single largest customer consuming ≈ 18 percent of water produced, while the residential consumption equates to 80 percent.

Table 1-7: Water Use Characteristics

Table 1-7: Water Use Characteristics					
Classification	Million Gallon Consumption				
	Ave. Annual Gallons				50,754,130
	Peak Monthly Gallons				11,012,900
	Gallons per Capita Daily -GPCD				139
	Peak - GPCD				323
	2024	**2023**	**2022**	**2021**	**2020**
Residential	36.39	35.68	19.27	38.29	36.02
Commercial / Industrial	0.15	0.11	0.10	0.13	0.46
Luckiamute WD	8.28	10.63	8.70	9.20	9.90
Operations [1]	0.13	0.16	0.14	0.14	0.13
1- Water usage associated with line flushing, hydrant testing, etc.					

Table 1-8: Gallon Per Capita Daily

Table 1-8: 2024 vs 2015 Water Usage Comparison						
2015	**2014**	**2013**	**2012**	**2011**	**Average**	**GPCD**
43.70	38.60	37.30	36.80	35.00	38.28	111
2024	**2023**	**2022**	**2021**	**2020**	**Average**	
52.82	50.23	53.43	50.51	46.78	50.75	128
21%	30%	43%	37%	34%	33%	16%
GPCD - is calculated using total gallons sold divided by approximate population for the year						

The comparative analysis of two five-year time periods relating to water usage is difficult to pinpoint due to varying circumstances. Taken from the Water Plan (2017), it was calculated that the GPCD for 2010 -2015 was 111 gallons, while the GPCD during the 2020-2024 timeframe was 128 gallons. Both conclusions were factored on PSU-PRC certified populations for the respective dates.
Table 1-8 shows GPCD based on total annual water usage, estimated populations for each year, and the GPCD. The GPCD has remained relatively the same while adding population. The primary discrepancy for additional water consumption is related to old meters, which tend to read less gallons as they age. The city of Falls City has completed replacing all customer meters in 2024, a task that was scheduled to be completed in 2040 as outlined in the Water Master Plan. With new meters, the accuracy will increase, and the unaccounted-for water should decrease.

1.10 Interconnections with other systems: OAR 690-086-0140 (7)

Identification and description of interconnections with other municipal supply systems.

Currently, the City of Falls City has two interconnections with the LDW Water systems. The interconnections in the southeast sections of the city outside the UGB. The interconnections were put in place to augment the supplies for LDW. The interconnections are metered and read as part of the routine tasks associated with operations. LDW is billed on a monthly basis for water purchased.

1.11 System Schematic: OAR 690-086-0140 (8)

A schematic of the system that shows the sources of water, storage facilities, treatment facilities, major transmission and distribution lines, pump stations, interconnections with other municipal supply systems, and the existing and planned future service area; and

The City of Falls City's water system schematic was derived from their water master plan completed in 2017 by HBH Consulting Engineer, Inc. The multi-page appendix shows land use zones (Mid-Willamette Valley COG), distribution map that depicts sources of water and the intakes, storage reservoir, treatment facilities, distribution lines, and interconnections. It also shows the urban growth boundary for the community. See appendix B.

1.12 Quantification of System Leakage: OAR 690-086-0140 (9)

A quantification and description of system leakage that includes any available information regarding the locations of significant losses.

The City of Falls City tracks water into the water treatment facility, to the reservoir and again reading the meters in the distribution system.

The city of Falls City has been focusing on areas containing asbestos cement piping. Scattered across the entire spectrum of the distribution system, the priority of reducing system leakage is replacing the asbestos-cement (AC) piping. A system wide leak detection was completed in 2020 and is starting again in early 2025. The average number of leaks repaired has directed phase one of pipe replacement in the area just north of main street as well as Mill Street. The goal is to better allocate resources in the areas of most concern. Estimated cost over the next five years is $1.6 million dollars.

The percentage of unaccounted-for water is also attributable to inaccurate meters, which have been replaced in 2024. Statistically, new meters can increase the accuracy of flowing water by eight percent.

SECTION TWO
WATER CONSERVATION ELEMENT

Water conservation activities contribute an important facet towards the sustainability of water for the future. Not all conservation efforts are going to be effective. It is those benchmarks that have been implemented and prove effective will be continued for City of Falls City.

The City of Falls City, the previous WMCP showed a 33.0 percent un-accounted water during the timeframe of 2010 – 2015. The City has diligently increased its review on water consumption and production from a managerial perspective. The City of Falls City will continue to emphasize various water conservation efforts which will include water system audits, leak detection, public education, providing an assortment of water saving devices for older fixture replacement.

2.1 Progress Report: OAR 690-086-0150 (1)

A progress report on the conservation measures scheduled for implementation in a water management and conservation plan previously approved by the Department, if any.

This water management conservation plan for the City of Falls City is a follow up document sent to OWRD in 2017. It is the intent of both the Council and Administration staff to continue to enhance the ideals of conservation through system operational reviews, customer knowledge, and implementation of conservation measures.

2.2 Water Use Measurements and Reporting: OAR 690-086-0150 (2)

A description of the water supplier's water uses measurement and reporting program and a statement that the program complies with the measurement standards in OAR Chapter 690, Division 85, that a time extension or waiver has been granted, or that the standards are not applicable.

The measurement and reporting information found in this document is taken from the annual production report compiled by the management staff at the city of Falls City. Flow meters are placed at the water treatment plant, the outlet on the reservoirs, and all customer service lines.

The city of Falls City complies with the measurement standards in OAR Chapter 690, Division 85 with an extensions of time for permit S-35222 have been given to City of Falls City for the authorized completion date of 10-01-2043, with a development limitation set at 0.77 CFS (345 GPM) out of 1.0 CFS (448 GPM).

2.3 Measurement Already Implemented: OAR 690-086-0150 (3)

A description of other conservation measures, if any, currently implemented by the water supplier, including any measures required under water supply contracts.

The city of Falls City has two primary approaches to conservation measures, a) management review of annual and monthly figures and b) and a series of benchmarks developed in the first WMCP.

Conservation brochures are dispersed with the water bills as well as displayed in conspicuous locations throughout the community. The city of Falls City has completed two full system leak detections (2020) and again in 2025 with a focus on asbestos-cement sections of pipe. Routine leak detection is performed when the monthly audit shows a significant discrepancy. Assistance towards residential leak detection is provided on an as needed basis.

2.4 Annual Water Audit: OAR 690-086-0150 (4)

A description of the specific activities, along with a schedule that establishes five-year benchmarks, for implementation of each of the following conservation measures that are required of all municipal water suppliers.

2.5 Unmetered / Unauthorized Usage (4) (a)

An annual Water Audit that includes a systematic and documented methodology for estimating any un-metered authorized and unauthorized uses, and an analysis of the water supplier's own water use to identify alternatives to increase efficiency.

The City of Falls City reviews water production and consumption figures to compare and define total actual losses, with this single step being the primary effort in an annual water audit.

System-wide, the operator inspects the water system through routine travels by looking for leaks, illegal connections, misuse of fire hydrants or vandalism. These efforts lead to understanding the real water losses. See Table 2-1: Water Loss Control Activity Matrix page 23.

2.6 Full Metering of System: OAR 690-086-0150 (4) (b)

If the system is not fully metered, a program to install meters on all un-metered water service connections. The program shall start immediately after the plan is approved and shall identify the number of meters to be installed each year with full metering completed within five years of approval of the water management and conservation plan.

The City of Falls City is a fully metered water system which includes meters on both the water treatment plant for raw water sources, the reservoir and consumer connections. The City of Falls City's water system is fully metered. The utility staff reads production meters daily, and consumer's meters monthly.

2.7 Meter Testing and Maintenance: OAR 690-086-0150 (4) (c)

A meter testing and maintenance program.

The city of Falls City was able to install new meters which use no moving parts to determine water flow. The project to replace all service meters was completed in November 2024. This single step will support efforts in defining total unaccounted water more accurately.

The City of Falls City has not created a scheduled meter testing program, except for the source meters on the production side which are testing annually. The new service meters, due to the design, have no testing criteria but could enable detection and resolution of leaks. The single limitation of the meters is the battery life, which has a ten-year guarantee.

The city of Falls City will continue to track billing records for discrepancies and will implement a test, repair, or replace meters when the data shows discrepancies.

2.8 Rate Structure: OAR 690-086-0150 (4) (d)

A rate structure under which customers' bills are based, at least in part, on the quantity of water metered at the service connections.

The City of Falls City has in place a flat block rate structure for water usage, and the water rates were implemented in 2017. The city affords five units of water (5,000 gallons) each month as part of the base rate. The city of Falls City charges a varied unit rate, ranging between $2.55 and $3.12 per unit for all water over five units. See appendix E

2.9 Leak Detection Program: OAR 690-086-0150 (4) (e)

If the annual water audit indicates that system leakage exceeds 10 percent.

2.9.1 Factors of Loss and Remedies OAR 690-086-0150 (4) (e) (A)

Within two years of approval of the water management conservation plan, the water supplier shall provide a description and analysis identifying potential factors for the loss and selected action for remedy.

The City of Falls City from 2019 through 2024 has estimated a five-year annual average of unaccounted-for water at approximately 24 percent. The previous WMCP indicated an annual average of 33 percent from 2010 through 2015.

The primary potential factors for unaccounted water loss would be two; a) leaking pipes, and b) inaccurate meters. Addressing meters, replacement of the old meters concluded in November 2024 and charging for the water is associated with the new billing system. This improved data will support the efforts in the benchmarks to show a reduction in unaccounted-for water. The reasonable goal for unaccounted-for water is fifteen percent by 2030.

Referring to leaking pipe, a series of steps the field crew will exercise, a) routine inspection of the distribution system, b) estimate GPM when repairing a leak and c) implement a more aggressive waterline replacement program, focused on asbestos-cement pipe.

2.9.2 Systematic Leak Evaluation OAR 690-086-0150 (4) (e) (B)

If actions identified under subsection (A) do not result in the reduction of water losses to 10 percent or less, within five years or approval of the water management conservation plan, the water supplier shall, **(i)** develop and implement a regularly scheduled and systematic program to detect repair leaks in the transmission and distribution system using methods and technology appropriate to the size and capability of the municipal water supplier or a line replacement program detailing the size and length of pipe to be replaced each year; or **(ii) –** develop and implement a water loss control program consistent with American Water Works Association standards.

The City of Falls City has consistently looked at methods to sustain or improve on lowering water loss. With membership services from Oregon Association of Water Utilities, leak detection is routinely performed multiple times each year. Over the past ten years, efforts toward better management of the resources have proven successful with a 9.0 percent reduction in unaccounted-for water loss to ≈24 percent. The city of Falls City has and will continue to implement a systematic program for leak detection. The water loss control program matrix on page 23 shows the highlighted cells that the city of Falls City has and will continue to put efforts towards reducing unaccounted for water.

2.10 Public Education Program: OAR 690-086-0150 (4) (f)

A public education program to encourage efficient water use and the use of low water use landscaping that includes regular communication of the supplier's water conservation activities and schedule to customers.

Currently, the City of Falls City will continue providing water conservation information in the city's newsletters, published each month. The City of Falls City will continue the efforts of water conservation by supplying more information to the consumers through displaying brochures (flyers) in areas throughout the community encouraging the use of water saving devices and gardening techniques.

General information from water conservation bulletins provided in the links below will be placed on the company's website.

www.oregon.gov/owrd/WRDPublications1/Saving_Water_Municipal_Systems.pdf
www.oregon.gov/owrd/WRDPublications1/Saving_Water_Inside.pdf
www.oregon.gov/owrd/WRDPublications1/Saving_Water_Outside.pdf
www.americanwater.com/49ways.htm
www.wateruseitwisely.com
www.awwa.org/waterwiser.com

2.11 Expansion / Diversion: OAR 690-086-0150 (5)

If the municipal water supplier serves a population greater than 1,000 and proposes to expand or initiate diversion of water under an extended permit for which resource issues have been identified under OAR 690-086-0140(5)(i), or if the municipal water supplier serves a population greater than 7,500,a description of the specific activities, along with a schedule that establishes five-year benchmarks, for implementation of each of the following measures, or documentation showing that implementation of the measures is neither feasible nor appropriate for ensuring the efficient use of water and the prevention of waste.

Currently the City of Falls City serves ≈ 1,051 people but does not propose to expand or start diversion of water under an extended permit for the primary reason; a) the City of Falls City water supplies are speculated to be adequate utilizing the existing certificates and permit, b) the City of Falls City does not serve a population greater than 7,500. The city of Falls City meets criteria established by rule as it relates to conservation yet is not required to implement the following benchmarks. The city of Falls City will establish additional efforts as an ambassador in the area to promote conservation over the next five years.

2.12 Technical and Financial Assistance: OAR 690-086-0150 (5)(a)

Technical and financial assistance programs commensurate the size of the municipal water supplier to encourage and aid residential, commercial, and industrial customers in implementation of conservation measures.

The City of Falls City currently does not supply technical or financial aid in developing water conservation ideas, such as rebates for water efficient fixtures, water audits for households, and public information. As told in sub-section 2.10, the City of Falls City will consider more methods to share information with its consumers.

The city of Falls City administration deems a conversation with all customers as feasible outreach and establishing periodic meetings regarding:

- Conservation ideas at homes and commercial facilities.
- Ideas for water saving equipment for commercial entities.
- Ground maintenance and drought tolerant plants recommended for open spaces.
- Look at water schedules for efficiency.

Conversations with commercial entities are currently considered the best approach as there is no outlay for funds, yet a message on the idea of reducing water usage is the most practical.

2.13 Retrofitting/Replacement: OAR 690-086-0150 (5)(b)

Supplier financed retrofitting or replacement of existing inefficient water using fixtures, including distribution of residential conservation kits and rebates for customer investments in water conservation.

Retrofitting is the adaptation or replacing of an older water fixture with one that is more water efficient and ultimately offers considerable water saving potential in the home and business. Efficient fixtures designed to reduce flows thus reducing overall water consumption. Total water reduction for the consumer and less demand on the water system are the benefits associated with efficient fixtures. The City of Falls City will initially make available a small amount of faucet aerators (25) and low flow shower heads(25) (efficient fixtures) to its citizens as customers pay their bills at the at city hall. The city of Falls City may consider rain gauges, but with average rainfall at 128 inches, rain gauges would seem impractical.

2.14 Rate Structures: OAR 690-086-0150 (5)(c)

Adoption of rate structures, billing schedules, and other associated programs that support and encourage water conservation.

In subsection 2.8, it explains the rate structure in effect in January 2021. This structure is aligned to better support water conservation. Currently the rate structure is a base with five units (5,000 gallons) of water for the monthly service and water being charged per 1,000 gallons ranging from $2.55 to $3.12 per unit.

2.15 Recycle / Reuse: OAR 690-086-0150 (5)(d)

Water reuse, recycling, and non-potable water opportunities; and

For the City of Falls City water reuse, recycling and non-potable water usage is not viable as the community sewer system is changing from gravel filtration and large capacity septic system, to completing a wastewater lagoon system. The city will include ideas of rain barrel usage in summertime for gardening. Only from an individual's basis can collecting rainwater for agricultural use provide some reduction in garden use water.

2.16 Other Conservation Measures: OAR 690-086-0150 (5)(e)

Any other conservation measures identified by the water supplier that would improve water use efficiency.

The city of Falls City has not found any other conservation measures that would improve water use efficiency. City of Falls City does not have to supply additional measures as it does not propose to expand or initiate diversion of water under an extended permit.

The efforts and benchmarks completed over the next five years will be as follows:

- Track water use characteristics (gallons per capita daily) for significant increases as billing is completed monthly.
- Public information (education) highlighted, continue using the City of Falls City's website, specifically the newsletter.
- Commercial entity discussions regarding water reduction.
- Meter Accuracy – service meters were replaced in 2024.
- Software update – to be implemented in 2025-2026.

In the table on the following page, are activities coordinated with the above bulleted items based on a timeline from a short-term though long-term approach in conservation. Actions taken by the City of Falls City are highlighted with footnotes explaining the step taken towards completion.

2.17 Benchmark Summary:

The city of Falls City efforts towards conservation:

- Perform a review of production and consumption every month.
- Present water audit findings to the City Council quarterly.
- Large discrepancies in customer usage, staff will reach out to customers.
- Continue routine leak detection.
    - Results from leak detection will start line repairs.
    - Record results of total repairs and estimated flow rates for each discovered leak.
- Continue to enhance public education through the city of Falls City website.
- Post water information flyers throughout the community.
- Provide conservation tips found on the website's newsletters.
- Technical assistance with commercial entities regarding water saving equipment.
- Provide water saving devices (aerators, low-flow showerheads).
- Maintain a rate structure that encourages water conservation.

Cells highlighted in the Matrix table will be a guide for continuing both short- and long-term activities over the next ten-year cycle of water management and conservation.

Table 2-1: Water Loss Control Activity Matrix

Table 2-1: Water Loss Activity Matrix					
Water Audit		Apparent Loss Control		Real Loss Control	
Time	Activity	Time	Activity	Time	Activity
Highlighted Task will be implemented over five-years					
S		**S**	Distribution of brochures on water saving tips	**S, L**	Display worn out water system components
	Top Down	**S**	Verify production meters for accuracy	**S**	Review past records[1,2]
					Target Range < 15%
					Target Range < = 10%
M	Bottom Up	**S**	Flow chart customer billing	**S**	Customer Policy Leaks [3]
Some tasks are required if water system exceeds 15 percent water loss					
Ongoing		**PRIORITY**	Technical Assistance [4]		
		S, L	Water Rate Study [5]		
		S	Meter Testing	**S**	Leak Detection [6]
			Larger Meters		Initial Leak Detection
			Sample Residential Meters		Ongoing Leak Detection
		S	Audit Billing	**S**	PSI Review - Excess
		M	Install Upgrade Production Meters	**S**	District Meter Area [7]
		M	Policy for Unauthorized Use	**M**	Create annual leak detection program
		M	Auto Meter Read Program Investigation	**M**	Leak Noise Detectors
		L	Install AMR/AMI System	**L**	Maintenance Information System
		L	New Billing System	**L**	Section Distribution System [7]
		L	Large Customer Meter Replacement	**L**	CIP for infrastructure [8]
		L	Line Pressure Testing	**L**	Line Replacement Program
S - short-term, M - medium-term, L - long-term					
1 - Maintenance records on line repairs, set target range compatible with existing, future resources					
2 - Volumes of leaks documented					
3 - Review billing software, policies for customer leaks, incentives to use less water					
4 - Water efficient fixtures, large water user audits, rebates for water efficient appliances,					
5 - Routinely look at water rates to maintain revenues to match expenditures.					
6 - Annual leak detection, using acoustics, correlators,					
6 - Isolate area for one hour leak analysis					
7 - Develop District Management Areas - if feasible					
8 - Capital Improvement Plan for short term small projects -funded by rates					

SECTION THREE
WATER CURTAILMENT ELEMENTS

Water curtailment is designed to minimize the impacts of a short-term emergency water shortage by reducing the demand and possibly looking for an alternative water supply. Generally, conservation measures and a secondary supply, or a combination of the two are the most important tools water suppliers can use to at once to reduce the shock on the primary source. Curtailment plans usually develop through voluntary and mandatory restrictions of usage, depending upon the severity of the shortage.

3.1 Assessing Water Supply: OAR 690-86-0160 (1)

A description of the type, frequency, and magnitude of supply deficiencies within the past 10 years and current capacity limitation. The description shall include an assessment of the ability of the water supplier to maintain delivery during long-term drought or other source shortages caused by a natural disaster, source contamination, legal restrictions on water use, or other circumstances.

The city of Falls City water supply deficiencies is viewed from three perspectives, a) raw water capacity, b) water treatment plant production capacity and c) stored water and flow capacity of the distribution system. Pertaining to the raw water supply, water certificates and a single permit allow 5.03 CFS (2,257 GPM) under development limitations. Peak demand for the single highest month was 0.57 CFS (255 GPM) or eleven percent. The two intakes allow redundancy of flows and alternate between the two sources, pending the time of year. Seasonal flows, lack of water from Glaze Creek is reduced below City's requirements. Teal Creek has proven sufficient water to meet peak demands when Glaze Creek is offline.

The capacity of the water treatment plant is 0.87 CFS (390 GPM) or 17 percent of current water rights. The maximum operating capacity is 0.562 MG daily, while the peak demand during the time is 0.367 MG. The water treatment plant can supply higher capacities than the demand at the end of the 20-year planning period.

The city of Falls City has a clear well and reservoir which totals 0.835 MG. The average daily demand being 0.14 MG, peak demand being 0.37 MG, the storage capacity for the city is adequate for the 20-year planning period. If current water trends remain, the city surplus stored water will be ≈ 0.19 MG. The 20-year average daily demand equates to almost five days of usage.

During a drought declaration by the Governor, City of Falls City will notify its customers of the impending conditions and asked its constituents for voluntary reduction in water usage. If

water consumption equals 80-85 percent of production, then the water system will move towards a higher level (mandatory) water reduction.

3.2 Stages of Alerts: OAR 690-86-0160 (2)

A list of three or more stages of alert for potential shortage or water service difficulties. The stages shall range from a potential or mild alert, increasing through a serious situation to a critical emergency.

City of Falls City has adopted a five-level approach for curtailment of water use, with the primary goal of keeping adequate supplies to meet essential uses such as drinking, cooking, sanitation, and fire flow.
The five levels of alert will be named as mild, moderate, serious, critical and emergency. Events causing this plan to be activated would include, but are not limited to the following:

- Mechanical or electrical malfunctions of pumping equipment
- Interruption of the local power company supply for a duration of time (2 days) unless emergency back-up power restores water production
- Abnormal weather conditions, extreme heat weather, consumption of more water, or a decline in production capabilities for the WTP.
- Declaration of a drought for their area by the Governor by Oregon Revised Statute 536.720
- Natural disasters that damage critical infrastructure preventing the water system to work under normal conditions
- A deliberate act of contamination of water at various points in the water system

3.3 Alert Triggers: OAR 690-86-0160 (3)

A description of pre-determined levels of severity of shortage or water service difficulties that will trigger the curtailment actions under each stage of alert to provide the greatest assurance of maintaining potable supplies for human consumption; and

With an ability to quickly know production capabilities, (or lack of) the City of Falls City approaches water curtailment primarily from the production perspective, as this method can swiftly discern limitations in supply. The approach is multi-facet:

- WTP production cannot sustain against consumption.
    - Lack of production, higher usage or water loss is considered – investigated.
- Storage levels are diminishing more rapidly.
    - Customer usage increases, or major leak is discovered.

Table 3-1, next page details those triggers that put in motion the curtailment actions under each stage of alert.

Table 3-1: Levels of Alert Triggers

Table 3-1: Levels of Alert Triggers
Mild Alert Level
♦ Water usage reaches 80% of capacity (water production) for three consecutive days
♦ Construction projects that impede full capacity flow of system for more than 3 days
♦ A production shut down or any action that may reduce flow capacity below 80%
♦ Sources of water flow diminish 75% of average (summertime)
Moderate Alert Level
♦ Water use reaches 85% of capacity (water production) for three consecutive days
♦ Pumping capacity is reduced to 80% of normal production
♦ Normal flow in the water system is reduced to 80% of full flow
♦ Sources of water flow diminish 85% of average (summertime)
Serious Alert Level
♦ Water use reaches 90% of capacity (water production) for three consecutive days
♦ Pumping capacity is reduced to 70% of normal production
♦ Normal flow in the water system is reduced to 70% of full flow
♦ The area is declared a severe drought by the Governor
Critical Alert Level
♦ Water use reaches 90% of capacity (water production) for five consecutive days
♦ Pumping capacity is reduced to 60% of normal production
♦ Normal flow is reduced to 50% in water system
♦ A natural disaster that incapacitates the water system, or contaminates the water source
♦ Intentional act causing long-term disabling of the water system production
Emergency Alert Level
♦ Water usage and production ability are similar or inverted
♦ A natural disaster that incapacitates the water system, or contaminates the water source

3.4 Curtailment Actions: OAR 690-86-0160 (4)

A list of specific standby water uses curtailment actions for each stage of alert ranging from notice to the public of a potential alert, increasing through limiting nonessential water use, to rationing and/or loss of service at the critical alert stage.

Coordinated efforts to implement any curtailment or restrictions in water usage will be carried out by the City of Falls City Manager with assistance from the Public Works Director, providing information to the City Council.

Table 3-2: Curtailment Actions

Table 3-2: Curtailment Actions
Low Level Action (1)
The City Manager, following the procedures proven in the city of Falls City policies, will issue a general request for a voluntary reduction in water use by all water users. The request is made at a time when there is a strong sign that the city of Falls City's water supply or production capabilities will be reduced below the capacity or maximum flow is reduced so not to supply adequate service to all water customers.
The request will include a summary of the current water situation, the reason for the requested reduction, and a warning that mandatory cutbacks will be necessary if the voluntary measures do not sufficiently reduce water usage by 5-10 percent. The time for the voluntary reduction will be set up, showing the date and time the reduction will be concluded.
Mild Level Action (2)
A second step would be to implement mandatory reduction in water use by all consumers. This step will ensure normal capacity flows during reduced production or delivery schedules and eliminate peak demands that may create other concerns for the water system. This step is the next natural level of curtailment moving towards a moderate level of action.
The goal of this step is to support 95% flow rates using a 10% reduction.
Moderate Level Action (3)
City of Falls City will put in place the following:
♦ No flushing of system lines unless essential for water quality improvement.
♦ Implement schedules for irrigation of lawns and landscape.
♦ Commercial use to be reduced by 10% and residential use by 20%.
♦ Washing of vehicles will be prohibited.
♦ Bulk water sales/usage will be stopped until further notice.
The goal is to support 85% flow rates using a 20% overall reduction in usage.
Critical Level Action (4)
City of Falls City will put in place the following:
♦ Possibly establish a "drought" rate surcharge.
♦ All outdoor use of water is prohibited.
♦ All customers will be set at a daily allotment in number of gallons per day.
♦ Water service will be disconnected if allotment is disregarded.
♦ Commercial users will be reduced to 70% of the previous year's allotment.
The goal is to support a 75% flow rate using a 30% overall reduction in usage.
Emergency Level Action (5)
It is not "if" an emergency is going to occur, but when an emergency will take place. There are several circumstances that can result in an emergency response condition, all resulting in the water system being incapable of supplying water to the consumers.
♦ Distribution points are set up to provide a minimum of 70 gallons per person per day.

Each step will be carried out according to the company's policy, using various methods of communication. See curtailment actions in table 3-2.

Table 3-3: Action Levels of Curtailment

Table 3-3: Action Levels of Curtailment:			
Water Curtailment and Reduction Goals			
Shortage Condition	Level	Reduction Usage Goal	Type of Rationing
5%	1	10%	Voluntary
10%	2	10%	Mandatory
15%	3	20%	Mandatory
25%	4	30%	Mandatory
Water System Failure	5	75 - 85%	Mandatory

SECTION FOUR
WATER SUPPLY ELEMENT

Municipal Water Supply Element 690-086-0170 the water supply element shall include at least the following:

4.1 Delineation - Current and Future service areas: OAR 690-086-0170 (1)

A delineation of the current and future service areas consistent with state land use law that includes available data on population projections and anticipated development consistent with relevant acknowledged comprehensive land use plans and urban service agreements or other relevant growth projections.

The current area of service for the City of Falls City has been confirmed under the Polk County's Comprehensive Land Use Plan. The Portland State University-Population Research Center (PSU-PRC), Coordinated Population Forecast shows projections for Polk County, its UGBs and areas outside the UGBs. The 2024 statistics forecast by PSU-PRC found the county's annual average growth rate (AAGR) through 2045 would be 1.7 percent over the twenty-plus-year period. For the City of Falls City, considered by PSU-PRC, the annual average growth rate is 1.4 percent through 2045.[1] The City of Falls City is not expected to reach saturation development through the timeline of the WMCP. PSU-PRC forecasts the city to increase from 1,051 to ≈1,429 through 2045.

Table 4-1: Population Forecast

Table 4-1: Population Forecast						
YEAR	**2025**	**2030**	**2035**	**2040**	**2045**	**2050**
Polk County *	92,866	101,329	110,043	119,187	128,783	139,068
Population + -	8463	8714	9144	9596	10285	Average [1]
% change *	8.4%	7.9%	7.7%	7.5%	7.4%	1.55%
Falls City UGB *	1,074	1,161	1,248	1,337	1,429	1526
Population + -	87	87	89	92	97	Average [1]
% change	7.5%	7.0%	6.7%	6.4%	6.4%	1.4%
Population *						
Note:						
https://www.pdx.edu/population-research/population-forecasts						
1 - Anticipated growth is ≈90 persons per 5-year cycle or ≈ 7-8 service connections annually						
* - % change from the figures forecasted by Portland St University - Population Research Center.						

1-https://www.pdx.edu/population-research/population-forecasts

4.2 Permit Usage Schedule: OAR 690-086-0170 (2)

An estimated schedule that identifies when the water supplier expects to fully exercise each of the water rights and water use permits currently held by the supplier.

The City's demand forecasts projects to fully exercise each of the water rights. Using data compiled by PSU-PRC prediction for population estimates were factored to year 2045, based on annual growth of 1.4 percent annually, increasing the total population to ≈ 1,429 people.

The second figure implemented in the forecast equation will the peak demand of 323 GPCD that is taken from the user averages in Table 1-5 calculated as peak demand over the five-years, occurring in August of 2020. Peak demand was determined to be 2.3 times the average monthly demand.

Current Permit Usage is shown in Table 4-2 indicates that the two primary sources of water over a five-year timeline have had a maximum instantaneous production at 16 percent of the allowed rate under development limitations.

Table 4-2: Current Permit Usage

Table 4-2: Current Permit Usage

Permit No. (5)(a)	Certificate No. (5)(a)	Priority Date (5)(b)	Source (5)(c)	Maximum Allowed Rate (cfs) (5)(e)	Allowed Rate under Development Limitations (cfs) (5)(e)	Maximum Instantaneous Rate Diverted to Date (cfs) (5)(f)	% total Allowance
S-2700	1832	11/4/1915	Teal Creek	1.0	NA	0.5443	54.4%
S-4592	5072	5/11/1920	Boughey Creek	0.5	NA	0.0000	0.0%
S-13970	14247	8/12/1939	Lil Luckiamute	0.5	NA	0.0000	49.6%
S-46807	82931	3/4/1982	Glaze Creek	2.0	NA	0.3953	19.8%
S-35215	39319	8/6/1970	Teal Spring	0.26	NA	0.0000	0.0%
S-35222	NA	10/14/1970	Berry Creek	1.0	0.77	0.0000	0.0%
Totals				5.26	5.03	0.81	15.4%

Shaded cells are indicating development limitations associated with permit, certificate

In preparing a schedule that proves to fully exercise the city of Falls City water right S-35222 at 0.77 CFS (345 GPM) with development limitations, the City of Falls City will forecast the need for more water, if necessary. Using the calculations provided by the water system from the data covering January 2020 through December 2024, water demand estimates are based on population forecasts and gallons per capita per day, peak demand.

To fully exercise the single permit, under development limitations, using 1.4 percent growth and GPCD, Permit S-35222 at 0.77 CFS (345GPM) is considered fully exercised in the year 2105, if the city continued trajectory of population growth and usage. This does not consider the added available water from the existing certificates. It is undeterminable when City of Falls City expects to fully exercise the remaining certificates, or the forecast is beyond the timeline of this document.

4.3 Demand Forecast: OAR 690-086-0170 (3)

Based on the information provided in section (1) of this rule, an estimate of the water supplier's water demand projections for 10 and 20 years, and at the option of the municipal water supplier, longer periods.

The forecasted rate at which City of Falls City will grow is founded on how the various classifications of users expand following the current alignment with the land comprehensive use plan. Historically with most rural communities, the residential services account for approximately 90 percent of the total water served. Total water needed in the future:

- Population Forecast – (2045) 1,400-1,500
- Peak Demand – gallons per capita daily 323
- Total gallons per day – million gallons 0.20
- Total CFS - 0.71

Table 4-3: Water Demand Projections

Table 4-3: Water Demand Projections					
Falls City UGB *	Projected Year				
	2025	2030	2035	2040	2045
Populations	1,074	1,161	1,248	1,337	1,429
Ave GPCD	**139**		Peak GPCD	**323**	
	Million Gallons per Month				
Ave. Month Demand	4,229,511	4,850,851	5,214,352	5,586,209	5,970,600
CFS	0.22	0.25	0.27	0.29	**0.31**
Max Month Peak Demand	11,012,900	11,235,481	12,077,416	12,938,706	13,829,028
CFS	0.568	0.580	0.623	0.667	**0.71**
* interconnection with Luckiamute WD, service outside Falls City UGB					

4.4 Comparison - Future Needs and Sources: OAR 690-086-0170 (4)

A comparison of the projected water needs and the sources of water currently available to the municipal water supplier and to any other suppliers to be served considering the reliability of existing sources.

The projected water requirements for the city of Falls City will be 0.71 CFS (318 GPM) which is ≈ 14 percent of all certificates and single permit. Data from subsections 1.6 and tables 1-4 and 1-5 stipulates key factors proving the reliability of the water source. Alternative water sources for City of Falls City, displayed in topography map (page 11) shows a collection of water tributaries that support the city's current certificates from four additional sources.

Through the year 2045, consistent with the figures discovered throughout this WMCP, the City of Falls City will require ≈ 14 percent of the existing water rights or 0.71 CFS from the 5.03 CFS. This figure could change if the criteria exercised in this WMCP changes, i.e., land use zoning from SFR to multi-family dwellings, or other changes to the demographics.

Comparison of both average and peak demands currently and during the projected 20-years indicate a remaining balance of permitted and or certified water at 85 percent.

Table 4-4: Applied Permit Forecasts

Table 4-4: Applied Permit Forecasts

Permit	Certificate	Allowed Rate Development Limitations CFS	Daily Usage CFS [1]	Peak Daily Usage CFS [1]	2025	2030	2035	2040	2045	Total % each permits
Population					1,074	1,161	1,248	1,337	1,429	
GPCD Peak Demand					**323**					
Projected Water Usage (CFS)*					0.54	0.58	0.62	0.67	0.71	
S-2700	1832	1.00	0.15	0.544	0.09	0.10	0.10	0.11	0.12	12%
S-4592	5072	0.50	0.00	0.00	0.09	0.10	0.10	0.11	0.12	24%
S-13970	14247	0.50	0.00	0.00	0.09	0.10	0.10	0.11	0.12	24%
S-46807	82931	2.00	0.12	0.395	0.09	0.10	0.10	0.11	0.12	6%
S-35215	39319	0.26	0.00	0.00	0.09	0.10	0.10	0.11	0.12	46%
S-35222	NA	0.77	0.00	0.00	0.09	0.10	0.10	0.11	0.12	15%
Totals		**5.03**	**0.27**	**0.94**	**0.54**	**0.58**	**0.62**	**0.67**	**0.71**	**14%**

Grey shaded cell indicating development limitations as noted under "Allowed Rate" from 1.0 CFS

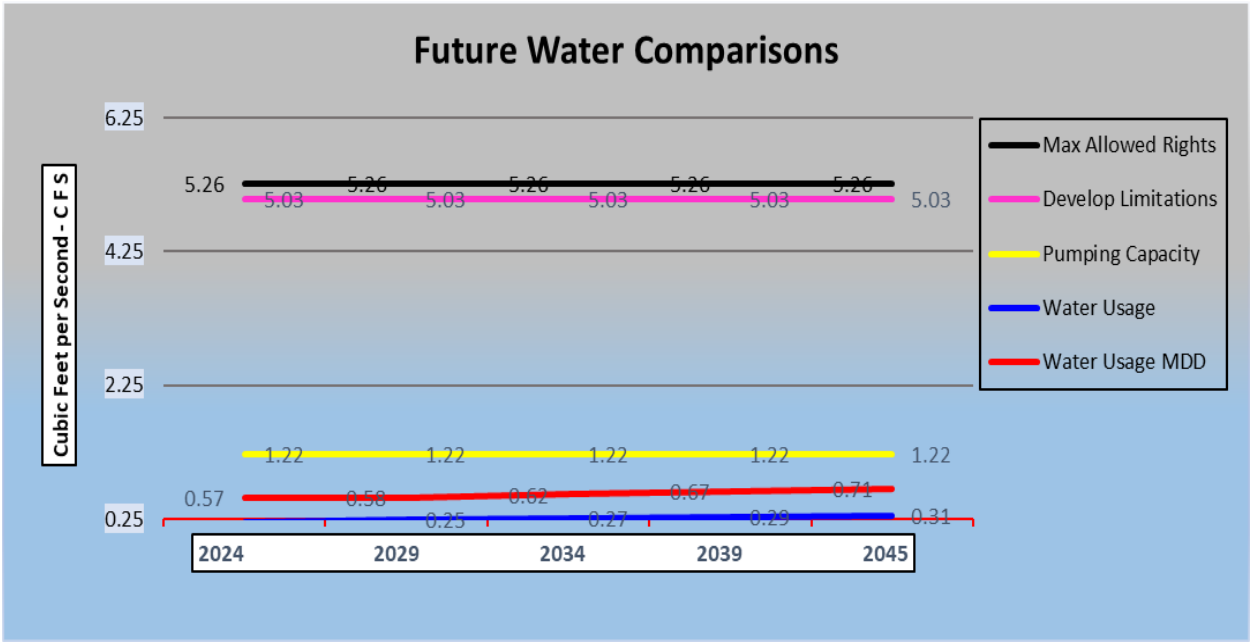
1 - Ave and peak daily usage taken from figures used in this WMCP, using gallons per capita daily (GPCD), coverted to CFS

* - Total CFS is determined by peak demand GPCD, projected using anticipated populations for the timeline of this WMCP

Table shows all water production spread over all certificates and permit

Chart 4-1, provides the visual comparison of the projected required water for City of Falls City which is 0.71 CFS, (318 GPM) based on peak demand through the year 2045. City of Falls City's projected use compared to 5.03 CFS (2,257 GPM) from the available sources of water, and their reliability are deemed adequate. The chart indicates the relationship between permitted water, water with and without development limitations, the operational pumping capacity as well as average and peak demands.

Chart 4-1: Future Water Requirements:



4.5 Expansion - Initial Diversions: OAR 690-086-0170 (5)(a)

If any expansion or initial diversion of water allocated under existing permits is necessary to meet the need shown in section (3) of this rule, an analysis of alternative sources of water that considers availability, reliability, feasibility, and likely environmental impacts. The analysis shall consider the extent to which the projected water needs can be satisfied through: (a) implementation of conservation measures identified under OAR 690-086-0150. counted

Expansion, initial diversion requires an analysis of alternative sources of water if any expansion or initial diversion of water allocated under existing permits is necessary to meet the City's demand forecast and redundancy needs. Outlined in this WMCP is evidence that the city of Falls City does not intend to expand the diversion of its single permit to meet the 10- and 20-year demand projections described above. This rule will not apply to the city.

4.6 Interconnections: OAR 690-086-0170 (5) (b)

Interconnection with other municipal supply systems and cooperative regional water management; and

The city of Falls City has an agreement and two interconnections with Luckiamute Domestic Water (LDW). These connections support LWD to serve water to constituents, which are located outside the city's urban growth boundary (UGB). The City of Falls City is open to discussing the topic of regional water management for the benefit of all who choose to take part. Participation will be contingent on the time and resources needed to aid in a cooperative regional water management group.

4.7 Cost Saving Measures: OAR 690-086-0170 (5) (c)

Any other conservation measures that would provide water at a cost that is equal to or lower than the cost of other identified sources.

At this time, City of Falls City has not developed any other conservation measures that will affect the cost of supplying water. The primary focus in conservation efforts is to reduce the demand on their existing supplies thus retaining current water sources, obtaining a less than ten (10) percent unaccounted-for water, with efforts to ensure current water sources are available for the future.

4.8 Quantification of Maximum Rate: OAR 690-086-0170 (6)

If any expansion or initial diversion of water allocated under existing permits is necessary to meet the needs shown in section (3) of this rule, a quantification of the maximum rate and monthly volume of water to be diverted under each of the permits.

The city of Falls City will not be expanding water allocated under existing permit. As outlined in this WMCP, current allocated water will suffice for the city through 2045 and beyond. This rule will not apply to the city.

Table 4-5 shows the total allocated water allowed (5.26 CFS), the total water with development limitations at (5.03 CFS). It is speculated the future average daily usage will be (0.31 CFS) and peak demand (0.71 CFS).

The City of Falls City will continue to put forth an effort to manage the water usage in a responsible manner. The figures prove production, usage and unaccounted for water are a work in progress. Enhanced routine methods will be implemented for two purposes, a) to reduce the overall percentage of unaccounted water, b) to recognize areas of apparent losses.

Table 4-5 Permit Usage Rates

Table 4-5: Permit Usage Rates				
Permit # Certificate #	**Maximum Allowed Rate (cfs) [1]**	**Maximum Rate Allowed (CFS) [2]**	**Maximum Rate Allowed (GPM)**	**Monthly Maximum Quantity Allowed (MG)**
S-2700	1.00	1.00	449	19.39
S-4592	0.50	0.50	224	9.69
S-13970	0.50	0.50	224	9.69
S-46807	2.00	2.00	898	38.78
S-35215	0.26	0.26	117	5.04
S-35222	1.00	0.77	346	14.93
Total	5.26	5.03	2257	97.52
1- No development limitations, 2- With development limitations,				

4.9 Mitigation Actions: OAR 690-086-0170 (7)

For any expansion or initial diversion of water under existing permits, a description of mitigation actions the water supplier is taking to comply with legal requirements including but not limited to the Endangered Species Act, Clean Water Act, Safe Drinking Water Act; and

The City of Falls City will not be expanding or begin initial diversion under their existing permit as stated previously in this WMCP. The City of Falls City has followed both Federal and State rules under the Safe Drinking Water Act and is in compliance with the legal requirements of the Endangered Species Act, and Clean Water Act. This rule will not apply to the city as it does not intend to expand its existing permit.

4.10 Acquisition of New Water Rights OAR 690—086-0170(8)

If acquisition of new water rights will be necessary within the next 20 years to meet the needs shown in (3), an analysis of alternative sources of the additional water that considers availability, feasibility, and likely environmental impacts and the schedule for development of the new sources of water. The analysis shall consider the extent to which the new for new water rights can be eliminated through.

It is not necessary for City of Falls City to attain new water right within the next 20-years, as City of Falls City is currently forecasted to use 0.71 CFS of 5.26 CFS (without development limitations) or ≈13 percent through the year 2045, or 14 percent under development limitations.

4.11 Implementation of Conservation Measures: OAR 690-086-0170 (8) (a)

Implementation of conservation measures identified under OAR 690-086-0150.

The City of Falls City is charged with the conservation and management of the State's water. Through a series of steps outlined in section 2.10 City of Falls City currently meets all the requirements in the following manner using the following conservation steps:

- Annual Water audit.
- Full metered system.
- Leak detection.
- Rate structure that encourages conservation.
- Public education program.
- No other conservation measures have been identified.

4.12 Cooperative Regional Water Management OAR 690-086-0170 (8) (b)

Interconnection with other municipal supply systems and cooperative regional water management; and

The city of Falls City has an agreement and two interconnections with Luckiamute Domestic Water (LDW). These connections support LWD to serve water to constituents, which are located outside the city's urban growth boundary (UGB). The city of Falls City is open to discussing the topic of regional water management for the benefit of all who choose to take part. Participation will be contingent on the time and resources needed to aid in a cooperative regional water management group.

4.13 Other Conservation Measures **OAR 690-086-0170 (8)** (c)

Any other conservation measures that would provide water at a cost that is equal to or lower than the cost of other identified sources.

The City of Falls City has no other conservation measures that would provide water at a cost that is equal to or lower than the cost of other identified sources. Sources are proven adequate in terms of both quantity and quality both currently and during the timeline of this WMCP.

4.14 Conservation Schedule – Cost: OAR 690-086-0130(7)(a)

If during the next 20 years the maximum rate of water diverted under an extended permit will be greater than the maximum rate authorized for diversion under the extension or previously approved water management conservation plan: a) the plan includes a schedule for development of any conservation measures that would provide water at a cost that is equal to or lower than the cost of other identified sources, unless the supplier has provided sufficient justification for the factors used in selecting other sources for development or the supplier serves a population of less than 1,000;

The City of Falls City, over the next 20-years will not divert an amount of water greater than the maximum rate for diversion under permit S-35222 for the final order approving the WMCP. Additionally, the efficiency which the City of Falls City supplies water to its customers will prove more economical as the continued existing conservation measures will begin a new era of water control and management.

4.15 Justification of Source(s) OAR 690-086-0130(7)(b)

Increase use from the source is the most feasible and appropriate water supply alternative available to the supplier; and

The City of Falls City's sources are the most feasible and appropriate supply. The City of Falls City has not considered an alternative supply source due to the logistics in obtaining water from water suppliers outside the city's UGB.

4.16 Mitigation Requirements: OAR 690-086-0130(7)(c)

If mitigation is legally required to address limitations or restrictions on the development of permits for which resource issues are identified under OAR 690-086-0140(5)(i), the plan contains documentation that the supplier is complying with the mitigation requirements. The Department may consult with federal and state agencies in making this determination.

The city of Falls City is not required to take any mitigation actions. Resource issues identified with the water source are primarily focused on the water decline in Glaze Creek during the summer months, in which Teal Creek becomes the primary source.

The city of Falls City under Permit S-35222 is aware of the targeted flows needed to maintain the persistence of fish measured in the Little Luckiamute River at Falls City, Oregon. Targeted flows are outlined in the Final Order, Extension of Time for Permit S-35222 in subsection 2A, conditions of. The city of Falls City is not required to rake any other mitigation actions under State or Federal law.

Greenlight Water Worksheet

*(**NOTE**: Water suppliers are encouraged to include this worksheet as part of their WMCP. Use additional sheets as necessary.)*

1. Does the water supplier hold any extended water use permits?

X **Yes** **No**

If **NO**, stop. A Greenlight Water request does not apply.

If **YES**, list the extended permit number(s) and indicate the maximum instantaneous rate of water allowed by the permit:

Permit Number	**Instantaneous Rate of Water Allowed by Permit (*in cfs or gpm*)**
S-35222	1.0 CFS (449 GPM)

2. Do the extended permit(s) have a Development Limitations condition imposed by a final order approving the Permit Extension **or** a previously submitted WMCP that freeze the quantity of water that can be diverted under the extended permit?

X Yes □ **No**

If **NO**, stop. A Greenlight Water request does not apply.

If **YES**, list the extended permit number(s) and indicate the maximum instantaneous rate of water allowed under the Development Limitations condition established by the Permit Extension or previously approved WMCP:

Permit Number	**Development Limitations** **Instantaneous Rate of Water Allowed by Final Order approving a Permit Extension or previous WMCP (*in cfs or gpm*)**
S-35222	0.77 CFS (345 GPM)

3. Does the water supplier anticipate needing to divert water under an extended permit(s) at an instantaneous rate that **is greater than** the amount specified in the Development Limitations condition (established by the Permit Extension **or** previously approved WMCP) to meet its projected 20-year water demands?

□ **Yes** X **No**

If **NO**, stop. A Greenlight Water request does not apply.

If **YES**, Items **A** and **B** below must be addressed in the water supplier's WMCP being prepared for submittal:

A. Identify the maximum instantaneous rate and the maximum monthly volume of water that will be needed under the extended permit(s) for the next 20 years to meet the water supplier's projected demands:

Permit Number	**Greenlight Water Request**	
	Maximum Instantaneous Rate of Water (*in cfs or gpm*) Anticipated to be Diverted to meet 20-year Demands	**Maximum Monthly Volume of Water *(in million gallons*) Anticipated to be Diverted to meet 20-year Demands**
Total		

Greenlight Water Worksheet *(…continued)*

B. In the spaces provided below, describe how the water supplier has satisfied each of the following criteria:

• **OAR 690-086-0130(7)(a)** The plan includes a schedule for development of any conservation measures that would provide water at a cost that is equal to or lower than the cost of other identified sources, **unless**: ▪ the supplier has provided sufficient justification for the factors used in selecting other sources for development; **or** ▪ the supplier serves a population of less than 1,000.
NA
• **OAR 690-086-0130(7)(b)** Increased use from the source is the most feasible and appropriate water supply alternative available to the supplier.
NA
• **OAR 690-086-0130(7)(c)** If mitigation is legally required to address limitations or restrictions on the development of permits for which resource issues are identified under OAR 690-086-0140(5)(i), the plan contains documentation that the supplier is complying with the mitigation requirements. The Department may consult with federal and state agencies in making this determination.
NA

Appendices A: Notice of WMCP

To:

- Polk County Planning Director – Austin McGuigan – 503.623.9237
    - mcguigan.austin@co.polk.or.us
- Luckiamute Domestic Water – Charles Prouty – 503.838.2075
    - office@luckiamute.com

From: The City of Falls City –

RE: Water Management Conservation Plan (WMCP)

To Whom It May Concern:

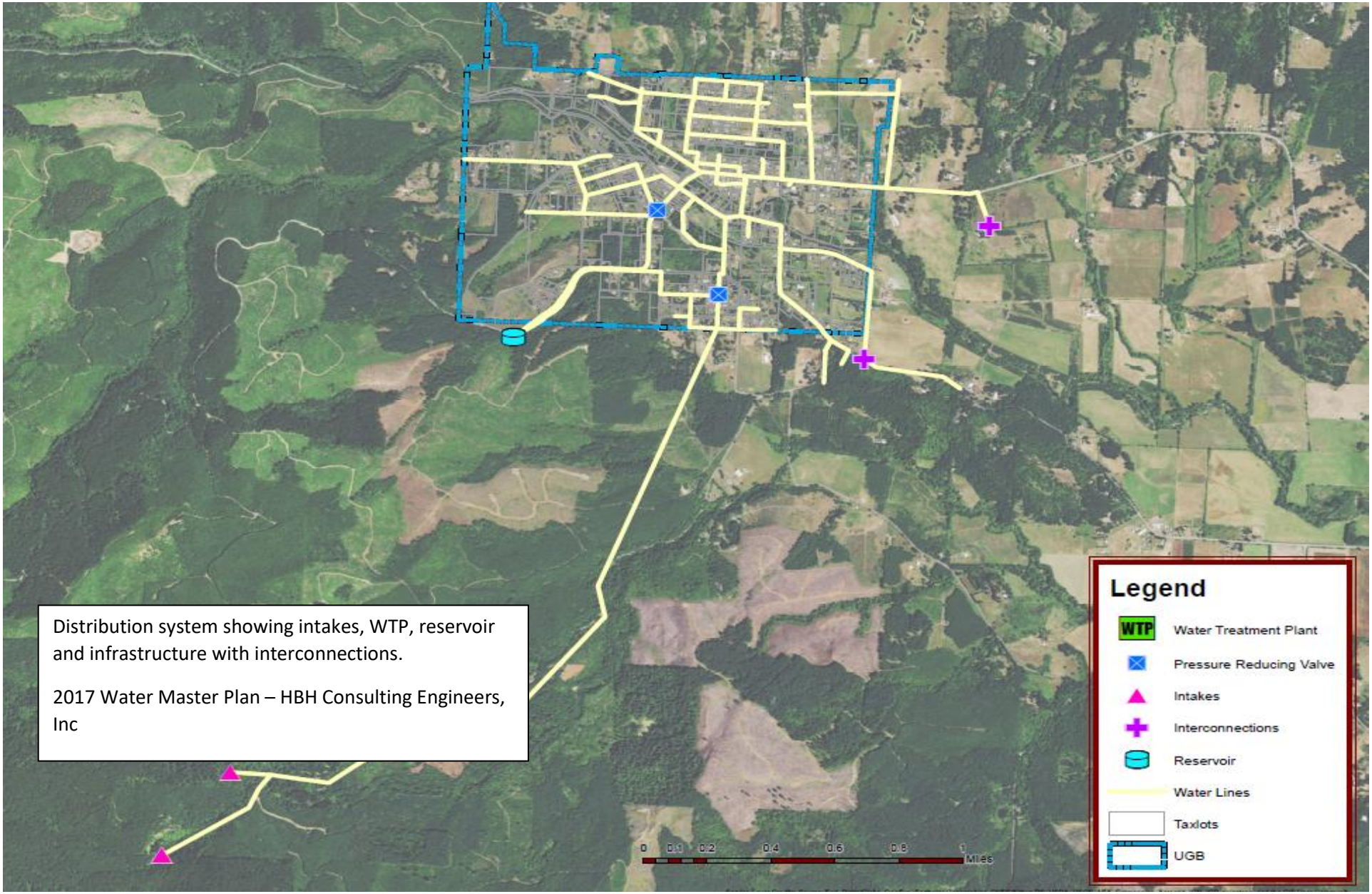
Following rule 690-086-0125(5), notification of local governments of the completion of our WMCP draft, please find an e-copy attached in this e-mail for your review. Under the rule, a water supplier will make its WMCP draft available for review by the affected local government(s). Any comments on the plan can be sent by a replied e-mail and will be placed in the copy that will be sent to the office of Oregon Water Resources Department.

Please provide a reply within thirty (30) days or sooner of receiving this e-mail so we may move forward with this project. We appreciate the time spent under review. Please send any questions or comments to AJ Foscoli, at manager@fallscityoregon.gov.

Sincerely,

AJ Fascoli

City of Falls City – City Manager



Distribution system showing intakes, WTP, reservoir and infrastructure with interconnections.

2017 Water Master Plan – HBH Consulting Engineers, Inc

Appendix B: Falls City Zoning Map

Appendix C – Water Permits, Extensions, and Certificates


Permit S-46807.pdf


Permit S-46807 Certificate 82931 Ma


Permit S-35222.pdf


Permit S-35222 DL 0.77.pdf


Permit S-35215.pdf


Permit S-35215 Certificate 39319 Ma


Permit S-13970.pdf


Permit S-13970 Certificate 14247.pd


Permit S-13970 Certificate 14247 Ma


Permit S-4592.pdf


Permit S-4592 Certificate 5072.pdf


Permit S-2700.pdf

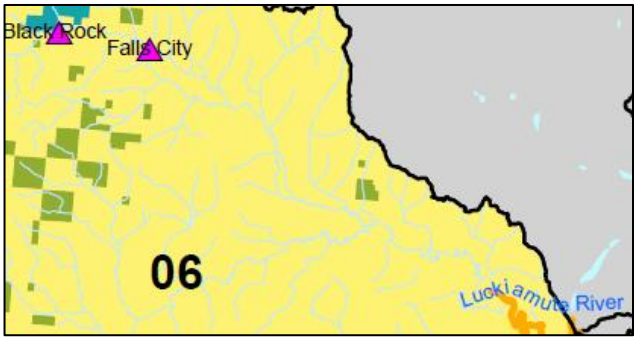

Permit S-2700 Certificate 1832.pdf

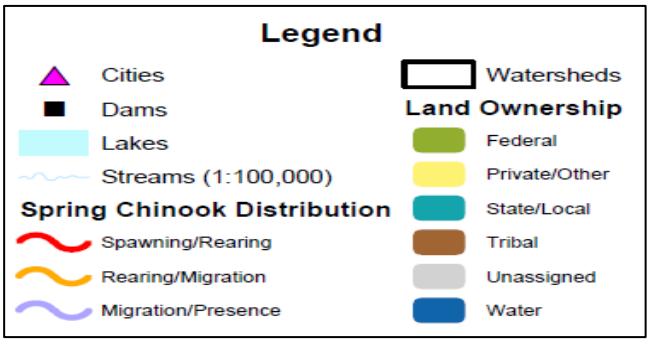

Permit LL-102572.pdf

Appendix D – Endangered Species Information – Water Quality Assessments

Appendix D:

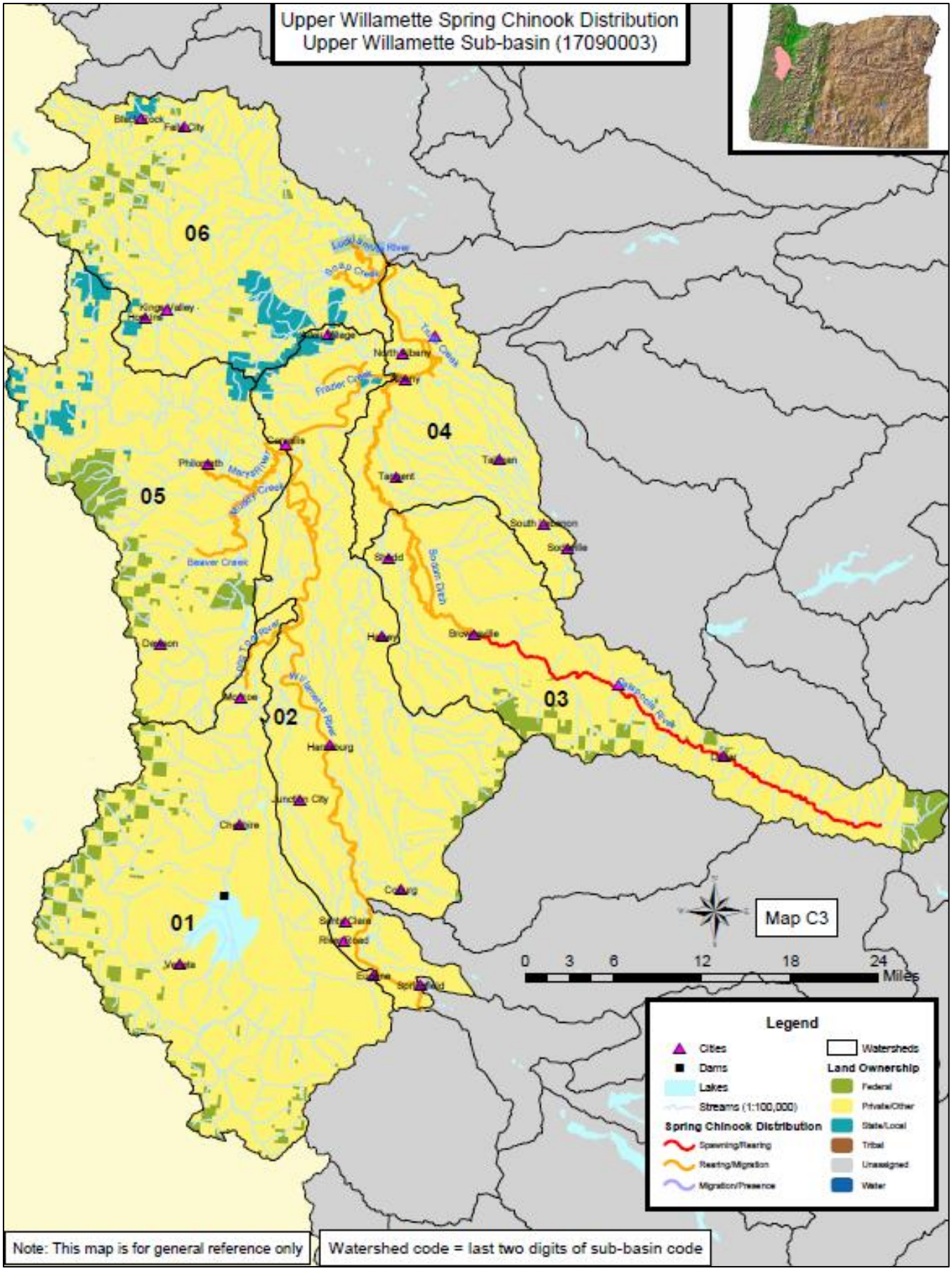
Upper Willamette Spring Chinook Distribution
Upper Willamette Sub-basin (17090003)





Winter Steelhead has been identified (local resident's pictures) as existing in the waters as the water traverses through town but not discovered in the waters closer to the intakes of Teal and Glaze Creeks. Winter Steelhead are considered "threatened" by both Oregon Department of Fish and Wildlife and the US Fish & Wildlife Services

The map on the following page is an expanded version of Spring Chinook Distribution map for the Upper Willamette showing the distances between Falls City and the rearing-migration of the species.


Upper Willamette Spring Chinook Distribution
Upper Willamette Sub-basin (17090003)
06
05
04
03
02
01
Map C3
0 3 6 12 18 24
Miles
Legend
Cities
Dams
Lakes
Streams (1:100,000)
Spring Chinook Distribution
Spawning/Rearing
Rearing/Migration
Migration/Presence
Watersheds
Land Ownership
Federal
Private/Other
State/Local
Tribal
Unassigned
Water
Note: This map is for general reference only
Watershed code = last two digits of sub-basin code

Appendix E: Water Rates

Water Service Fees		
Residential - Inside City Limits (RI)		
Size of Meter	Consumption	Base Rate
5/8" METER	5 Units	41.96
1" METER	5 Units	64.64
1 1/2" METER	5 Units	72.58
2" METER	5 Units	86.18
3" METER	5 Units	106.6
4" METER	5 Units	151.96
Overage: Consumption shall be charged at **$2.55** per Unit over 5 Units		

Residential - Outside City Limits (RO)		
Size of Meter	Consumption	Base Rate
5/8" METER	5 Units	47.06
1" METER	5 Units	69.74
1 1/2" METER	5 Units	77.68
2" METER	5 Units	92.42
3" METER	5 Units	111.7
4" METER	5 Units	157.06
Overage: Consumption shall be charged at **$2.84** per Unit over 5 Units		

Residential/Commercial – Inside City Limits (RCI)		
Size of Meter	Consumption	Base Rate
5/8" METER	5 Units	64.64
1" METER	5 Units	87.32
1 1/2" METER	5 Units	96.39
2" METER	5 Units	108.86
3" METER	5 Units	129.28
4" METER	5 Units	174.64
Overage: Consumption shall be charged at **$3.12** per Unit over 5 Units		

Residential/Commercial – Outside City Limits (RCO)		
Size of Meter	Consumption	New Base Rate
5/8" METER	5 Units	69.74
1" METER	5 Units	92.42
1 1/2" METER	5 Units	101.49
2" METER	5 Units	113.97
3" METER	5 Units	134.38
4" METER	5 Units	179.74

Non-Residential Commercial – Inside City Limits (NCI)		
Size of Meter	Consumption	Base Rate
5/8" METER	5 Units	64.64
1" METER	5 Units	87.32
1 1/2" METER	5 Units	96.39
2" METER	5 Units	108.86
3" METER	5 Units	129.28
4" METER	5 Units	174.64
Overage: Consumption shall be charged at **$3.12** per Unit over 5 Units		

Non-Residential Commercial – Outside City Limits (NCO)		
Size of Meter	Consumption	Base Rate
5/8" METER	5 Units	69.74
1" METER	5 Units	92.42
1 1/2" METER	5 Units	101.49
2" METER	5 Units	113.97
3" METER	5 Units	134.38
4" METER	5 Units	179.74
Overage: Consumption shall be charged at **$3.12** per Unit over 5 Units		

2 Meters-Outside (2MO)		
Size of Meter	Consumption	Base Rate
5/8" METER	5 Units	79.38
Overage: Consumption shall be charged at **$2.55** per Unit over 5 Units		