

Municipal Water Management and Conservation Planning Workshop

October 25, 2001

Bend, Oregon

Existing Supply

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Why Are We Here?

Improving Water Management & Conservation Planning Efforts

- Local, State, and Federal Governments have a shared interest in improving and streamlining water-related planning efforts

Demand For Water

Water Demand Will Increase

- Competing needs
 - Existing water rights
 - Future water rights needs
 - Environmental issues

Why Do We Need New Plans?

There is a lot going on out there

- Growth
- Competition for water
- Aging systems
- Environmental issues
- Endangered Species Act
- Clean Water Act
- New regulations
- Protecting the water source
- Financial

Finding Relationships in Processes

Understanding what the plans are for and using information wisely to your best benefit

- Water System Master Plans (Health Division)
 - Capacity plans
- Water Management & Conservation Plan (WRD)
- Public Facilities Plan (DLCD)
 - Capital Improvement Program
- Consumer Confidence Report (HD/EPA)
- Source Water Protection Plan (HD/DEQ)
- Preliminary Engineering Reports (RD/RUS)

Water Management & Conservation Plans

Oregon Water Resources Department

- Description of the System
- Conservation Measures
- Emergency and Curtailment Options
- Water Supply Plan

690-86-140 (1)

- (1) A description of the water system that includes at least the following information:
- (a) Source(s) of water, water rights, storage and regulation facilities, transfers and exchange agreements, and intergovernmental cooperation agreements;

System & Community Description

- The system and community descriptions are the foundation of your plan. The analysis of your conservation alternatives can not be properly done unless the basic information is developed. The water supply plan is dependent on the base line data.

Description of the System

Water Management & Conservation Plans

- Accessing Supply
 - Sources of Supply, Sizes, Kinds,
 - Reliability, Permits,
 - System Limitations and Capacity,
 - Overall Production
- Accessing Demand
 - Production, Delivery,
 - Annual Water Use,
 - Rate Structure, Future Needs

Water Sources

- Conservation
- Surface Water
- Ground Water
- Stored Water
 - Reservoirs
 - Aquifer Storage & Recovery
 - Contract

System Capacity

- System capacity, limitations and opportunities for expansion under existing water rights;

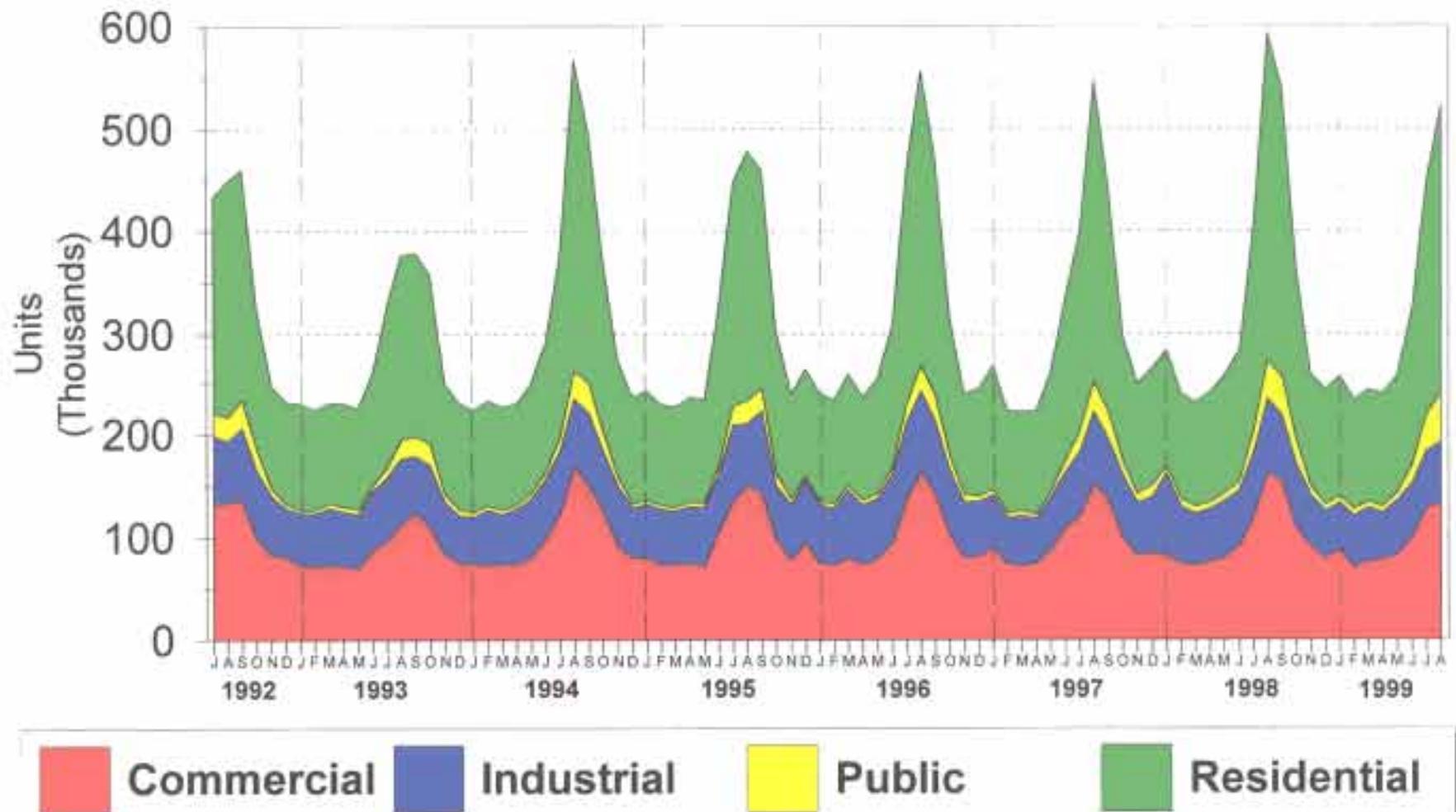
Water Use

- (c) Current average annual water use, peak seasonal demand, average and peak day demands, and quantities of water used from each source;
 - (you should be gathering a lot of this information already through the Division 85 reports you submit)

Figure 5-1

Total Water Consumption

(East, West, RWD/North)



Description of customers served

- (d) Description of customers served including the estimated numbers and general water use characteristics of residences, commercial and industrial facilities, and other uses;

Community Profile

Sources of Information

- Oregon Community Profiles
 - (<http://www.econ.state.or.us/COMPROF.HTM>)
- Oregon Blue Book
 - <http://bluebook.state.or.us/local/local.htm>
- Comprehensive Plan
- Center For Population Research & Census
 - <http://www.upa.pdx.edu/CPRC/>
- US Census Bureau
 - <http://www.census.gov/datamap/www/41.html>
- Water System Master Plan

Schematic of the System

- (e) Identification of interconnections with other municipal supply systems; and
- (f) A schematic of the system which shows the sources of water, storage facilities, treatment facilities, major transmission and distribution lines, pump stations, interconnections with other municipal supply systems, and the service area.

Diagram Examples

- For some purposes simple diagrams are useful for orientation

How to Reach Us

- Oregon Water Resources Department
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Salem, OR 97310

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- www.wrd.state.or.us

Conservation Planning

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Definitions

- Conservation - water supply option
“eliminating waste or improving efficiency while satisfying the beneficial use”
- Curtailment - more later
“program to reduce water use in response to an emergency or other short-term shortage”
though desired level of reliability does affect supply choices

Water Conservation Element

OAR 690 Division 86 (140)(2) Requirements

- Report on Existing Plan
- Describe Water Measurement Program
- Describe Other Conservation Measures
- Evaluate Feasibility of Alternative Conservation Measures
- Plan Implementation of Required Conservation Measures

Report on Existing Plan

Description of progress;
applicable only to previously-approved plans

- Which Measures Have Been Implemented?
- Which Measures Were Not Implemented?
 - And why?

Water Measurement Program

Annual Water Use Reporting Program
ORS 537.099; OAR 690, Division 85

- Description of Water Use Measurement and Annual Reporting Program
- Statement of Compliance
 - Program meets accuracy requirements,
 - Time extension or waiver granted, or
 - Standards not applicable

Other Conservation Measures

- Opportunity for Supplier to Take Credit for Existing Efforts
 - Web site
 - Public information program
 - Leak detection and repair
 - Price incentives, etc

Feasibility Evaluation

- Evaluation of whether “implementation of the measure is feasible and appropriate for ensuring the efficient use of water and the prevention of waste”
 - Measure is feasible and appropriate if it would yield water at a cost comparable to other supply alternatives and can be implemented
 - Statements such as “We can’t afford it” must be justified

Feasibility Evaluation

- Value of Conserved Water (avoided cost)
 - Construction of needed new facilities
 - Costs of pumping and treatment
 - Consider water availability and reliability
- Costs of Conserved Water
 - Implementation costs and water savings
- Other Factors Affecting Implementation
 - Institutional constraints
 - Contractual obligations, sunk costs

Sample Feasibility Analysis

Toilet Retrofit Rebate Program

Housing Stock	Units	Annual Savings (gallons/household)	Total Annual Savings (gallons)	Expected Life Cycle	Total Water Savings (gallons)
1996 - present	200	0	0	40	0
1980 - 1996	250	14,252	3,563,000	20	71,260,000
1950 - 1980	250	17,938	4,484,375	20	89,687,500
Pre- 1950	100	26,538	2,653,800	10	26,538,000
	800		10,701,175		187,485,500

Cost of Program = 600 x \$100 =

Cost of Saved Water = \$320.02/million gallons

Avoided Pumping/Chemical Costs = \$174/million gallons

Avoided Sewage Treatment Costs = \$150/million gallons

Avoided Capital Cost = \$???

Total Value of Saved Water = \$324/million gallons or more

Consider other conservation benefits also

Feasibility Evaluation

Conservation Alternatives

- Reduction of System Leakage
- Low Water Use Landscaping
- Incentive Programs
- Retrofitting Fixtures
- Rate Structure
- Water Reuse
- Other Measures

Reduction of System Leakage

- Program Alternatives
 - Reduction to 15% and/or 10%
 - “leakage” not “unaccounted for water”
 - Where are the biggest system losses?
 - What are the repair costs?
 - How much water will repairs save?
 - AWWA Recommends 10%
 - 3:1 payback if leakage exceeds 10 - 15%
- Example
 - São Paulo, Brazil
 - identified areas with high potential
 - saved 9 mgal/day, 9 day payback

Low Water Use Landscaping

- Program Alternatives
 - Customer audits
 - Zoning ordinances reducing landscaping requirements
 - Demonstration gardens
- Example
 - East Bay Municipal Utility District Study
 - conserving landscapes use 42% less water
 - savings increased with lot size

Incentive Programs

- Program Alternatives
 - Rebates for alternative landscaping, drip irrigation, front loading washing machines
- Examples
 - San Antonio water bill credits
 - 10¢ per square foot of landscaping
 - Minimum of \$100, maximum of \$500
 - Master gardener inspection
 - City of Austin rebates
 - \$150 for purchase of front loading washers
 - first 2 months, 0.84 mgal, 25.2 mwh, 2,310 therms

Retrofitting Fixtures

- Program Alternatives
 - Partnership with energy utility to distribute shower heads
 - Install or distribute free low flush toilets
- Examples
 - Santa Monica toilet rebate program
 - rebate of \$100 and installation for \$35
 - 2:1 return in avoided water and sewage costs
 - Los Angeles toilet distribution program
 - \$65 million investment
 - \$15 million annual savings in water and sewer

Rate Structure

- Program Alternatives
 - Increasing block rates or summer rates
 - Monthly billing
 - Water is an inelastic good, but ...
 - remember the electric power discussions
- Examples
 - Spalding County, Georgia
 - adoption of increasing block rates
 - 5% decrease in per connection water use

Water Reuse

- Program Alternatives
 - Provide treated wastewater for golf courses, industrial cooling water, other irrigation uses
- Example
 - Oregon Gardens
 - City of Silverton wastewater
 - Eliminates discharges during low-water periods
 - Provides mitigation wetlands

Implementation Schedule

Required Conservation Measures
action plan, not literature search

- Annual Water Audit
- Installation of Water Meters
- Leak Detection
- Meter Maintenance
- Public Education
- Other Measures Identified as Feasible

Annual Water Audit

- Comparison of water diversions and use
 - Water diversion = reported annual water use
 - Water use =
 - water sold
 - estimated authorized use
 - hydrant flushing, fire fighting, street cleaning
 - estimated unauthorized use
 - illegal connections
 - theft from fire hydrants
- Analysis of supplier's use

Water Meters

- Installation of meters on all connections
 - start immediately after plan approval
 - include annual number of installations
 - be completed within 5 year
- Don't wait until last year to begin
- Use the meters for billing

Leak Detection

- Regularly scheduled program for transmission and distribution system
 - Water audit results
 - Audible or sonic leak detection
 - Zone flow measurements
 - Normal operational activities
 - meter reading
 - valve-exercising

Meter Maintenance

- Program to test and repair meters
 - Incremental and regular
 - Prioritize high volume meters
 - Timing depends on water quality/quantity
 - Worn meters under-register
- AWWA suggests testing every 12 years
 - balance costs and benefits
 - consider replacement rather than repair

Public Education

- Description of Program
 - Objectives
 - Frequency
 - Media Used
 - Target Audience
- Examples
 - Technical assistance/water audits
 - Comparisons of water use on bills
 - Information about rates

Other Measures

- Other conservation measures
 - evaluated in planning process
 - identified as feasible and reasonable
 - good investments in water supply

Resources & References

- EPA Water Efficiency Program
 - <http://www.epa.gov/owm/genwave.htm>
- American Water Works Association
 - Manuals of Water Supply Practices
 - Water Resources Bulletins
 - <http://www.awwa.org/>
 - <http://www.waterwiser.org/>
- California Urban Water Conservation Council
 - <http://www.cuwcc.org/>
- Handbook of Water Use and Conservation
 - Amy Vickers, WaterPlow Press, 2001

Curtailment

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Emergency Planning

Water Curtailment

- Short-Term Contingency Planning
 - vs. long-term conservation



Emergency Planning

Water Curtailment

- OAR 690-86-110 (9): “Water curtailment plan” means a plan to accomplish a specific reduction in the amount of water used or lost within a specific time in response to an emergency or other short-term shortage.

Emergency Planning

Water Curtailment

- Short-Term Water Supply Concerns
 - Water supply contamination
 - Hazardous material spill
 - Inability to treat water
 - Heavy sedimentation
 - Bacteria Contamination
 - Lack of water
 - Drought
 - Distribution problems

The Dalles Chronicle

August 23, 2000

Herbicide spill takes heavy toll on stream

By Shannon Becker
of The Chronicle

A toxic herbicide spill caused by a commercial truck accident early yesterday morning has caused extensive damage to the fish population in and around Fifteenmile Creek.

The chemical called oxyfluorfen is sold under the trade name of “Goal” and is not believed to be lethal to humans but is highly toxic to fish and other aquatic organisms, biologists report.

“From what we can tell, it killed everything in the creek from the spill site to the Columbia River,” said Jim Newton, district fish biologist with Oregon Fish and Wildlife.

The spill occurred around 4:30 a.m. Tuesday morning when a truck driven by James C. Shreve, 37, lost control in the westbound lane of Interstate 84 just east of the Highway 197 junction and crashed into the center divider at Milepost 88. Neither Shreve, nor his passenger Tamara M. Chiesa, 40, both of Union City, Pa., were seriously injured.

Bacteria found in Sunriver water

Published: August 4, 2008

Non-deadly E. coli prompts warnings

By Rebecca Merritt and

Jim Witty

The Bulletin

Residents and tourists at Sunriver are being warned to boil their water after the water company that serves as many as 15,000 people discovered fecal coliform bacteria (E. coli) following a routine test.

The warning Friday forced the closure of at least one Sunriver restaurant at the peak of the summer tourist season.

Sunriver Water LLC representatives were going door to door in Sunriver on Friday night, warning residents about the bacteria.



Day Trucking's Mike Day prepares to fill a water truck this week at the Corvallis public works department.

RYAN GARDNER/MID-VALLEY SUNDAY

Dry winter produces dry wells

■ Water haulers are finding plenty of business around the mid-valley.

By John Butterworth
Mid-Valley Sunday

The whooshing sound of air brakes locking up a 2,500-gallon tank truck penetrated the busy sound of Wednesday afternoon traffic on Oregon Highway 99W. Moments later, the vehicles' steady hum was shattered by a second tanker downshifting through its gears before drifting to a stop and sending out a second whoosh of air, locking the brakes on the 3,600-gallon truck.

Mike Day and Dennis Danner pulled their rigs into the Corvallis city shop area to fill up with water. Day Trucking in Tangent hauls water to many places, but this load is headed for two homes — one south of Philomath on Oakview Drive and another farther west in the town of Summit.

Like Day and Danner, Sheila Griffin makes her living making sure people have

FOR MORE INFO

For more information on rainfall, snowpack, water levels and water rights, check the Internet at www.wrd.state.or.us/index.shtml or contact the Oregon Water Resources Department at 158 12th St. N.E., Salem, Ore. 97301-4172, by phone at (503) 378-9455 or by fax at (503) 378-2496.

59 percent of normal for this time of year.

Michael Mattick, state watermaster for the mid-valley and mid-coast water district, reported the same day that Fern Ridge Reservoir was at about 36 percent of its normal April capacity. The McKenzie River at Vida registered one of the better readings, at about 90 percent of its normal spring flow.

Day knows the dry weather will add to his water-hauling business this year, but sees more than one reason for his increased business.

"In this topography, you can have no water in one area and turn around, throw a

quate quantities for our family. We'd run out if we weren't hauling."

He's not alone. Of the 16 homes on their lane, half of them don't even have water, he said. One nearby resident drilled a well 800 feet down and hit a system which provides a half-gallon per minute.

Besides installing a reservoir to hold the water he gets from Day, Woosley and his family take steps to get the most use out of the water.

"When the kids take a bath, we tell them not to pull the plug when they're done," he said. "I'm a garden freak and I have to have a green garden. We use the bath water on the garden and pour it on individual plants — not with broadcast watering."

Woosley knows another neighbor who uses the downspouts on his roof gutters to compliment his water supply.

"We pay Day Trucking 70 bucks for 1,500 gallons, and that adds up," he said.

Woosley typically has had to buy water through the summer, about every three weeks. This year he bought water through the winter, too.

The Oregonian

Shady Cove wearies of water-supply woes

The town's residents must turn to a private hauler when their private wells can't keep up with demand

Tuesday, October 10, 2000

From The Associated Press

SHADY COVE -- No offense to Jack and Joe Winningham, but when the brothers show up in Shady Cove, their customers aren't exactly thrilled to see them.

The Winninghams run a water delivery business, and their trips to the small town about 20 miles north of Medford are getting more frequent. An unusually dry summer has made life miserable in Shady Cove, one of the few Oregon cities without a public water system.

"Most of our customers have drilled two or three wells at a cost of about \$10,000 each, and there's no guarantee that they're going to hit water," Jack Winningham said.

"Wells can go bad at any time and without any warning. And when you run out of water, you get a little cranky."

Statesman Journal
Online
LOCAL NEWS

parts, ac



Today's News - August 18, 2000

BUSINESSES SHUT DOWN



DRIED-OUT TOWN: Tammy Peterson (left) and daughter Natasha ponder the lack of water Wednesday in Glendale, where problems installing a new pump allowed the city's 800,000-gallon tank to run dry. It will be Saturday before water starts flowing again.

JEFF DUEVEL / The Associated Press

Oregon town runs out of water

Difficulty upgrading a pump in Glendale leaves the

Water Curtailment Element

OAR 690-86-140 (3)

- (a) A description of the 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.

Historical Deficiencies

- “The City of _____ water system has experienced a number of water supply deficiencies. Only one of these events occurred in the last 10 years. In 1991, a Southern Pacific freight train derailed and damaged the City’s raw water main and the dike of the Raw Water Reservoir.
- “Water delivery to the City was disrupted for approximately one day. Since this incident, the City has installed a new treated water main and constructed a new water treatment plant.”

Historical Deficiencies

- “ Previously, the City has faced a disruption of water delivery to the distribution system in 1989 when a truck damaged the treated water main near the intersection Wilson Road and Eagle Valley Road. Although the transmission main was repaired in a day, the City had water trucked in and distributed to its users because of low water levels in the treated water tanks. Since this crisis, the City has constructed a new 120,000 gallon treated water reservoir.”

Historical Deficiencies

- “Prior to the construction of this reservoir, the City experienced water shortages requiring restrictions on water usage. The most serious water crisis the City faced was a water drought in 1977.
- “Later in 1979, the City revised its water rate schedule to provide a surcharge, of \$0.75 per 1,000 gallons, for usage above 10,000 gallons per month from June 20th to September 20th. City staff indicated that this surcharge resulted in water conservation.”

Stages of Alert

City Council Determines

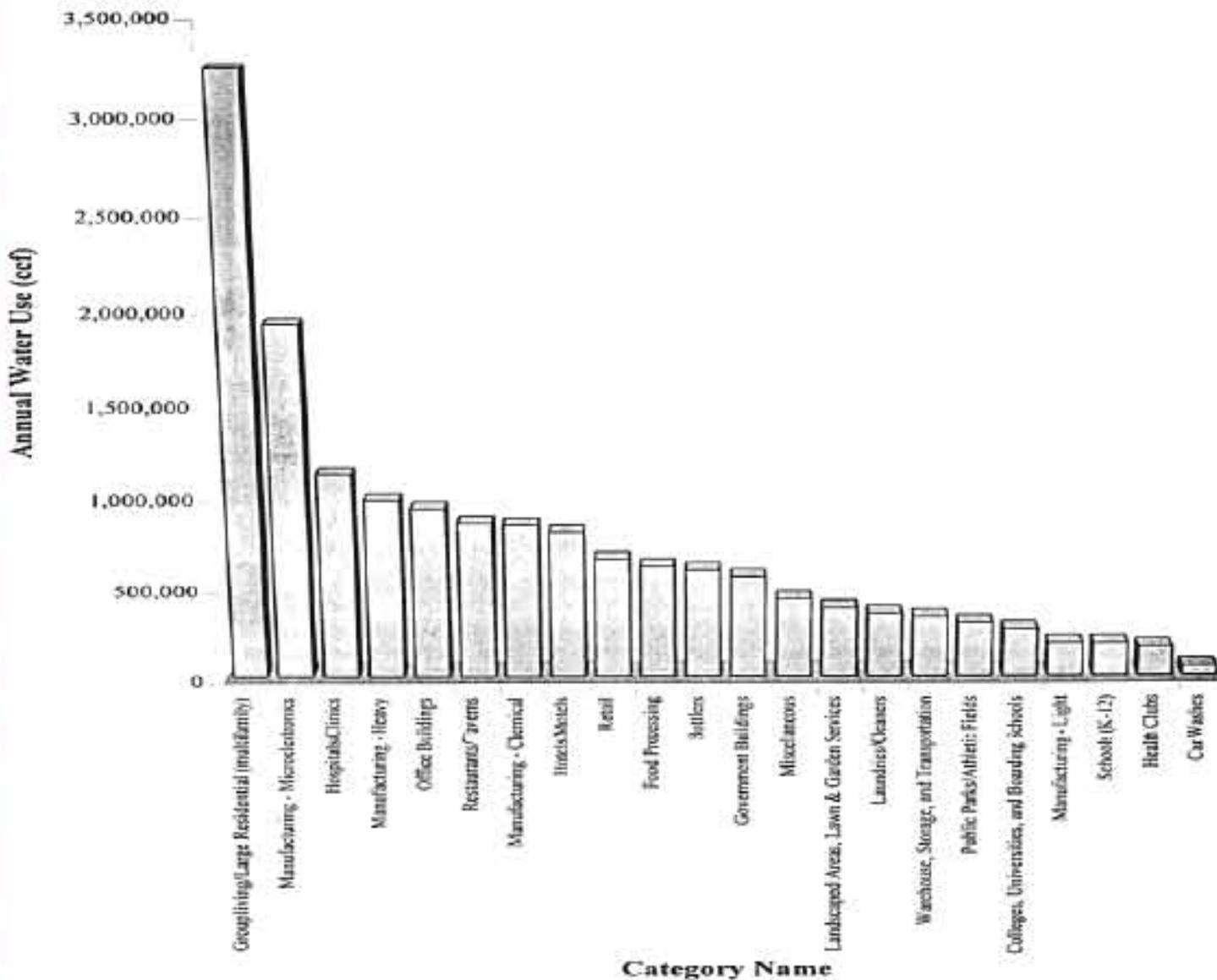
- **Initial** or First Level of Concern
 - There is concern over water supply
- **Moderate** or Second Level of Concern
 - Water demand is approaching system supply/capacity
- **Severe** or Third Level of Concern
 - Water demand is exceeding system supply/capacity
- **Critical** or Fourth Level of Concern
 - Water system may fail to deliver basic amounts of needed water

Prioritize Available Water During Shortages

A Community Decision

- 1. Minimum health and safety allocations for interior residential needs
- 2. Institutional/government operations, commercial, and industrial
 - to maintain jobs and economic base of the community (excludes landscape uses)
- 3. Permanent agriculture (which would require at least five years to return to production)
- 4. Existing landscaping
- 5. New customers, i.e. proposed projects without permits when shortage declared

Water Use By Composite Customer Categories



Pre-Determined Levels of Severity of Shortage

OAR 690-86-140 (3)

- (c) A description of pre-determined levels of severity of shortage or water service difficulties which will trigger the curtailment actions

Stage	Shortage Condition	Peak Water use Reduction Goal	Rationing Method
1	Well operation: >16 Hours/day <20 Hours/day	15 percent	Voluntary
2	Well operation: >20 Hours/day <24 Hours/day	25 percent	Mandatory and Voluntary
3	Wells operating 24 Hours/day	35 percent	Mandatory and Voluntary
4	Wells operating 24 Hours/day & reservoir water depth <15 feet	50 percent	Mandatory

Stand-by Water Use Curtailment Actions

of the City Council

- **Initial** Level of Concern
 - Explanation of water supply situation
 - Voluntary reductions



IMPORTANT NOTICE



DUE TO RECENT DROUGHT CONDITIONS SALEM PUBLIC WORKS DEPARTMENT WILL ACTIVATE A STAGE ONE WATER CURTAILMENT ALERT

The alert starting April 2, 2001, is needed to reduce the amount of water used by residents and businesses to ensure adequate water levels in the North Santiam River-Salem's water source. Your assistance in using less water will help to protect salmon and other aquatic life.

A Stage One alert is activated when there is a potential water supply shortage. Residents and businesses are asked to reduce their water use both indoors and outdoors. To reduce daily water use, a voluntary odd/even watering schedule will begin on June 1, 2001, and continue through September 15, 2001. The watering schedule works like this: If your address ends in an odd number (1, 3, 5, 7, or 9), you may water on Monday, Thursday, or Saturday. If your address is even (0, 2, 4, 6 or 8), you may water on Sunday, Tuesday, or Friday. More information about the watering schedule will be available before June 1.

There are many other ways you can save water:

- Mow your lawn less; let your grass grow more. Taller grass slows evaporation and shades roots.
- Measure what you water. Your lawn normally only needs about ½ inch twice a week. Place an empty tuna can in your yard to measure how much you are using.
- Landscape your yard with plants and grasses that require less water. The City has a list of water-conserving plants.
- Consider not watering your lawn and letting your grass naturally go dormant this summer. It may turn brown, but will become green again when the rains return.
- Wash your car on the lawn so that rinse water can be "used again."
- Automated irrigation systems that measure soil moisture save water. If you are using such a system that doesn't follow the odd/even watering schedule above, call the City for a free sign to let your neighbors know you are conserving water.



Summer 2001

Saving Water Today Means Saving Salmon For Tomorrow

Odd/Even Watering This Summer — June 1 until September 15

Due to extremely low rainfall and snowpack this winter, City of Salem water customers are being asked to conserve water. Salem's drinking water comes from the North Santiam River which is home to threatened salmon and steelhead. The North Santiam River provides some of the highest quality fish habitat in the Willamette Basin and salmon need adequate flows of river water for their survival.

Salem's residential and business demand for water from the North Santiam River can reach 60 million gallons on peak days in the summer. One of the best ways to reduce this use is for customers to follow an odd/even watering schedule. Printed on the back of this flyer is a summer calendar that will help you remember which days to water. Please keep in mind: most lawns need no more than one inch per week. This amount can be applied in just two waterings depending on your lawn's ability to absorb water without ponding or running off.

Want to learn more? Check out Salem's water conservation web site for the latest updates and other ways you can save water in your home or business:

www.cityofsalem.net/waterconservation

Or call the Water Conservation Hotline at 503-361-2212.

Please do your part—Conserving water today will help preserve Oregon's rivers for generations to come.

ANNUAL REPORT ON SALEM'S DRINKING WATER

IMPORTANT WATER QUALITY INFORMATION



Public Works Department
555 Liberty St. SE/ Room 325
Salem, OR 97301-3503

This report has been developed to conform with the Federal Safe Drinking Water Act requirement that water utilities provide water quality information to their customers each year.

City of Salem water customers consistently receive high quality drinking water. Salem's water has no water quality violations and meets or exceeds all State and Federal standards. The City's Geren Island Treatment Facility takes in water from the North Santiam River to produce excellent quality drinking water for more than 150,000 people in the Salem area.

This annual report provides you with information about the quality of your drinking water. The table of contents below will help guide you through the document. This report and additional information on your drinking water can be found on the web at www.cityofsalem.net.

SUMMER DROUGHT CONDITIONS REQUIRE WATER CONSERVATION EFFORTS

Because of a lack of rainfall, City of Salem water customers are being asked to conserve water this summer. Below average rain and snowfall during the winter and spring have reduced the amount of water available for summertime use.

The City of Salem's drinking water supply

nesses, the river is home to salmon and other threatened fish in the North Santiam watershed. Clean, cold, and continuous flows of river water are necessary for the survival of these fish.

To learn some important water conservation tips that can help you save water —

IMPORTANT NUMBERS

Environmental Protection Agency
Safe Drinking Water Hotline
800-426-4791

Oregon Health Division
Drinking Water Program
503-731-4010

City of Salem
Public Works Department
Water Quality Section
503-588-6063

City of Salem
Water Conservation Hotline
503-361-2212

CITY OF SALEM

DEPARTMENT OF PUBLIC WORKS
PHONE 588-6099

H

RETAIN THIS PORTION FOR YOUR RECORDS

UTILITY CHARGES FROM	PERIOD		UNIT	TYPE OF CHARGE	UNIT	AMOUNT
07-13-01	1961	1977	16	WATER	R	27.30
TO				SEWER	R	37.28
09-14-01						
ACCOUNT NUMBER						
BILLING DATE						
09-18-01						

QUESTIONS? CALL 588-6099
BEFORE AUTO PAY DATE OF
10-01-01

ACCOUNT INFORMATION

YOUR BASE CONSUMPTION
FOR THE SEWER CHARGE
IS 8

- AUTOMATIC PAYMENT -

64.58

SERVICE
ADDRESS

*****NOTICE*****

FIXING LEAKY FAUCETS AND TOILETS CAN SAVE YOU MONEY! ONE SMALL
DRIP CAN WASTE 60 GALLONS PER DAY.

OTHER WATER SAVING TIPS INCLUDE WASHING ONLY FULL LOADS OF
LAUNDRY, DISHES OR TAKING SHORTER SHOWERS.

IF YOUR HOME ADDRESS ENDS IN AN ODD NUMBER (1,3,5,7,9)
PLEASE ONLY WATER ON MONDAY, THURSDAY OR SATURDAY

IF YOUR HOME ADDRESS ENDS IN A EVEN NUMBER (0,2,4,6,8)
PLEASE ONLY WATER ON SUNDAY, TUESDAY OR FRIDAY.

WATER CONSERVATION IS IMPORTANT TO US ALL!!!

IN THE
Mid-Valley



Woodburn council may modify wards

Anthony Veitz, director of College Access Programs at Chemeketa Community College, has submitted a map that would modify the boundaries of City Council wards to reflect population changes in the 2000 Census. The Woodburn City Council could vote on the boundaries in October. **3C**

The city
of Salem
is asking
residents
and busi-

nesses to conserve water
by watering lawns on this
schedule through Oct. 1.

WATER WATCH

EVEN	ODD
Addresses ending in 0,2,4,6,8 water on:	Addresses ending in 1,3,5,7,9 water on:
<input type="checkbox"/> Sunday	<input type="checkbox"/> Monday
<input type="checkbox"/> Tuesday	<input type="checkbox"/> Thursday
<input checked="" type="checkbox"/> Friday	<input type="checkbox"/> Saturday

↓ No watering
on Wednesday

Statesman Journal/Statesman Journal.com

LOCAL/9

Metro editor: Matt Misarik (503) 399-6862, mmisarik@statesmanjournal.com

<p style="text-align: center;">Stage 1 Activation</p>	<p style="text-align: center;">Action Measures</p>
<ol style="list-style-type: none"> 1. PI (-2 to -3) and/or 2. SWSI (-1.5 to -2.5) and/or 3. Water diverted from Adams Creek from November through April, and/or 4. Delivery disruption > 24 hrs., forecasted storage > 3 days, and/or 5. Staff assessment. 	<ol style="list-style-type: none"> 1. Water status sign will indicate Stage Alert 1. 2. Call for voluntary reduction in all water use. 3. Prohibit outside watering during the day. 4. Restrict outside watering for even addresses on even numbered days & odd addresses on odd numbered days. No outside watering on Sundays. 5. Prohibit water wasted down gutters or streets & wash down of paved surfaces, streets, & structures. 6. Public outreach promoting conservation. 7. Implement curtailment water rates & penalties. 8. Cease sale of water to new users. 9. Prohibit new hook-ups to the City's water system.

Stand-by Water Use Curtailment Actions

of the City Council

- **Moderate** Level of Concern
 - Adoption of ordinance requiring reduction in non-essential water use
 - Restrict lawn and garden to odd/even days
 - Prohibit car washing, washing down sidewalks, filling swimming pools

Stage 2 Activation

Action Measures

- | Stage 2
Activation | Action Measures |
|--|---|
| <ol style="list-style-type: none">1. PI (-3 to -4) and/or2. SWSI (-2.5 to -3.25) and/or3. Water diverted from Adams Creek in the month of May, and/or4. Delivery disruption > 24 hrs., forecasted storage between 2 & 3 days.5. Staff assessment. | <ol style="list-style-type: none">1. Water status sign will indicate Alert Stage 2.2. Continuation of all Stage 1 restrictions.3. Increase public outreach to community.4. Prohibit watering of any lawn, shrubs or trees.5. Watering of any garden is restricted to watering by hand or a drip irrigation system.6. Prohibit washing of any vehicle, except at commercial facilities which recycle water.7. Prohibit water for the use of fountains.8. Restaurants discontinue routinely offering water to customers unless specifically requested.9. Prohibit use of water in any air conditioner, except at a commercial business.10. Prohibit adding water to any swimming pool. |

Stand-by Water Use Curtailment Actions

of the City Council

- **Severe** Level of Concern
 - Adoption of ordinance that restricts outside water use and prohibits all lawn and garden irrigation

Stage 3 Activation

1. PI (-4 and lower) and/or
2. SWSI (-3.25 to -4.0) and/or
3. Delivery disruption > 24 hrs, forecasted storage between 1& 2 days, and/or
4. Delivery disruption > 3 days, forecasted storage > 3 days, and/or
5. Staff assessment.

Action Measures

1. Water status sign will indicate Alert Stage 3.
2. Continuation of all Stage 1 restrictions.
3. Increase public outreach to community.
4. Water to residential customers will be allotted based on the number of persons living at each household (e.g. 50 gallons/capita).
5. Commercial & industrial users will be restricted to the same volume of water used in prior February.
6. Implement a surcharge pricing structure for water use over the allotted use.

Stand-by Water Use Curtailment Actions

of the City Council

Critical Level of Concern

- Adoption of ordinance requiring mandatory reduction in water use (rationing)
 - Maximum daily amount for residences
 - Commercial users set at 75% of water used during same time period of previous year

Stage 4 Activation

1. Delivery disruption > 24 hrs., forecasted storage < 1 day, and/or
2. Delivery disruption > 3 days, forecasted storage < 3 days, and/or
3. Staff assessment.

Action Measures

1. Water status sign will indicate Alert Stage 4.
2. City will discontinue water service through its normal distribution system.
3. If water remains in the City's finished water tanks, water may be provided in small quantities to residents in their containers either directly from a designated tank or location within the City.
4. If water is not available in the City's finished water tanks, the City would locate a source of potable water & have it delivered to the City. Small quantities of potable water would be provided to residents, at no cost, in their containers.

Preference of Use: Human Consumption and Livestock

OAR 690-019-0070 (1)

- If Governor declares drought
 - WRC may grant a temporary preference for human consumption or stock watering, regardless of priority date
 - Drinking, cooking, and sanitation
 - Consumption by animals

Helpful Web Pages for Drought and Water Curtailment Information

- WRD Drought Page
 - http://www.wrd.state.or.us/drought_watch/index.shtml
- WRD Municipal Water User
 - http://www.wrd.state.or.us/drought_watch/conservation.shtml#municipal
- WRD Current Conditions Pages, Links, etc.
 - http://www.wrd.state.or.us/drought_watch/conditions.shtml#state
- Surface Water Supply Index
 - <http://crystal.or.nrcs.usda.gov/snowsurveys/swsi.html>

Long-Range Water Supply Element

Laura Snedaker

(503) 378-8455 x 331

Laura.K.Snedaker@wrd.state.or.us

General Approach

- Identify future water needs
- Identify available sources of water
- Consider demand side management as supply
- Program development of least-cost alternatives



Today's News - August 22, 2000



WET WORK: John Mercier, a hydrologist with The Confederated Tribes of the Grand Ronde (left), and Jim Luzior of Luzior Hydrosciences measure water flow at the Lady Creek intake dam near Grand Ronde.

RON COOPER / Statesman Journal

Water woes hinder casino expansion

The Grand Ronde tribe is working with nearby communities to find sources to add hotel space and housing.

[KARL JENSEN](#), Statesman Journal

GRAND RONDE — The Grand Ronde tribe would like to expand the state's top tourist attraction, but its plans have been stalled by a lack of water.

The tribe is looking to its neighbors for water so it can expand Spirit Mountain Casino, double the size of its hotel and build additional housing on the reservation.

The Confederated Tribes of the Grand Ronde community is working with the local water association and nearby cities, trying to secure additional water sources.

“Water is short out here,” said Bob Watson, interim chief executive of the casino. “Then in comes this casino that consumes 30 million gallons a year. That’s a lot to do to a small community.”

Since the casino opened five years ago, the tribal expansion has put pressure on local resources.

To help ease that, the tribe has paid for highway improvements and increased law enforcement.

Next it plans to help pay for local water studies, which could benefit the whole region.

The tribe needs water to build on the reservation. The local water association would like to accommodate it but has a limited supply.

Two nearby cities are eager to sell their water, looking to the tribe as a potential revenue source.

The Grand Ronde Community Water Association, which currently provides the tribe's water, has the capacity to add only a few customers at a time.

So the tribe is working with the cities of Willamina and Sheridan to find viable water sources. The tribe is paying for a water study in Willamina and may contribute \$50,000 to Sheridan, which may build a reservoir above Willamina Creek.

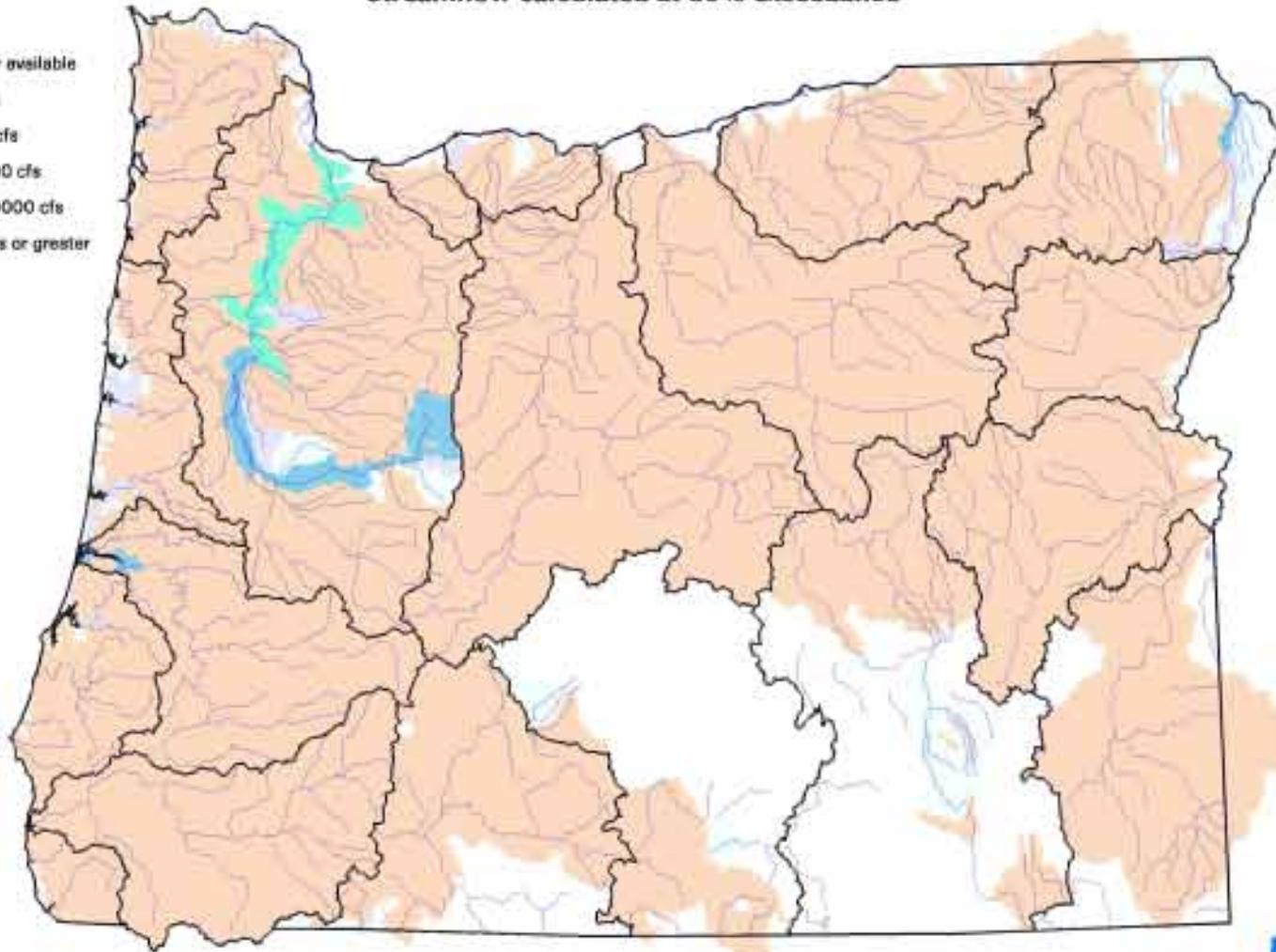
Water Availability

- Ground Water
 - Critical ground water areas
 - Restrictions on new uses in other areas
 - Declines continuing in many areas
 - No ground water supply in some areas
- Surface Water
 - Water available in few streams during “high demand” periods
 - Junior water rights regulated annually

AUGUST AVAILABLE STREAMFLOW

Streamflow calculated at 80% exceedance

-  No data
-  No water available
-  1 - 10 cfs
-  11 - 100 cfs
-  101 - 1000 cfs
-  1001 - 10000 cfs
-  10001 cfs or greater



Estimate Future Needs

- Describe service area in 10 & 20 years
 - What are the population projections for the area?
 - What economic growth is expected?
 - Longer-range projections at community's discretion
- Consistency with:
 - Comprehensive land use plans
 - Urban service agreements
 - Water system master plan

Compare Needs and Supply

- Is the existing supply adequate?
 - Resources identified under System Description
 - “Face value” of rights vs. real water
 - Reliability of sources
 - Need for back-up supplies
 - Potential new restrictions on use

Water Supply Alternatives

- If more water needed within 20 years:
 - Compare alternatives considering cost, availability, reliability and environmental impacts
 - Develop schedule for development
- Alternative Sources
 - New appropriations???
 - Demand side management
 - Aquifer storage and recovery
 - Water right transfers

Plan Update Schedule

- Propose a date for plan update considering:
 - Schedule for development of new water sources
 - Other community planning activities
 - Rate of community growth
- Or, explain lack of need for update
 - Very small system
 - Little or no growth
 - Adequate maintenance plan

Review/Approval

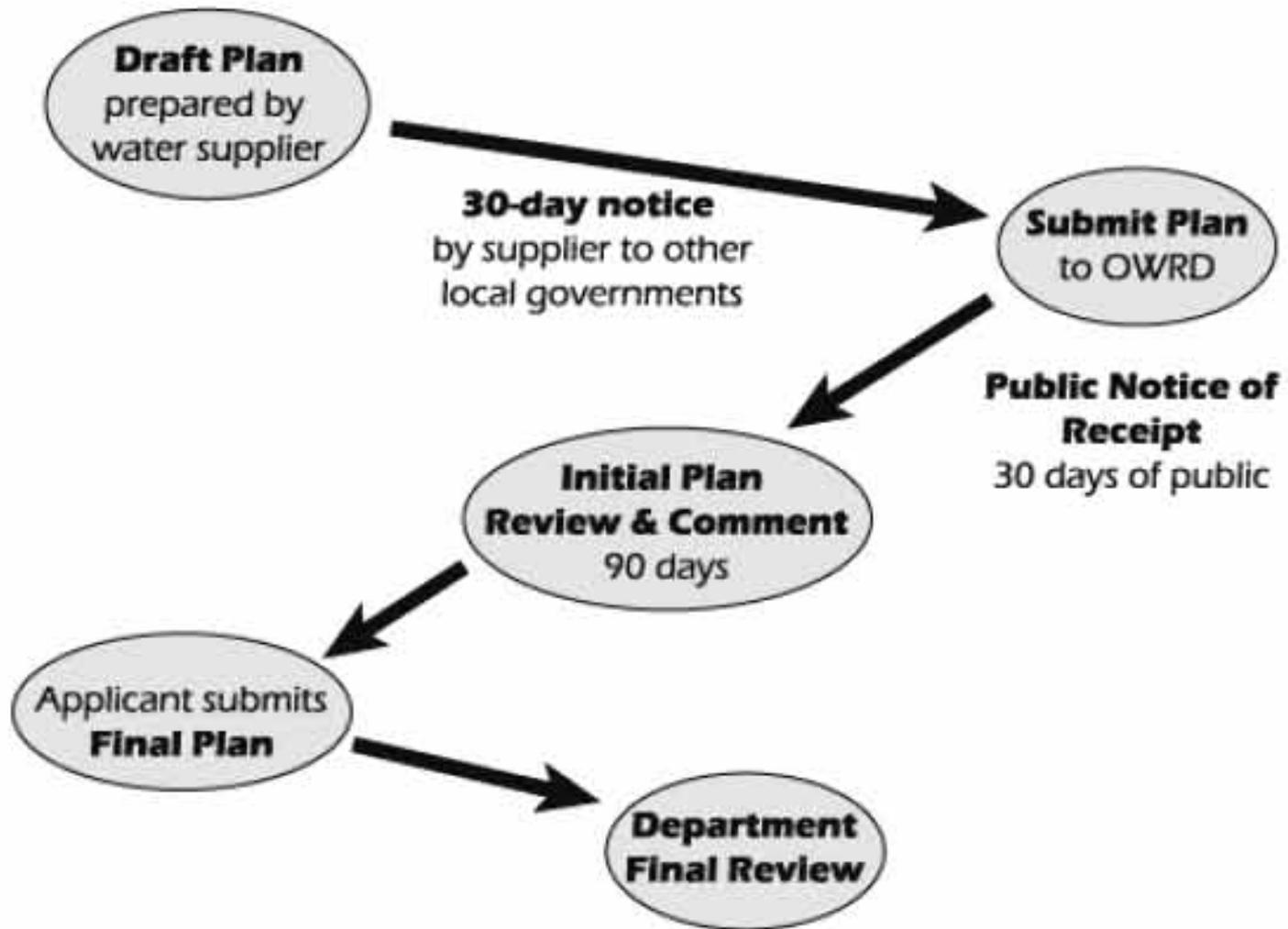


Bob Rice

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WATER MANAGEMENT AND CONSERVATION PLANS



Plan Review and Approval

- Local Government Consultation Prior to Submitting Draft Plan to WRD: 30 day period (OAR 690-86-120 (5))
- Review Process OAR 690-86-910
 - Public Notification
 - Public Comment within 30 days
 - WRD Review within 90 days
 - Final Plan Submitted
 - WRD Final Review



State of Oregon
Water Resources Department
158 12th Street, NE, Salem, OR 97310
(503) 378-8455 • (800) 624-3199

PUBLIC Notice

Notice is hereby given pursuant to OAR 690-86-910(1) that the City of Veneta's draft water management and conservation plan has been received by the Water Resources Department and is available for review by the public.

Submittal of water management and conservation plans:

The Oregon Water Resources Commission's policy on Conservation and Efficient Water Use requires major water users and suppliers to prepare water management and conservation plans. Under Division 86 of the Department's administrative rules, the Department is required to give notice and to invite public review and comment on such plans. The City of Veneta's draft plan is available for review at the Department's Salem office and the office of the local watermaster, Michael Mattick, located at Central Lane Justice Court, 220 North Fifth, Springfield. Please make arrangements to see the document by calling 503-378-8455, extension 285 in Salem or the office of the local watermaster at 541-746-1856.

Notice to Local Governments and Indian Tribes:

The Water Resources Department is required by the rules governing water management and conservation plans, OAR Chapter 690 Division 86, to notify affected local governments and Indian tribes about submitted draft plans. Notice of the plan's submittal was also issued in the Department's weekly mailing of public notices.

How to comment:

Any person may review and comment on a draft plan. Individuals have until February 19, 1999 to comment on the plan. Comments should focus on elements in the draft that do not meet the requirements of Division 86 rules and should include suggestions on how to bring the draft into compliance with the rules. Comments submitted to the attention of Greg Nelson by 5:00 PM on February 19, 1999, will be considered in the Department's review of the plan.

Who to contact with questions:

If you have questions about the plan or the rules governing review and approval of the plan, please feel free to contact Greg Nelson at (503) 378-8455, extension 285, or 1-800-624-3199, extension 285.

Plan Review and Approval

OAR 690-86-910

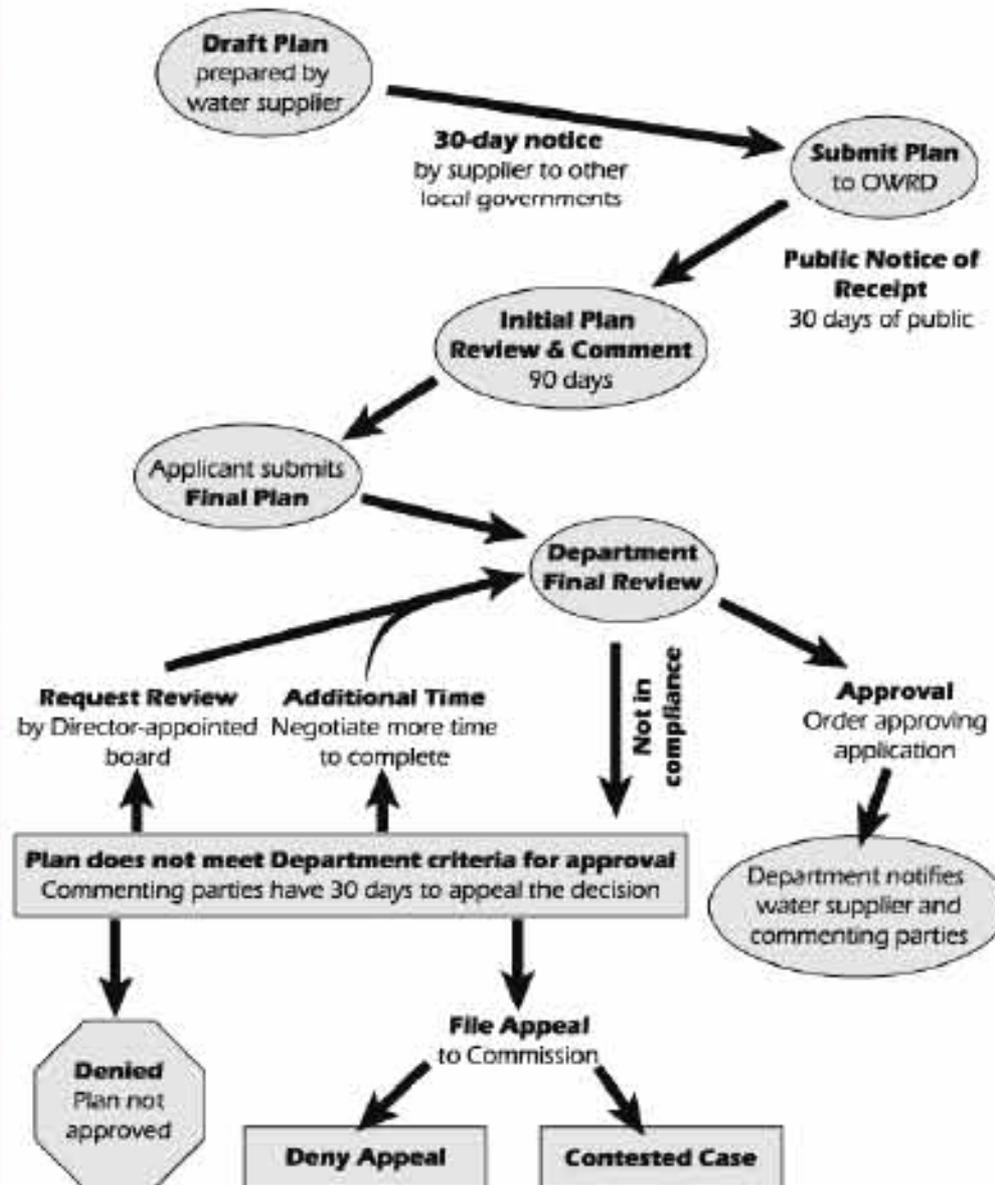
- (4) (a) Water Conservation Element
 - Economic feasibility, adverse environmental impacts
 - Measures available, timelines, local variations
 - Consistent with other relevant plans
- (4) (b) Water Curtailment Element
- (4) (c) Long-Range Water Supply Element

Plan Review and Approval

OAR 690-86-910

- (5) WRD Advises Water Supplier on Constraints
- (6) May Deny Approval if Final Plan is Not Submitted Within 90 Days of WRD's Comments
- (7) Final Evaluation Limited to Issues On Which WRD Previously Commented

WATER MANAGEMENT AND CONSERVATION PLANS



Plan Review and Approval

OAR 690-86-910

- (8) May Negotiate for Additional Time
- (9) Order Approving Plan Specifies if Updated Plan is Required
 - Updated plan no earlier than 5 years

Plan Review and Approval

OAR 690-86-910

- (10) If Approval is Denied, Water Supplier May Request 5 Member Review Board
 - 2+ Individuals Within the Basin Engaged in Similar Water Use
 - Local Watermaster
 - Other Knowledgeable Individuals
- Review Board Recommendation
- (11) WRD Notification to Water Supplier, Review Board, & Commenter on Actions Taken Based on Review Board's Recommendation

Plan Review and Approval

OAR 690-86-910

- (12) Water Supplier or Commenter May Appeal a Decision Within 30 Days to WRC
 - Deny Appeal
 - Accept Appeal & Remand to WRD to Seek Resolution
 - If Not Resolved Initiate Contested Case Proceeding
- (13) WRD May Extend Timeline for Conservation or Metering Measures to Avoid Unreasonable Costs

Plan Review and Approval

OAR 690-86-910

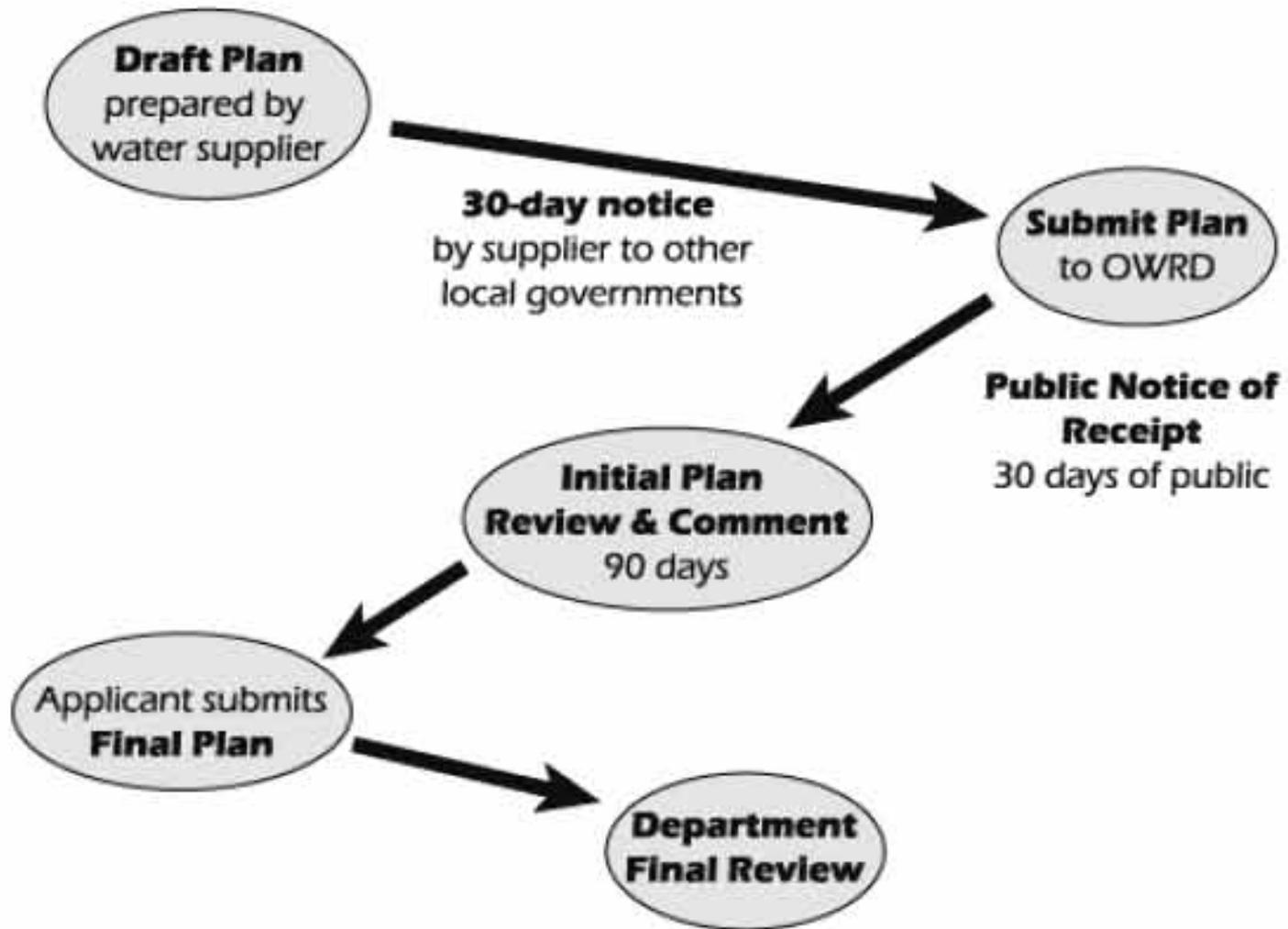
- (14) WRD May Waive Requirements at the Request of a Water Supplier, if:
 - Implementation is Impractical
 - Water Supplier has Adequate and Secure Water Supply to Serve Present and Future Demands
 - Water Supplier is Implementing Other Equally Effective Conservation Measures

Plan Review and Approval

OAR 690-86-910

- (15) WRD May Approve a Plan if it is Generally Consistent with the Relevant Requirements, and
- Includes a Schedule for Completion of Any Necessary Work to Satisfy Relevant Requirements Within 5 Years

WATER MANAGEMENT AND CONSERVATION PLANS



Assistance

Greg Nelson

Water Right Specialist

(503) 378-8455 x 285

Greg.L.Nelson@wrd.state.or.us

Helpful Web Pages for Rules

- Water Management & Conservation Plans
 - arcweb.sos.state.or.us/rules/OARS_600/OAR_690/690_086.html
- Water System Planning
 - www.wrd.state.or.us/publication/pdfs/Guidelines_08-22-01_
- Water System Master Plans & Consumer Confidence Reports
 - www.ohd.hr.state.or.us/dwp/rules.htm
 - www.ohd.hr.state.or.us/dwp/ccr.htm

Helpful Web Pages for Rules

- Rural Utilities Services
 - www.usda.gov/rus/water/index.htm
 - www.usda.gov/rus/water/ees/toc.htm#Regulations
- Public Facilities Planning
 - arcweb.sos.state.or.us/rules/OARS_600/OAR_660/660_011.html

State Funding Resources

- Community Development Block Grants
 - www.econ.state.or.us/cdbg.htm
- Water/Wastewater
 - www.econ.state.or.us/wtrww.htm
- Special Public Works
 - www.econ.state.or.us/spwf.htm
- Safe Drinking Water
 - www.econ.state.or.us/safe_wtr.htm
- Energy & Water Conservation
 - www.energy.star.or.us/cons/water.htm

Other Useful Web Sites

- WaterWiser
 - www.waterwiser.org/
- American Water Works Association:
 - www.awwa.org/
- NW Energy Efficiency Alliance:
 - www.nwalliance.org/
- EPA's Office of Water:
 - www.epa.gov/OW/

Other Useful Web Sites

- Oregon's Office of Energy:
 - www.energy.state.or.us/
- Oregon Health Department:
 - www.ohd.hr.state.or.us/
- Oregon Department of Environmental Quality:
 - www.deq.state.or.us/
- US Water News:
 - www.uswaternews.com/homepage.html

Other References

- List of agencies and representatives
- Bibliography of sources

Business Energy Tax Credit Overview

Kathy King

Oregon Office of Energy

October, 2001

Business Energy Tax Credit

- Created in 1980
- Energy conservation, renewable resource, and recycling projects are eligible
- Credit is 35 percent of eligible cost taken over 5 years (10-10-5-5-5)
- Pre-approval required
- \$10 million maximum project cost

2001 Legislative Changes

- Projects with an eligible cost of \$20,000 or under can be claimed in one year.
- Expands the pass-through program, making public entities eligible.

How To Apply - Step 1

- Send **completed** Application for Preliminary Certification and **fee** to OOE
 - call toll-free 1-800-221-8035 for help
- OOE will issue a Preliminary Certificate & Application for Final Certificate
 - it takes about ten days to approve your application - sooner if necessary

How To Apply - Step 2

- When your project is completed, submit the Application for Final Certificate to the Office of Energy
 - Projects over \$50,000 must have a CPA verification
- The Office of Energy will issue a Final Certificate that you file with your taxes

Things To Remember

- Pre-approval is required.
- It's easy, and we're here to help you!

How to get help!

- Call toll-free **1-800-221-8035**. Ask for **Connie Kepler** or **Kathy King**
- Log onto our website - **www.energy.state.or.us**
 - **applications, fact sheet, rules and lots more**