TACOMA POWER | TACOMA WATER | TACOMA RAIL
TACOMA PUBLIC UTILITIES

City of Tacoma
Public Utility Board
Study Session

July 27, 2016
3:00 p.m.
Tacoma Public Utilities
3628 South 35th Street
Third Floor Conference Room

The Public Utility Board will hold a study session with staff to discuss the following:

Approximate Time	Topic	Presenter(s)
3:00 – 3:45	Tacoma Water: Water System Plan and Water Integrated Resource Plan	Heather Pennington and Chris McMeen, Deputy Water Superintendents
3:55 – 4:50	TPU Quarterly Financial Outlook and Performance Metrics	Operating Division Superintendents and Jim Sant, Deputy Director for Administration
5:00 – 5:10	Tacoma Power: Community Solar Update	Steve Bicker, Conservation Resources Management Manager
5:10 – 5:30	Tacoma Power: Conservation Resources Management Update	Steve Bicker, Conservatoin Resources Management Manager

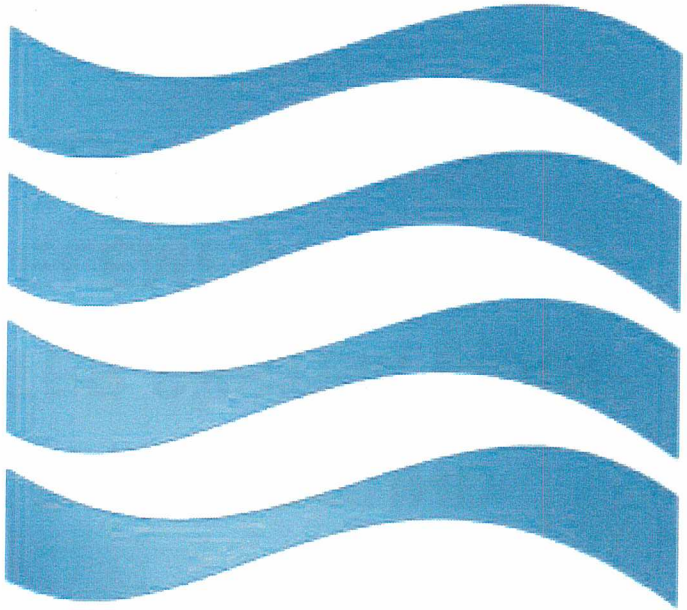
Other topics may properly be brought before the Board.

Charleen Jacobs
Executive Assistant

The City of Tacoma does not discriminate on the basis of disability in any of its programs, activities, or services. To request this information in an alternative format or to request a reasonable accommodation, please contact the TPU Director's Office at 253-502-8201. TTY or speech to speech users please dial 711 to connect to Washington Relay services.

Water System Plan 2017 Update

PUBLIC UTILITY BOARD STUDY SESSION 7/27/2016



Water System Plan 2017 Update

- REGULATORY BACKGROUND
- CURRENT WATER SYSTEM PLAN
- MAJOR PLAN ELEMENTS
- OUTREACH & COORDINATION
- SCHEDULE

TACOMA WATER
TACOMA PUBLIC UTILITIES

Water System Plan 2017 Update

REGULATORY BACKGROUND

- **WAC 246-290-100 –** Water System Plan requirements
- **Chapter 70.116 RCW – Public Water System Coordination Act of 1977**
  - Pierce County Coordinated Water System Plan
- **Chapter 43.20.260 RCW – Municipal Water Law**

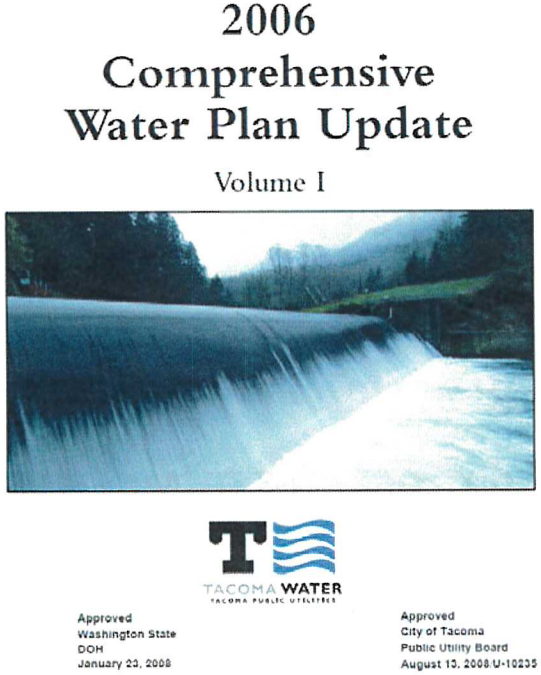
"Water system planning is the foundation of a successful, safe, and sustainable public water system."

Washington State Department of Health

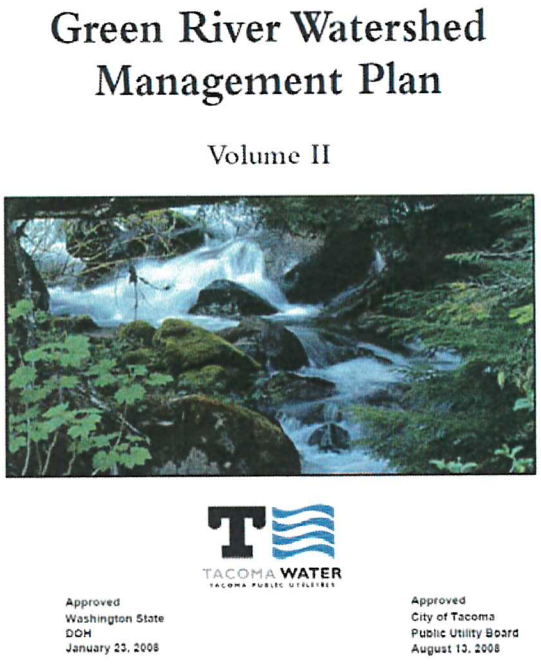
TACOMA WATER
TACOMA PUBLIC UTILITIES

Water System Plan 2017 Update

CURRENT WATER SYSTEM PLAN



- ✓ approved Jan. 23, 2008
- ✓ extension granted Dec. 30, 2013
- ✓ Tacoma Water's current plan must be updated on or before January 23, 2018



TACOMA WATER
TACOMA PUBLIC UTILITIES

Water System Plan 2017 Update

MAJOR PLAN ELEMENTS

WAC 246-290-100

(A) DEMONSTRATE THE SYSTEM'S OPERATIONAL, TECHNICAL, MANAGERIAL, AND FINANCIAL CAPABILITY TO ACHIEVE AND MAINTAIN **COMPLIANCE WITH RELEVANT LOCAL, STATE, AND FEDERAL PLANS AND REGULATIONS;**

(B) DEMONSTRATE HOW THE SYSTEM WILL ADDRESS PRESENT AND FUTURE NEEDS IN A MANNER CONSISTENT WITH OTHER RELEVANT PLANS AND LOCAL, STATE, AND FEDERAL LAWS, INCLUDING APPLICABLE LAND USE PLANS;

(C) ESTABLISH ELIGIBILITY FOR FUNDING UNDER CHAPTER 246-296 WAC.

TACOMA WATER
TACOMA PUBLIC UTILITIES

Water System Plan 2017 Update

The Water System Plan development is a deliberate point for policy makers to engage in our planning. It is also a chance to share our diligent and responsible future planning.

✓Where do we serve

- service area

✓What are our sources

- inventory and IRP

✓Water demand forecasts

- Confirm the sufficiency of our sources and capacity to serve consistent with zoning, UGA and local government's adopted population growth forecasts.

✓What is our duty to serve within our place of use (service area)

✓Conservation

TACOMA WATER
TACOMA PUBLIC UTILITIES

Water System Plan 2017 Update

OUTREACH & COORDINATION

- Department of Health
- Public Utility Board
- City Council
- Customers
- Cities and Counties we serve
- Wholesale customers
- Adjacent purveyors
- SEPA compliance

TACOMA WATER
TACOMA PUBLIC UTILITIES

Water System Plan 2017 Update

SCHEDULE

- Q3 2016 – Review DOH and Pierce County required elements
- Q3 2016 – Establish project delivery milestones
- Q4 2016 - prep to engage consultant
- 2017
  - DOH pre-planning meeting
  - Consultant support
  - Public outreach
  - Public Utility Board
  - City Council
  - Other jurisdictions
- **On or before January 23, 2018 – Department of Health approval**

TACOMA WATER
TACOMA PUBLIC UTILITIES

TACOMA POWER | TACOMA WATER | TACOMA RAIL
TACOMA PUBLIC UTILITIES

Revised Order of First Two Topics

City of Tacoma
Public Utility Board
Study Session

June 13, 2018
3:00 p.m.
Tacoma Public Utilities
3628 South 35th Street
Third Floor Conference Room

The Public Utility Board will hold a study session with staff to discuss the following:

Approximate Time	Topic	Presenter(s)
3:00 – 4:00	Tacoma Water: Water System Plan, Conservation Program and Goal	Heather Pennington, Deputy Water Superintendent, Natalie Jones, Water Program Specialist
4:10 – 4:35	Small Works Roster Code Revision Recommendations	Patsy Best, Procurement and Payables Manager
4:40 – 4:55	Tacoma Power: Planning for 20th Anniversary of Click!	Tenzin Gyaltsen, Click! General Manager; Carrie Harding, Click! Marketing and Sales Manager
5:00 – 5:40	Rate and Budget Communications Plan	Clark Mather, Community and Government Relations Manager; Rebekah Anderson, Marketing Communications Manager

Other topics may properly be brought before the Board.

Charleen Jacobs
Executive Assistant

The City of Tacoma does not discriminate on the basis of disability in any of its programs, activities, or services. To request this information in an alternative format or to request a reasonable accommodation, please contact the TPU Director's Office at 253-502-8201. TTY or speech to speech users please dial 711 to connect to Washington Relay services.

TACOMA WATER
TACOMA PUBLIC UTILITIES

2018 Water System Plan *with new conservation plan and goal*

Public Utility Board Study Session June 13, 2018

What we're going to cover

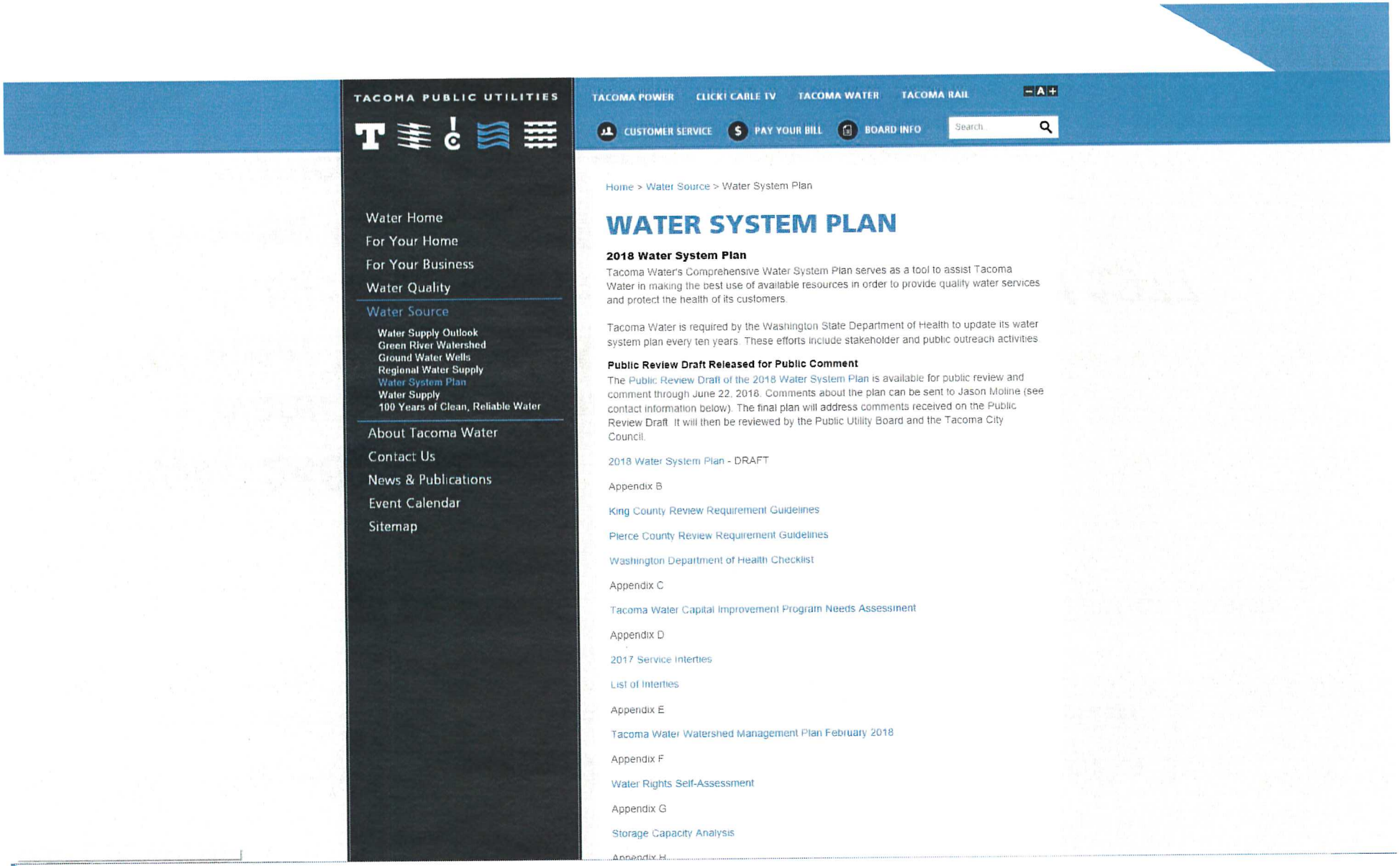
- 2018 Water System Plan
  - Why
  - Timeline
  - What's in it & how we approached it
- Conservation Plan & Goal
  - Development and public outreach
- When we will ask for PUB approval

Regulatory Background

"Water system planning is the foundation of a successful, safe, and sustainable public water system."

Washington State Department of Health

- **WAC 246-290-100**
  - *Water System Plan Requirements*
- **Chapter 70.116 RCW**
  - *Public Water System Coordination Act of 1977*
- **Chapter 43.20.260 RCW**
  - *Municipal Water Law*



MyTPU.org/WaterSystemPlan

TACOMA WATER
TACOMA PUBLIC UTILITIES

Water System Plan Timeline

- July 27, 2016 – Public Utility Board study session introduction
- May 18, 2017 – pre-plan meeting with DOH, King County and Pierce County
- Conservation Plan input from IRP public advisory committee
- October 30, 2017 Conservation Plan and Goal public meeting
- April 2 – June 22, 2018 – Draft 2018 Water System Plan comment period (direct mailings and web)
- June 1 – June 15, 2018 – SEPA DNS comment period
- **June 13, 2018 – Public Utility Board study session WSP update**
- June 13, 2018 – IRP presentation to Infrastructure, Planning, and Sustainability Committee
- July 18, 2018 – IRP and Water Shortage Response Plan PUB study session
- July – incorporate comments and finalize plan
- July 24, 2018 – joint PUB/CC study session (WSP, IRP and Conservation)
- August 8, 2018 – Public Utility Board study session update on WSP changes per public comment
- August 8, 2018 – anticipated IRP and WSRP PUB approval
- August 22, 2018 – anticipated WSP, Conservation Plan and Goal approval
- September – City Council communication/approval
- DOH & King County approval, Pierce County consistency

Major Plan Elements

WAC 246-290-100

(A) Demonstrates the system's operation, technical, managerial, and financial capability to achieve and maintain compliance with relevant local, state, and federal plans and regulations;

(B) Demonstrate how the system will address present and future needs in a manner consistent with other relevant plans and local, state, and federal laws, including applicable land use plans;

(C) Establish eligibility for funding under Chapter 246-296 WAC

2018 Water System Plan – synchronizing on common 10 year cycle

Water System Plan

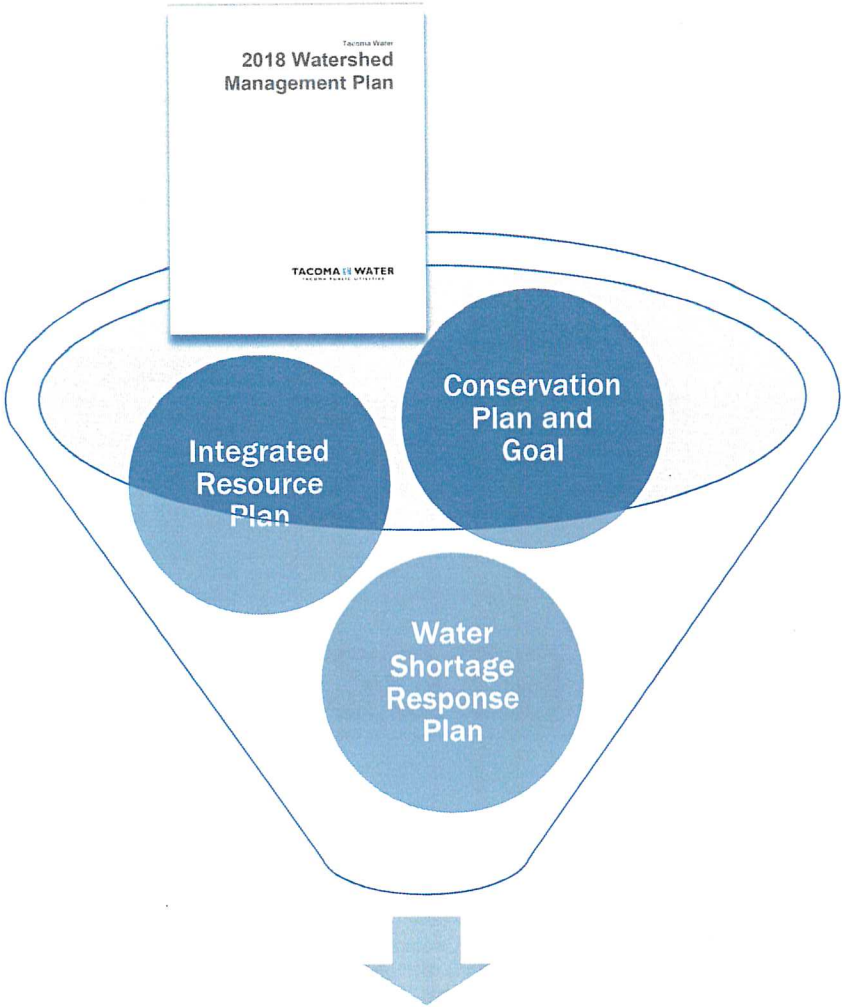
- 2018 - 2027

Conservation Plan and Goal

- 2018 - 2027

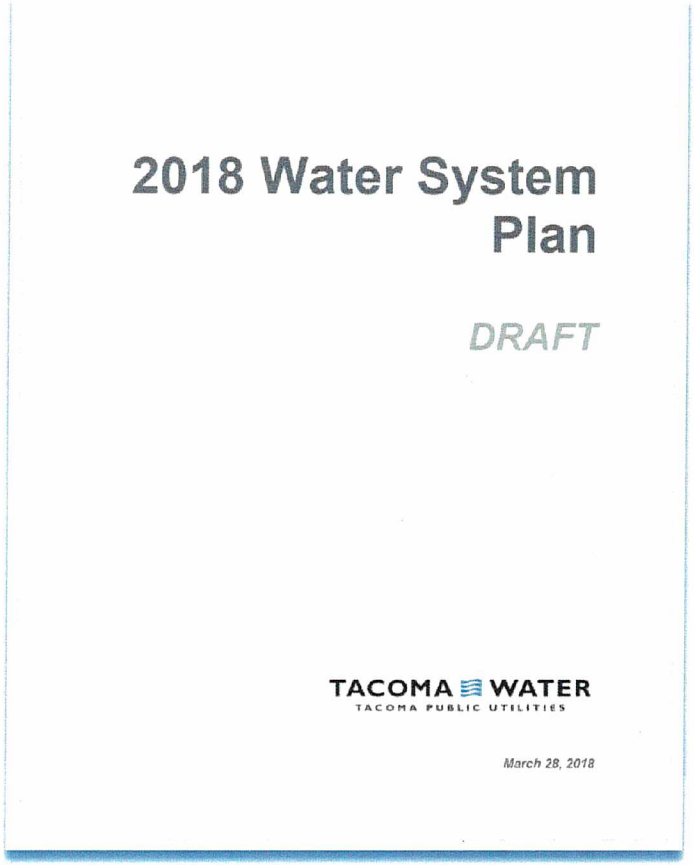
TACOMA WATER
TACOMA PUBLIC UTILITIES

2018 Water System Plan –
collecting our planning in one place



TACOMA WATER
TACOMA PUBLIC UTILITIES

2018 Water System Plan – chapter overview



12 Chapters providing overview of the planning work we already do

Referencing and appending existing plans – not rewriting

Result – a useful compilation rather than a plan for regulatory purposes

TACOMA WATER
TACOMA PUBLIC UTILITIES

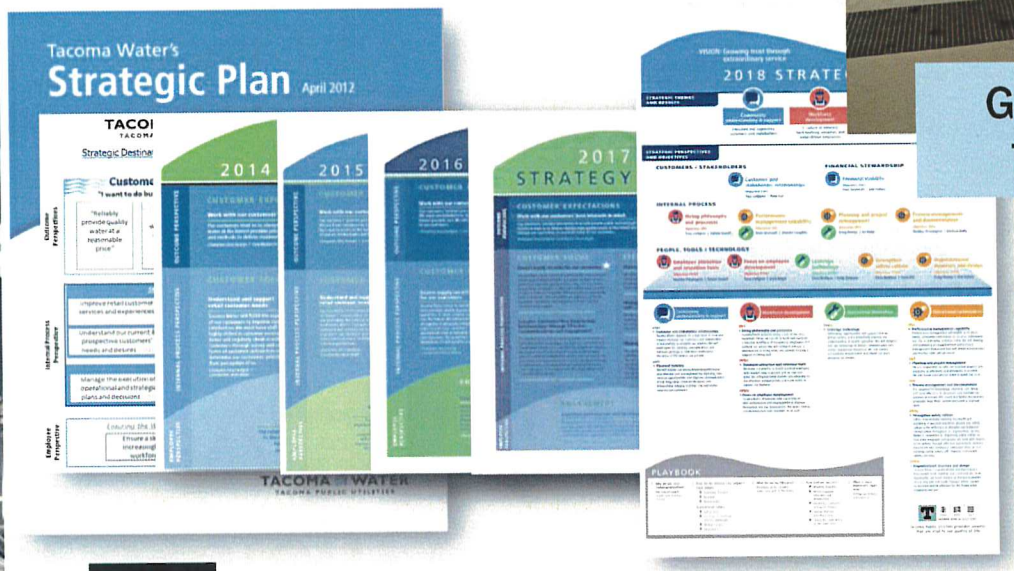
Ch. 1 – Introduction and Purpose (we've done a lot since the last plan)

Ozone

McMillin Reservoir Covering

Groundwater Treatment

Filtration



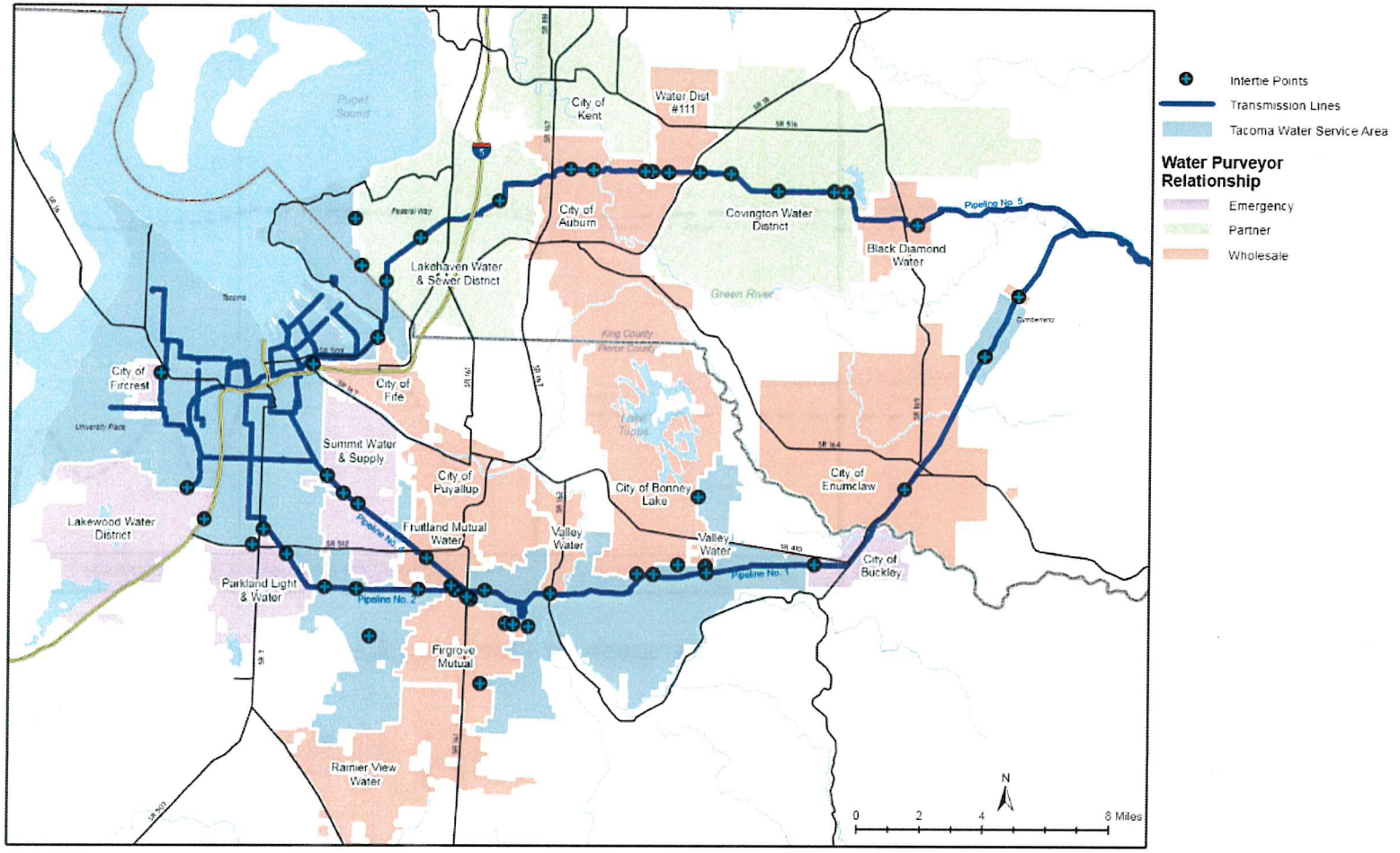
Asset Management Program

Bluewave

ESRI GIS

TACOMA WATER
TACOMA PUBLIC UTILITIES

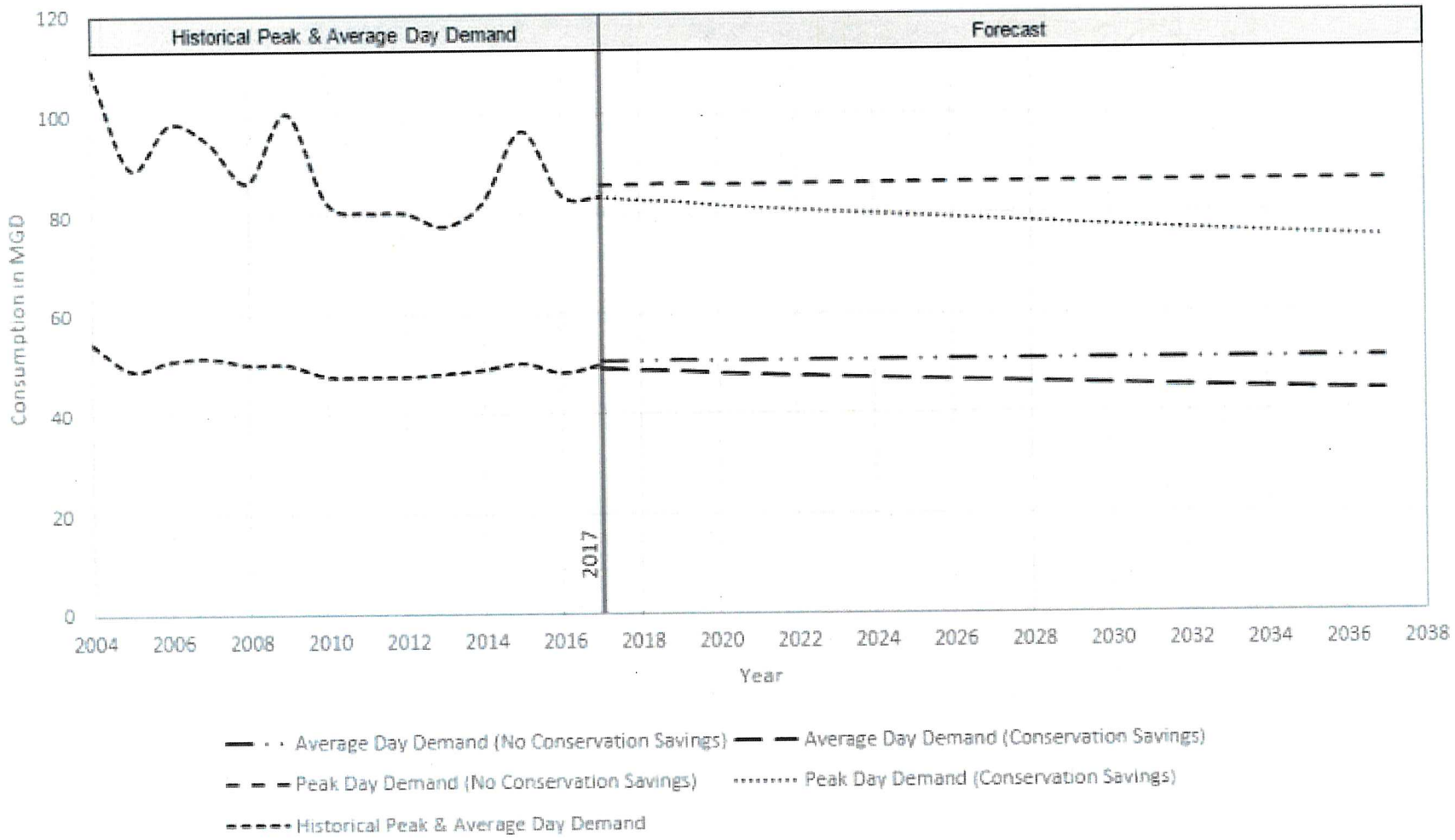
Ch. 2 – Tacoma Water History, Service Area, and Organizational Structure



TACOMA WATER
TACOMA PUBLIC UTILITIES

Ch. 3 – Water Demand and Water Conservation Program

Figure 3-1. Water Demand (Most Likely Forecast - all users, with and without conservation)

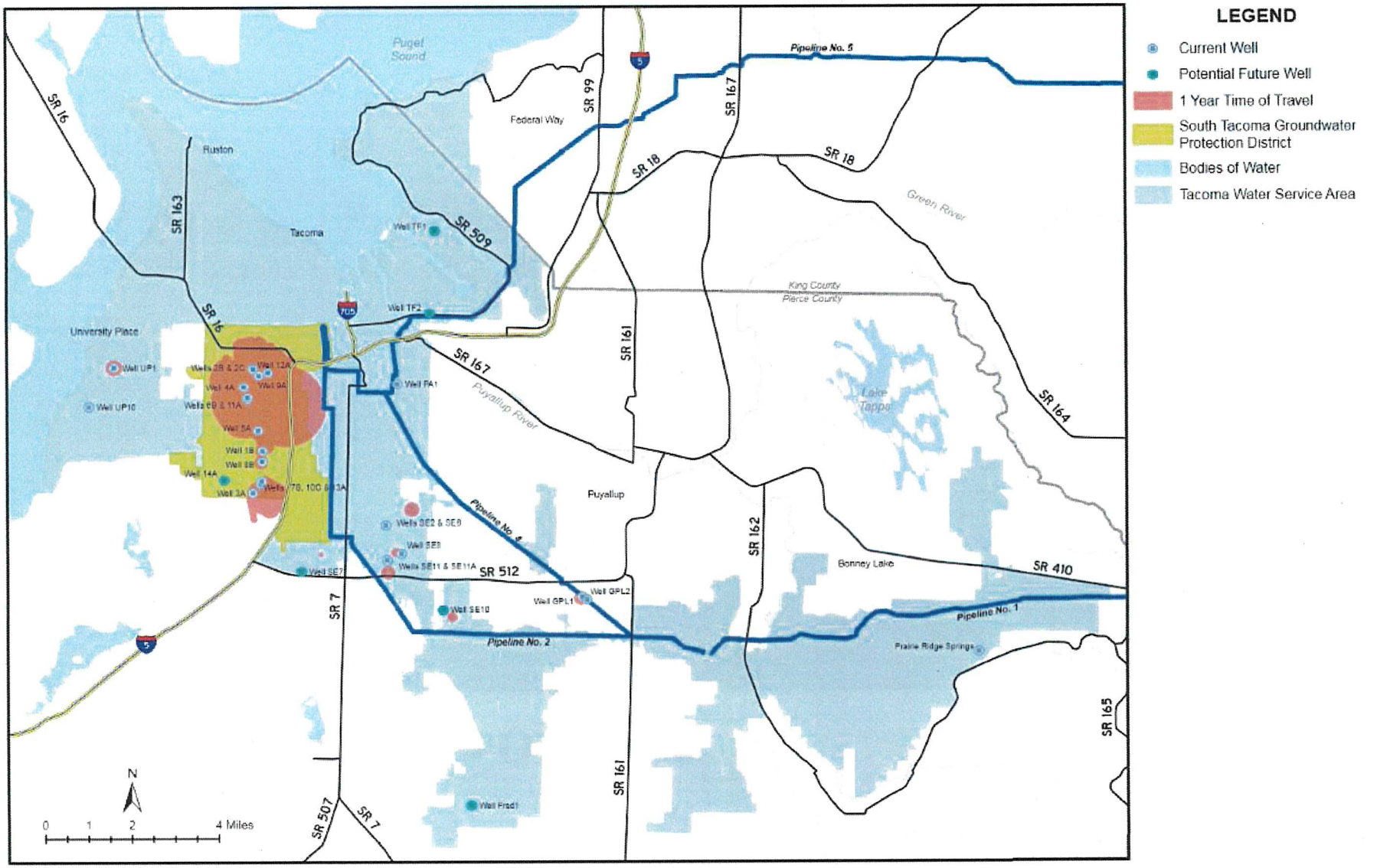


Ch. 4 – Water Sources

Includes potential uses for reclaimed water

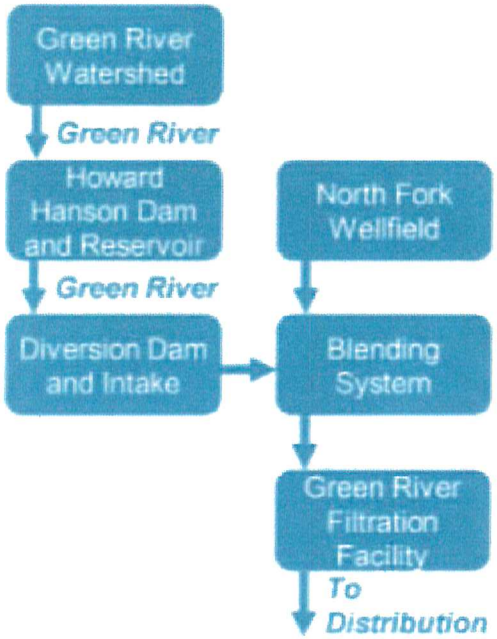
TACOMA WATER
TACOMA PUBLIC UTILITIES

Ch. 4 – Water Sources (wells)



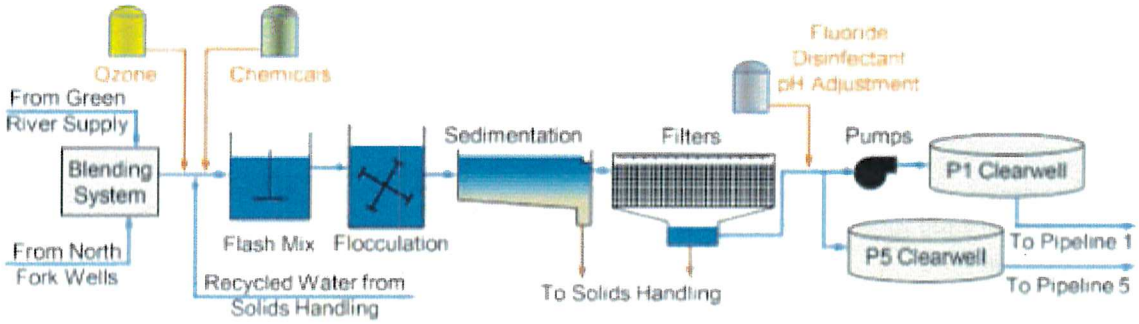
Ch. 5 – Water Infrastructure

Figure 5-1: Surface Water Supply



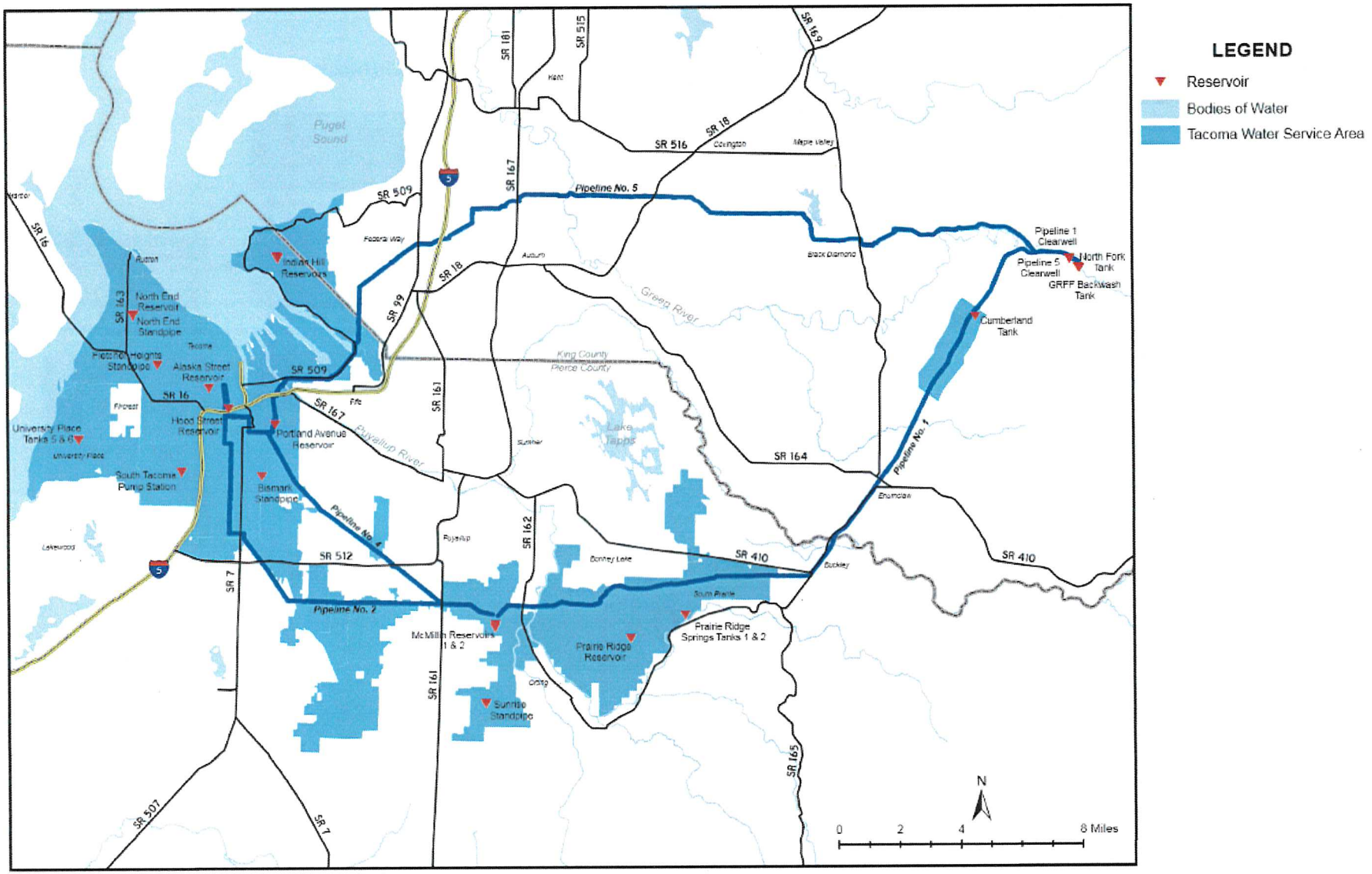
Overview of facilities for supply, treatment, storage and distribution

Figure 5-2. Green River Filtration Facility Water Treatment Schematic



TACOMA WATER
TACOMA PUBLIC UTILITIES

Ch. 5 – Water Infrastructure (storage)



Ch. 6 – System Analysis

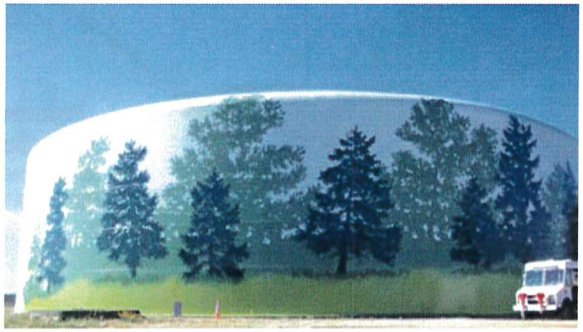
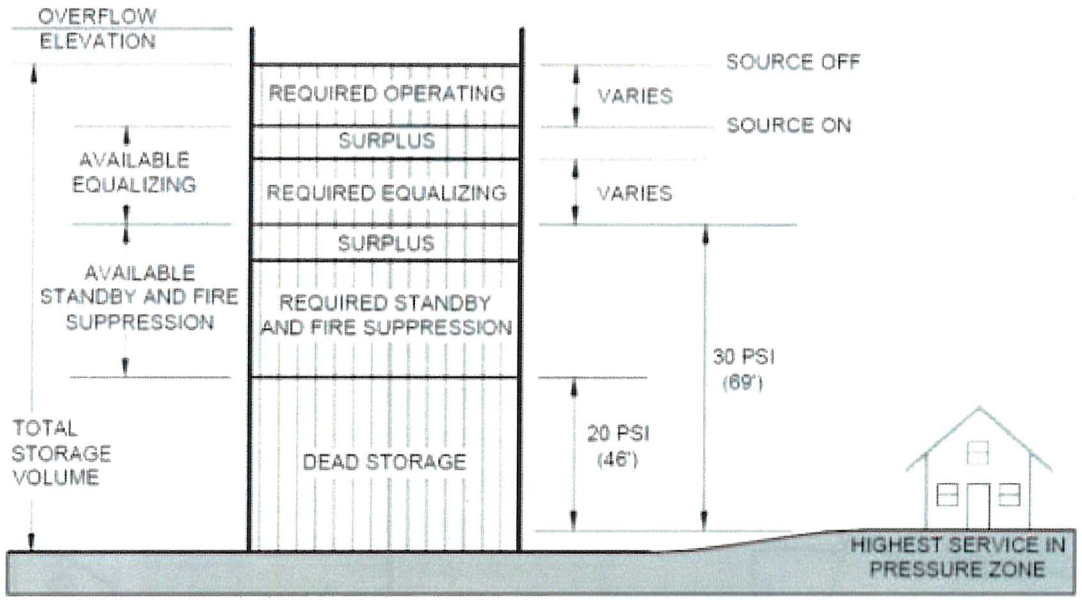
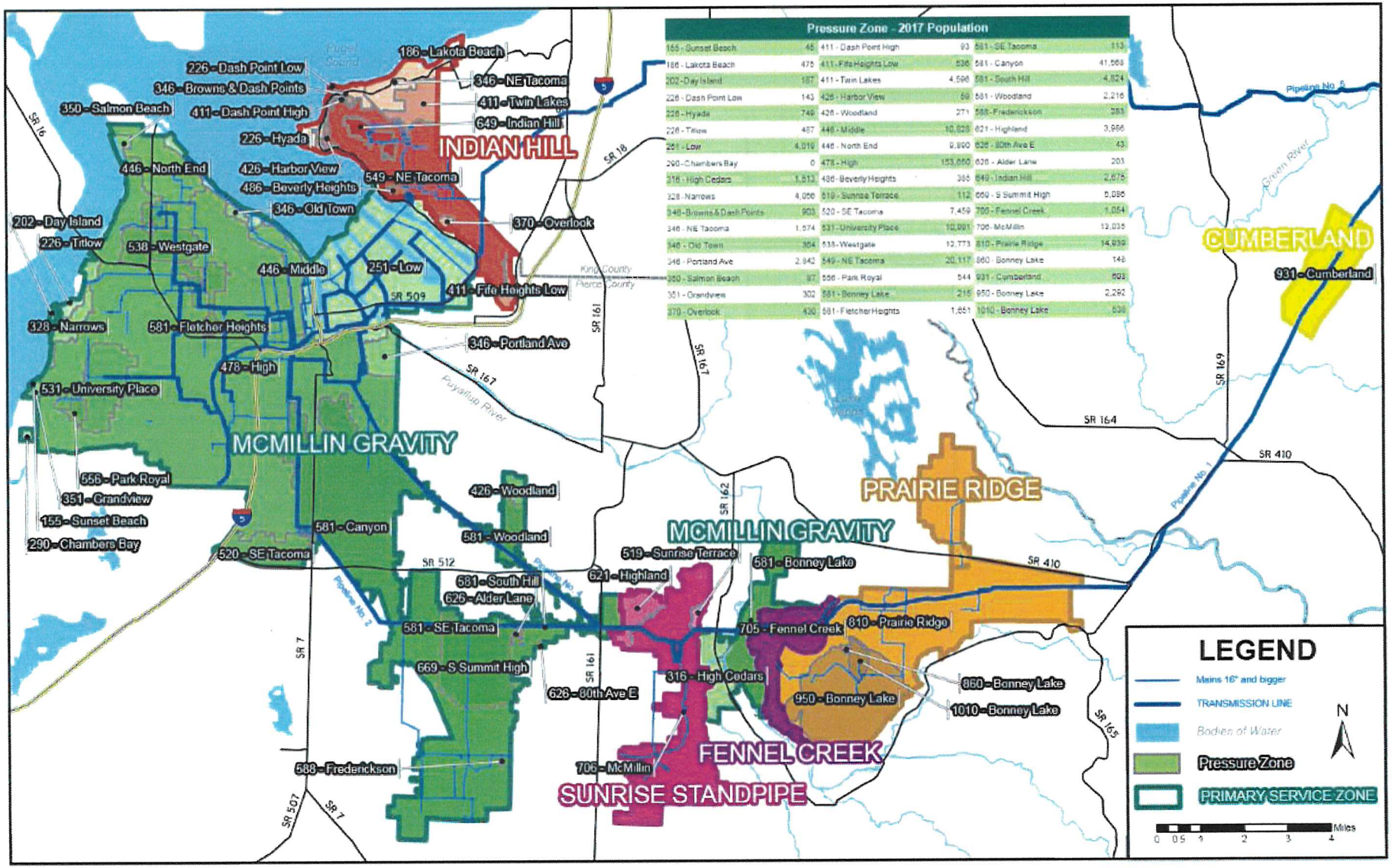


Figure 6-1. Schematic of Storage Components



TACOMA WATER
TACOMA PUBLIC UTILITIES

Ch. 6 – System Analysis (pressure zones)



Ch. 7 – Water Quality

TACOMA WATER
TACOMA PUBLIC UTILITIES

Ch. 8 – System Operations

Overview of Tacoma Water operations including operator certifications, customer service, safety, and water control and monitoring programs

Table 8-1. Certified Operator Positions and Certification Levels

Position	Certification Level
Water Superintendent	WDM 4
Distribution Engineering Manager	WDM 3
Distribution Operations Manager	WDM 3
Water Quality Manager	WDM 3
Water Supply Manager	WDM 3
Water Treatment Plant Manager	WTPO 4
Water Treatment Plant Supervisor	WTPO 4
Water Treatment Plant Operator	WTPO 3
Cross-connection Control Specialist	CCS

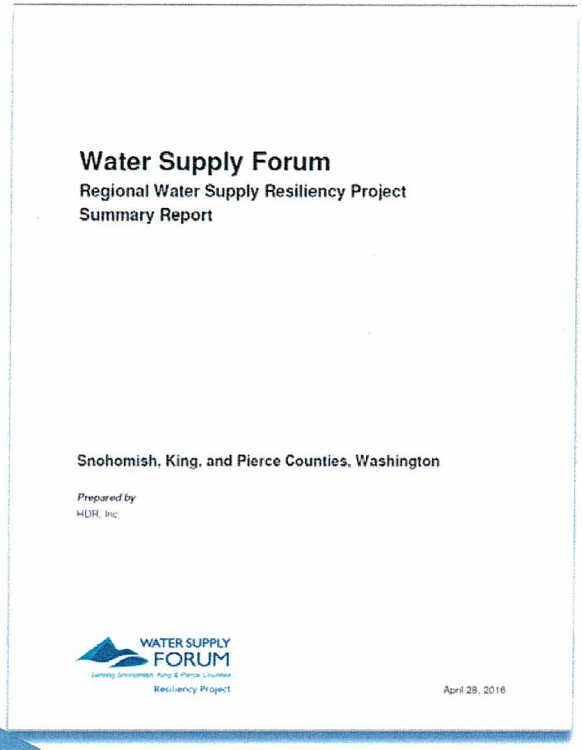
Notes: WDM = water distribution manager, WTPO = water treatment plant operator, CCS = cross-connection control specialist.

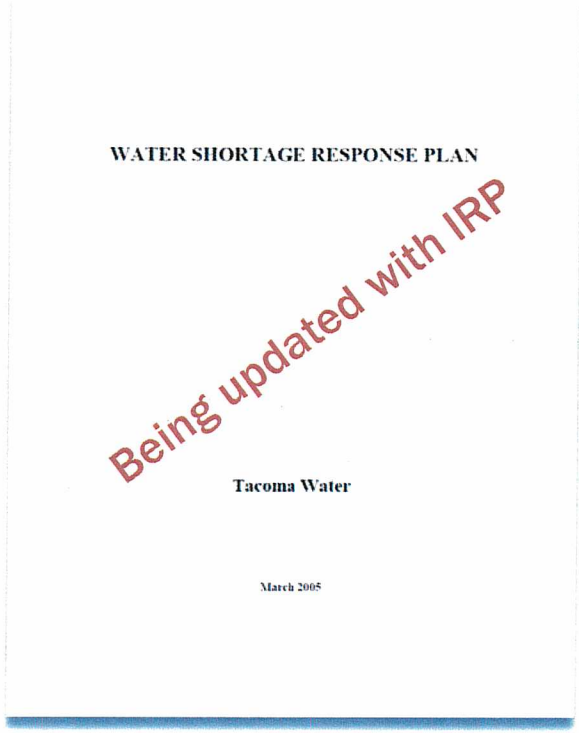
TACOMA WATER
TACOMA PUBLIC UTILITIES

Ch. 9 – Enhancing System Resiliency

Water Supply Forum: Earthquakes, Water Quality, Drought, Climate Change

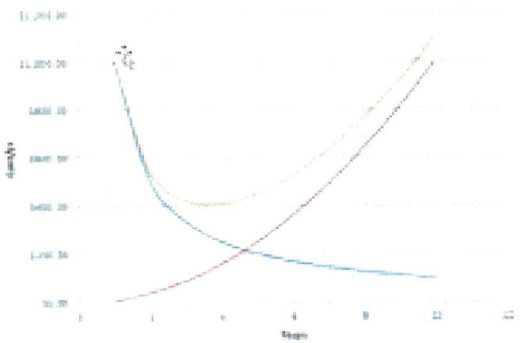
Tacoma Water specific: Seismic Vulnerability Assessment, Interties, and Water Shortage Response Plan

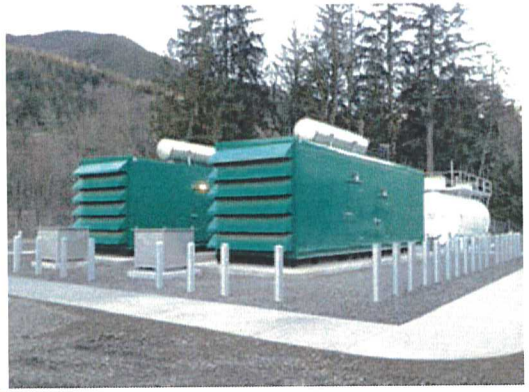


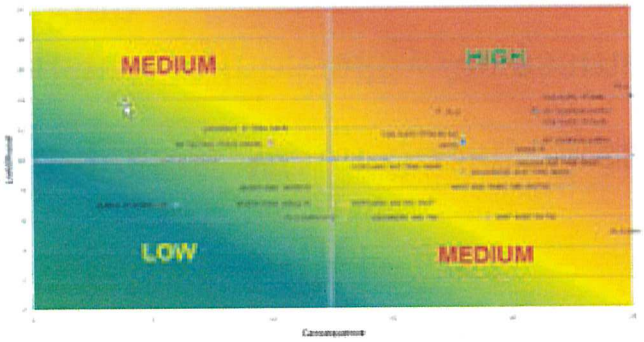


TACOMA WATER
TACOMA PUBLIC UTILITIES

Ch. 10 – Asset Management





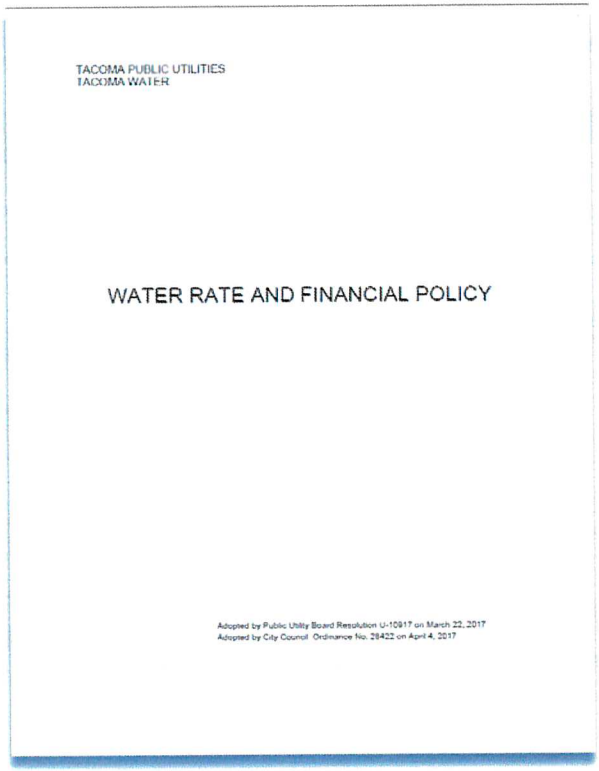


TACOMA WATER
TACOMA PUBLIC UTILITIES

Ch. 11 – Capital Improvement Plan

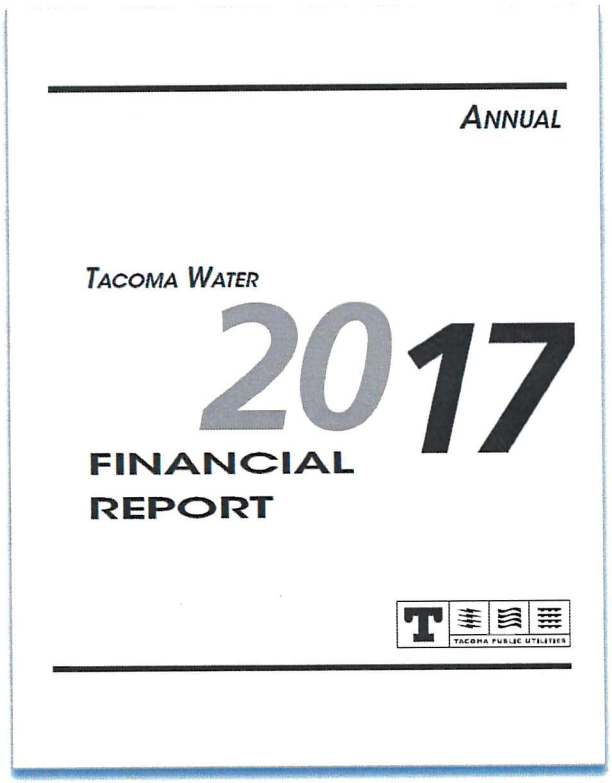
- Key projects (2017- 2026)
  - Advanced Metering Infrastructure
  - Lead Gooseneck Replacement
  - Puyallup River Crossing
  - Corrosion Control at Gravity Pipeline Wells
  - Tehaleh Main Extension
  - Tacoma Public Utilities Decant Facility
  - Main Replacement Projects
  - Seismic Projects

Ch. 12 – Financial Plan


TACOMA PUBLIC UTILITIES
TACOMA WATER

WATER RATE AND FINANCIAL POLICY

Adopted by Public Utility Board Resolution U-10917 on March 22, 2017
Adopted by City Council Ordinance No. 28422 on April 4, 2017


ANNUAL

TACOMA WATER

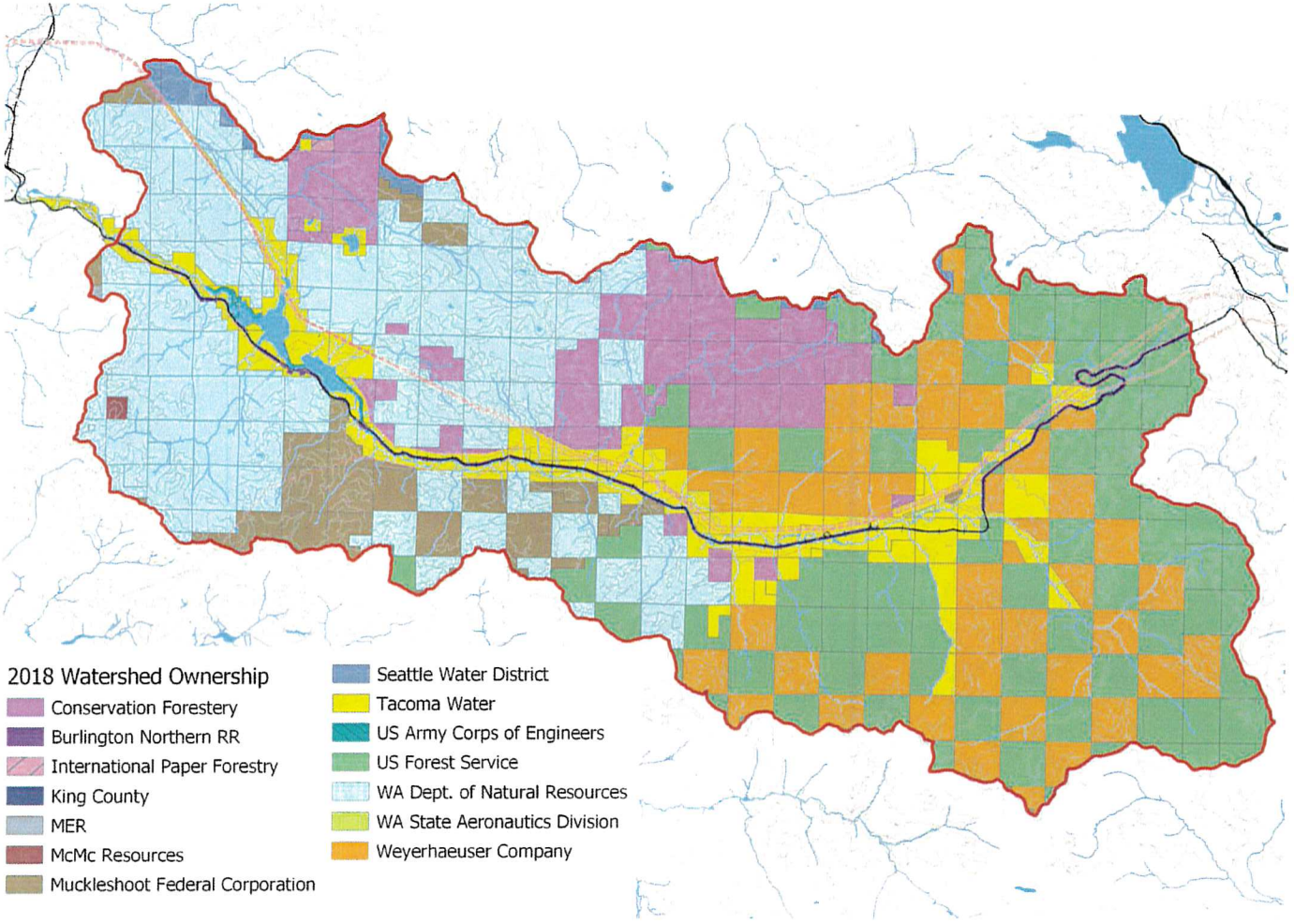
2017

FINANCIAL REPORT

TACOMA PUBLIC UTILITIES

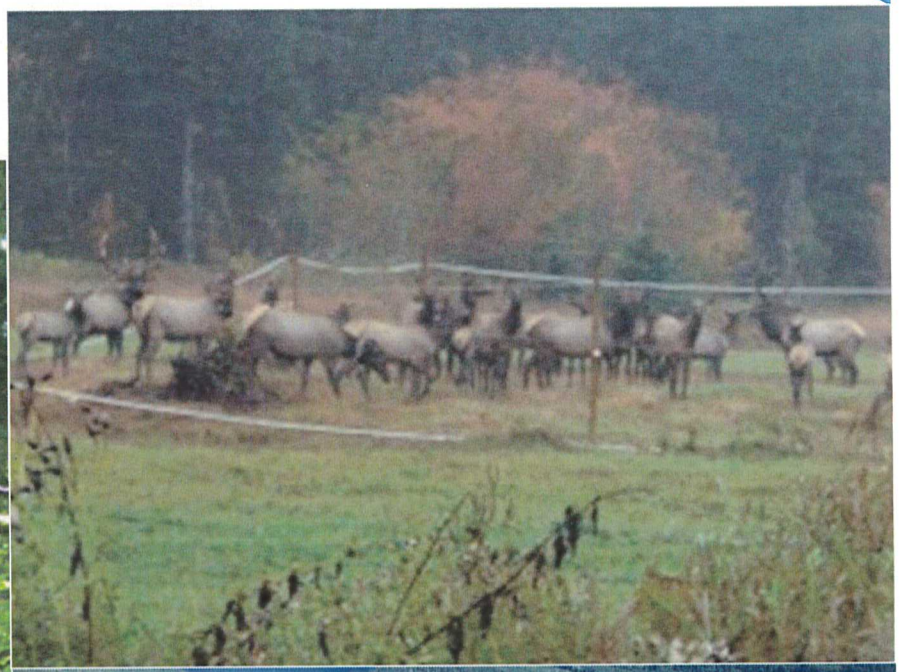
TACOMA WATER
TACOMA PUBLIC UTILITIES

Appendix E: Watershed Management Plan



TACOMA WATER
TACOMA PUBLIC UTILITIES

Appendix E: Watershed Management Plan



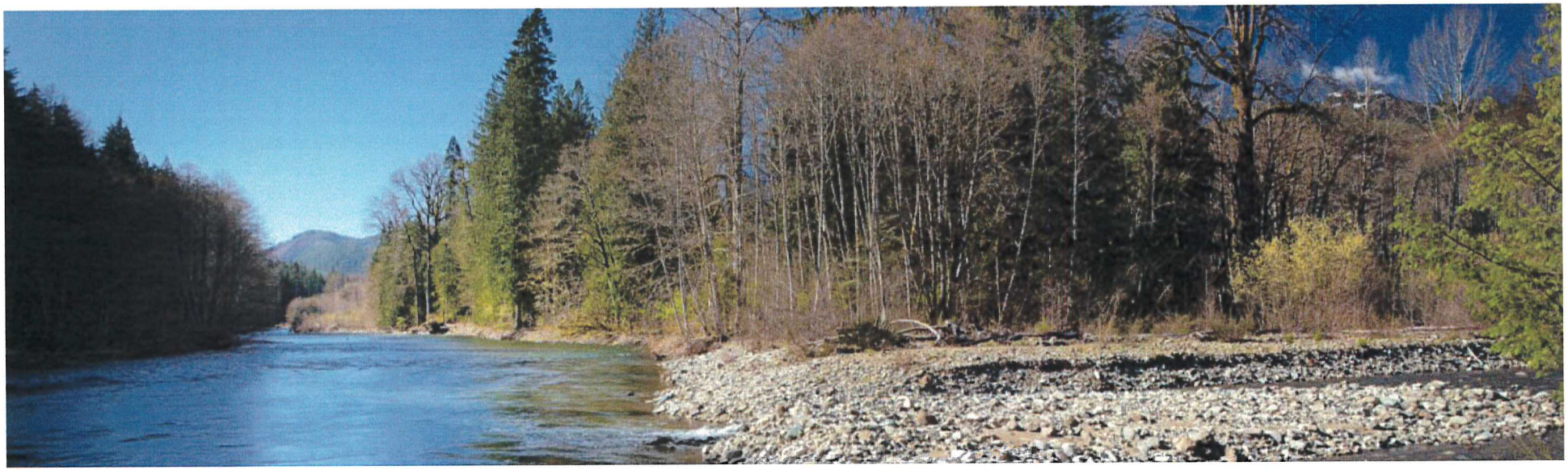
TACOMA WATER
TACOMA PUBLIC UTILITIES

New conservation goal and plan: 2018 - 2027

Adopt new goal in compliance with the Washington State 2003 Municipal Water Law and the Water Use Efficiency Rule.

What drove us to do this?

- Our current goal sunset at the close of 2017
- New goal required a new plan to meet it



Process

- Worked with consultant to model each possible measure
- Combined measures into packages with different foci
- Presented packages to water management and Public Advisory Committee

Process

- Created a new package using feedback
  - Focus on peak
  - Add programming for multifamily

- Put out for public comment
  - Social media
  - Website
  - In-person feedback (October 30, 2017)

Process

CUSTOMER SERVICE | PAY YOUR BILL | BOARD INFO | Search...

Water Home
For Your Home
For Your Business
Water Quality
Water Source

About Tacoma Water
- Water Management Team
- Tacoma Water History
- Jobs
- Water Rates
- Investor Relations
- Water Conservation Plan

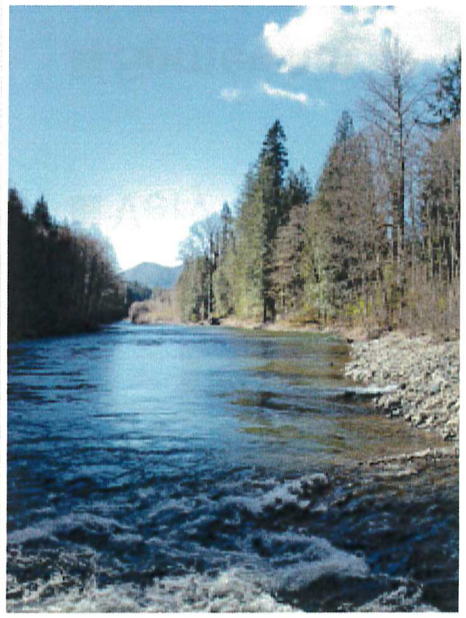
Contact Us

News & Publications

Home > About Tacoma Water > Water Conservation Plan

WATER CONSERVATION PLAN

Tacoma Water's Conservation Plan and Goal



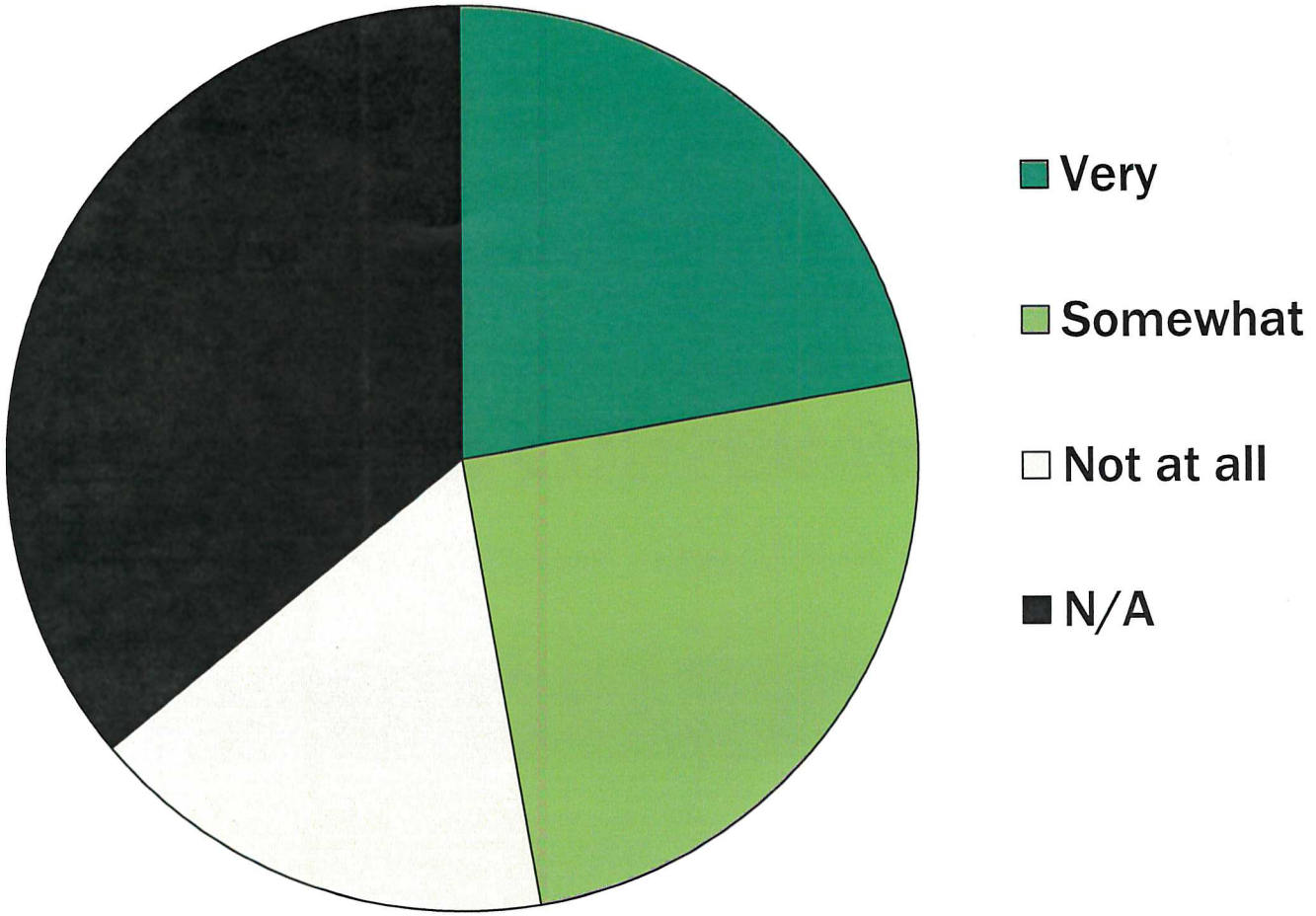
For more than 35 years, Tacoma Water has been committed to implementing an effective conservation plan as part of our overall water resource plan. While we are fortunate to have an abundant water supply, we recognize the importance of water as a vital resource for the prosperity of all life in the Puget Sound region.

This winter, Tacoma Water will be presenting water efficiency goals for 2018-2027 to the Public Utility Board. In preparation, we solicited feedback from our business and residential customers through a public meeting, an online survey, and written comments by mail to help shape and define our future efforts.

TACOMA WATER
TACOMA PUBLIC UTILITIES

Public feedback summary

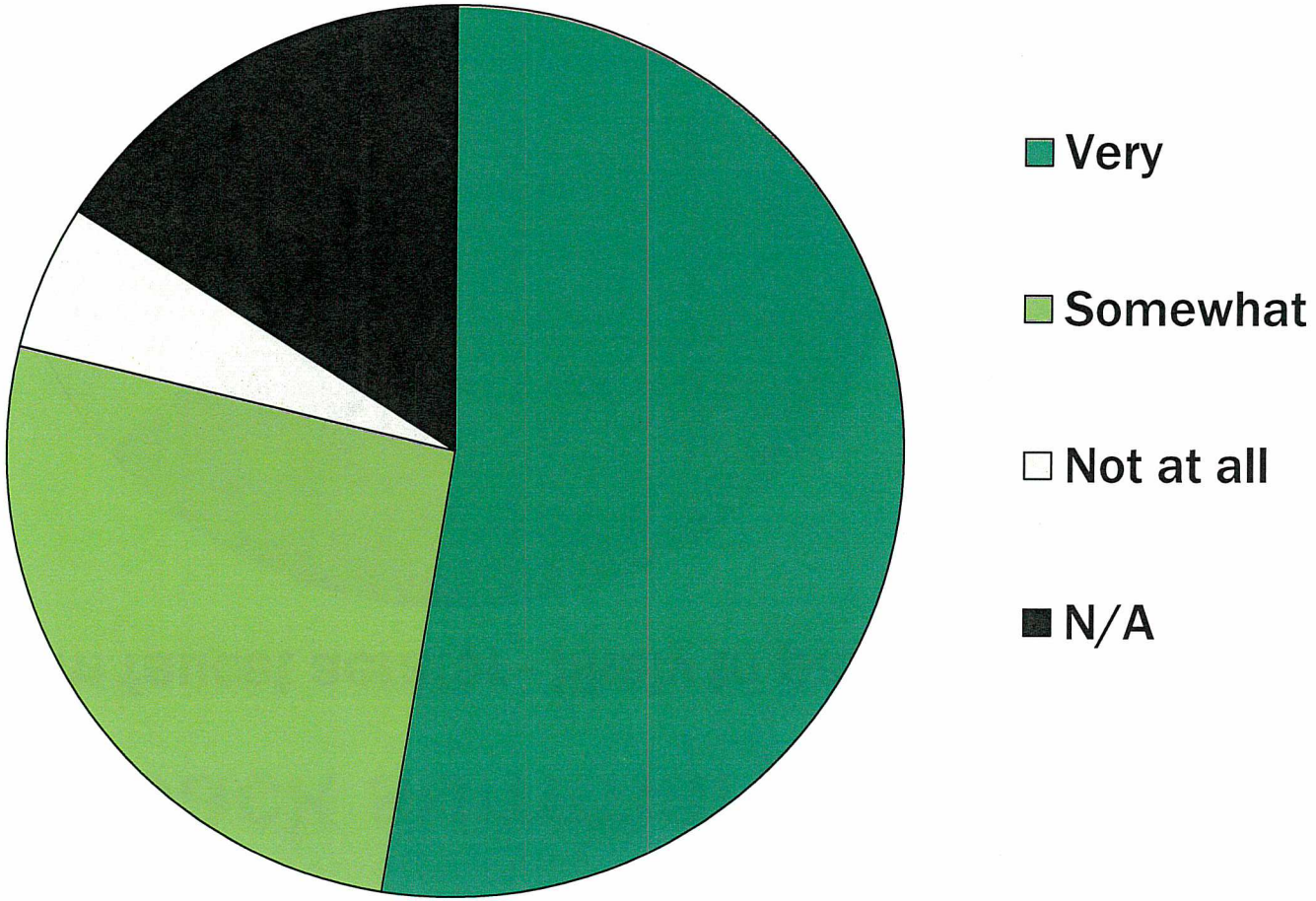
Irrigation controller rebate - likely to participate



TACOMA WATER
TACOMA PUBLIC UTILITIES

Public feedback summary

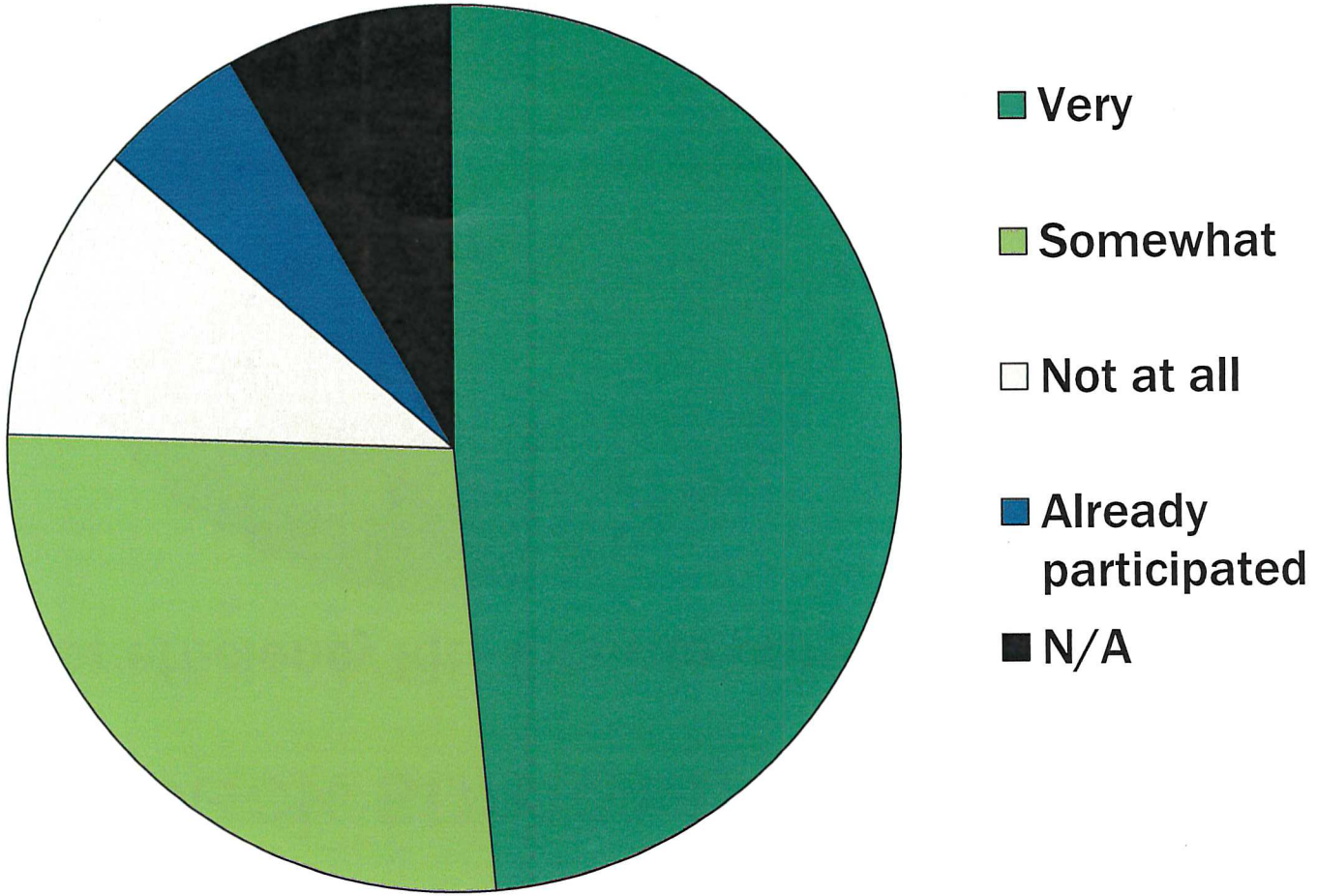
Outdoor efficiency kit - likely to participate



TACOMA WATER
TACOMA PUBLIC UTILITIES

Public feedback summary

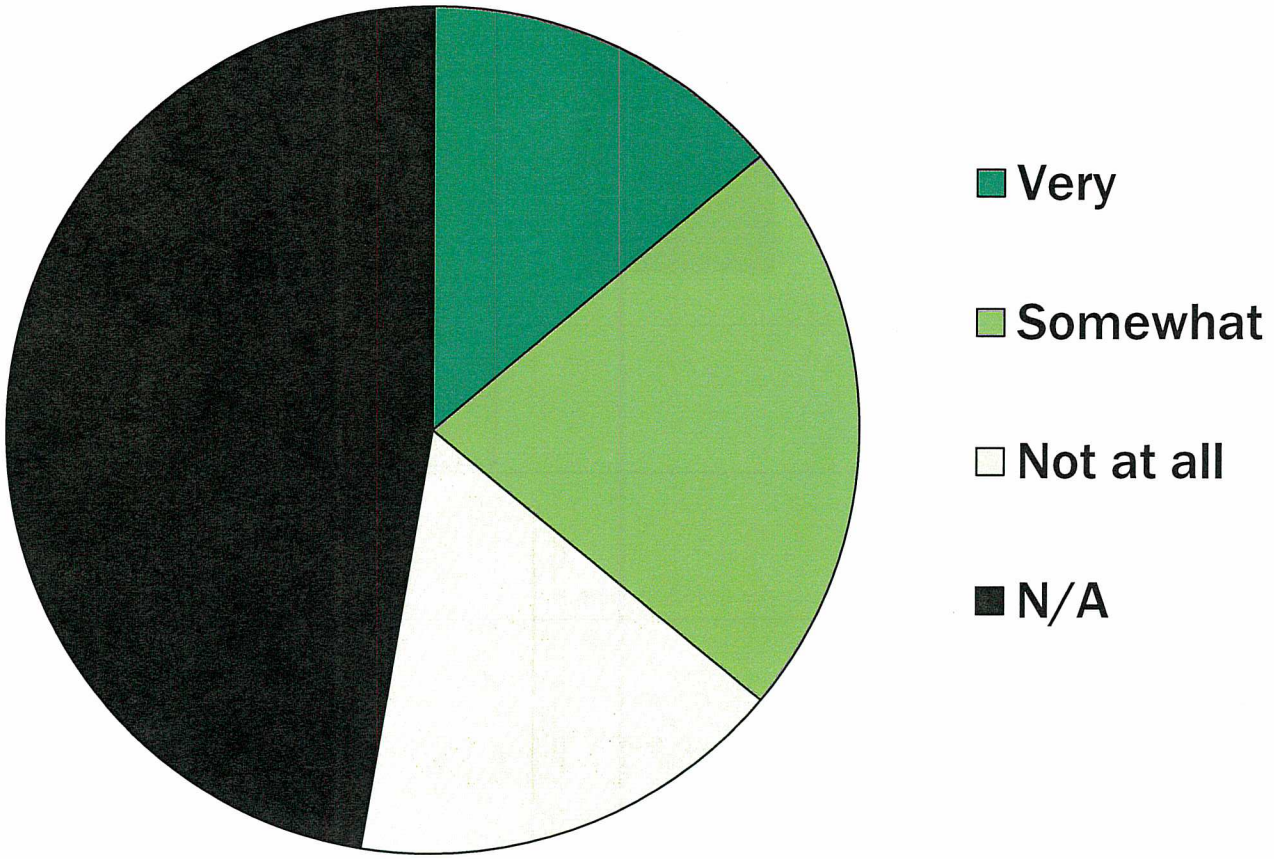
Bathroom faucet aerator - likely to participate



TACOMA WATER
TACOMA PUBLIC UTILITIES

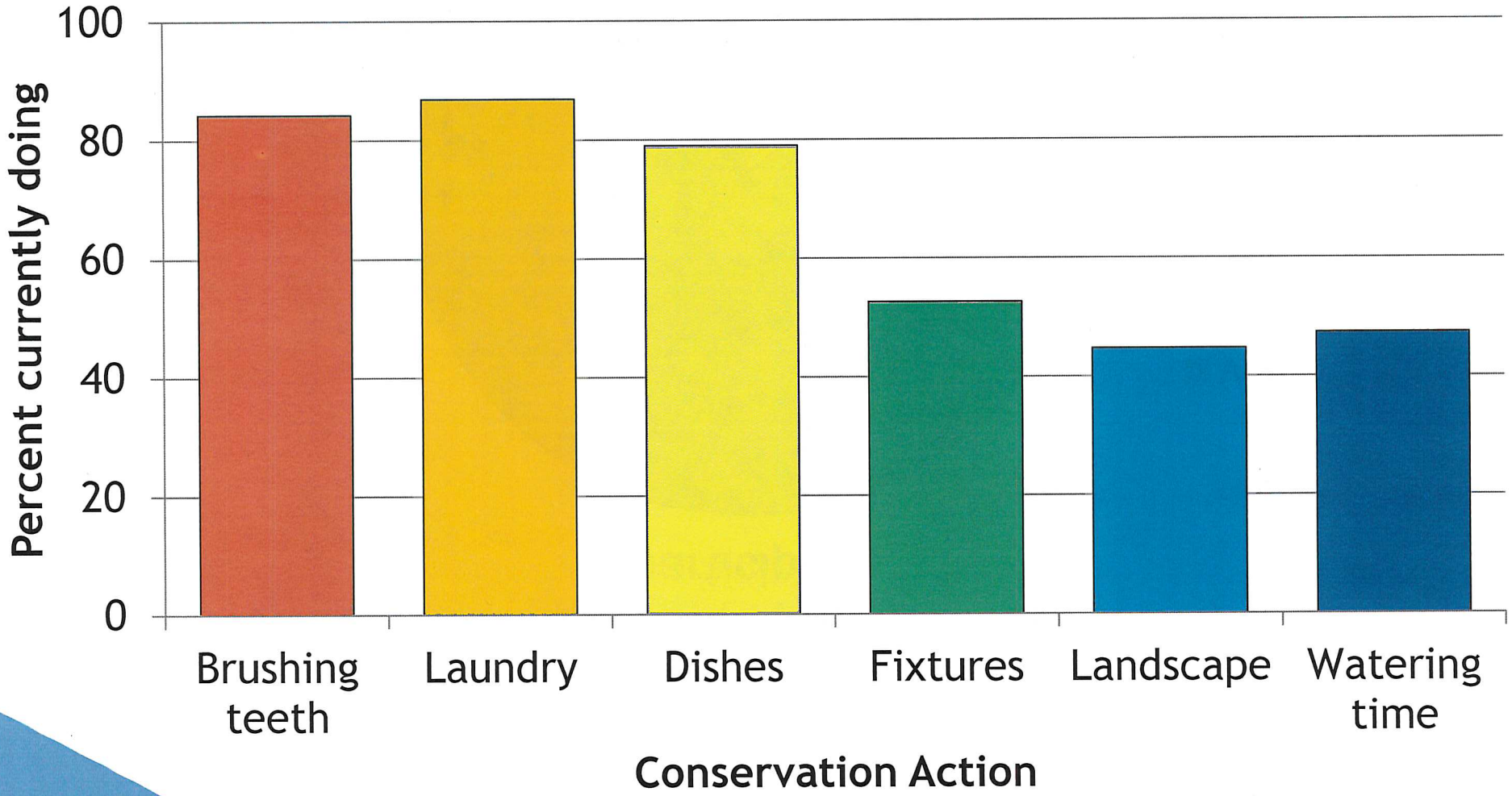
Public feedback summary

Commercial kitchen equipment rebate - likely to participate



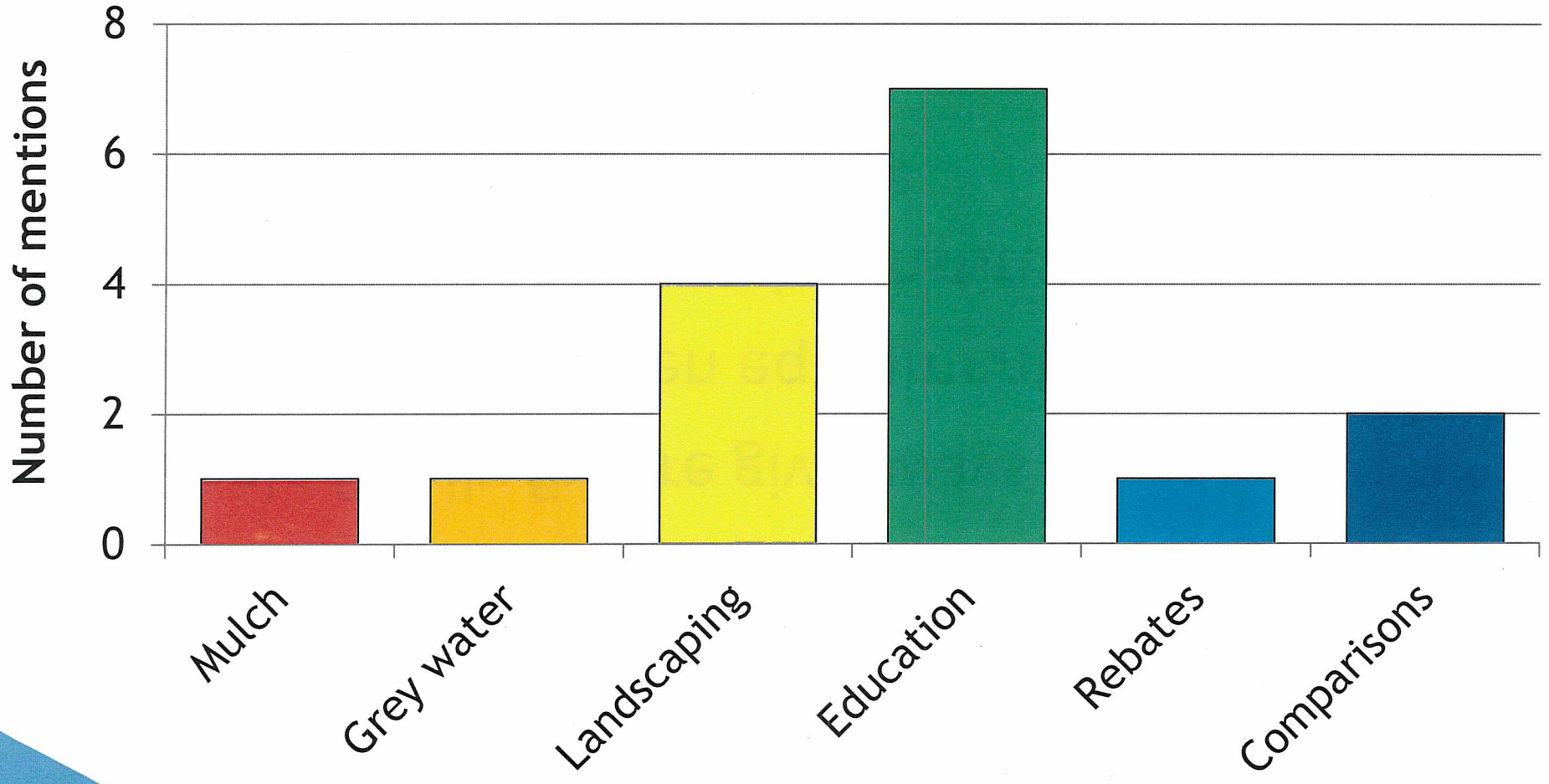
TACOMA WATER
TACOMA PUBLIC UTILITIES

Public feedback summary



TACOMA WATER
TACOMA PUBLIC UTILITIES

Public feedback summary



TACOMA WATER
TACOMA PUBLIC UTILITIES

Proposed plan – what we're keeping

Here are some things we're already doing:

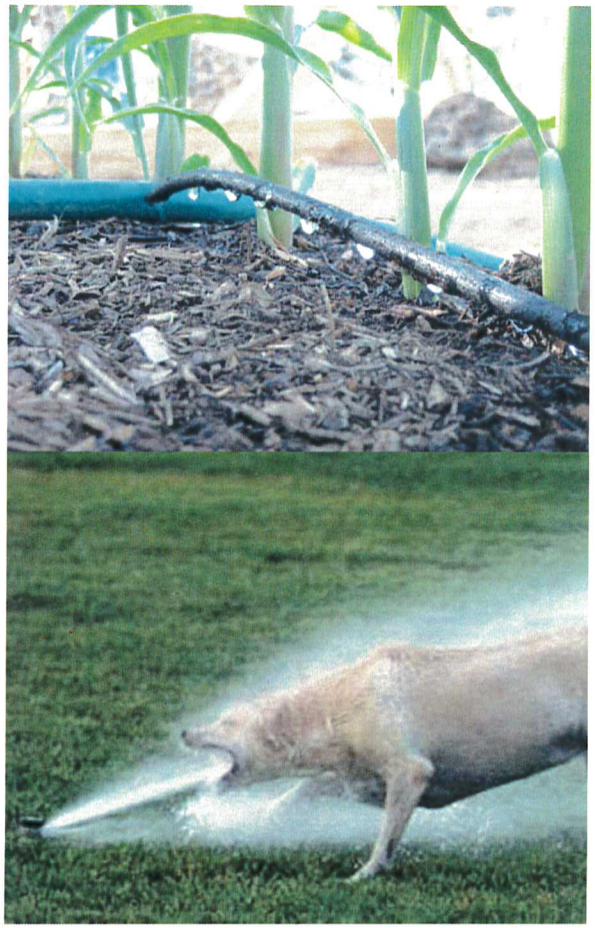
- Single family fixture giveaways
- Commercial kitchen equipment rebates
- Customized commercial, institutional, and industrial customer rebate
- Education and outreach

TACOMA WATER
TACOMA PUBLIC UTILITIES

Proposed plan – what's new?

Here are some things we're adding:

- Outdoor efficiency kit giveaways for residential customers (soil moisture sensor, rain gauge, hose timer)
- "Smart" irrigation controller rebates for all customers
- Irrigation audits for large commercial systems
- Increase in multifamily customer programs



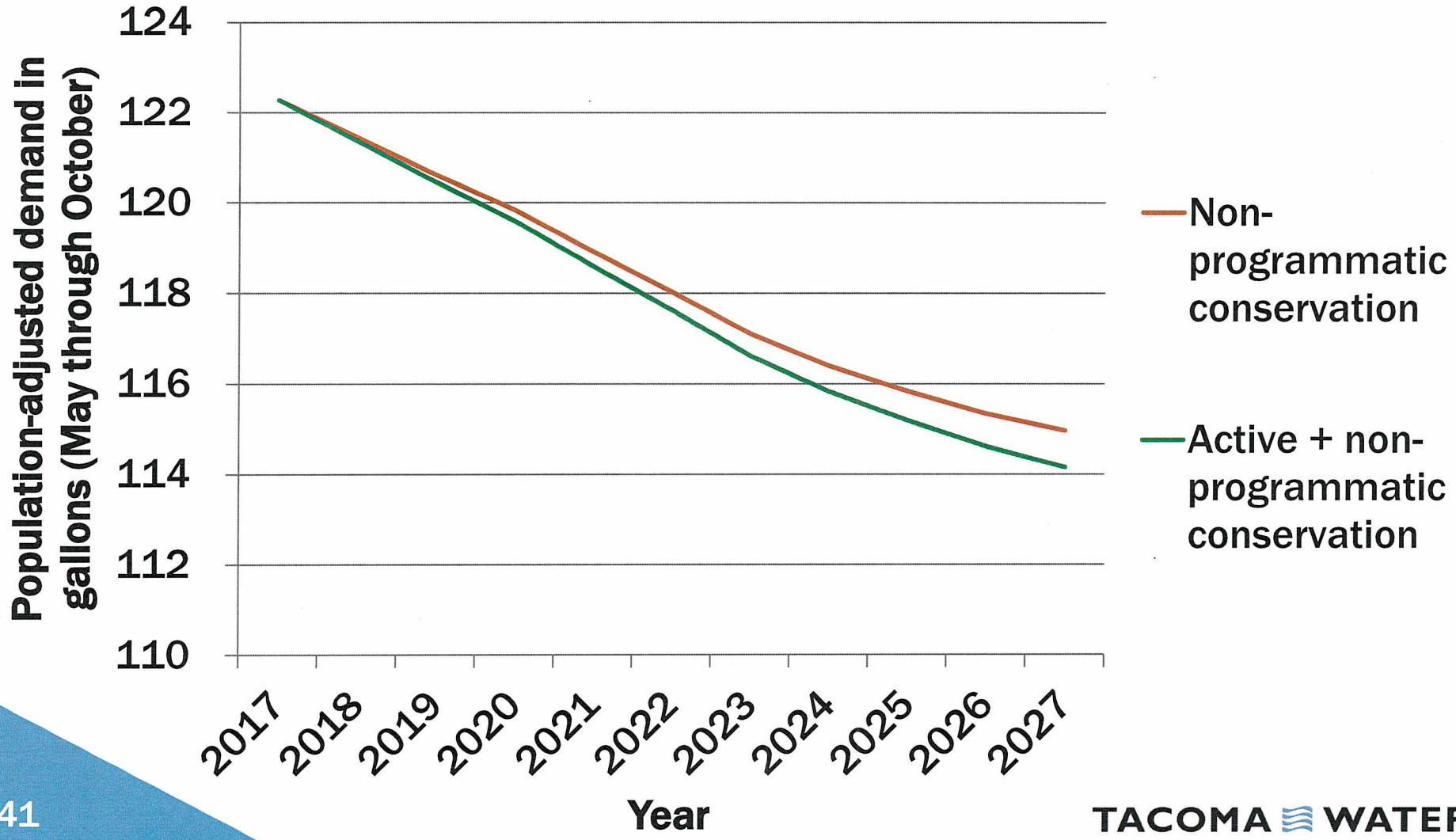
TACOMA WATER
TACOMA PUBLIC UTILITIES

Proposed goal

Proposed goal: 6.65% peak (May – October) reduction from 2018 to 2027

- Goal will be measured by dividing the water use of the system by our population
- 2017 will be used as the baseline year
- This includes all retail customers, except those using > 1 million gallons/day

Proposed goal



TACOMA WATER
TACOMA PUBLIC UTILITIES

Summary

- Goal was created iteratively using multiple forms of feedback
- Public feedback review did not require major changes to plan
- Next we seek PUB approval as part of the larger Water System Plan

Questions?

August 22, 2018 – anticipated PUB approval request for WSP & Conservation Plan and Goal

TACOMA WATER
TACOMA PUBLIC UTILITIES

TACOMA POWER | TACOMA WATER | TACOMA RAIL
TACOMA PUBLIC UTILITIES

City of Tacoma
Public Utility Board
Study Session

August 22, 2018
3:00 p.m.
Tacoma Public Utilities
3628 South 35th Street
Third Floor Conference Room

The Public Utility Board will hold a study session with staff to discuss the following:

Approximate Time	Topic	Presenter(s)
3:00 – 3:30	Customer Service: 2019/2020 Budget	Steve Hatcher, Customer Services Manager
3:35 – 4:05	TPU Workforce Connect Project Technology Project	Daniel Key, IT Director; Joe Tellez, Power Section Manager
4:15 – 5:00	Tacoma Water: Water Resource Planning: Water System Plan; Integrated Resource Plan	Heather Pennington, Deputy Water Superintendent; Chris McMeen, Deputy Water Superintendent; Glen George, Sr. Principal Engineer; Adam Gravley and Jenna Mandell-Rice of Van Ness Feldman
5:05 – 5:50	Executive Session to Discuss Pending and Potential Litigation (RCW 42.30.110(1)(i)	

Other topics may properly be brought before the Board.

Charleen Jacobs
Executive Assistant

The City of Tacoma does not discriminate on the basis of disability in any of its programs, activities, or services. To request this information in an alternative format or to request a reasonable accommodation, please contact the TPU Director's Office at 253-502-8201. TTY or speech to speech users please dial 711 to connect to Washington Relay services.

TACOMA WATER
TACOMA PUBLIC UTILITIES

Water Resource Planning

- Water System Plan
- Integrated Resource Plan

August 22, 2018

Today's Agenda

Water System Plan Update

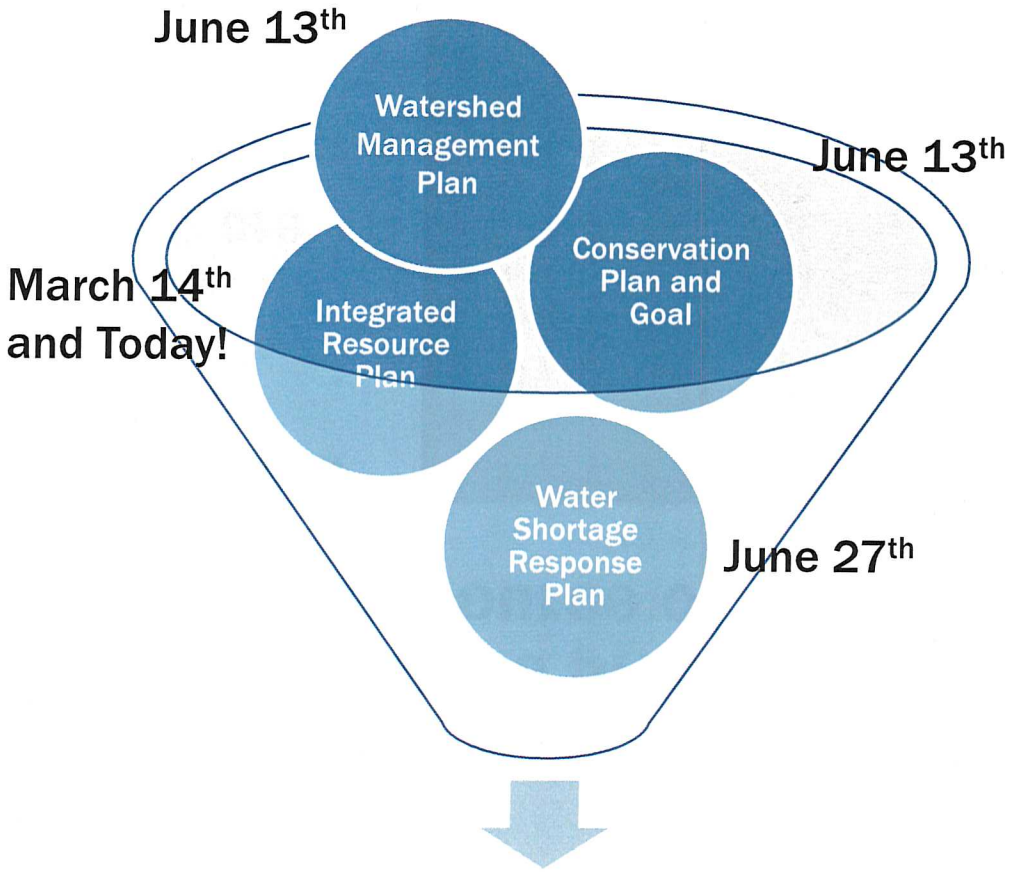
Integrated Resource Plan Results/Conclusions

- **Overview of Sources**
- **Overview of Modeling results**
- **Resource Performance**
- **Potential Solutions**

Additional Considerations

Next Steps

2018 Water System Plan –
collecting our planning in one place



2018 Water System Plan
September/October

TACOMA WATER
TACOMA PUBLIC UTILITIES

Overview of Existing Sources –
Green River System

The Green River is Tacoma's primary water source. In recent years, it is the source of 95% of our water.

- Tacoma has two water rights on the Green River
- Both water rights are constrained to ensure adequate minimum instream flows

TACOMA WATER DIVERSION DAM AND INTAKE

Overview of Existing Sources – Green River System

North Fork Wells

Eagle Gorge Reservoir

Held empty in Winter
Filling in Spring
Emptying in summer

HHD

GRFF

Green River Filtration Facility (GRFF)

To Municipal Water System

Palmer Measurement Point

P

GREEN

A

RIVER

Auburn Measurement Point; Must maintain greater than 250 cubic feet per second

To Duwamish River

Stored water is released:

- To augment river flows for fish
- To be used as drinking water

HHD = Howard Hanson Dam

TACOMA WATER
TACOMA PUBLIC UTILITIES

Overview of Existing Sources -
Groundwater

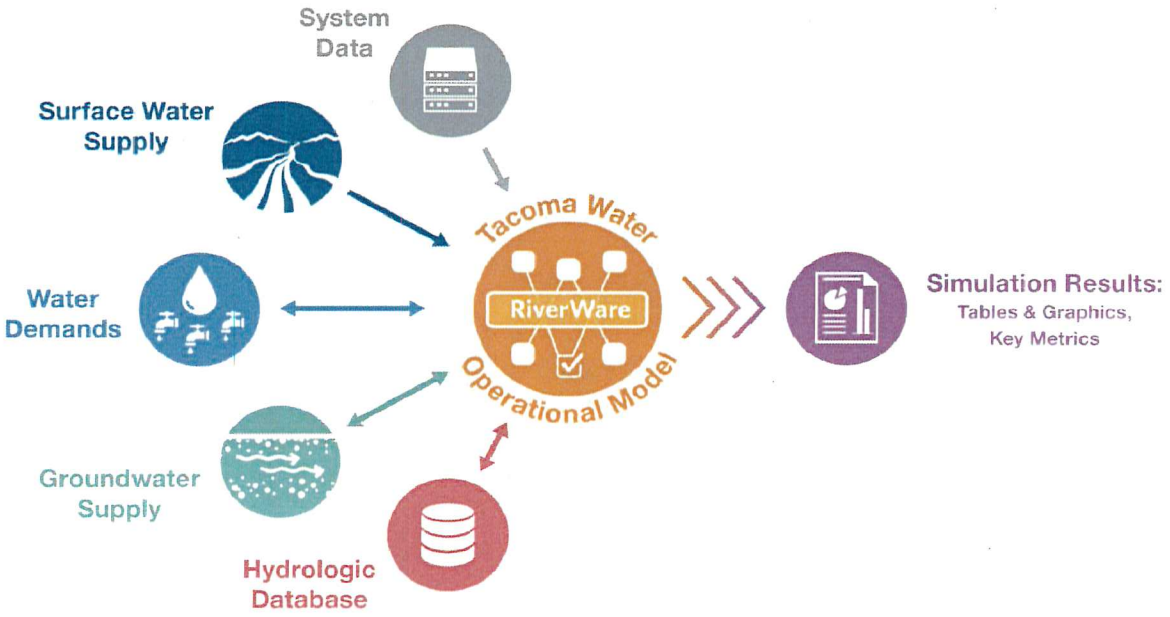
- 55 MGD of installed capacity /~40 MGD currently reliably available
- Aquifer in South Tacoma is a key component
- Normally ~5% of supply
- Can provide up to 40-50% of summer demand
- Drought resilient

MGD = Millions of Gallons per Day

TACOMA WATER
TACOMA PUBLIC UTILITIES

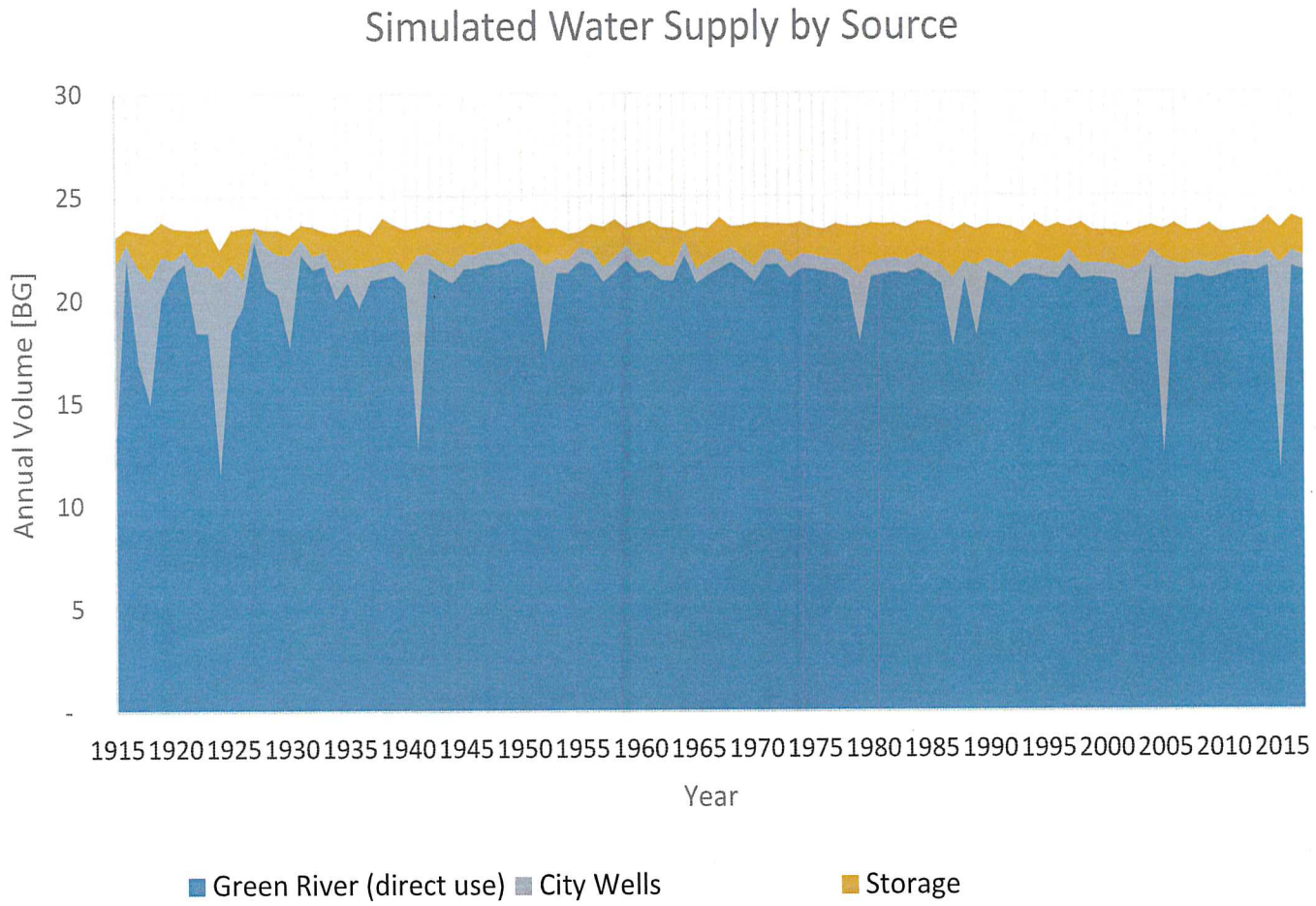
Overview of Modeling Results

- Performance of existing sources
- Impacts of climate change
- Resource Adequacy Standard
- Future scenarios evaluated
- Firm Yield vs demand forecast



Existing Resource Performance - Past

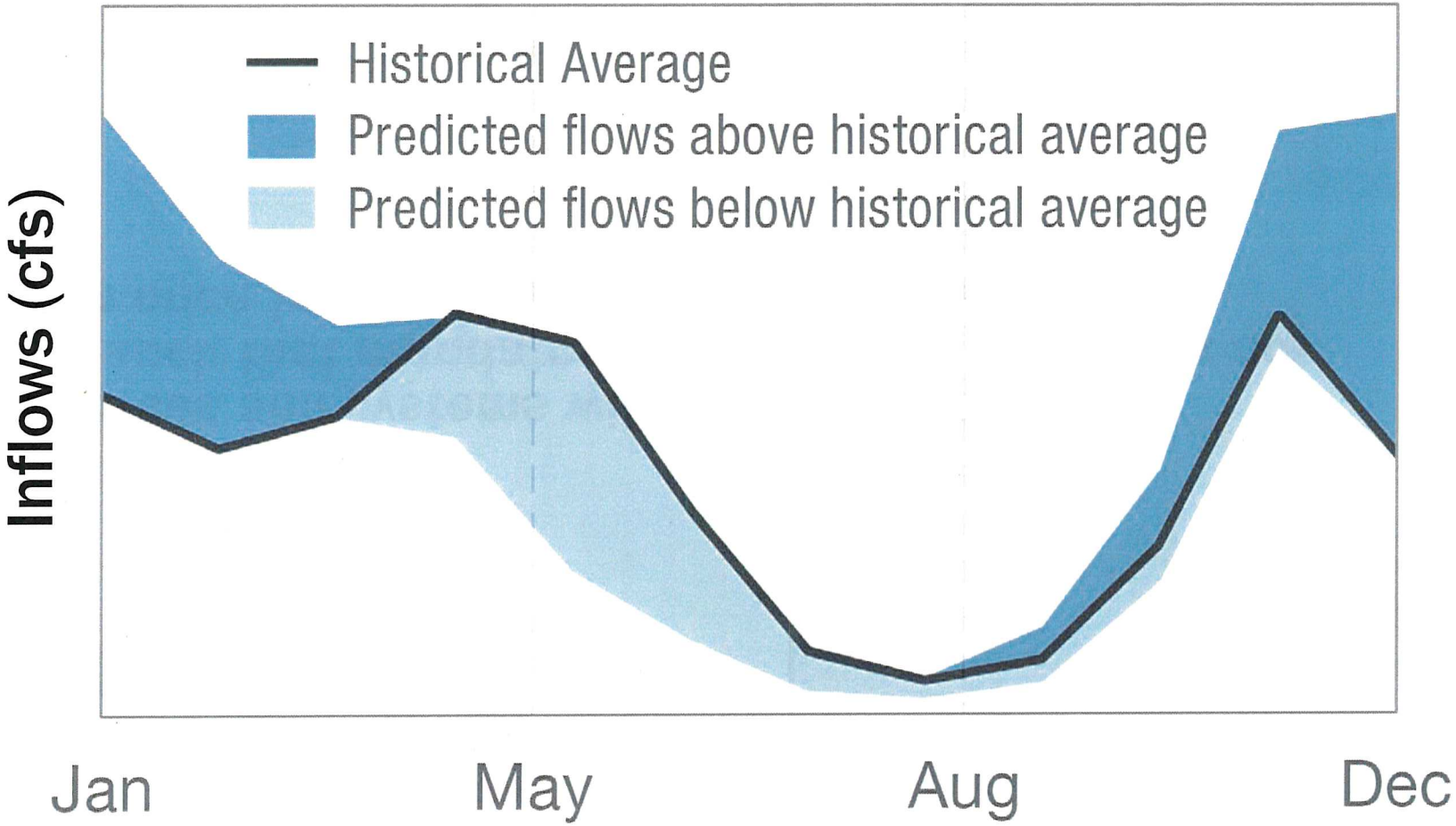
zero curtailments in this simulation



TACOMA WATER
TACOMA PUBLIC UTILITIES

Impacts of Climate Change - 2050

Average Monthly Simulated Inflows – Eagle Gorge Reservoir



cfs = Cubic Feet per Second

TACOMA WATER
TACOMA PUBLIC UTILITIES

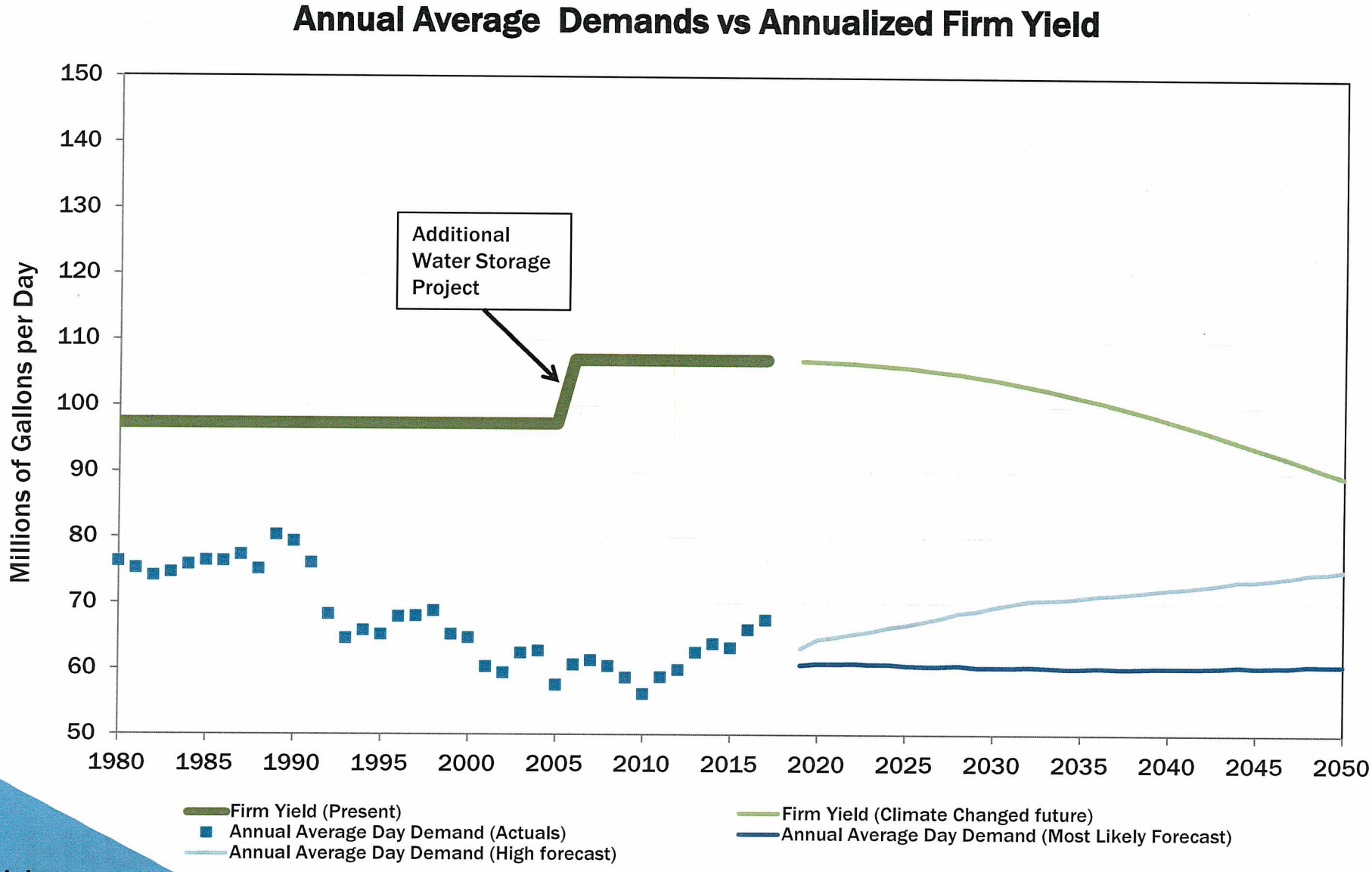
Resource Adequacy Standard (RAS)

Presented at March 11, 2018 Public Utility Board Study Session:

Policy Decision

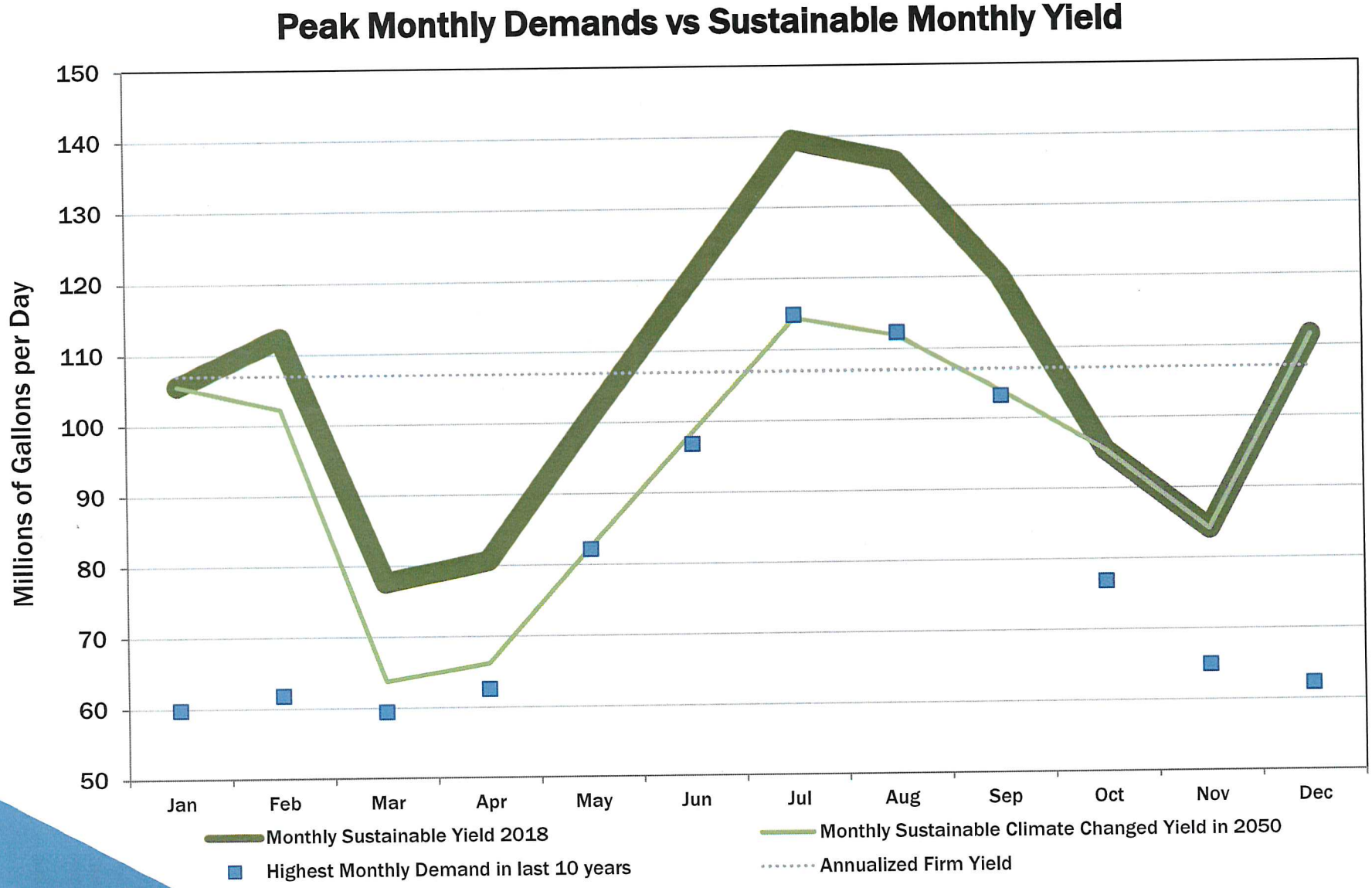
Water sources and systems will be sufficient to meet demands such that mandatory curtailments will occur not more than once in 25 years, as a long term average.

Firm Yield



TACOMA WATER
TACOMA PUBLIC UTILITIES

Firm Yield



TACOMA WATER
TACOMA PUBLIC UTILITIES

Scenarios Evaluated

Least-Stressed

- ✓Improved technologies
- ✓Water conservation

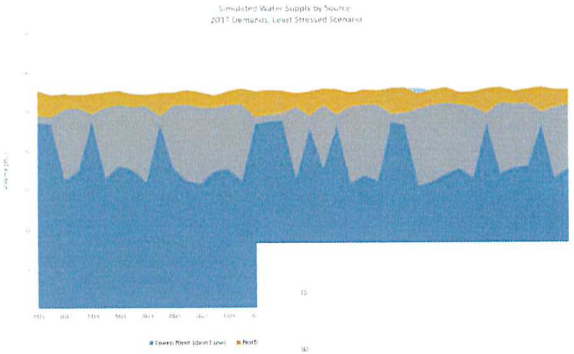
Most Likely

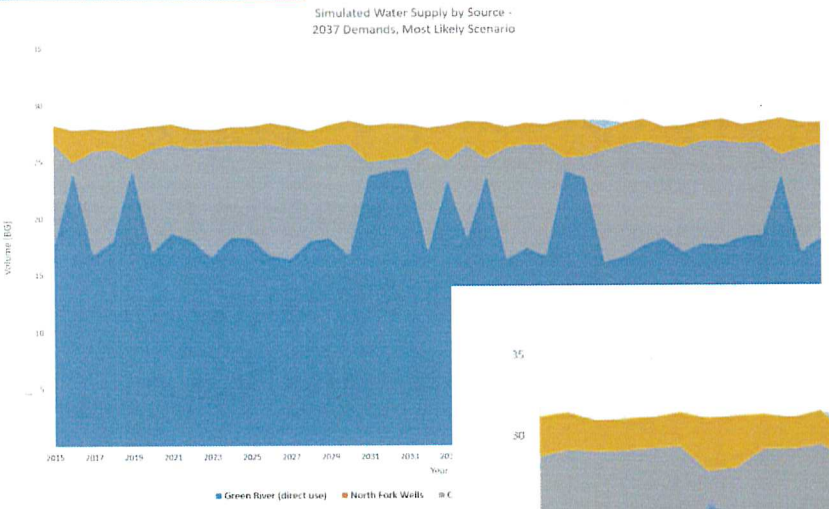
- ✓Continues demands, growth trends
- ✓Climate change is moderate but accelerates

Most-Stressed

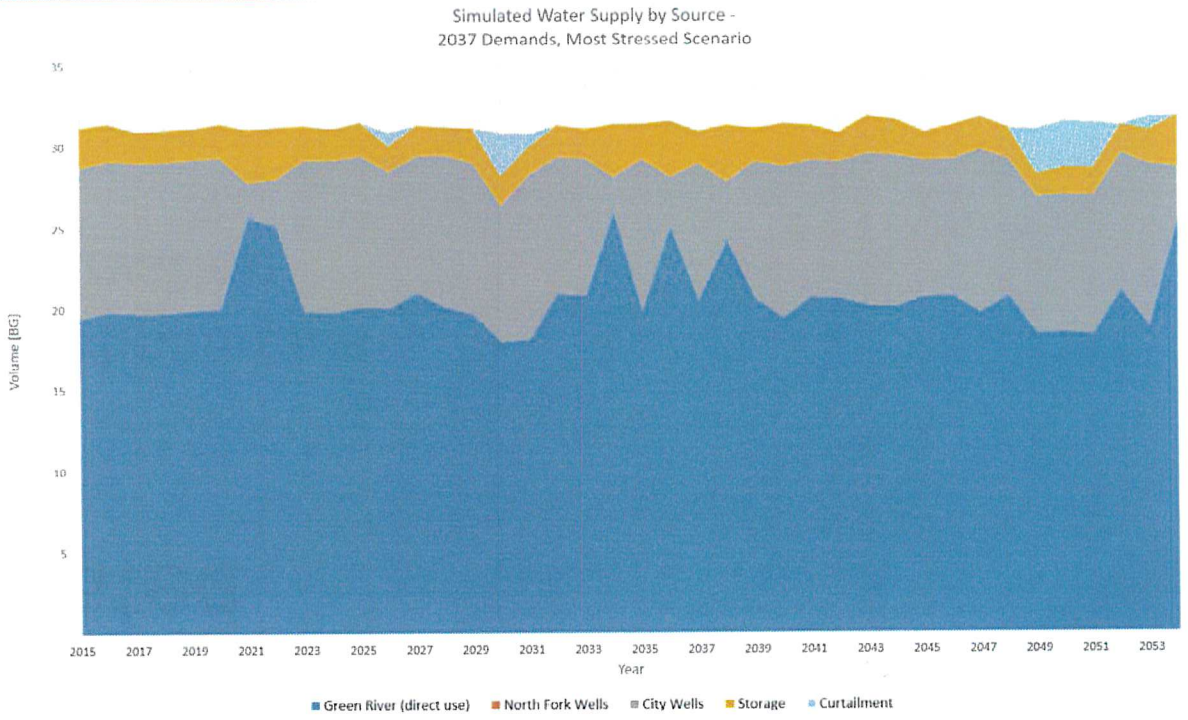
- ✓Higher demands due to increased economic activity
- ✓Climate change is hotter and drier

Existing Resource Performance - Future





Available Supplies, as a function of Scenario – Good performance for all but Most-Stressed Scenario



Existing Resource Performance - Future

- System is robust except when in the Most-Stressed Scenario
- Only Most-Stressed Scenario does not meet RAS
- Responsibility to be prepared should Most-Stressed Scenario occur

RAS = Resource Adequacy Standard

2037 results 2050 results

	Least-Stressed	Most-Likely	Most-Stressed
Number of voluntary curtailments *(out of 25 years)*	<1	<1	2
	3	2	5
Number of mandatory curtailments *(out of 25 years)*	0	0	3
	0	<1	5
Is the RAS met?	Yes	Yes	No
	Yes	Yes	No
Percent of groundwater rights utilized	50%	55%	60%
	60%	60%	70%

Number of curtailments represents the long-term average, standardized to the expected frequency in any 25-year period.

TACOMA WATER
TACOMA PUBLIC UTILITIES

Potential Solutions – Most-Stressed Scenario

- Additional Water Storage Project Phase 1 (AWSP1) – Complete phase 1 to receive up to 10,000 Acre-feet
- Aggressive Peak Shaving – Reduce summer peak demand in hot and dry years
- Develop Groundwater – Enhance pumping capacity of well fields
- Additional Water Storage Project Phase 2 (AWSP2)– Raise Eagle Gorge Reservoir an additional 10 feet
- Oasis – Aquifer Storage and Recovery (ASR)

Potential Solutions – Most-Stressed Scenario

Number of mandatory curtailments is improved to meet the RAS in each of the proposed solutions

- **Potential for curtailments reduced**
- **Analyze and prioritize**
- **Uncertainties**

2037 results 2050 results

	Current Sources	OASIS	AWSP Phase 1 (Howard Hanson Fish Passage)	AWSP Phase 2 (Reservoir Pool Raise)	Develop Full Groundwater Rights	Aggressive Peak Shaving
Number of voluntary curtailments (out of 25 years)	2	4	2	2	<1	<1
	5	2	5	5	2	2
Number of mandatory curtailments (out of 25 years)	3	<1	<1	<1	0	0
	5	4	<1	<1	0	0
Is the RAS met?	No	Yes	Yes	Yes	Yes	Yes
	No	No	Yes	Yes	Yes	Yes
Percent of groundwater rights utilized	60%	60%	60%	60%	75%	55%
	70%	70%	70%	70%	95%	67%

RAS = Resource Adequacy Standard

TACOMA WATER
TACOMA PUBLIC UTILITIES

Additional Considerations

- Fish Passage Facility completion and funding (Additional Water Storage Projects Phase 1 and Phase 2)
- Groundwater resources in an urban environment
- Water rights – complex and changing

Green River Water Rights

First Diversion Water Right ("FDWR")

- Statement of Claim
- Tacoma filed in 1971 (based on 1906 and 1908 priority dates)
- Point of Diversion: Headworks

Second Diversion Water Right ("SDWR")

- Permit issued in 1986 (1933 priority date)
- Development schedule (next milestone: 2021)
- Point of Diversion: Headworks

Types of Water Rights

Permits & Certificates:

- Issued by Dep't of Ecology
- Pursuant to the "Water Code" (i.e., state legislation)
- 1917 surface water / 1945 ground water
- Permit is a water allocation under development
- Certificate documents a vested property right.

Claims:

- Assertion of vested right predating Water Code
- Statements of claim required by 1967 law
- Ecology accepts for recording, but not approved or confirmed in substance.

Department of Ecology -
Water Right Permit Process

- **Application**
- **Permit**
- **Development Schedule**
  1. **Start Construction**
  2. **Complete Construction**
  3. **Put Water to Full Use**
     → **or request extension of time**
- **Proof of Appropriation**
- **Certificate**

2003 Municipal Water Law ("MWL")

- Before 2003, law was not clear about how to vest (or "perfect") a municipal purpose water right
- 2003 MWL clarified that actual "beneficial use" of water required
- Certificates now issue with quantities put to actual use

Restrictions and Factors as to "Beneficial Use" of Green River Water

- Water rights terms and conditions imposed by Dep't of Ecology
- Agreement with Muckleshoot Indian Tribe (1995)
- Project Cooperation Agreement with US Army Corps of Engineers (2000)
- Habitat Conservation Plan (2001)
- Regional Water Supply System (2002) – RWSS Partnership

Overview of Partnership Agreement

- Tacoma is the owner and operator of the Second Supply Project (SSP)
- Tacoma has a 15/36 share; Kent, Covington and Lakehaven each have 7/36 Shares in the Second Supply Project
- Decisions are made by vote of the Project Committee
- Each Partner has paid for rights to use its share of the available Second Diversion Water Right, including water stored in the Eagle Gorge Reservoir
- Investment from the three Partners since 2005 has been $196 for capital facilities, and $20 for O&M

Next Steps

- Finalize Planning Documents
- Ongoing Public Education
- Develop strategies and outreach communication plan for Aggressive Peak Shaving
- Continued engagement with Federal Agencies & the congressional delegation to complete Additional Water Supply Project Phase I
- Further Evaluation of Supply solutions, including prioritizing groundwater improvements

City of Tacoma
City Council Study Session Agenda

733 Market Street, Tacoma WA 98402

Conference Room 16

November 20, 2018

12:00 PM

Call to Order

Briefing Items

1. **18-1373** 2019/2020 Neighborhood and Community Services Contracts

2. **18-1374** Tacoma Water's Integrated Resource Plan

3. **18-1375** Workforce Connect Project

Other Items of Interest

4. **18-1376** Council Consideration Request - Funding for 6th Avenue Santa Parade Traffic Control Devices

   Attachments: CCR Santa Parade traffic control devices

5. **18-1377** Council Consideration Request - Supporting Human Rights for Immigrants and Refugees

   Attachments: CCR Human Rights ImmigrantsRefugees

Committee Reports

Agenda Review and City Manager's Weekly Report

6. **18-1380** Weekly Report to the City Council, November 15, 2018

   Attachments: November 15, 2018

Adjournment

The City Council may enter into a closed or executive session at any time during an open public meeting as provided by law.

The City of Tacoma does not discriminate on the basis of disability in any of its programs, activities, or services. To request this information in an alternative format or to request a reasonable accommodation, please contact the City Clerk's Office at (253) 591-5505. TTY or speech to speech users please dial 711 to connect to Washington Relay Services.

Water System Planning

City of Tacoma | Department of Public Utilities – Water Division

City Council Study Session

November 20, 2018

ITEM #1

5 Water System Documents Updated

Water System Plan

- Overall summary of work throughout the utility

Watershed Management Plan

- Protection of land in the watershed

Water Conservation Plan

- Ongoing measures to reduce demand

Integrated Resource Plan

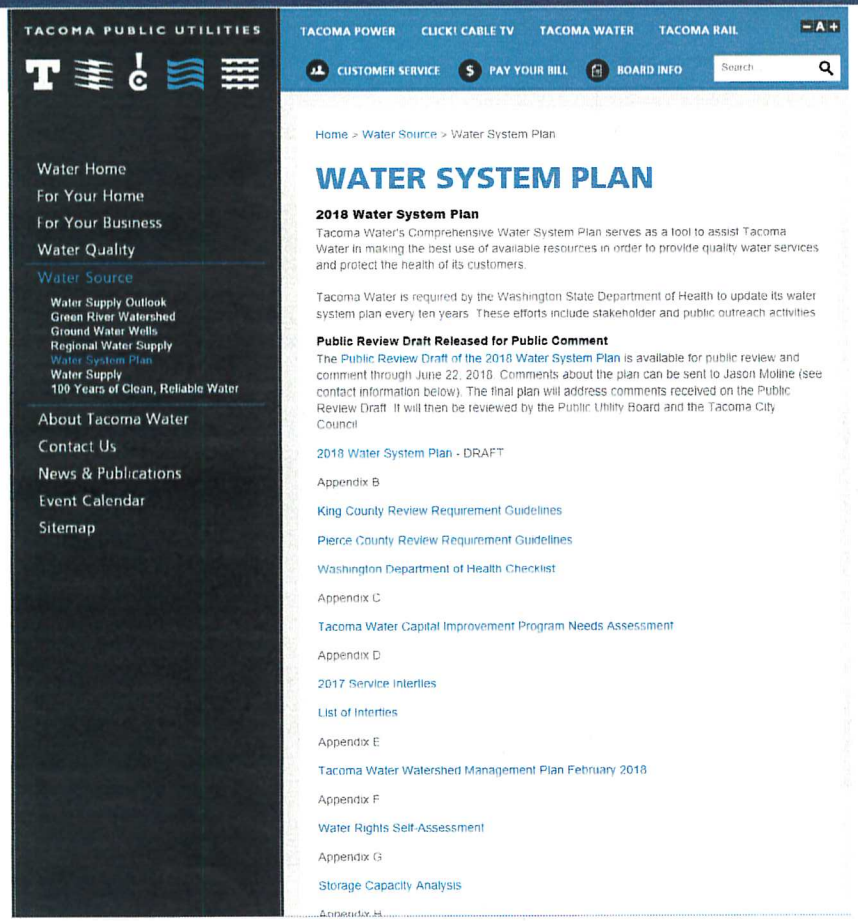
- Supply and demand analysis through year 2050

Water Shortage Response Plan

- Temporary measures implemented during a drought

2018 Water System Plan

BACKGROUND



- myTPU.org/watersystemplan

Major Plan Enhancements

WAC 246-290-100

- Demonstrates the system's capability to meet service levels in compliance with regulations;
- Demonstrate how the system will meet present and future needs;
- Establish eligibility for certain funding opportunities

Sync to Common 10-year Cycle

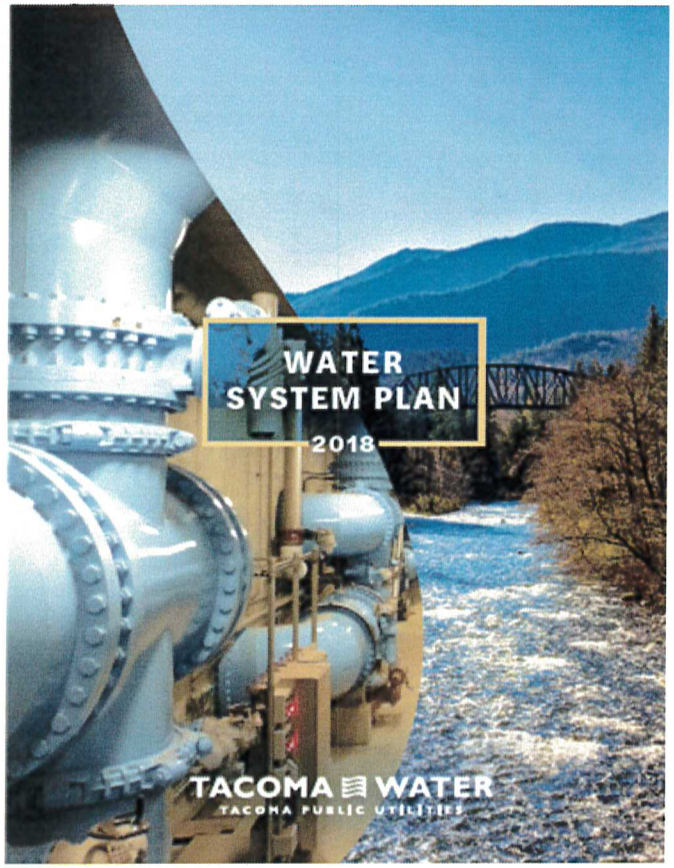
Water System Plan

- 2018 - 2027

Conservation Plan and Goal

- 2018 - 2027

Chapter Overview



- 12 Chapters providing overview of the planning work we already do
- Referencing and appending existing plans – not rewriting
- Result – a useful compilation rather than a plan for regulatory purposes

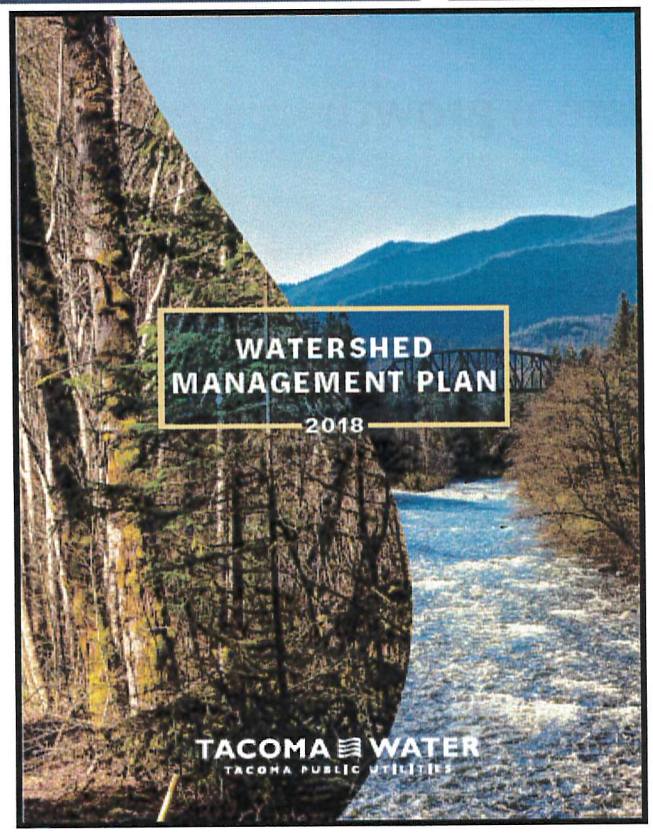
Key Changes

- Infrastructure
- Program Advancement
- Tools

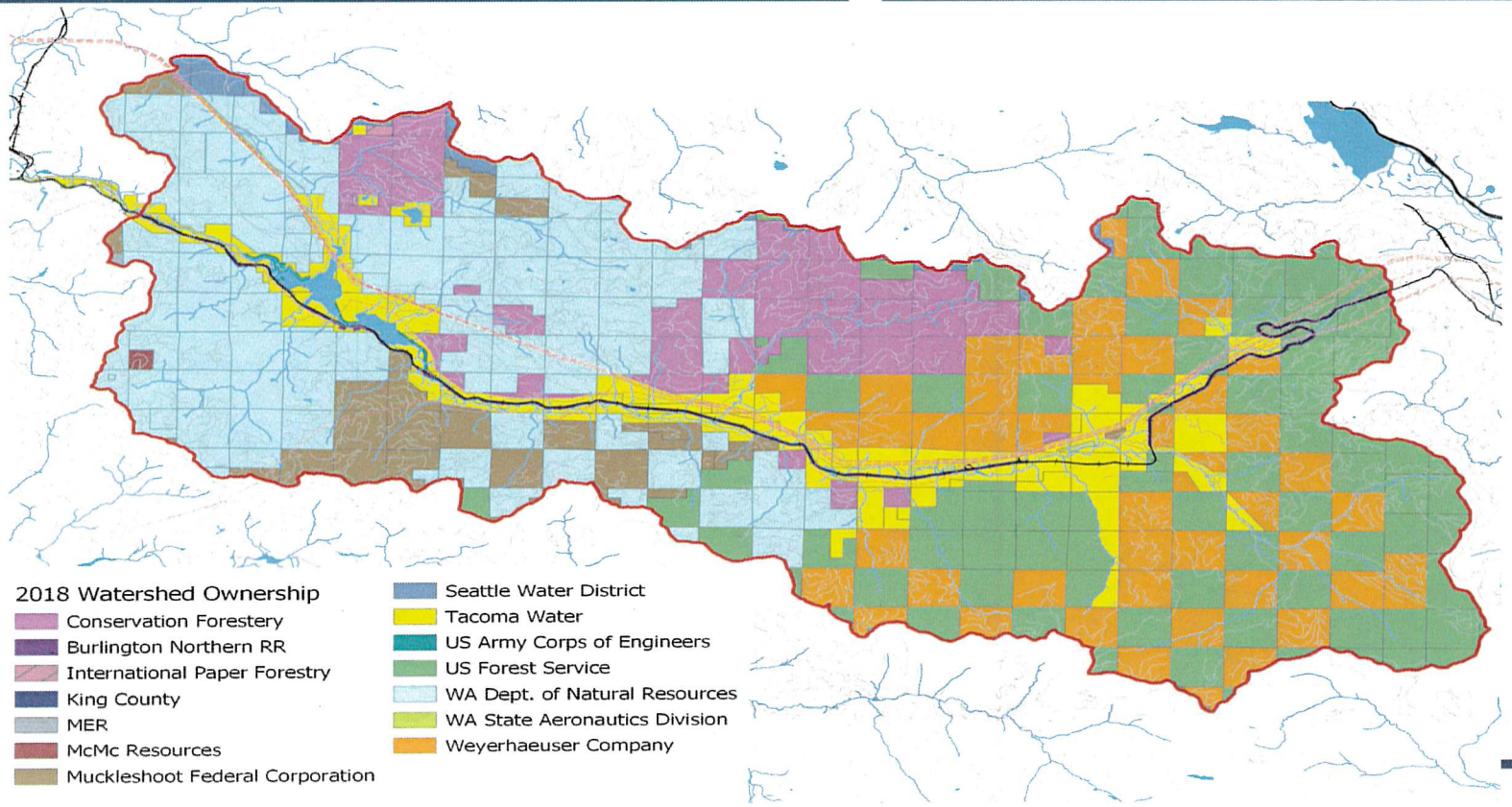
Looking to the Future

- Areas of new system growth
- Existing aging infrastructure
- Continue to ensure high quality water
- All hazards vulnerability

Watershed Management Plan

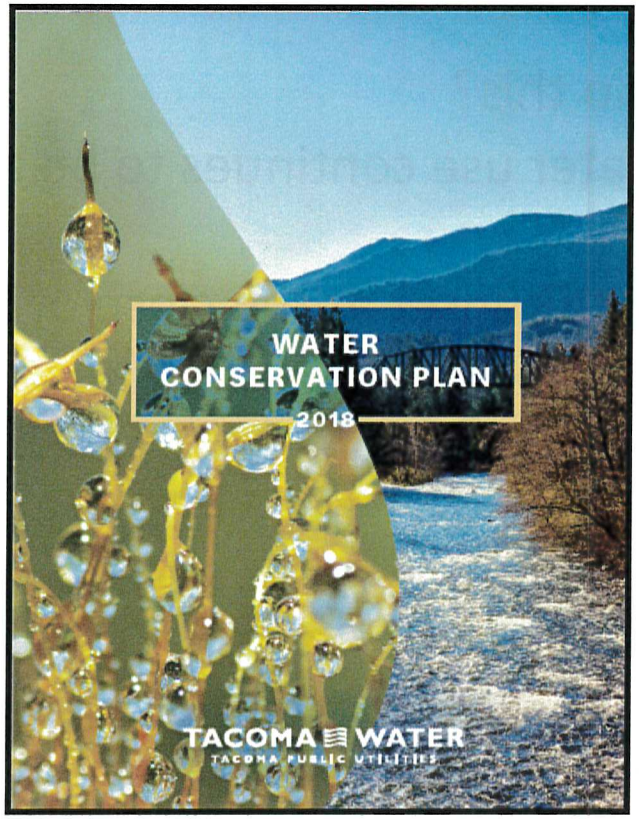


Watershed Management Plan



Maintain a Closed Watershed

Water Conservation Plan



Water Conservation Plan

What drove us to do this?

- Sustainable water use continues to be a high priority
- Our current goal sunset at the close of 2017
- New goal and a new plan to meet it

Process

- Worked with consultant to model each possible measure
- Combined measures into packages with different foci
- Presented packages to water management and Public Advisory Committee

Process

Created a new package using feedback

- Focus on peak
- Add programming for multifamily

Put out for public comment

- Social media and website
- In-person feedback (October 30, 2017)

Goal was created iteratively using multiple forms of feedback

Public feedback review did not require major changes to plan

What We're Keeping

Here are some things we're already doing:

- Single family fixture giveaways
- Commercial kitchen equipment rebates
- Customized commercial, institutional, and industrial customer rebate
- Education and outreach

What's New?

Here are some things we're adding:

- Outdoor efficiency kit giveaways for residential customers (soil moisture sensor, rain gauge, hose timer)
- "Smart" irrigation controller rebates for all customers
- Irrigation audits for large commercial systems
- Increase in multifamily customer programs

201718 Conservation Goal

Goal: 6.65% peak (May – October) reduction

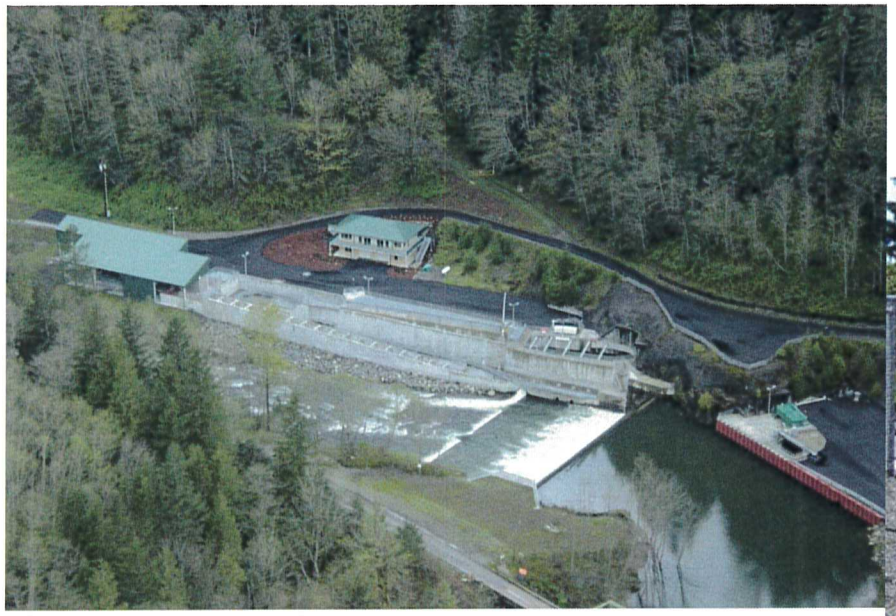
Goal will be measured by dividing the water use of the system by our population

- 2017 will be used as the baseline year
- This includes all retail customers, except those using > 1 million gallons/day

Integrated Resource Plan- Why Now?

- Water Supply System Changes
- Surplus water sales
- Supply-side questions & concerns that have emerged
- Demands have declined 30-35% (1980's to present)

A Diverse Water Supply Portfolio



Outreach-Public Advisory Committee

Brought together a group representing a wide range of perspectives to guide the Integrated Resource Plan.

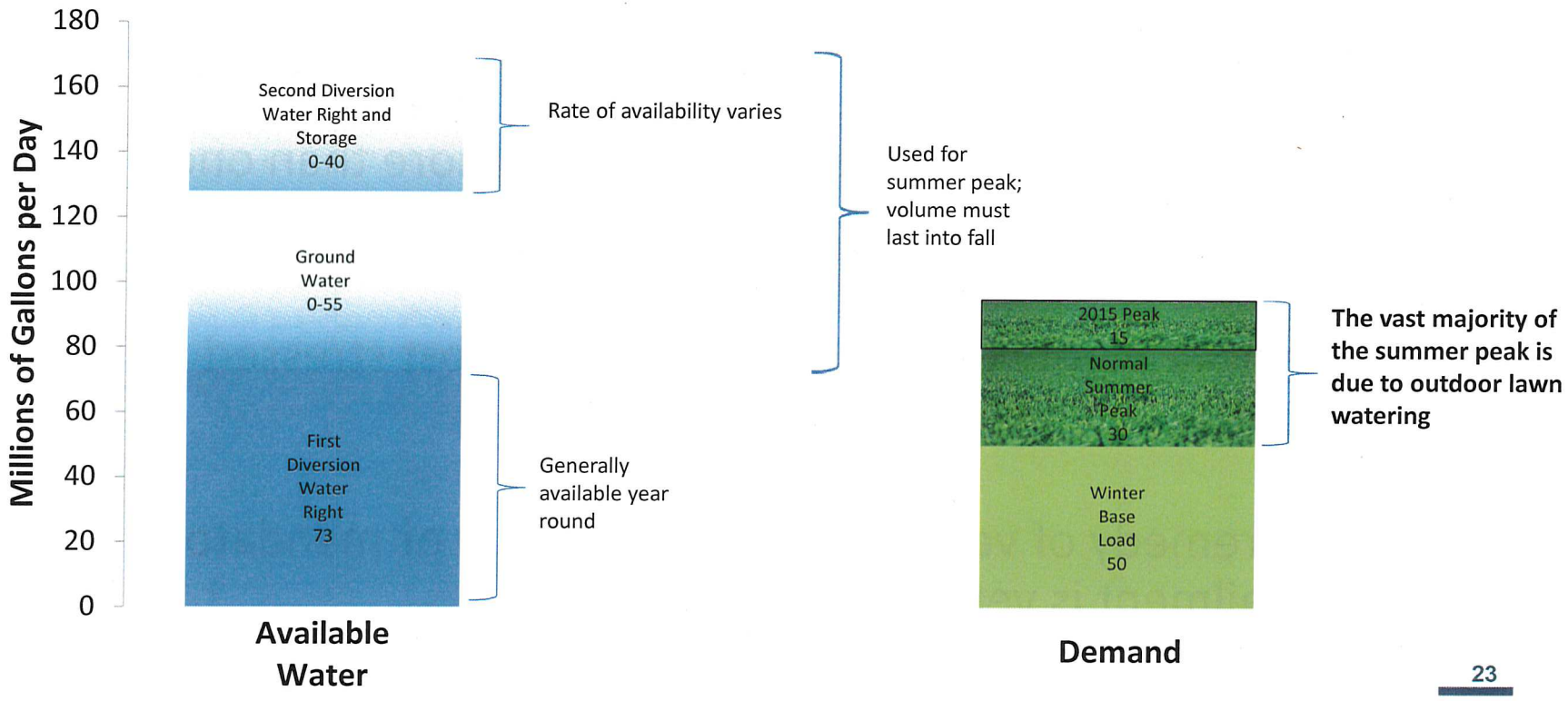
Goals for Public Advisory Committee engagement:

- Increase awareness of supply and demand dynamics
- Solicit informed perspectives on a number of topics
- Increase awareness of current and future management strategies
- Solicit informed perspectives on future investment in conservation

5 meetings

- Conservation program alternatives
- Future resource alternatives
- Resource adequacy standard
- Develop future scenarios

Summary Comparison



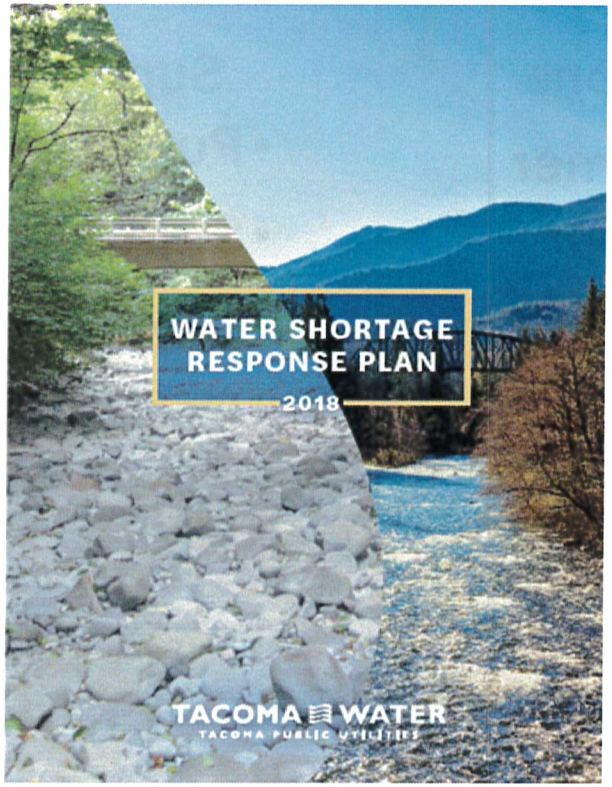
IRP Conclusions

- Resource Adequacy Standard: Water sources and systems will be sufficient to meet demands such that mandatory curtailments will occur not more than once in 25 years, as a long term average

- We have plenty of water in all but the most stressed situations (which don't occur very often)

- The remedy of very infrequent voluntary or mandatory curtailment is very effective mitigation.

Water Shortage Response Plan



Water Shortage Response Plan

Demand Side Solutions

- Limit peak summer demand – outdoor irrigation and lawn watering

Supply Side Solutions

- Pump Eagle Lake
- Start seldom-used wells
- Buy from neighbors
- Request Partner storage

Water Shortage Response Plan

- The revised plan builds on strong regional collaboration.
- A four stage process provides a step-wise approach to conditions as they naturally evolve.
- The plan is a tool to optimally plan for and meet customer demands in an uncertain natural environment; its use represents prudent utility planning and operation.

Next Steps

- Complete publishing of Final documents
- Approval by the Public Utility Board and City Council
- Regulatory Agency approval
- Implement the plans
- Continue public engagement and outreach

Water System Planning

City of Tacoma | Department of Public Utilities – Water Division

City Council Study Session
November 20, 2018
ITEM #1