



Integrated Resource Plan

City of Tacoma | Department of Public Utilities, Water Division

Infrastructure, Planning and Sustainability
June 13, 2018

OVERVIEW



- Integrated Resource Planning Process (IRP)
- Water sources background
- Outreach – Public Advisory Committee
- Development of Yield Model, with climate change
- Conservation Program Update
- Water Reuse / Reclaimed Water Analysis
- Summary

OVERVIEW - IRP Process



- Develop Water Supply Yield Model
- Synchronize Yield Model with Demand Model
- Conservation Program Assessment
- Write "the Plan"
- Communicate the results
- 18 month process – finalize in late summer 2018

3

BACKGROUND – Green River Supply



- The Green River is Tacoma's primary water source. In normal years, it is the source of 95% of our water.
- Tacoma has two primary water rights on the Green River.
- Both water rights are constrained to ensure adequate minimum instream Green River flows.
- The 2nd water right may be stored in the spring for use in the summer and fall.



TACOMA WATER DIVERSION DAM AND INTAKE

BACKGROUND – Groundwater use

- Wells are less affected by droughts and add valuable diversity to the sources available to Tacoma Water.
- May be used to provide up to 40% - 50% of our summer demand, if needed.
- These wells provide a critical supplemental backup water supply.
- A majority of capacity is located in aquifers under South Tacoma.



5

OUTREACH – Public Advisory Committee

Brought together a diverse group representing a wide range of perspectives to help Tacoma Water address issues associated with 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

6

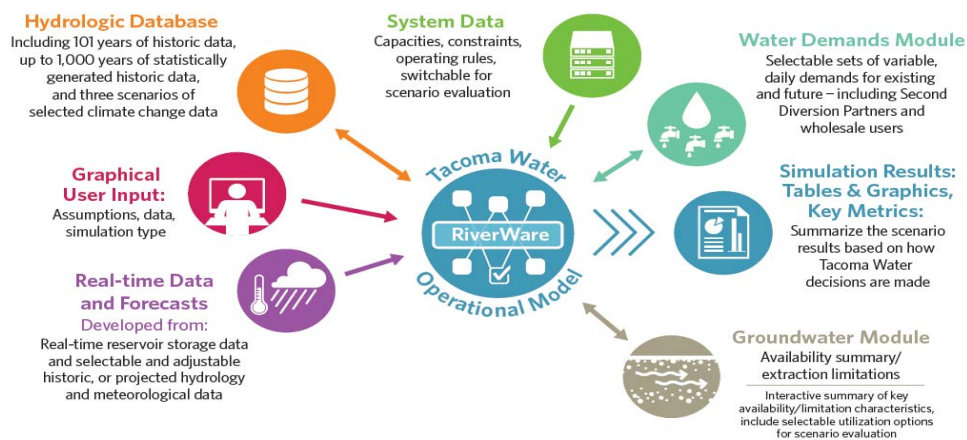
ISSUES



- Develop strong modeling capability
- Incorporate Climate Change
- Conservation Program update
- Investigate reuse as a source
- Communicate resource adequacy

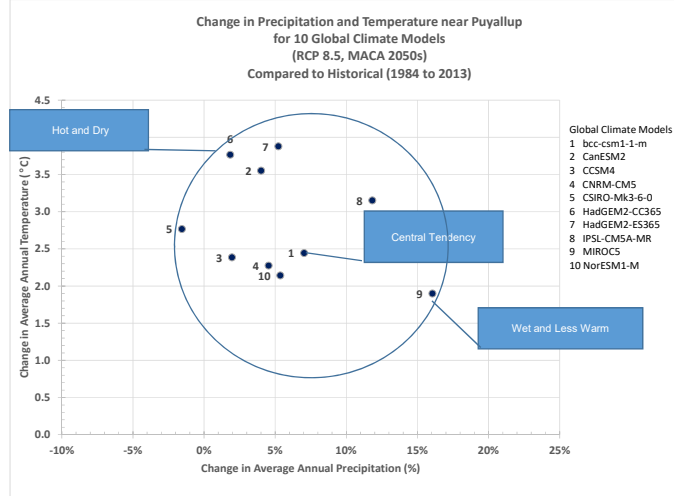
7

YIELD MODEL



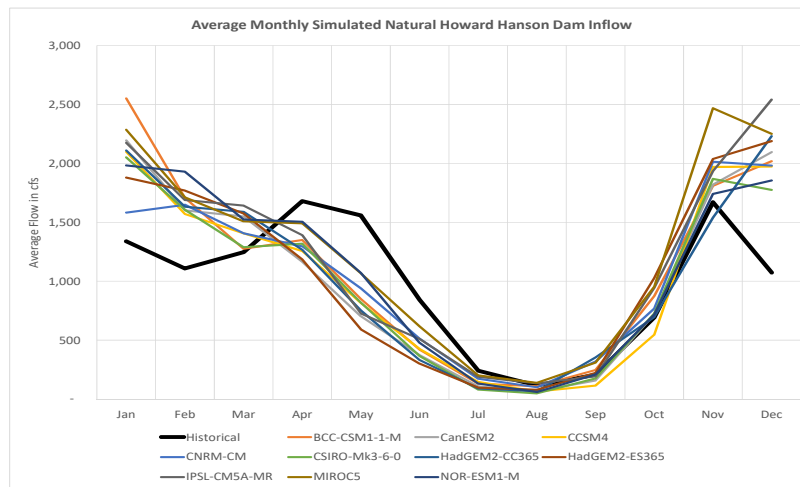
8

CLIMATE CHANGE



9

CLIMATE CHANGE EFFECTS



10

CONSERVATION PROGRAM UPDATE

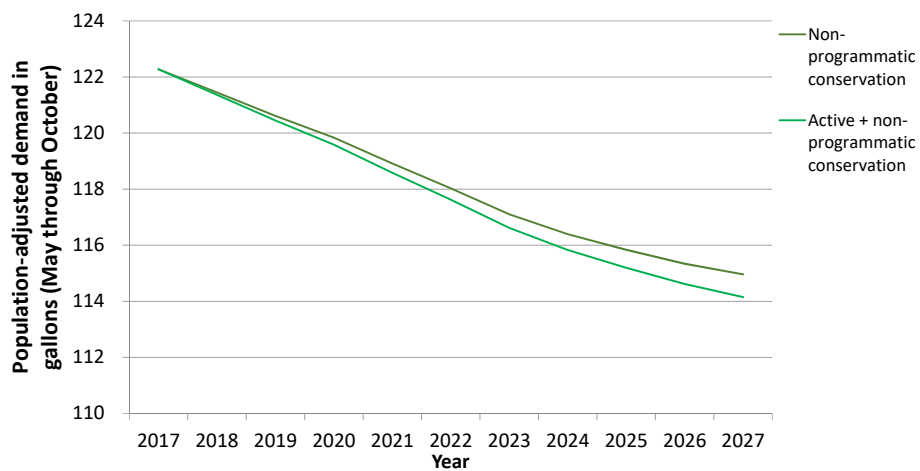
Based on feedback from the Public Advisory Group and others, the following will be the proposal:

- Proposed new goal: 6.65% peak (May-Oct) reduction from 2018 to 2027
- Proposed new programming:
 - Smart irrigation controller rebates
 - Outdoor water efficiency kit giveaways
 - Irrigation audits
 - Increased multifamily programming



11

CONSERVATION PROGRAM EFFECT



12

RECLAIMED WATER (REUSE)

Environmental Services

- Indicated that reclaimed water is not currently cost competitive, large per gallon cost to produce Class A water.
- Tacoma Water and Environmental Services will continue to collaborate to ensure maximum net benefit to city customers.

Pierce County

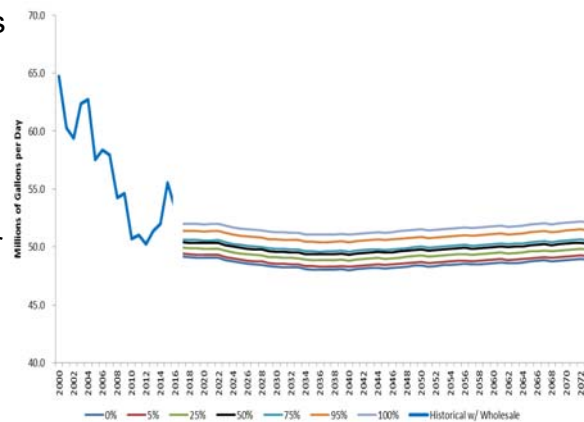


- Tehaleh (master planned community near Bonney Lake) will produce Class A water.
- May be used for irrigation, infiltration, and other limited uses.
- Piping for distribution of the reclaimed water (“purple pipe”) is being installed in the development in preparation .

13

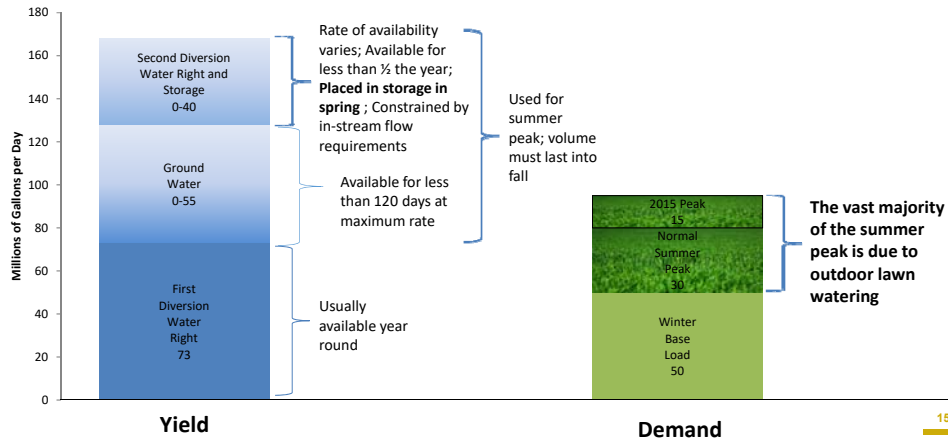
SUMMARY – Incorporate Demands

- Tacoma water forecasts on “short-term” and “long-term” time horizons
- The forecast includes weather, population, conservation, and other factors
- Long-term model is probabilistic, for direct use with Yield Model



14

SUMMARY– Compare



SUMMARY– Droughts



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

SUMMARY – Integrated Resource Plan



- A Water Yield Supply & Demand Model (WYSDM), both short term and long term, incorporates most current climate change predictions.
- An updated Conservation Program will be used over the next decade (and is most impactful when needed the most)
- A communication tool guided by a Public Advisory Committee allowing transparency of Tacoma Water's decision making regarding water supply and demand
- A document that will assist and guide water source and resource investments in the years to come

17



Integrated Resource Plan

City of Tacoma | Department of Public Utilities, Water Division

Infrastructure, Planning and Sustainability

June 13, 2018