INTEGRATED RESOURCE PLAN

PROJECT UPDATE

TACOMA PUBLIC UTILITY BOARD

MARCH 14, 2018

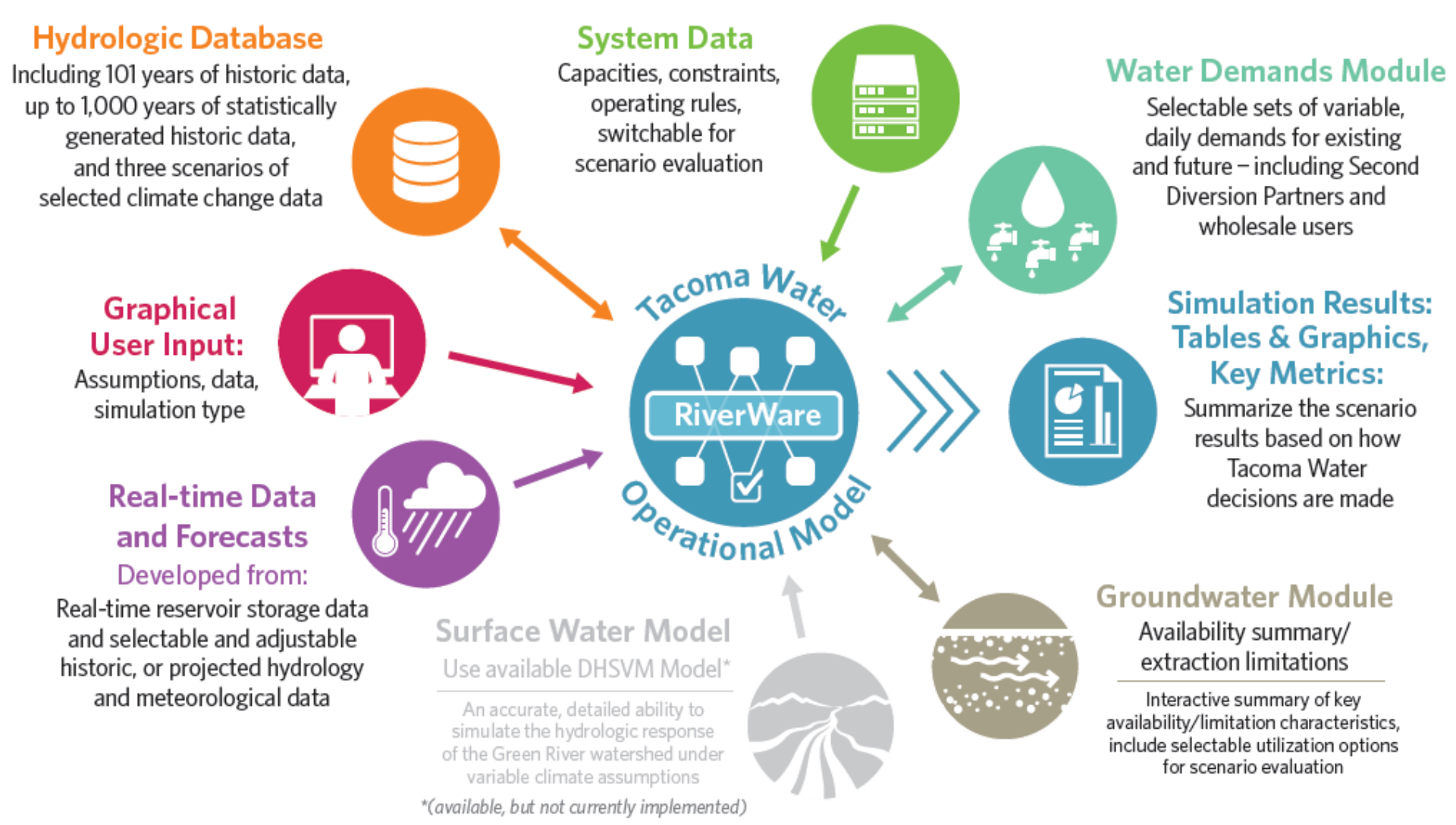
TACOMA WATER
TACOMA PUBLIC UTILITIES

AGENDA

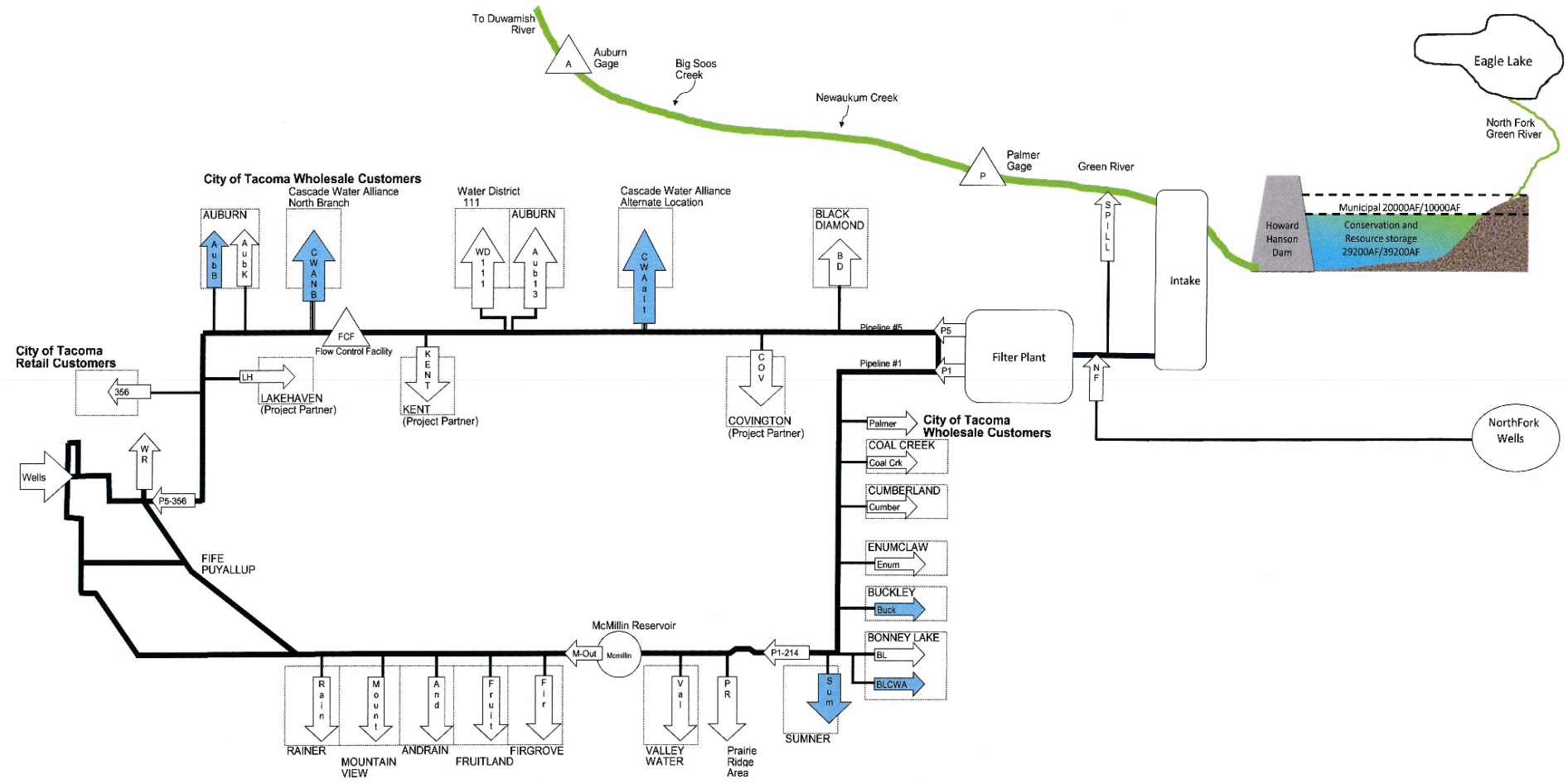
- **INTEGRATED RESOURCE PLANNING (IRP)**
  - OBJECTIVES / PUBLIC ADVISORY COMMITTEE / SCHEDULE

- **ELEMENTS OF WORK**
  - DEVELOPMENT OF WATER SUPPLY YIELD MODEL, BOTH SHORT TERM AND LONG TERM
  - INCORPORATING CLIMATE CHANGE
  - DEVELOPING A RESOURCE ADEQUACY STANDARD
  - FUTURE SCENARIO DEVELOPMENT
  - SOURCES
    - GROUNDWATER EVALUATION
    - CONSERVATION PROGRAM UPDATE
    - INVESTIGATING REUSE AS A SOURCE

WYSDM
"WATER YIELD, SUPPLY & DEMAND MODEL"



A CHALLENGE TO MODEL



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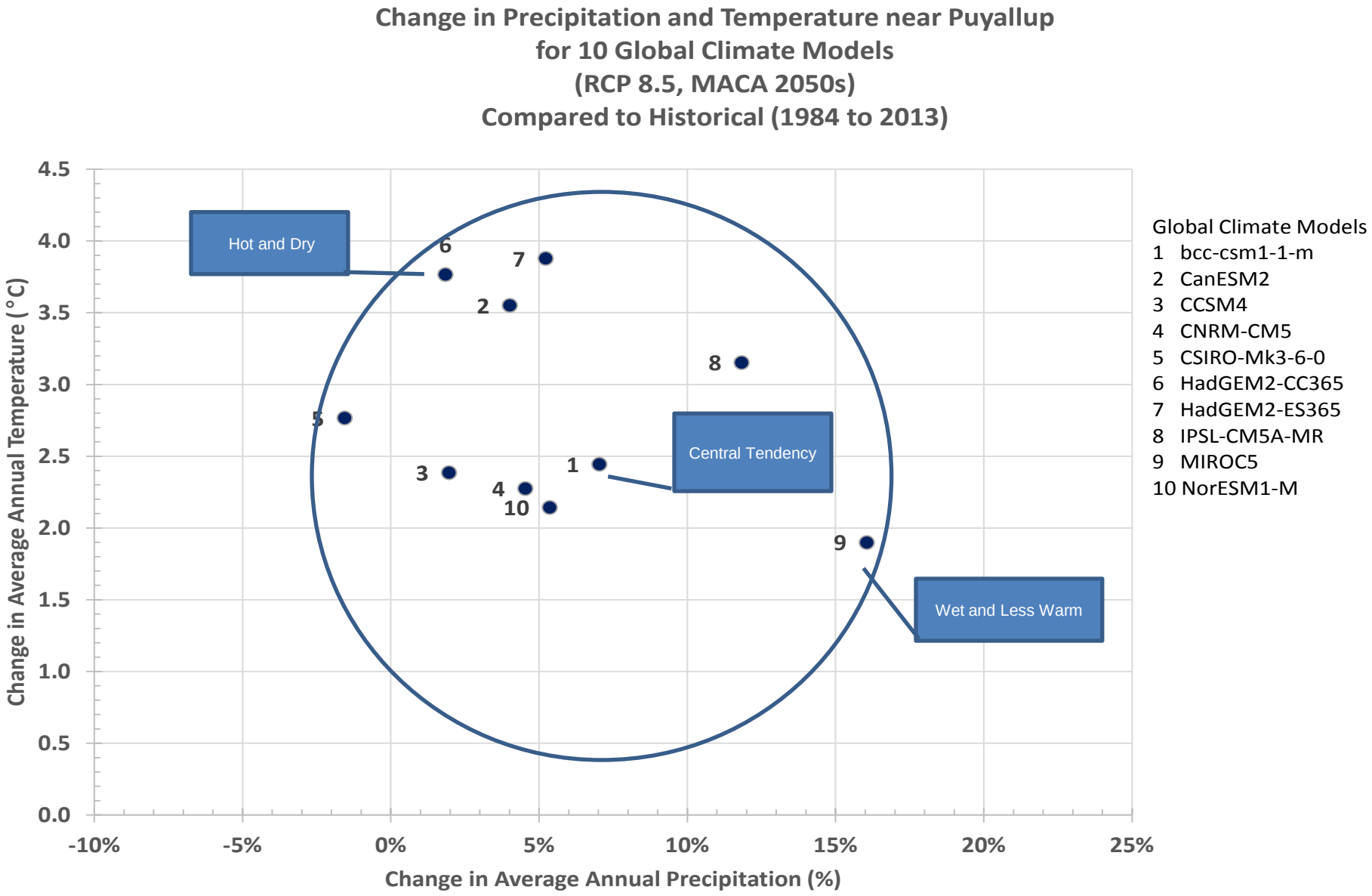
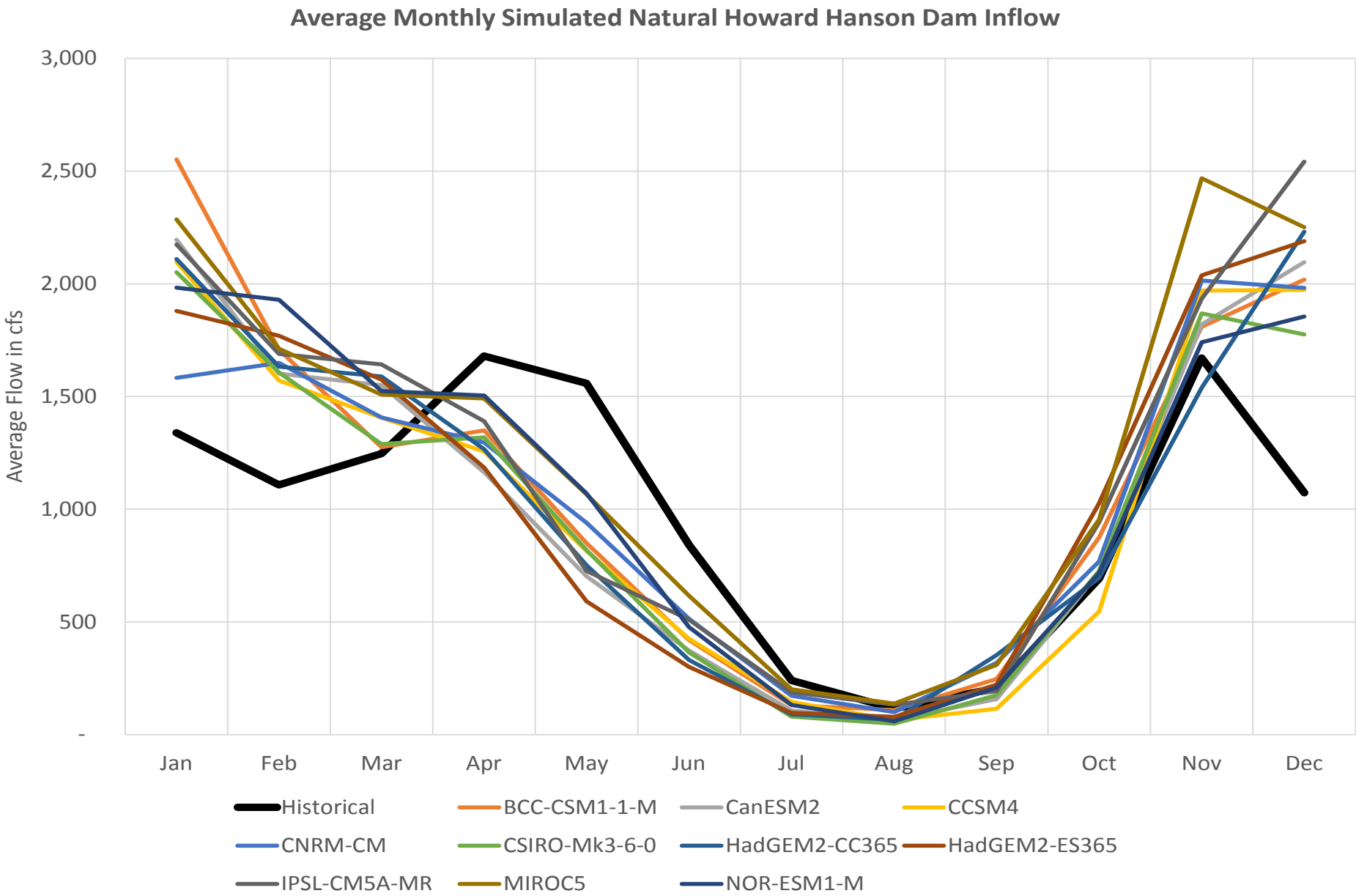
GLOBAL CLIMATE MODEL SELECTION



CHANGE IN INFLOW DUE TO CLIMATE CHANGE



RESOURCE ADEQUACY STANDARD

WE ARE WORKING ON A RESOURCE ADEQUACY STANDARD FOR YOUR CONSIDERATION.

THIS NEW STANDARD WILL HELP US MAKE FUTURE BUSINESS DECISIONS AROUND OUR SOURCES AND SYSTEM.

THROUGH THE WORK DONE IN THE IRP AND THIS RESOURCE ADEQUACY STANDARD, WE WILL HAVE A BETTER UNDERSTANDING OF NEEDED FUTURE INVESTMENTS.

DRAFT RESOURCE ADEQUACY STANDARD

WATER SOURCES AND SYSTEM WILL BE SUFFICIENT TO MEET DEMANDS SUCH THAT MANDATORY CURTAILMENTS WILL OCCUR NOT MORE THAN ONCE IN 25 YEARS.

SCENARIO DEVELOPMENT

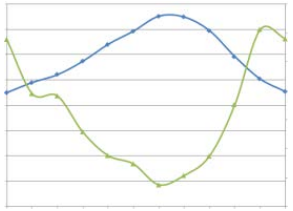
AS WE HAVE DISCUSSED, TACOMA WATER'S PORTFOLIO OF WATER RESOURCES MUST BE RESILIENT PROVIDING RELIABLE, COST-EFFECTIVE, AND ENVIRONMENTALLY RESPONSIBLE SERVICE ACROSS A BROAD RANGE OF POTENTIAL FUTURE CONDITIONS AND CIRCUMSTANCES.

PUBLIC ADVISORY COMMITTEE WAS INSTRUMENTAL IN HELPING US DESCRIBE THESE POTENTIAL FUTURES.

SEVERAL SCENARIOS REPRESENTING POSSIBLE DIFFERENT FUTURES WERE ENVISIONED TO BE MODELED IN THE IRP:

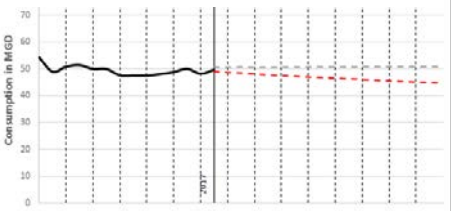
SCENARIO DESCRIPTIONS

MOST STRESSED



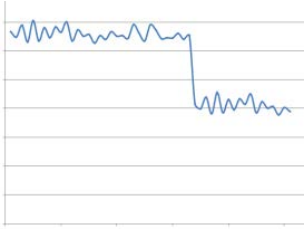
DESCRIBES A YEAR IN THE FUTURE WHERE THE SPRING AND SUMMER ARE WARMER AND DRIER, CAUSING WATER DEMANDS TO BE ELEVATED FOR A LONGER PERIOD OF TIME, DURING PERIODS OF THE YEAR WHEN **WATER RESOURCES MAY BE MOST STRESSED.**

MOST LIKELY



PORTENDS A YEAR IN THE FUTURE WHERE THE EXISTING CONDITIONS OF TODAY CONTINUE THEIR TRENDS ONWARD WITH ONLY MINOR CHANGES (IN THE NEAR-TERM). **THIS IS THE MOST LIKELY SCENARIO.**

LEAST STRESSED



ENVISIONS ADVANCES IN WATER SAVING TECHNOLOGIES, OR STRUCTURAL SHIFTS, THAT CAUSE THE **DEMAND FOR WATER TO BE DECREASED** AS COMPARED TO ANTICIPATED PATTERNS.

WELL SYSTEM EVALUATION

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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

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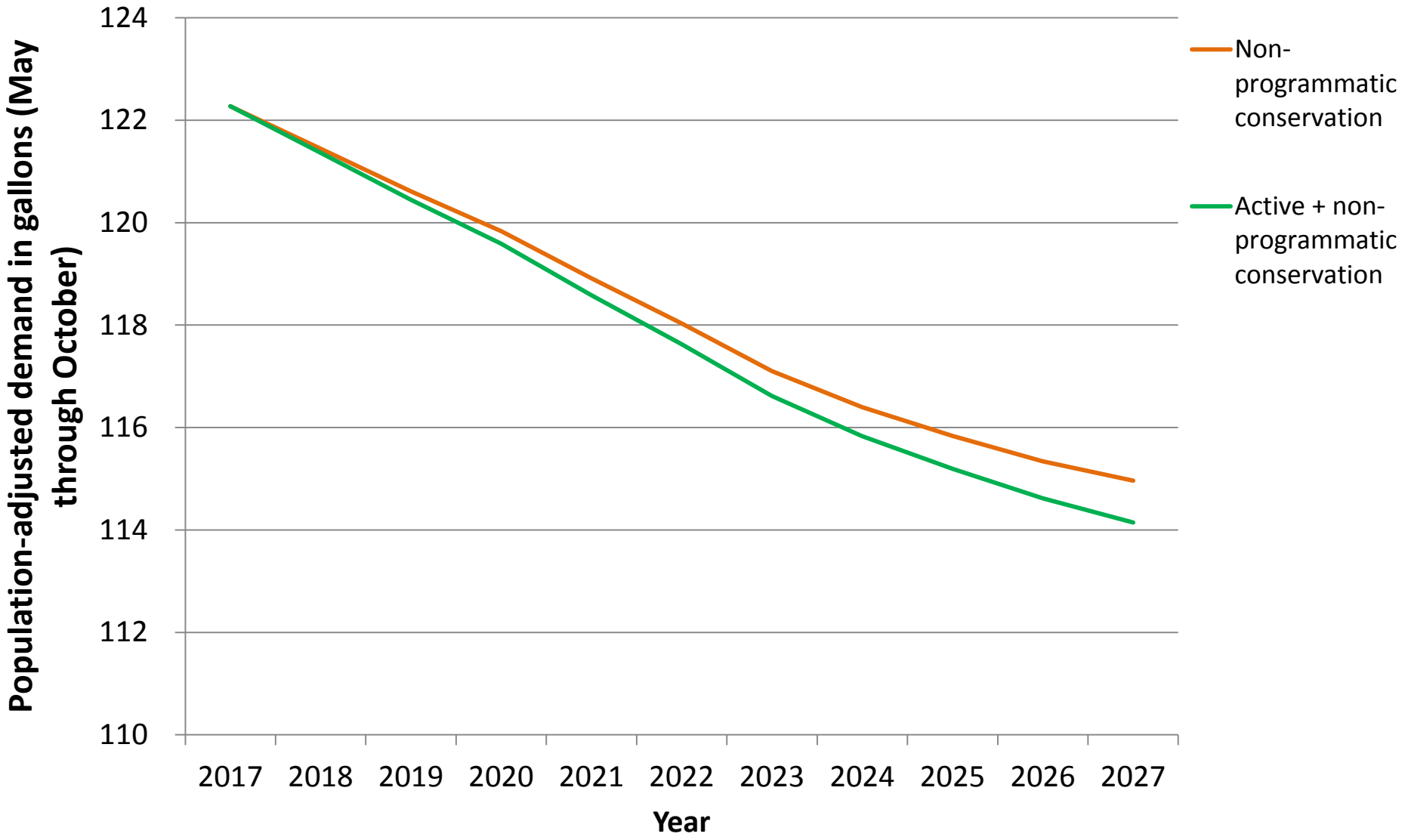
CONSERVATION PROGRAM UPDATE



RECLAIMED WATER (REUSE)

- **CITY OF TACOMA**
  - Met with Environmental Services in 2017.
  - Indicated that reclaimed water is not currently cost competitive.
  - No current plans to market or sell reclaimed water.
  - Plant currently produces Class C water; large per gallon increase in cost to produce Class A water.
  - Tacoma Water will continue to monitor.
- **PIERCE COUNTY**
  - Tehaleh (master planned community near Bonney Lake) will produce Class A water.
  - Will be used for irrigation, infiltration, and limited commercial businesses.
  - Piping for distribution of the reclaimed water ("purple pipe") is being installed in the development in preparation .

IN SUMMARY, THE INTEGRATED RESOURCE PLAN IS:

A THOROUGH WATER SUPPLY YIELD MODEL, BOTH SHORT TERM AND LONG TERM, THAT IS SYNCHRONIZED WITH DEMAND MODEL AND INCORPORATES CLIMATE CHANGE

AN UPDATED CONSERVATION PROGRAM THAT WILL BE USED OVER THE NEXT DECADE (AND IS MOST IMPACTFUL WHEN NEEDED THE MOST)

A MAJOR RESOURCE THAT WILL BE USED IN ITS ENTIRETY IN THE 2018 VERSION OF TACOMA WATER'S WATER SYSTEM PLAN

A COMMUNICATION TOOL THAT WILL ALLOW TRANSPARENCY OF TACOMA WATER'S DECISION MAKING AROUND WATER SUPPLY AND DEMAND

A DOCUMENT THAT ARTICULATES RESOURCE ADEQUACY STANDARD THAT WILL GUIDE WATER RESOURCE INVESTMENTS IN THE YEARS TO COME