

**Clean Water.
Quality Life.™**



Water Resources Master Plan



Overview of Previous Presentation



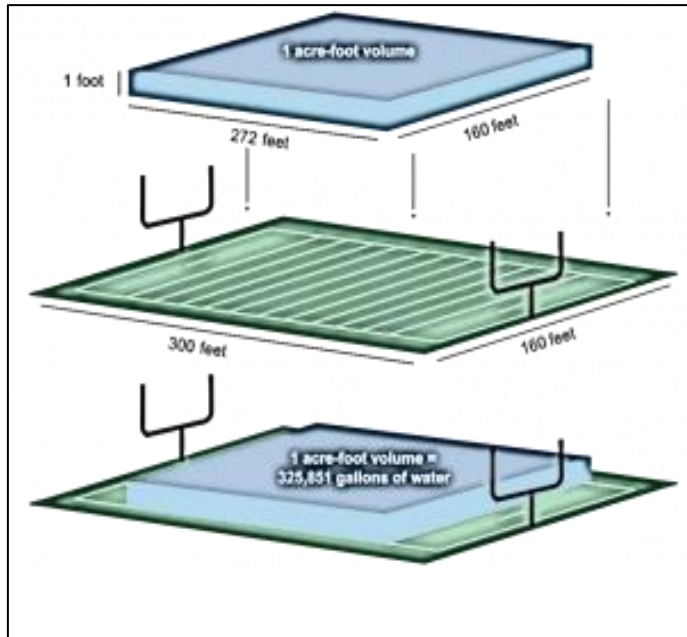
EAGLE RIVER
WATER & SANITATION
DISTRICT

- Political structure of District and Authority
- History of water development and water rights
- Where our water comes from
- How we use water, reservoir storage and efficiency
- Why outdoor water use disproportionately impacts the water resource
- Threats to our water supply (urbanization, wildfires, climate change)



Definitions and Concepts

Acre-foot: unit of measure of reservoir storage, one acre covered with water one foot deep; equal to ~326,000 gallons



Reservoir	Capacity (acre-feet)
Lake Dillon	257,000
Homestake	43,000
Eagle Park	3,301
Black Lakes 1 and 2	475
Bolts Lake	1,200

% Water Supply Reliability: minimum frequency that water is available.

District and Authority Target Reliability is **95%**, which equates to the ability to cover our needs in 19 of 20 years on average.



Strategic Reserve: a reserve, or savings account, of water that is not committed to a specific use but is intended to mitigate risk. The strategic reserve can be drawn upon to provide a supply of water when the normal operating accounts run out, such as in a multiyear drought.

District and Authority Target Strategic Reserve is 10% of annual customer water demand.



Definitions and Concepts

Efficiency: ensuring water is used for a specific need, and not expended in ways that have no value.

Efficiency is the opposite of waste.

Examples of efficiency efforts in water use include:

- Reducing irrigation use to just what is needed by the plants
- Not watering pavement
- Reusing water where possible (recycling car washes)
- Water efficient fixtures (one flush = 1 gallon, instead of 3 gallons)



Conservation: reduce water use by changing the way we use water.

Examples of water conservation efforts:

- Replace old fixtures with water-efficient fixtures
- Convert formal landscaping to native and drought tolerant plants

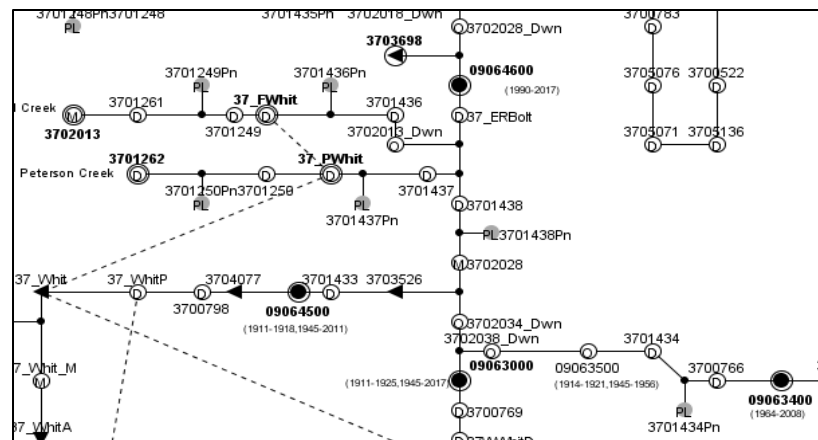
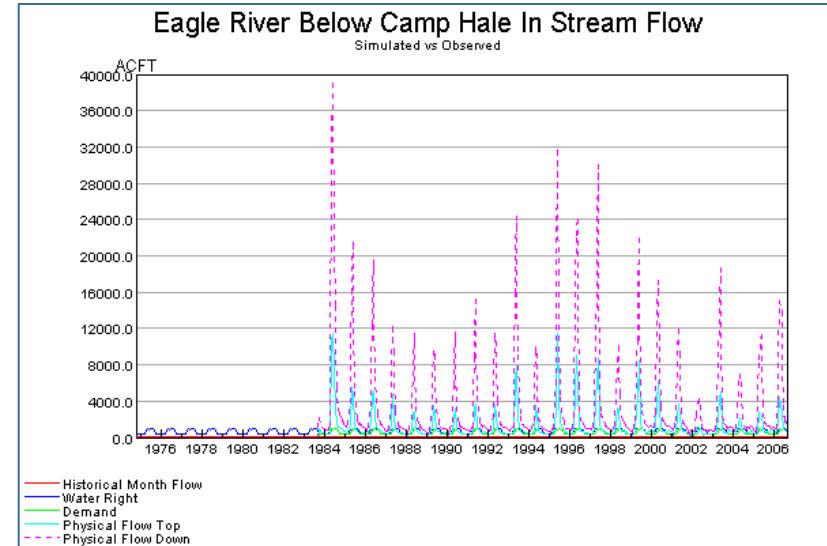


Definitions and Concepts

- **New Growth/Development:** newly-approved zoning requiring a new commitment of water supply.



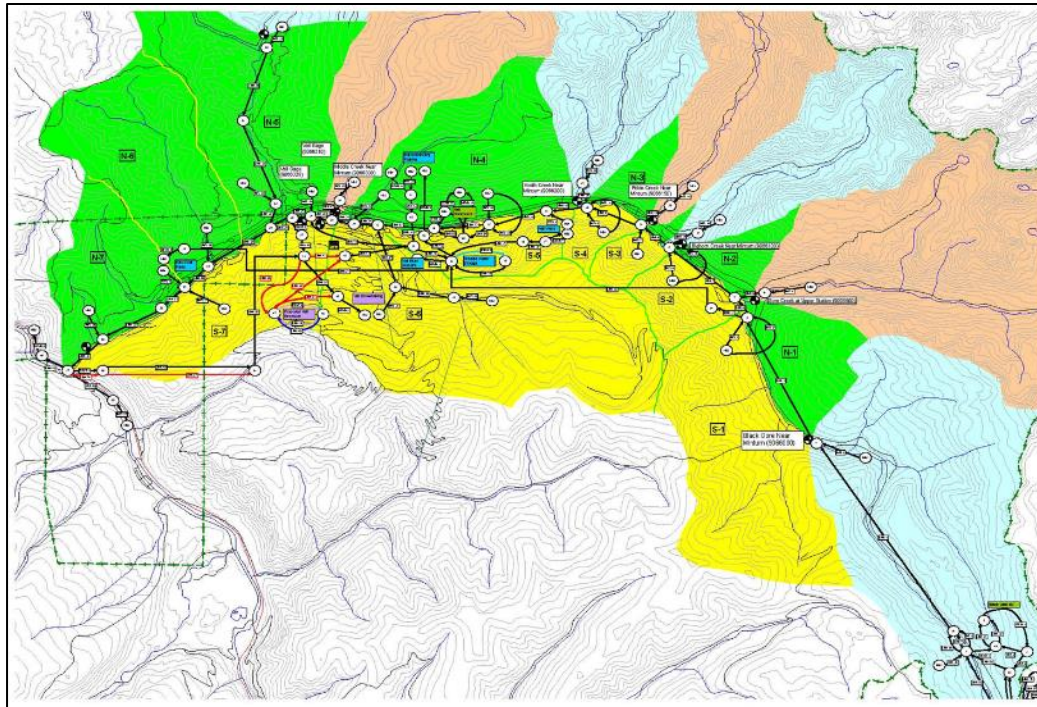
- Complex logic program and database
- Standardized format for QA/QC, calibration and confirmation
- Risk-based analysis
- Weather and streamflows are difficult to predict



- Water rights decrees
- Streamflow gage data
- Historical water diversions
- Aggregated customer use data
- Forecasted diversion rates and customer demand
- Climate change model information
- 50-year planning period



- How much of our water supply meets the 95% criterion
- Help us see what options we have to meet future needs
- Are our system operations protective of streamflows
- Various “what-if” scenarios (droughts, climate change)

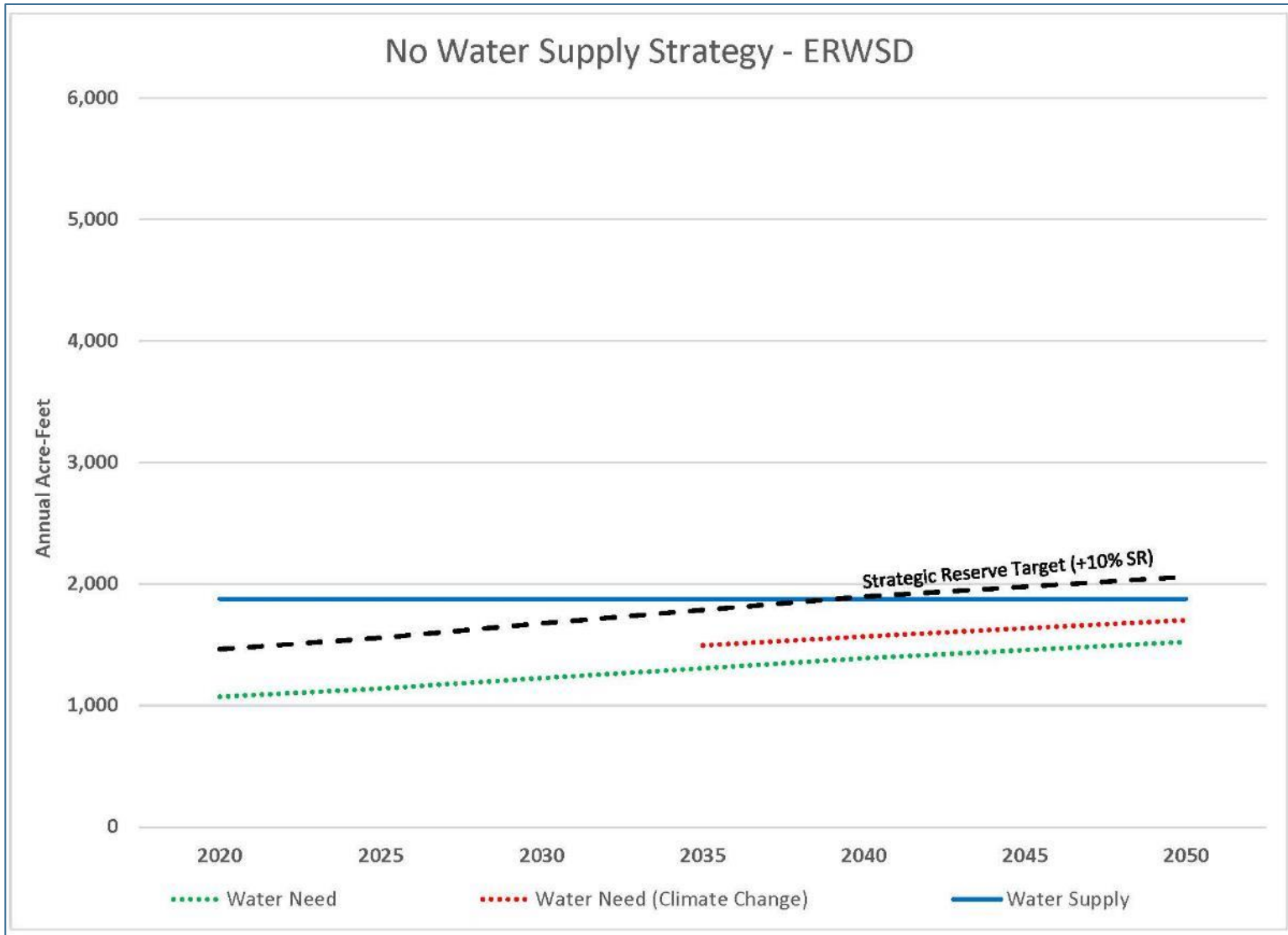


Model Assumptions

- Hot/dry climate model
- Annual long-term growth rate:
1.1% for ERWSD,
2.1% for UERWA
- 1.5% annual water conservation
- Strategic Reserve Target is 10% of customer need
- Bolts Lake is constructed and online in 2030

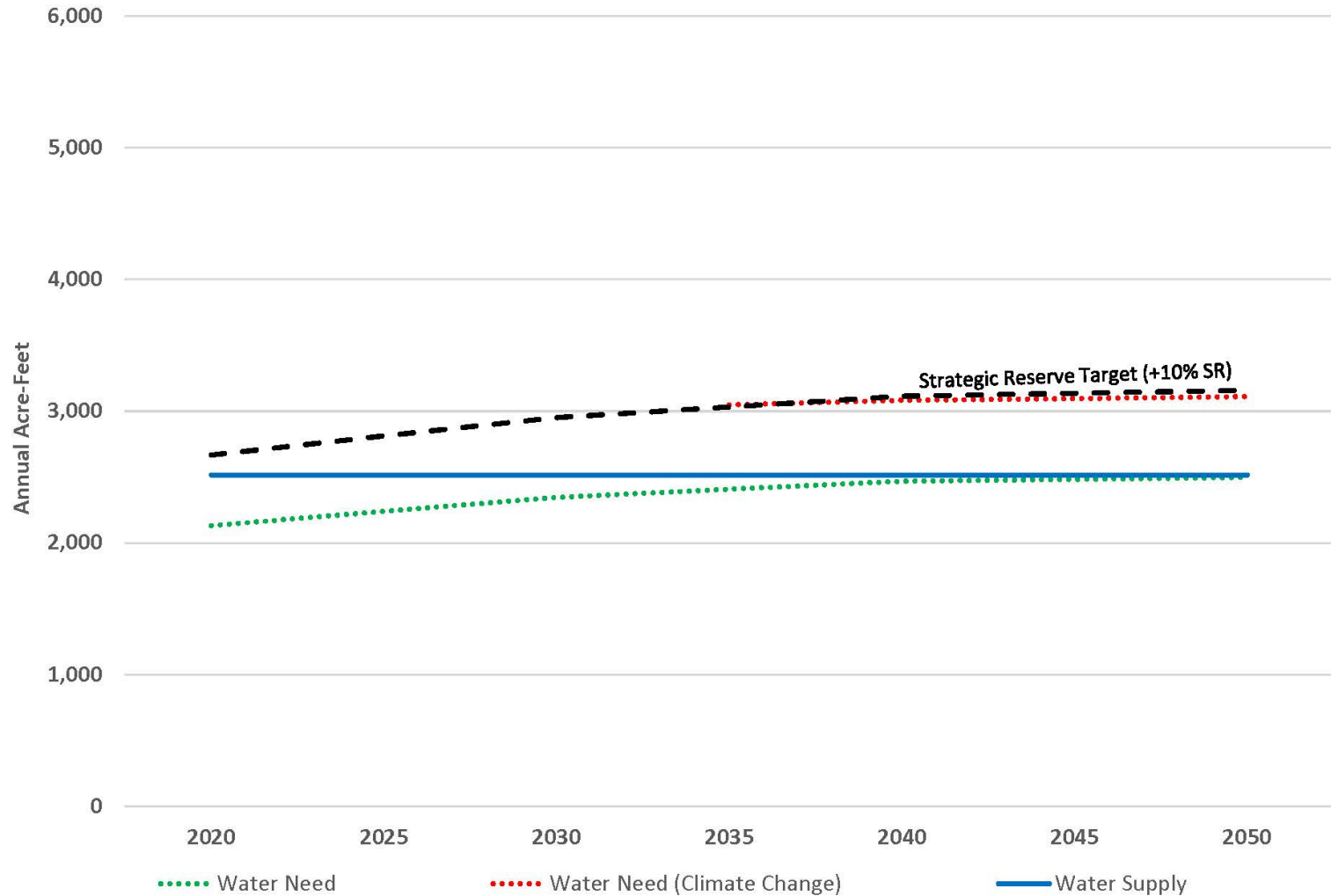


Model Conclusions



Model Conclusions

No Water Supply Strategy - UERWA



Water Resources Master Plan: objective

To ensure a reliable physical and legal water supply to existing and approved development and adequate future water supply to meet the land use goals of local land use authorities (LUAs), while protecting environmental and recreational uses of streamflows.



Photo credit: Chris MacLennan

Six Aspects of the Master Plan





Policy


- The 95% reliability target and a target strategic reserve of 10% of customer demand
- Water conservation goals, %/year
- Definitions of reasonable, inefficient, and unsustainable water use
- Priority lists and timelines for Programs and Projects



Tools

(Model and
Reports)

- The model
- Data reports
- Goals
- Performance metrics



Resources
(Funding and
People)

- Budgeted funds
- Grants
- Additional in-house skills



Programs

- Eliminate water use in billing tiers 4 and 5 (unsustainable)
- Reduce water use by subdivisions that are using more water than they are entitled to
- Water Budgeting



Projects

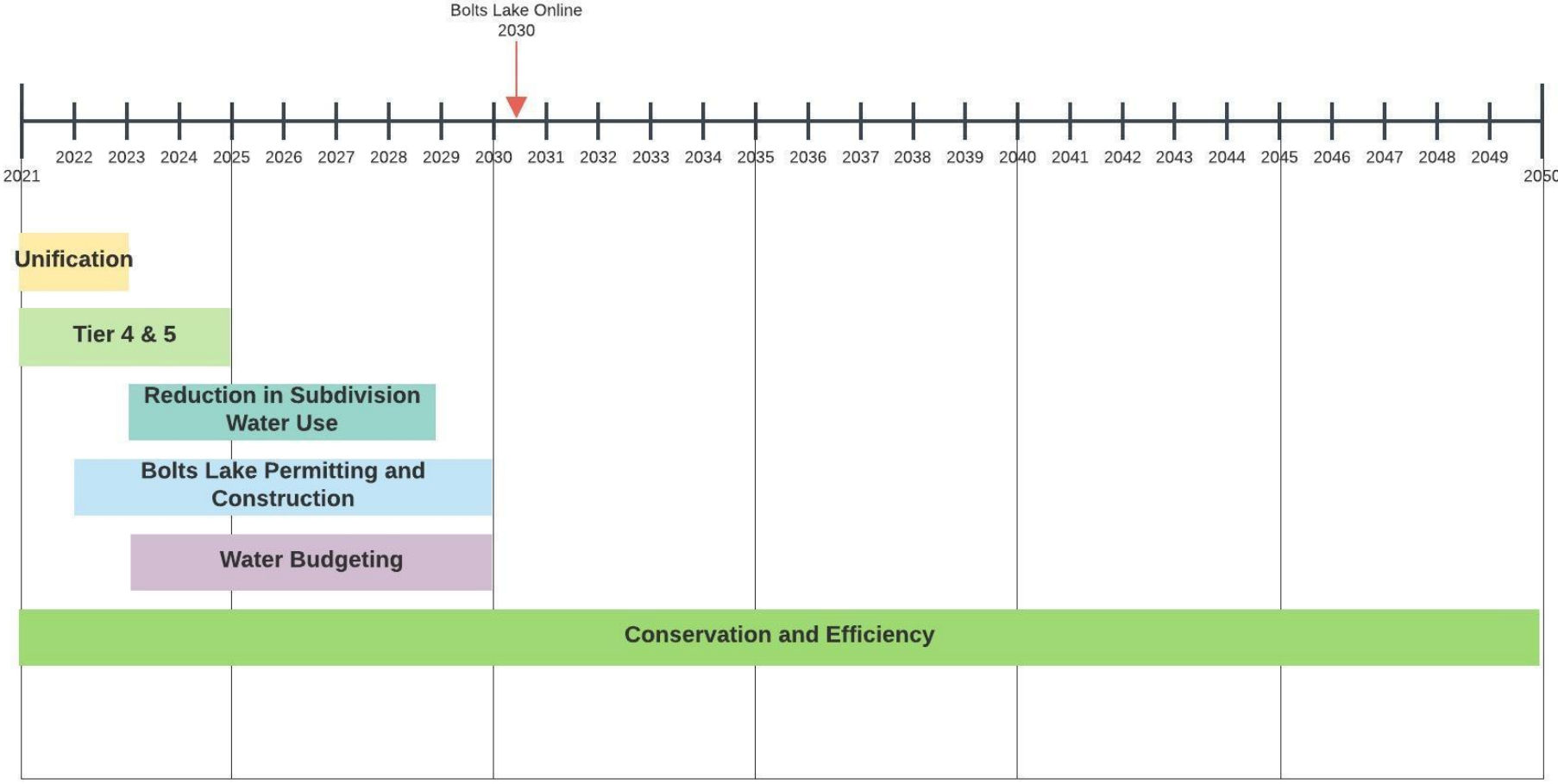
- Political unification of the District and Authority
- Bolts Lake



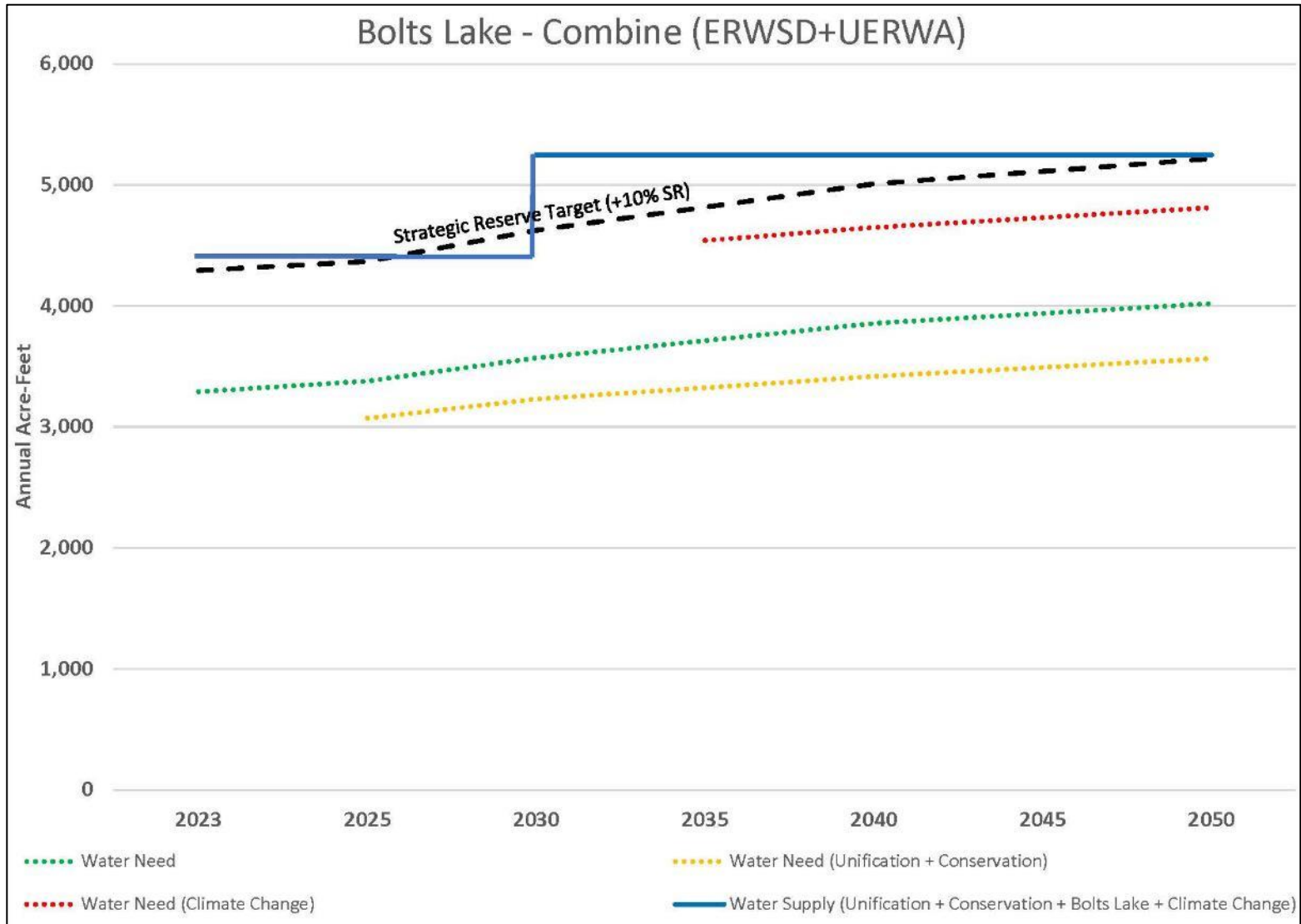
Outreach

- Land Use Agencies
- Customers
- We are never done communicating the importance of water to our community

Timeline



Master Plan Outcome



Questions/Discussion



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