

DRAFT 2020-2040 WATER RESOURCE PLAN

PUBLIC OUTREACH WEBINAR



HIGHLIGHTS

- The 2020-2040 WRP is the 4th edition since TMWA's inception in 2001
- Focuses on scenario-based planning
 - In-depth analysis of climate change and population growth impacts on water resources
- New user-friendly formatting to engage plan readers



PLAN UPDATE PROCESS

2016	<ul style="list-style-type: none">• Board members expressed interest in future WRPs focusing less on TMWA history and more on future planning.
Oct. 2018	<ul style="list-style-type: none">• TMWA staff presented table of contents, overview of the plan, and public outreach plan to the Board.
Dec. 2018 – Jan. 2019	<ul style="list-style-type: none">• Electronic survey about water resource topics and concerns provided to the public and Board.
Jun. 2019	<ul style="list-style-type: none">• PWRE presentation about initial climate change study findings to the Board.
Aug. 2019	<ul style="list-style-type: none">• WRP policy recommendation workshop with the Board.
Jun. – Aug. 2020	<ul style="list-style-type: none">• Outreach presentations of draft WRP to the Board and public.

PUBLIC SURVEY RESULTS

- Top 3 public concerns for issues that may negatively impact our water supply over the next 20 years:

Population
growth

More severe
droughts

Wildfire in the
upper
watershed

- Top 3 issues the public would like to see addressed in the WRP:

Growth and future
water demands

Future availability
of existing water
resources

The state of our
current water
resources

- Top 3 topics of importance to the public:

Planning water
resources around
projected growth

Maintaining
drought reserves

Maintaining
groundwater
supplies

2020-2040 WRP OUTLINE

1. Introduction
2. Current Water Resources
3. Current and Future Planning Environment
4. Conservation Strategies
5. Future Water Resources
6. Protecting the Watershed and Environment
7. Policy Recommendations and Management Actions
8. Appendices



CHAPTER 1: INTRODUCTION

- Provides an overview of TMWA, TMWA's service area, plan scope, plan goals & objectives, plan update process, and major changes throughout the versions of the WRPs.



GOALS

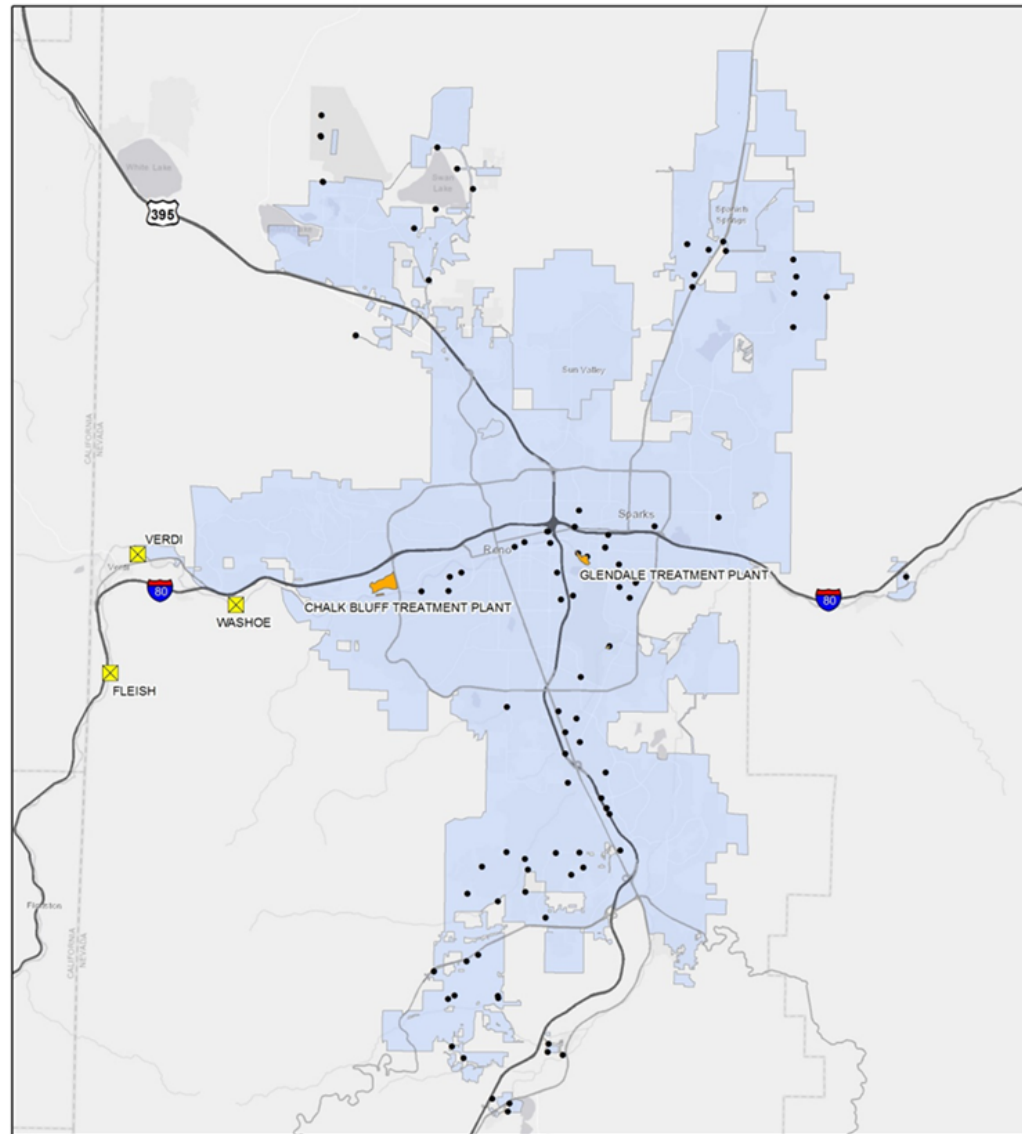
- ✓ Ensure TMWA has adequate water resources to meet the community's needs over the next 20 years and beyond.
- ✓ Create innovative solutions to best manage water resources in the region.
- ✓ Maintain community confidence in TMWA's planning process.
- ✓ Recommend management strategies and proposed policies to guide TMWA over the next five years.



OBJECTIVES

- ✓ Provide an overview of TMWA's current water resources and available water rights.
- ✓ Analyze alternative supply and demand scenarios to determine the resiliency of TMWA's resources.
- ✓ Assess potential impacts from climate change on regional water resources.
- ✓ Describe TMWA's current water management and conservation strategies.
- ✓ Identify future water resource opportunities and water management strategies.
- ✓ Provide opportunities for input from the public and Board throughout the planning process.

CHAPTER 1: TMWA'S SERVICE AREA



CHAPTER 2: CURRENT WATER RESOURCES

- This chapter provides an overview of TMWA's current surface and groundwater resources, conjunctive use management of resources, and water rights.

Population Served

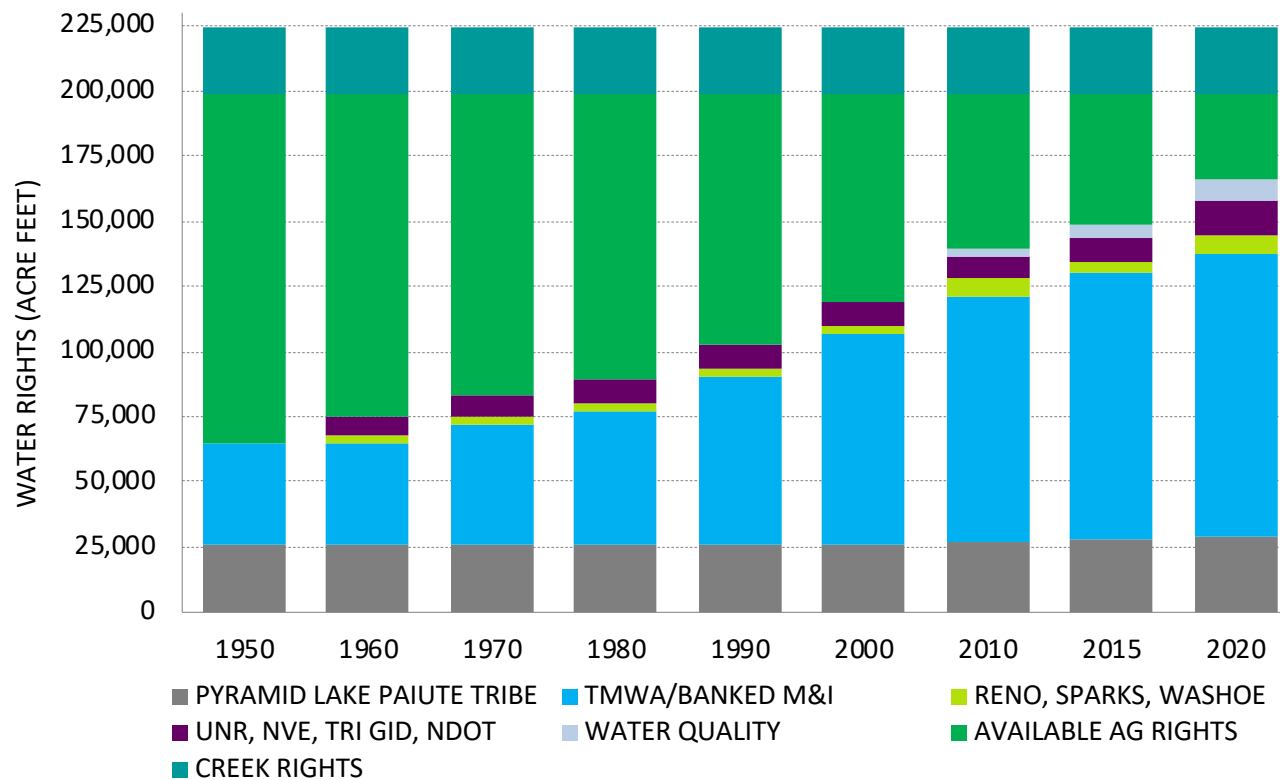
- Retail – 427,000 (129,957 active connections)
- Wholesale – 20,000 (6,000 active connections)

Water Supply Sources

- Surface Water (Truckee River) – 2 water treatment plants (80-85% of total supply)
- Groundwater – 89 production wells (15-20% of total supply)
- Aquifer Storage & Recovery (ASR)
- Fish Springs Ranch – additional 8,000 AF groundwater supply (importation)
- Mt. Rose Water Treatment Plant (2020) – creek rights

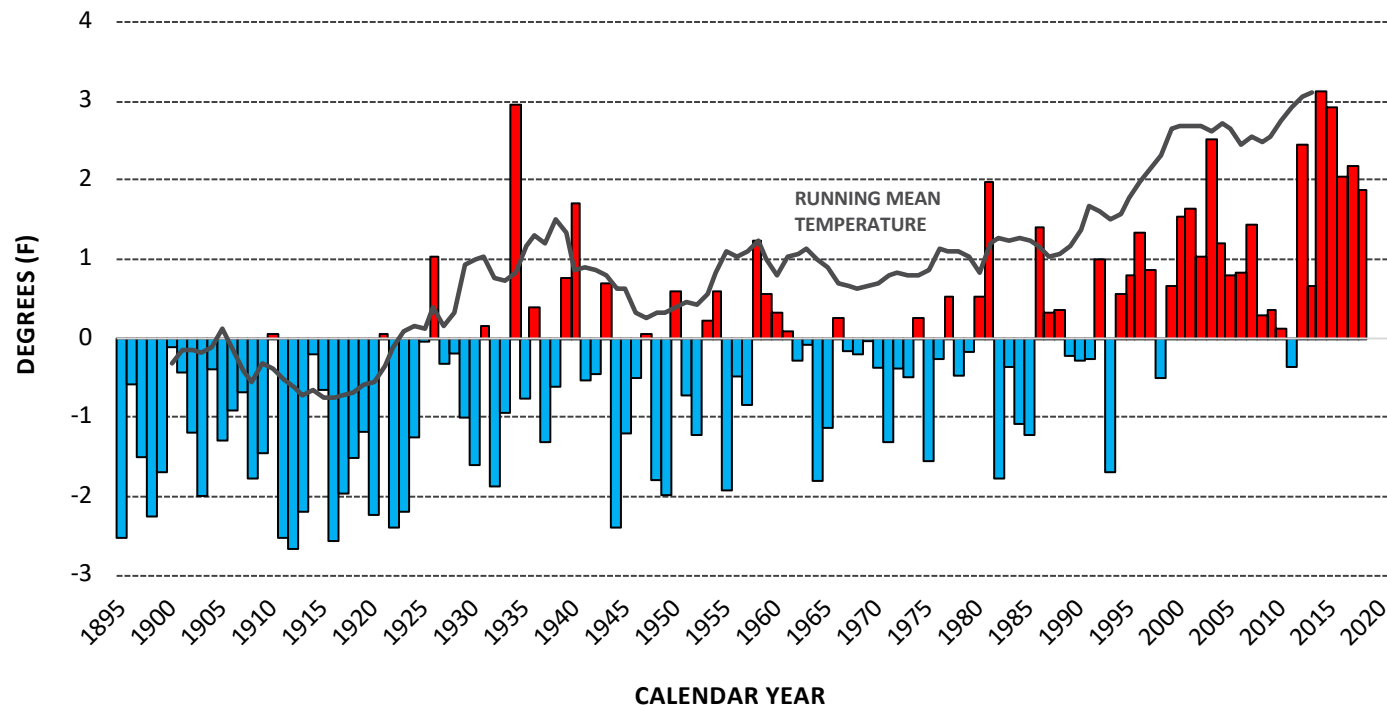
CHAPTER 2: WATER RIGHTS

- TMWA converts existing mainstem Truckee River agricultural water rights to municipal & industrial use. There are approximately 35,000 AF of agricultural water rights left on the Truckee River.

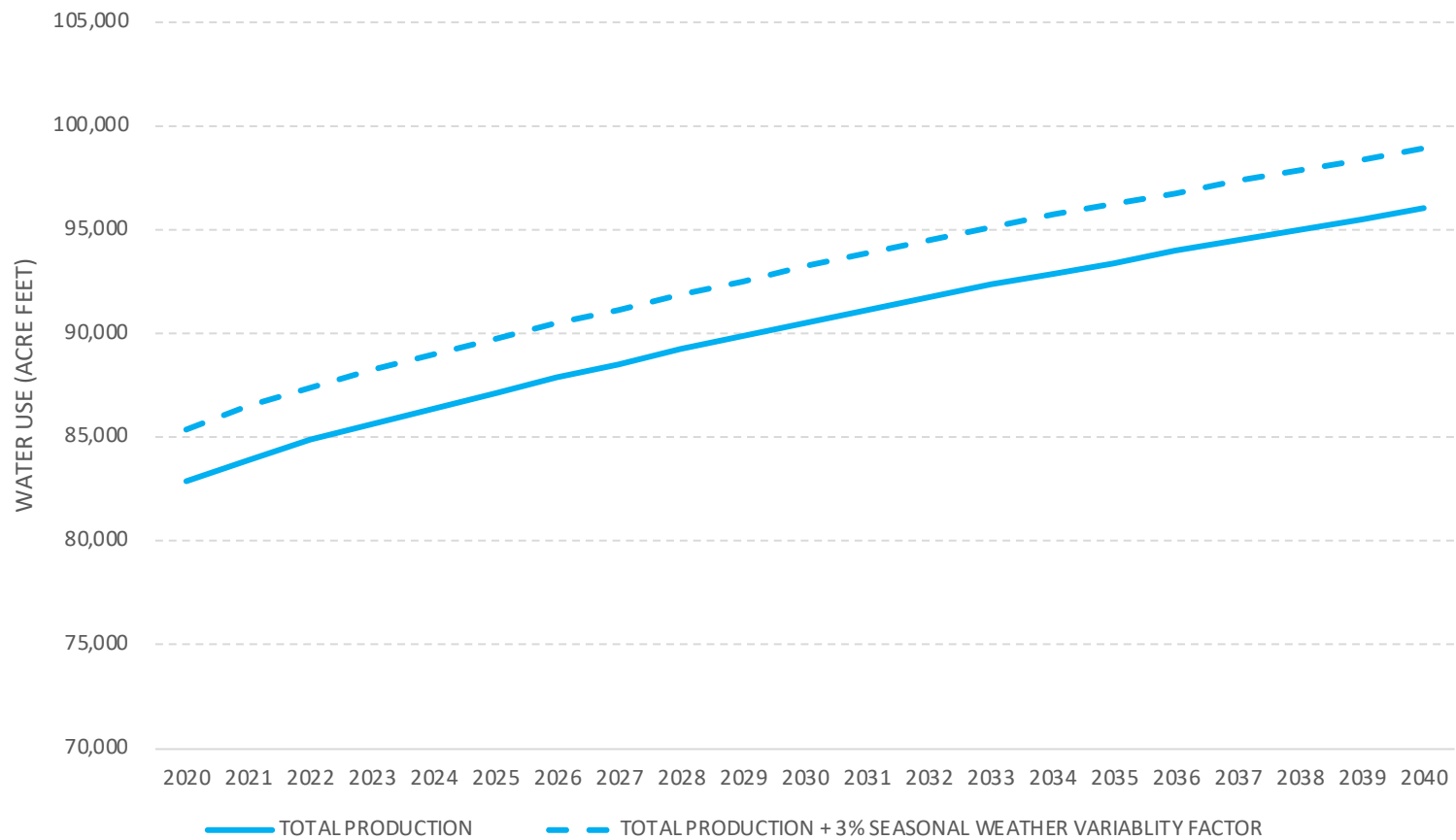


CHAPTER 3: CURRENT AND FUTURE PLANNING ENVIRONMENT

- This chapter includes an overview of historic droughts, analyzes potential climate change impacts on the region's water supply, and discusses TMWA's role in regional growth.



CHAPTER 3: DEMAND PROJECTION

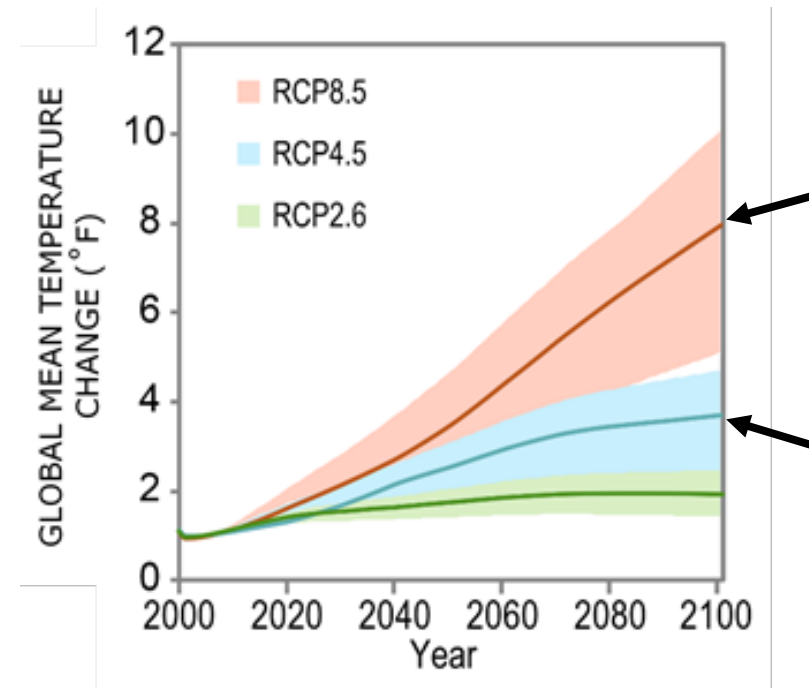


CHAPTER 3: REGIONAL GROWTH

- Acceptable water rights are required for new developments to be approved.
- Reno, Sparks, and Washoe County determine the amount and type of growth within each of their respective jurisdictions.
- TMWA enters the process to ensure appropriate and sustainable water rights are dedicated and costs for new water supply, treatment, and delivery infrastructure are covered by developers.
- Any water rights that are not used in any given year because of water conservation are not rededicated for growth.
- For every AF of surface water rights needed for new development, an additional 11% of water rights must be dedicated to TMWA for drought storage.

CHAPTER 3: CLIMATE CHANGE SCENARIOS

- Developed three scenarios to test the resiliency of TMWA's system under a range of future conditions:
 1. Historical drought scenario
 2. RCP 4.5 (moderate emissions scenario) – with an ensemble of 8 GCMs
 3. RCP 8.5 (very high emissions scenario) – with an ensemble of 8 GCMs
- Water supplies tested against a hypothetical demand of 140,000 AF at the end of the century.



RCP = Representative Concentration Pathway
GCM = General Circulation Model

CHAPTER 3: CLIMATE CHANGE SCENARIOS

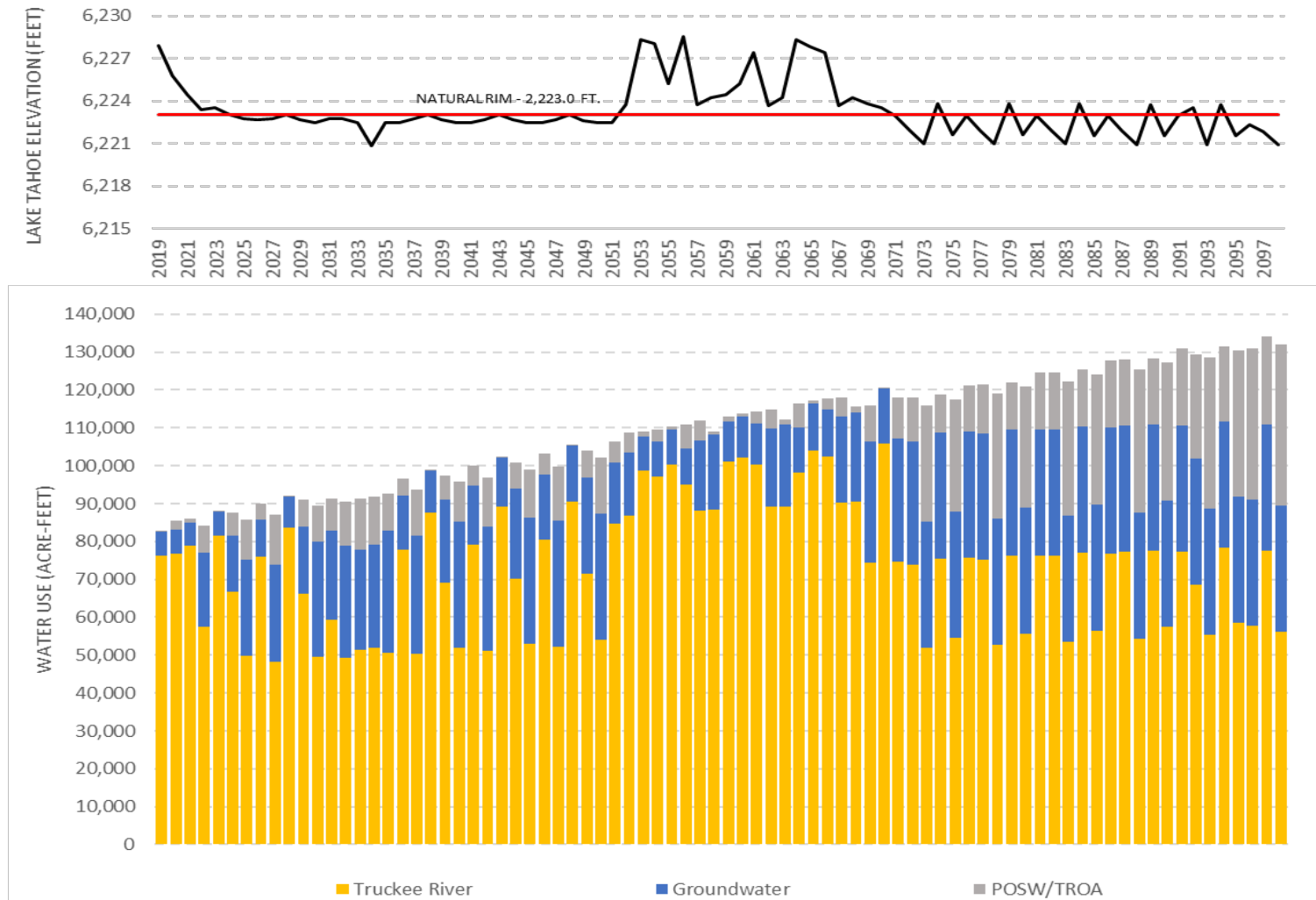
- Model assumptions:
 - 10% conservation under drought conditions
 - Modest assumptions for future groundwater pumping
 - Expanded rates of future recharge
 - Continued acquisition of Truckee River water rights
 - No additional imported water from other basins
 - Existing upstream reservoir operations (Bureau of Reclamation grant)



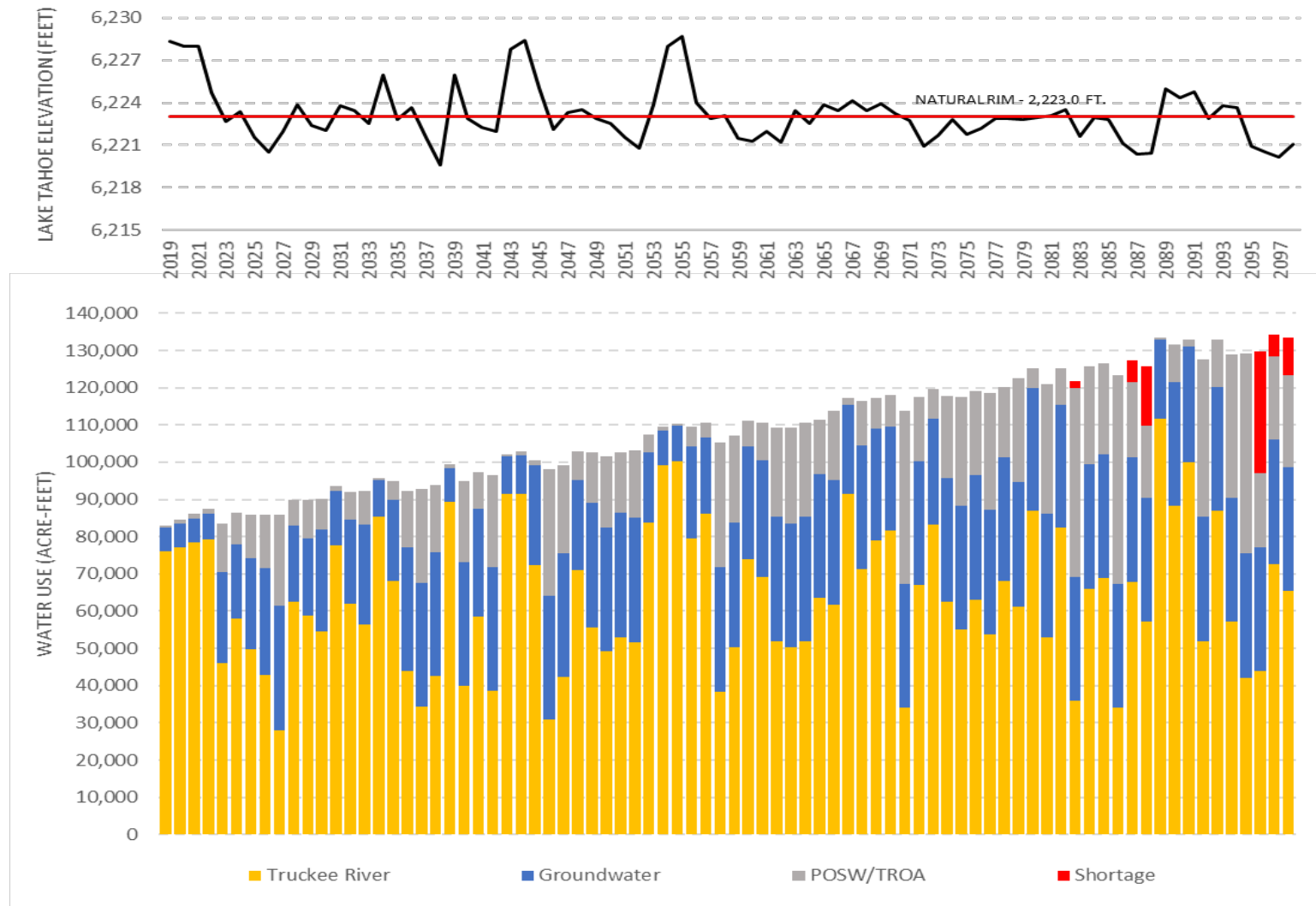
CHAPTER 3: CLIMATE CHANGE SCENARIOS

- Historical drought scenario shows:
 - No shortages
 - Upstream storage never drops below 40,000 AF
 - Highlights importance of TROA for the region
- Climate change results show that:
 - RCP 4.5 – only 10 years out of the 640 simulation years (8 GCMs x 80-year simulations) show a shortage (1.5%)
 - First shortage occurs in 2083 at a demand level of 120,000 AF
 - RCP 8.5 – only 25 years out of the 640 simulation years show a shortage (3.9%)
 - First shortage occurs in 2069 at a demand level of 113,000 AF
 - Lake Tahoe drops below rim for last 16 years of simulation

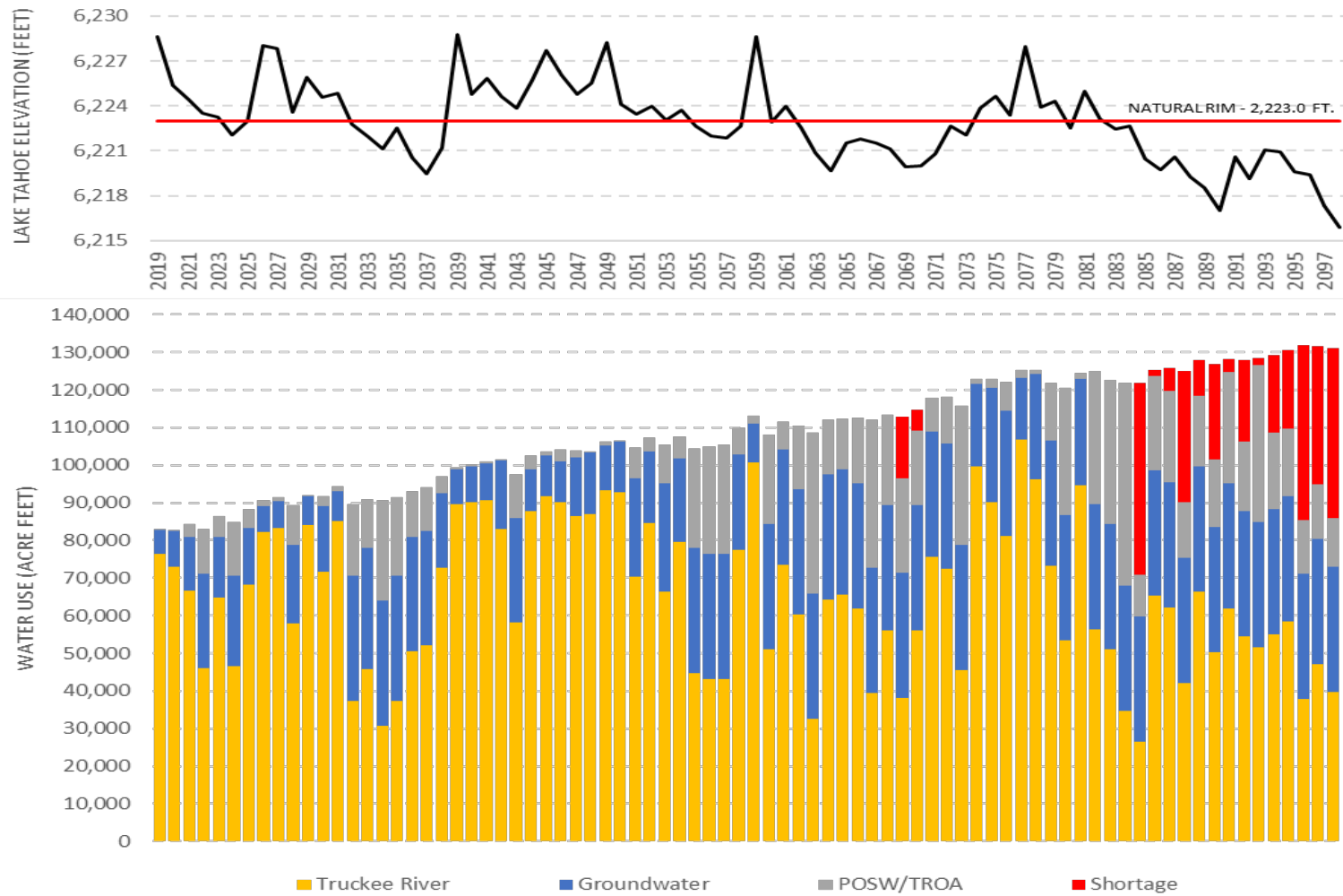
HISTORICAL SCENARIO



RCP 4.5 (MODERATE EMISSIONS) SCENARIO



RCP 8.5 (HIGH EMISSIONS) SCENARIO

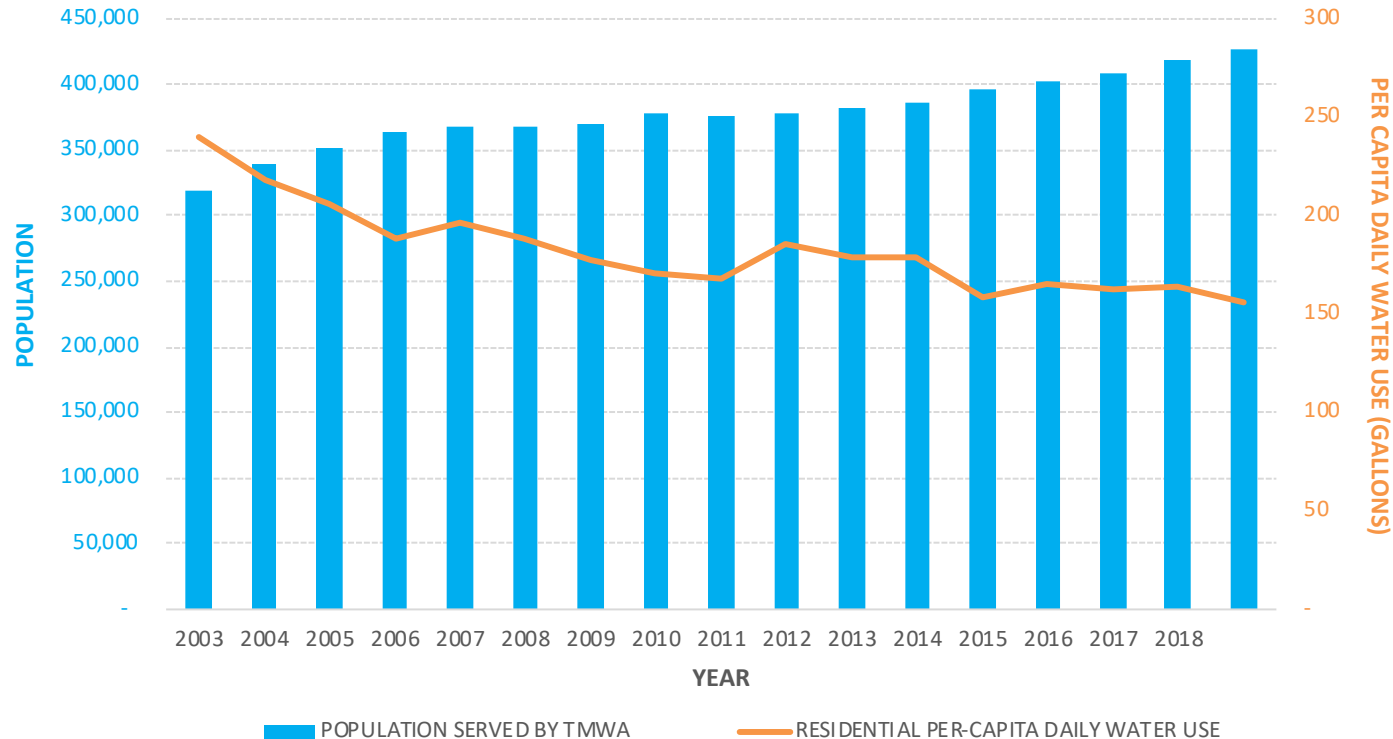


CHAPTER 3: ADAPTIVE MANAGEMENT

- Received Bureau of Reclamation grant in September 2019
- Multiple agency partners (Federal Water Master, Army Corps of Engineers, Bureau of Reclamation)
- Studying the reoperation of federally-owned flood control reservoirs which are regulated by the existing 1985 Army Corps of Engineers' Water Control Manual
- Create new guidelines that allow greater flexibility to capture early runoff
- Instrumental in helping the region adapt to potential climate change impacts
- Anticipated to be completed in March 2023

CHAPTER 4: CONSERVATION STRATEGIES

- Describes TMWA's conservation strategies to mitigate and respond to drought. Demand management practices include: education & outreach, water efficiency codes, water watcher program, water pricing structure, water usage review program, and landscape retrofit fund.



CHAPTER 4: CONSERVATION STRATEGIES

- TMWA uses enhanced demand management practices to help conserve water during droughts to minimize the use of drought reserves.

	Outdoor Watering Months					
Level of Severity	May	June	July	August	September	October
	Drought reserves are not needed before Labor Day					
Level 1	Standard Conservation					
	Drought reserves are needed before Labor Day					
Level 2				Drought Reserves Needed		
	Standard Conservation		Enhanced Conservation			Standard Conservation
Level 3			Drought Reserves Needed			
	Standard Conservation	Enhanced Conservation				Standard Conservation
Level 4			Drought Reserves Needed			
	Enhanced Conservation					Standard Conservation

CHAPTER 5: FUTURE WATER RESOURCES

Future water supply projects include:

- Construction of the 4 MGD Mt. Rose Water Treatment Plant (to be completed in late 2020)
- Additional creek resources
- Water banking investigations
- New groundwater projects and treatment systems
- Marlette Lake
- Advanced purified water pilot studies



CHAPTER 6: PROTECTING THE WATERSHED AND ENVIRONMENT

- Explains TMWA's commitment to protecting water quality and being a steward of the watershed and environment.
- Truckee River Fund – used to support projects that benefit the water quality or resources of the Truckee River and its watershed
- One Truckee River
- Integrated Source Water Protection Plan
- Hydroelectric Plants



KEY TAKEAWAYS

- TMWA has sufficient water rights to address the region's growing water demand over the next 20 years and beyond.
- Using current climate science, TMWA stress tested the water supply until 2098.
 - Results show that TMWA has a resilient and reliable water supply even under the worst case scenarios for the next 50 years.
- TMWA constantly analyzes future resource options to further increase the region's resiliency to droughts and climate change.
- TMWA does its due diligence, through planning and modeling, to ensure that the water supply is sustainable for the community.
- The WRP is an evolving document that will be updated again in five years to account for any changes that have occurred in the region.

PUBLIC INPUT IS WELCOME AT [TMWA.COM/WRP2020](https://tmwa.com/wrp2020)

Public Input Page



TMWA Public Input Page for its Draft 2020-2040 Resource Plan

Since 2001, Truckee Meadows Water Authority (TMWA) has continually updated its Water Resource Plan to analyze future conditions and to outline strategies to meet the region's drinking water needs from the driest snowpack year in recorded history (2015) to the wettest water year on record (2017), TMWA is updating its water resources to provide a resilient and reliable water supply for the region.

Add Your Question/s or Comments Here

Email*

Name*

First

Last

SUBMIT

Thank you!
Questions?