

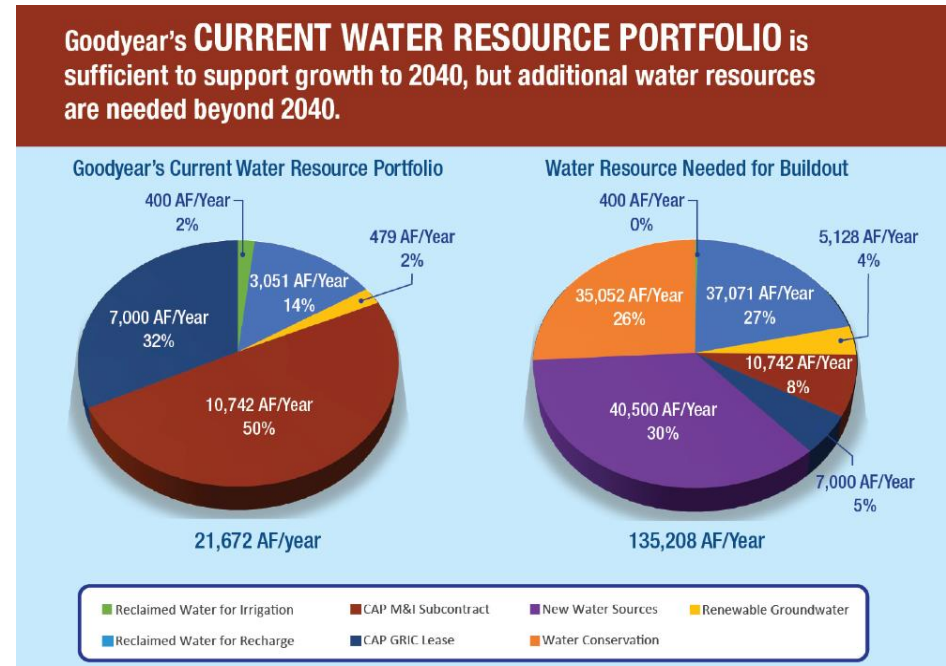
Drought Proofing the Future?

Conceptualizing short- and long-term water challenges facing the City of Goodyear.



Current and Future Water Challenges

1. Population Growth and Increases in Demand
 - Expected build out population of 760,000 by 2085.
 - Consumer demand will exceed the 13,191 AFY of groundwater extraction allowed between 2020 & 2025.
2. Reliance on Regional Water Sources & Groundwater Overdraft
 - Colorado River sources are diminishing due to drought, warming temperatures, and increasing demand.
 - Challenges from groundwater overdraft (water being taken from aquifers faster than it can be replenished) will also need to be addressed.



Conservation Implementation Plan

1. Preparation	2. Capacity	3. Community Mobilization	4. Implementation	5. Review and Evaluation
Interview expert stakeholders and focusing on future developments.	Collaboration between HOA's and the Conservation Committee.	Identify community vulnerabilities and spur engagement through education and open house events.	City Council establishes new codes and guidelines for developers & related stakeholders.	Monitor residential per capita use and evaluate stakeholder conservation strategies (Water Conservation Committee).

Conservation Recommendations



A. Consumer Education

- Conservation classes and workshops at the Public Works Administration Building.

C. Xeriscaping and Efficient Residential Water Usage

- Water reduction achieved through native plants and efficient watering.
- Homes that converted to xeriscaping in Nevada used 33% less water per month

B. Conservation Through Homeowner Associations

- 98% of Goodyear's residential communities have an HOA.
- Capable of implementing regulations (setting the standard for yard appearance) and fines.

D. Smart Growth and High Density Development

- Averages pools lose over 19,000 gallons of water per year; pool covers could prevent 95% of evaporation; homeowners could be encouraged through rebates.
- A 10 minute car wash at home could use up to 100 gallons of water while car washes use about 30-50 gallons; HOAs could include monthly car wash pass in their dues



Sustainable Design and Green Building

D. Water Efficiency, Conservation and Management

D.1 Water Reduction and Innovative Plumbing Systems

Objective: To increase water efficiency and conserve water within buildings by utilizing innovative plumbing systems.

Rationale: Increasing water efficiency and conserving water reduces water bills and leaves more water in the rivers, lakes and other freshwater sources. Water conservation also reduces the burden on municipal water supply and wastewater systems, saves energy from reduced amounts of water pumped, treated and distributed, and reduces wastewater treatment collection.

Overarching Question: Do the Codes/ Ordinances:	Potential Tools and Techniques	Specific Questions	Assessment of Specific Question	Do Requirements Come from State or Country?	Code/ Ordinance Reference
Allow for water use reduction through innovative plumbing systems and individual metering?	Efficient shower heads, faucets, toilets, or urinals, waterless urinals and composting toilet systems.	Is the use of high efficient and innovative plumbing fixtures and fittings encouraged?	G <input checked="" type="checkbox"/> Required by code/ordinance <input checked="" type="checkbox"/> Incentives provided	<input type="checkbox"/> Yes, State <input type="checkbox"/> Yes, County <input type="checkbox"/> No	
			Y <input type="checkbox"/> Expressly allowed <input type="checkbox"/> Code/ordinance silent, but typically allowed		
			R <input type="checkbox"/> Code/ordinance silent, but not typically approved <input type="checkbox"/> Expressly prohibited		