

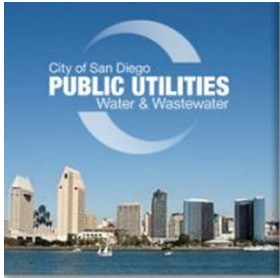
THE CITY OF SAN DIEGO
PUBLIC UTILITIES
DEPARTMENT

Groundwater Panel - Integrated Regional Water Management

City of San Diego Groundwater Development & Management

October 1st, 2014

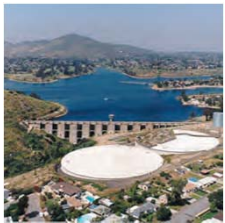




CURRENT SOURCES OF WATER SUPPLY



Imported Water
(Colorado River &
N. California)



Local Reservoirs
(runoff capture)

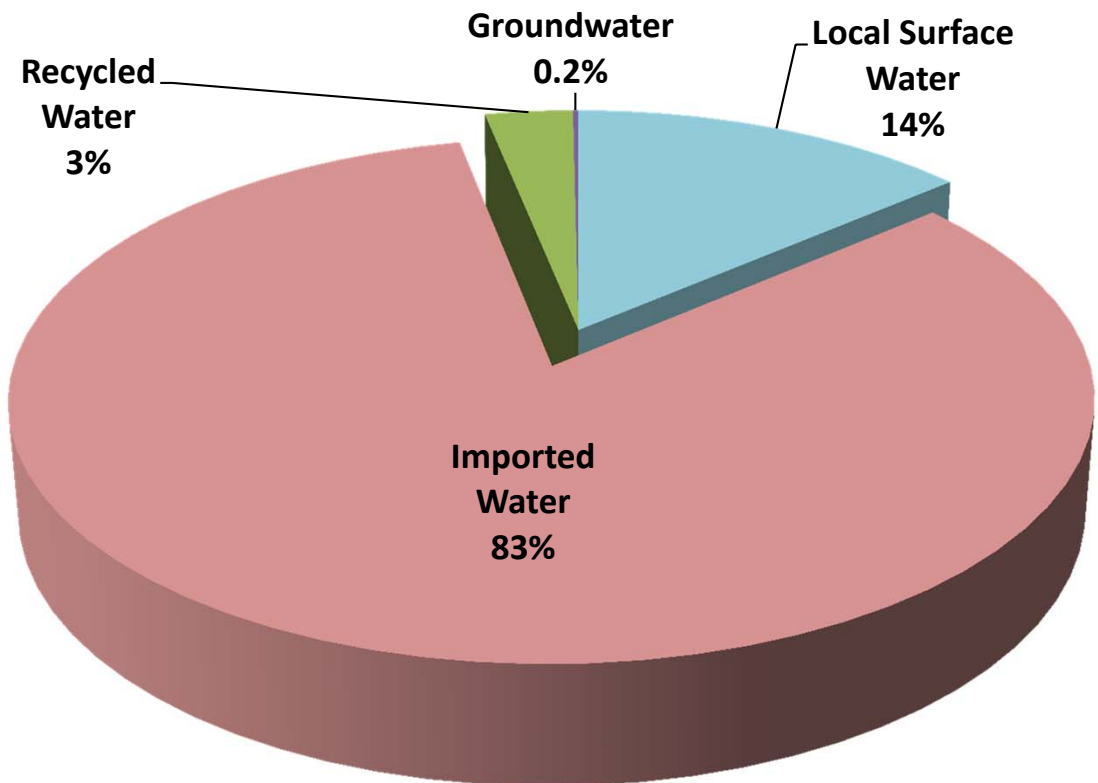


Recycled Water for
Non-Potable Reuse



Water Conservation
13.5% (35,600 AFY)

Water Supply Sources (FY 2013)





Purpose

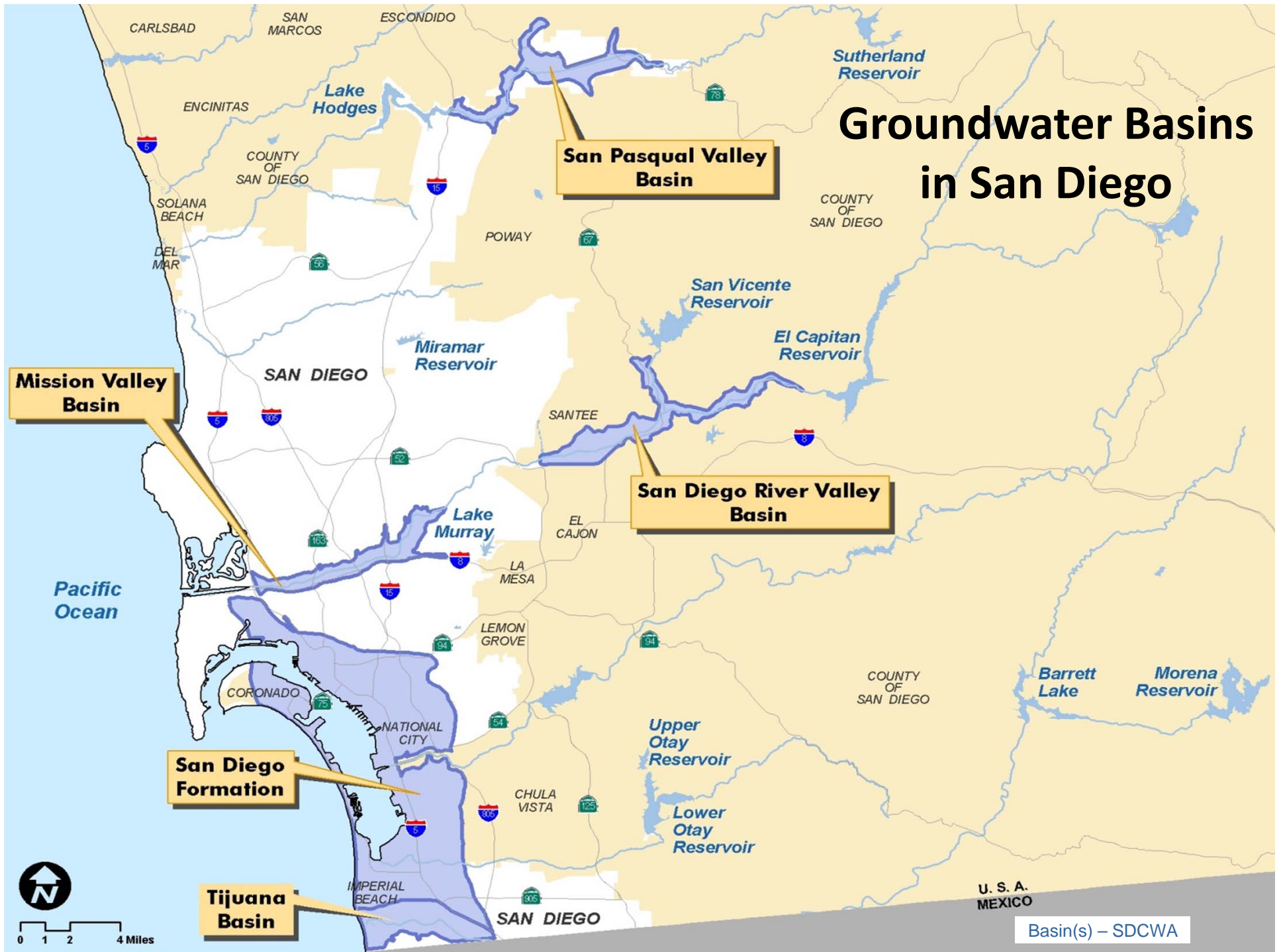
- Develop Local Water Supplies – **Groundwater**
 - Investigate/Evaluate Groundwater Basins for Municipal Water Supply Potential
 - Partnership with USGS
 - Pilot studies



Expanded Purpose

- Develop Local Water Supplies – **Groundwater**
 - **Protect**, Investigate/Evaluate Groundwater Basins for Municipal Water Supply Potential
 - USGS
 - Pilot Studies
 - **Contamination**
- **Comply with State regulations**
 - **CASGEM** – relatively new
 - **Salinity Nutrient Management Plan**
 - **Groundwater Sustainability Plans**

Groundwater Basins in San Diego





New Territory... uncharted (ground)waters

- California is one of the last states in the west to implement oversight for drilling and pumping wells
- Entering an age of cooperation and shared management for a common resource
 - Akin to the “Tragedy of the Commons”
 - Must work together to sustainably maintain manage and utilize a resource.



Groundwater Basin Challenges

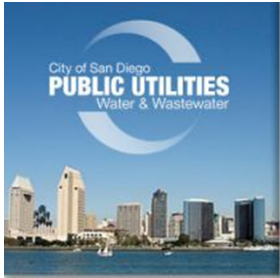
- CASGEM
- Basin Protection
 - Site inquiries
 - Closure Action Plans (CAP)
- Groundwater Contamination
 - Mission Valley Terminal
- Groundwater Management Plans
- Salinity-Nutrient Management Plans
- Groundwater Sustainability Plans



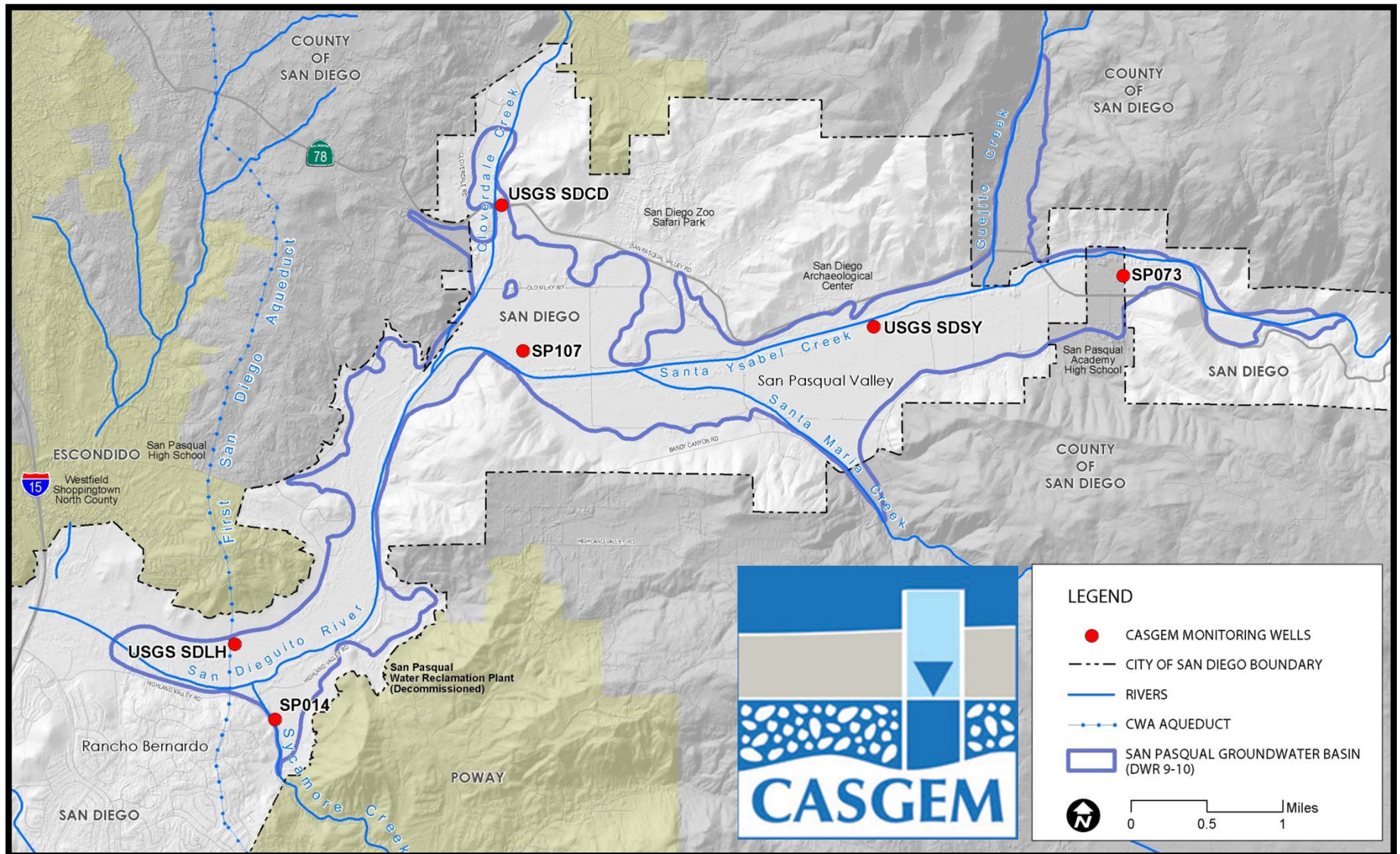
California Statewide Groundwater Elevation Monitoring (CASGEM)

- California Statewide Groundwater Elevation Monitoring (SBx7-6)
 - locally-managed program of regular and systematic monitoring
 - Track seasonal and long-term trends in groundwater elevations
 - Collaboration among local monitoring entities and the California Department of Water Resources (DWR) to collect groundwater elevation data.





CASGEM - Monitoring Network Wells





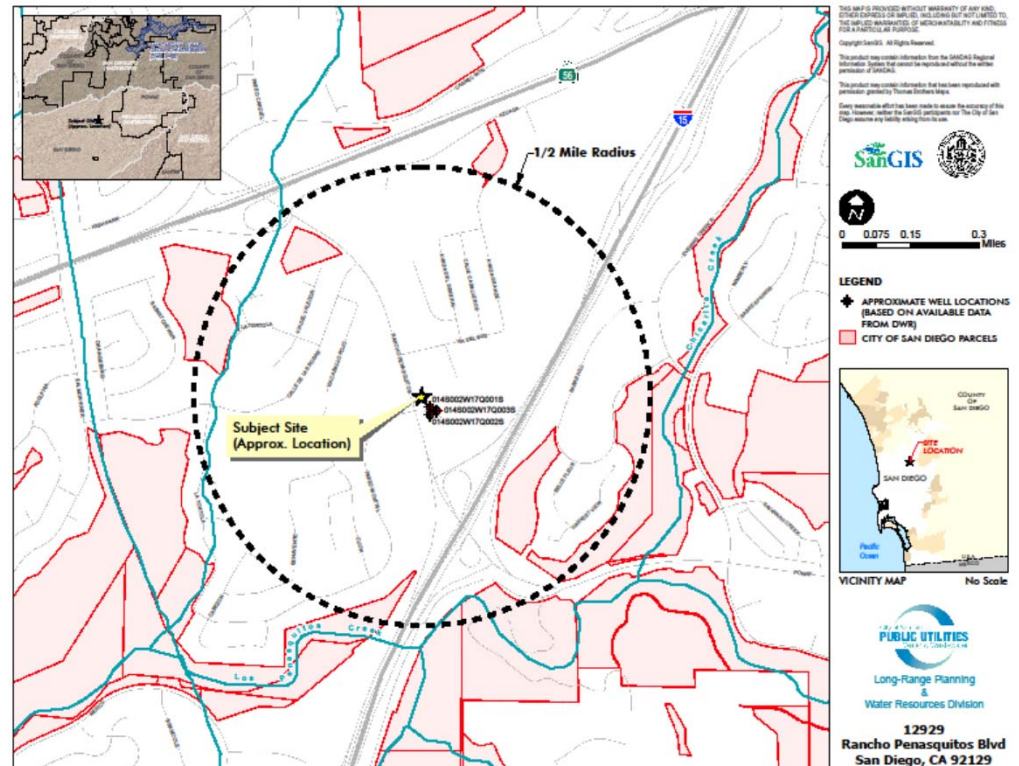
CASGEM

- Monitoring Entity (*medium and high priority basins*)
 - San Pasqual; because have GWMP
 - Voluntary Cooperative for Santee-El Monte
- Monitoring Plan for each basin
 - Creation and approval of the Monitoring Plan
 - Semi-annual well level readings



Basin Protection

- Leaking Underground Storage Tanks (UST)
 - Corrective Action Plans (CAP's)
 - Low-threat USTs
 - Site inquiries
 - Site closure(s)





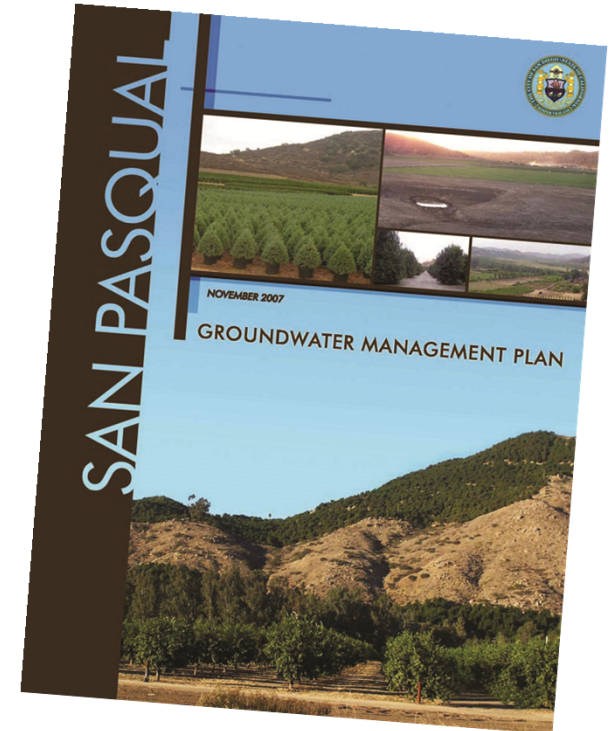
Closure Action Plans (CAP)

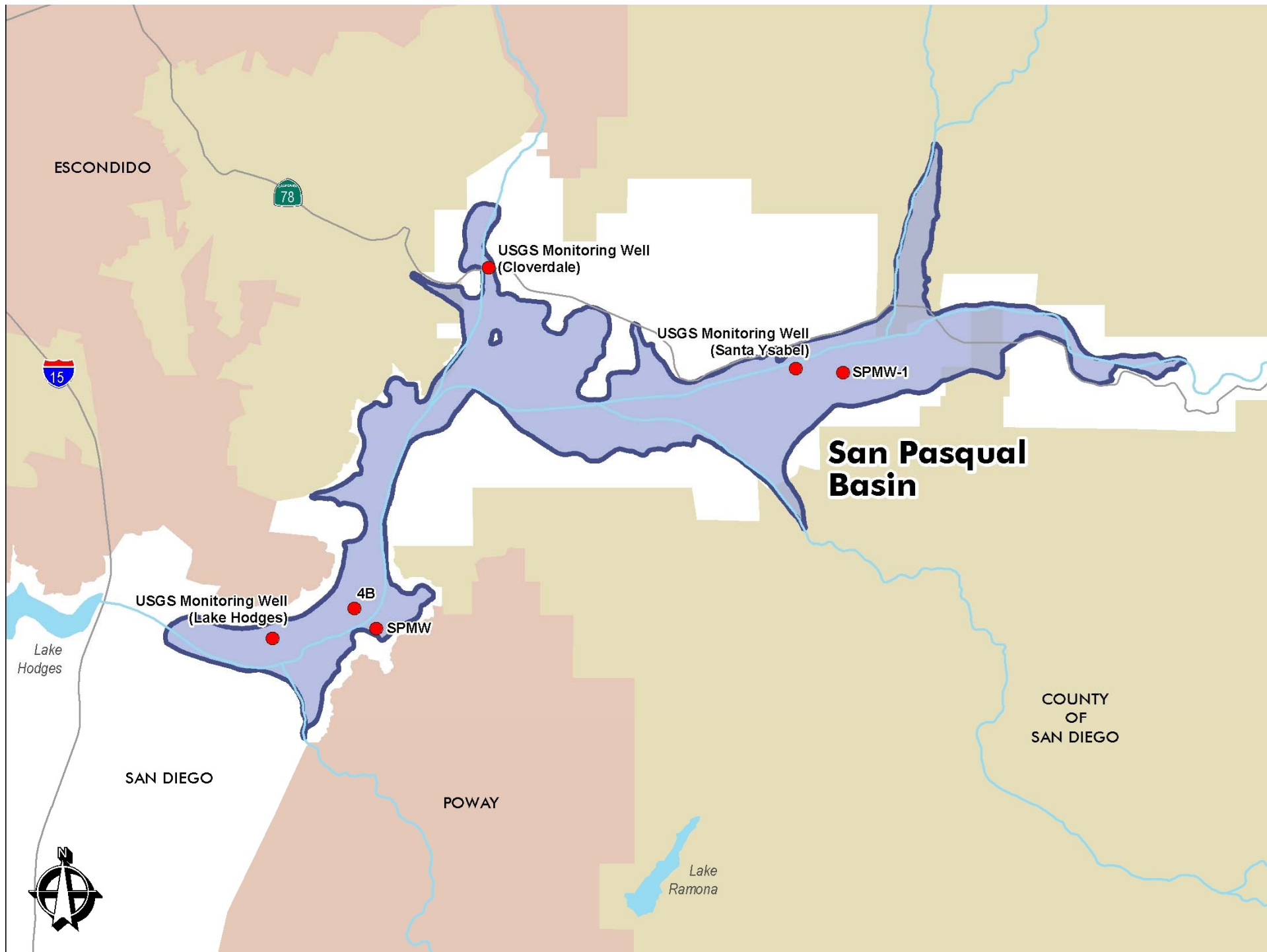
- Low-threat UST closure policy
 - Closure of leaking underground storage tanks (LUST), includes closing of monitoring wells, shutdown of treatment processes and such ...may have large effects on potable use of basin in future.
- Staff reviews and comments on every action
- local enforcement agency desire to close sites so reluctance to maintain monitoring and remediation.

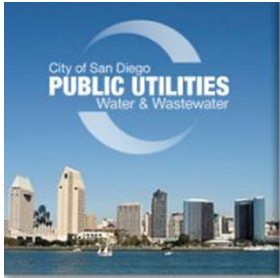


Groundwater Management Plan (GMP)

- GMP provides a framework for:
 - Operation and long-term sustainability
 - water quality management
 - public process
- Encourages coordination and cooperation amongst stakeholders
- San Pasqual Plan
 - Adopted by Council November 2007

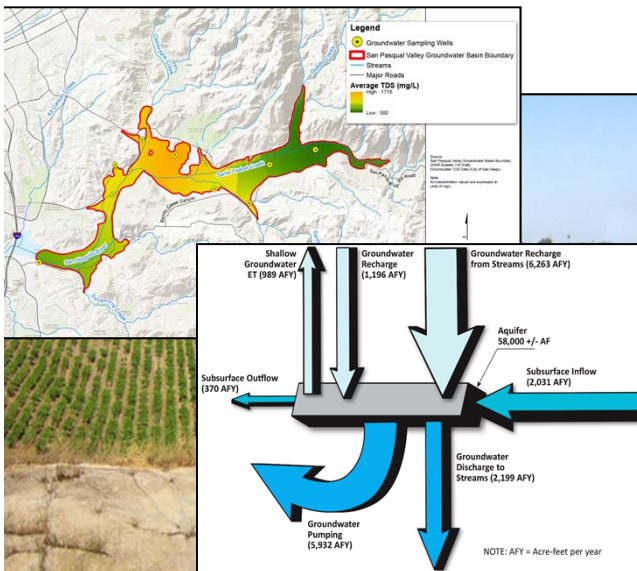
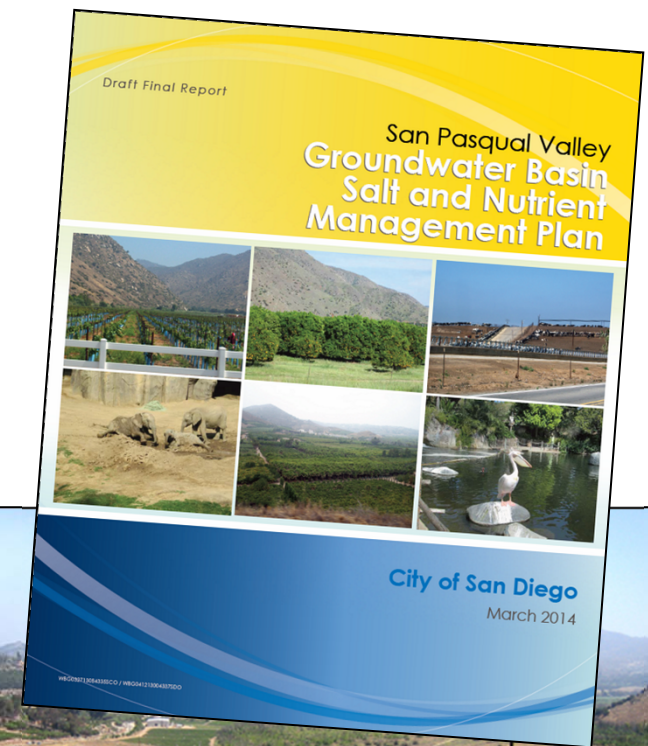






San Pasqual Salinity Nutrient Management Plan

- State Regional Water Quality Control Board
 - Understanding water quality
 - Minimize degradation
 - Work with stakeholders





Groundwater Sustainability Plans

- The next step in Groundwater Management Plans.
- Requirement by State :
 - High and medium priority basins must have plan by 2020.
 - Creation of sustainability agency
 - No unmanaged areas
 - Must show progress every 5 years after 2020
 - Achieve sustainability goals by 2040

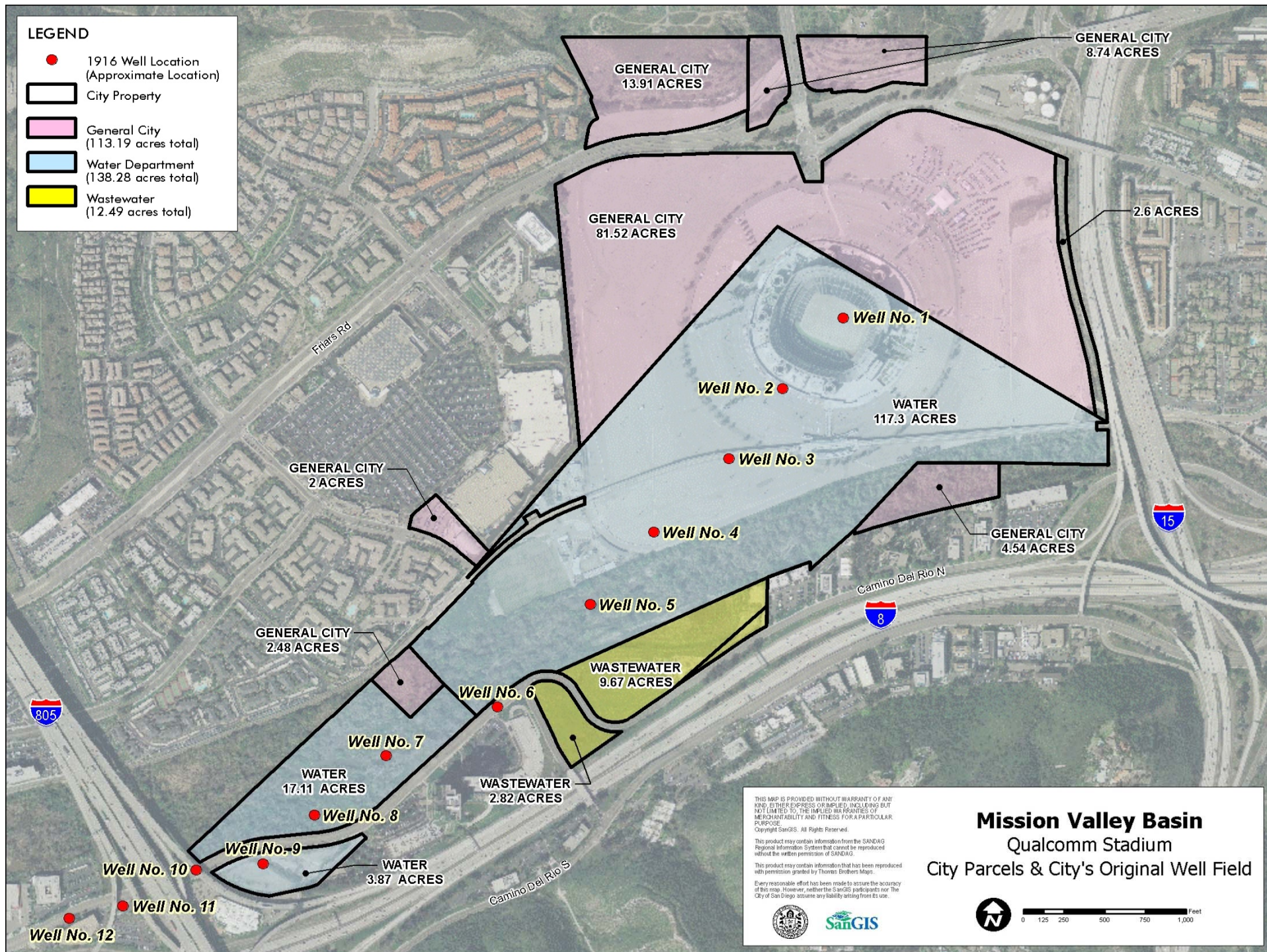


Mission Valley

- Seven Exploratory Wells Installed
- Water Quality – Brackish, Residual Contamination
- Severe Contamination – long process of cleanup
- Future work
 - Continued protection of resource
 - Other large volume users
 - Creation of a Groundwater Management Plan

LEGEND

- 1916 Well Location (Approximate Location)
- City Property
- General City (113.19 acres total)
- Water Department (138.28 acres total)
- Wastewater (12.49 acres total)





San Diego Formation

- Large Basin – multiple Cities and water agencies overlying.
 - San Diego, Chula Vista, National City, Imperial Beach etc
 - Sweetwater Authority, Otay Water District, Private users, San Diego





Sweetwater Authority Settlement Agreement





Sweetwater partnership

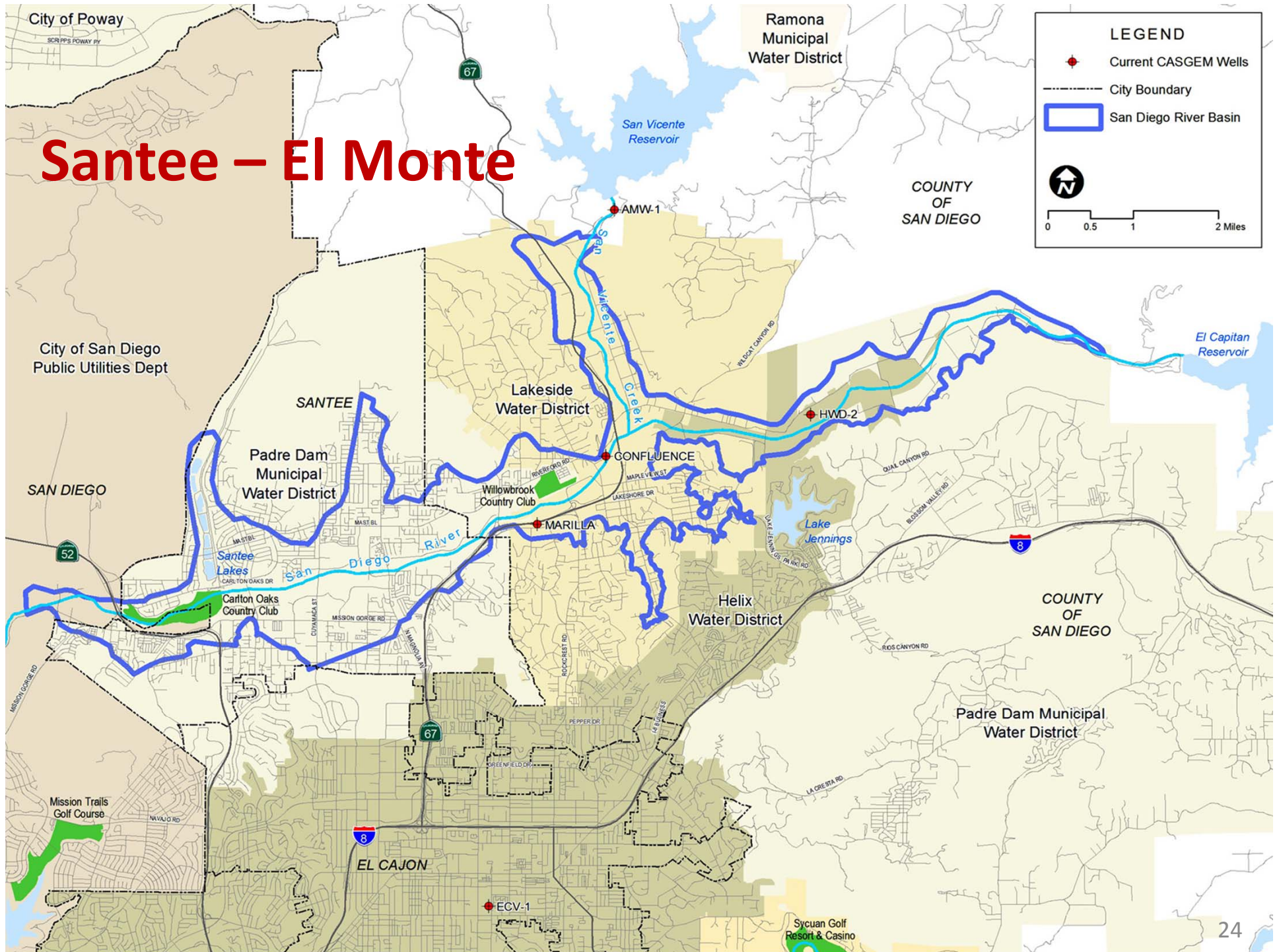
- Participate in expansion of brackish groundwater desalination facility.
 - 5200 acre feet per year (AFY) expansion, City will receive half of the annual production from expansionup to 2,600 AFY
- 30-year agreement
- Development of Groundwater Management Plan for the SD Formation Basin.



Santee- El Monte Basin

- Complex basin multiple agencies. Medium priority basin (CASGEM) requires voluntary cooperative and creation of a Groundwater Sustainability Plan
 - Padre Dam
 - Helix Water District
 - Lakeside Water District
- Water rights
 - How manage water rights, water usage, water protection?

Santee – El Monte





Next Steps

- Continue to protect, evaluate and monitor the basin(s)
- Develop several Groundwater Management/Sustainability Plans
- Work with other agencies to sustainably manage, clean and protect the basins.
 - Multi-agency cooperative agreements
 - Work with USGS (independent , unbiased)
 - Creation of groundwater computer models to better understand efficient clean-up and utilization options

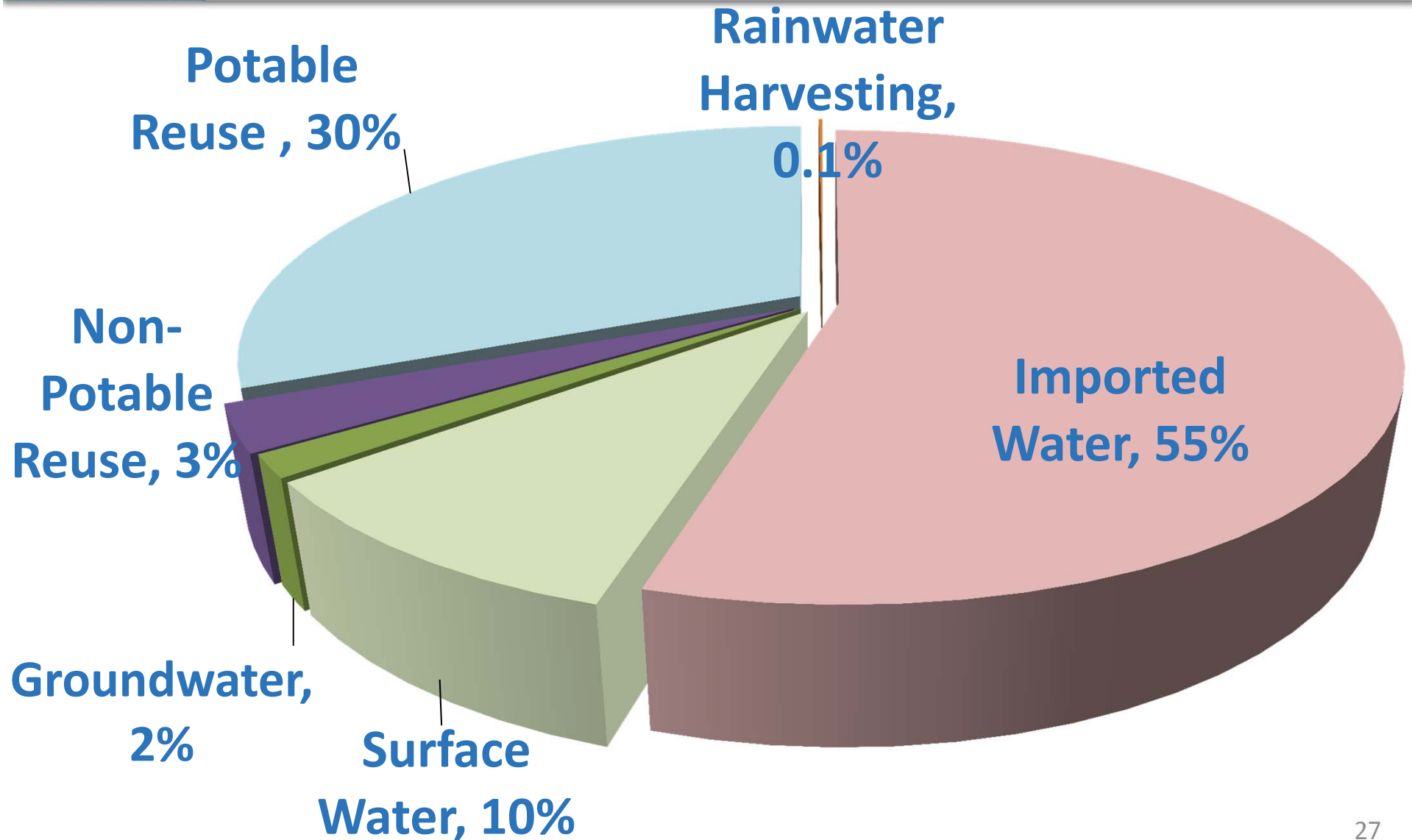
QUESTIONS?



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Future sources of Water Supply 2035





Questions?

<http://www.sandiego.gov/water/gen-info/watersupply.shtml>

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