What Will Regulations Look Like After the ‘Emergency’ is Over?
San Diego’s Water Story

The Early Years – Water

- Early Inhabitants
- Progress

The Early Years – Wastewater

- 1860s San Diego
- Environmental Challenges
White House Smart Cities Initiative
Intelligent and Green Infrastructure

Urban Agriculture Incentive Zone

Traffic Flow Improvements with better Public Transportation Systems
Background

- 1.4 million water customers
- 2.5 million wastewater customers
- >10 regulating agencies
- 12 agencies
- 45 mgd Recycling Capacity
- ~$1 billion invested last 5 years
- 85% Water Supplies Imported
- Water Supplies Imported
- City of San Diego Public Utilities Water & Wastewater
By the Numbers – Water

Vast Infrastructure
- 9 reservoirs
- 49 pump stations
- 3 water treatment plants
- 3,400+ miles of pipeline
- 320,000+ service connections
- 135 pressure zones

Among the Largest, Most Complex Systems in the World

We can treat 378 million gallons of water per day

sandiego.gov
Wastewater Infrastructure

- 2.5 million regional customers
- 3,000 miles of pipelines
- 79 pump stations
- 255 MGD capacity

- 3 wastewater treatment plants
- 2 ocean outfalls
- 1 bio solids center
Drought Response

**emergency**

*noun, often attributive | emer·gen·cy | ˈi-mər-jənt-sē*

**Simple Definition of** **EMERGENCY**

: an unexpected and usually dangerous situation that calls for immediate action

**Full Definition of** **EMERGENCY**

*plural emergencies*

1 : an unforeseen combination of circumstances or the resulting state that calls for immediate action

2 : an urgent need for assistance or relief <the mayor declared a state of emergency after the flood>
✓ Risk Level Defined
✓ Responses Match Identified Risks
San Diego’s Mandatory Water Use Reduction Target – 16%

Outdoor Irrigation limited to 2 days a week for only 5 minutes & various other restrictions in place

Turf Replacement Programs

Residential & Commercial Water Use Surveys
Long-Term WUE Framework

Water-Use Efficiency will Continue to Improve
Here’s Why...
Water Affordability

City of San Diego Costs to Purchase Untreated Water from the Metropolitan Water District and San Diego County Water Authority
Urban Densification
Urban Densification

Land Use Trends

San Diego-Carlsbad Residential Building Permits

Los Angeles-Long Beach-Anaheim Residential Building Permits

Source: http://www.cmdgroup.com/market-intelligence/articles/graphs-showing-the-history-of-housing-starts-in-21-major-u.s.-cities#top
Climate Change Policies

**Sustainable Building Policy**

- The expedited permitting process is estimated to take 75% as much time as the normal permitting process.

- In order to qualify for expedited permitting as a sustainable building, a project must utilize either photovoltaics to generate a "certain percentage" of the project's energy needs, or achieve LEED Silver certification.
Attain Drought Resilience

- Minimize incidences of water shortages
- Protect quality of life

Maintain Credibility with our Customers

- Align messages and actions with the appropriate need
Goals and Strategies

Enhance and Protect System Operations

✓ Water quality
✓ Hydraulic Flows
✓ Energy and GHGs

Invest wisely

✓ Bang for the Buck
✓ Integrated Planning
Price Point for New Supplies

City of San Diego Costs to Purchase Untreated Water from the Metropolitan Water District and San Diego County Water Authority
Drought Resilience

- Water-Use Efficiency
- New Sustainable Water Supplies
- Storage
- Voluntary Water Transfers

- Recycling and Reuse
Local Water Management Planning focused on:

• Realistic Supply and Demand Analysis over Normal and Multiple Dry Year Scenarios
• Water Shortage Contingency Plans
• Self-Certification
• SWRCB Back-stop

Supply and WUE Mix Depends on Local Conditions and:

• Net Reductions in Reliance on Imported Water
• Development of Sustainable Local Supplies
• Integrated Water Management/Watershed Approach
The City’s Pure Water Program is a phased, multi-year program that:

- Uses proven technology to produce a safe, sustainable and high quality water supply
- Is drought-proof and locally-controlled to significantly improve our water reliability
- Is a cost-effective investment for San Diego’s Water Future
- Is a Sustainable Water-Use Efficiency Program
- Will provide 1/3 of San Diego’s future water supplies
Final Thoughts

• Multiple drivers are advancing WUE today, not just water agencies.

• Water agencies must always respond to local conditions in determining a preferred drought resiliency strategy.

• Recycling and Reuse provide conservation benefits.