Challenges of Water Recycling

State of the Estuary

September 18, 2015

Ashwini Kantak
Environmental Services, City of San José
San José-Santa Clara
Regional Wastewater Facility

Delivering world class utility services and programs to improve our health, environment and economy
Treatment Eras

1957-1964: primary treatment
1964-1979: secondary treatment
1979-1997: tertiary/advanced treatment
1997-2013: Biological Nutrient Removal (BNR)

Delivering world class utility services and programs to improve our health, environment and economy
State Board Order WQ 90-5

Three major concerns in 1990:

- Nutrients (nitrogen and phosphorus)
- Metals, particularly copper and nickel
- Conversion of salt marsh to fresh.

Delivering world class utility services and programs to improve our health, environment and economy
Quick Facts

- Established in 1997
- 785 Customers
  - Irrigation 63%
  - Industrial 37%
- Average 11,000 AFY
  - Annual distribution
- 3 Reservoirs
  - 9.5 MG storage
- 5 Pump Stations
- 142 Miles Pipeline
  - max 54 MGD

Delivering world class utility services and programs to improve our health, environment and economy
South Bay Water Recycling Program
Strategic Plan Guiding Principles

Near Term (2015-2020)
- Recognize no wastewater driven need to expand SBWR
- Achieve cost recovery as soon as practical
- Maintain reliable supply to support existing customers

Long-Term (2020-2035)
- Balance needs of wastewater management and water supply
- Costs to be borne proportionally by all who benefit
- Provide basis for identifying alternative governance framework and funding strategies for non-potable and potable reuse
Water Supply Focus for Future of Recycled Water

Regional Wastewater Facility

- Title 22 Water
- Secondary Effluent

Expanded SVAWPC

- Purified Water
- Residuals

Existing SBWR System

- Near-term CIP
  - 20,000 AFY

Expanded SBWR System

- Facilities to support expansion (optional)
  - 10,000 AFY

Potable Reuse System

- Mid-Basin Injection (optional)
  - 5,000 AFY?
- Percolation Pond Recharge (Los Gatos)
  - 20,000 AFY
- Direct Potable Reuse (optional)
  - 5,000 AFY?

Delivering world class utility services and programs to improve our health, environment and economy
Current Challenges

- Limited use of recycled water product
- Complex public health regulations
- Infrastructure investment; cost recovery is challenging
Current Challenges (contd.)

- Original driver no longer valid due to lower wastewater flows
- Limited effluent and high demand
- Public perception about recycled water during current drought
Future Considerations

Future of SBWR?
Zero Discharge?
RWF Operations
Cost Recovery
Limited Effluent!

Delivering world class utility services and programs to improve our health, environment and economy
Future Opportunities

- Sustainable local water supply
- Thriving South Bay eco system
- Water conservation to maximize effluent use
- Self sustaining financial model
Discussion and Questions

Delivering world class utility services and programs to improve our health, environment and economy
Our passion. Our city. San José

Twitter @sjenvironment

facebook.com/sjenvironment

instagram.com/sjenvironment

#keepSJclean

ashwini.kantak@sanjoseca.gov