Northern California WateReuse Chapter Meeting
How Much Can an Indirect Potable Project Change?
Pure Water Monterey A Groundwater Replenishment Project

August 22, 2014
Seaside
Groundwater Basin
Adjudicated
Salinas River Basin
Seawater Intrusion
Carmel River
SWRCB Order 95-10 and CDO
Area of Special Biological Significance
Monterey Bay National Marine Sanctuary
Internal Board Goal: No Wastewater Discharge
No State or Federal Water Available
Seaside Groundwater Basin Adjudicated
The Supply Gap

5-Year Average Demand
Last Year’s Demand

Water Cliff

Legally Available Water Supply

Acre Feet per Year

Today 2015 2018 2021

<table>
<thead>
<tr>
<th>Year</th>
<th>5-Year Average</th>
<th>Demand</th>
<th>Last Year's Demand</th>
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<tbody>
<tr>
<td>Today</td>
<td>14,000</td>
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<tr>
<td>2015</td>
<td>12,000</td>
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<tr>
<td>2018</td>
<td>10,000</td>
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<tr>
<td>2021</td>
<td>12,000</td>
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Water Cliff

Carmel River
Seaside Basin
Water Supply Portfolio

- Desalination Project
- Aquifer Storage And Recovery
- Groundwater Replenishment
- Los Padres Dam / Carmel River
- Seaside Basin
- Local Water Projects
Complications

- Severe time limit
- Water purveyor is private company
- California Public Utilities Commission
- MRWPCA is a wastewater district
- CEQA before feasibility study
- Special interest groups
- Financing before WPA
- Three groundwater basins and multiple aquifers
Historic Drought
GWR Project Primary Objectives

• Reduce Carmel River pumping by 3,500 AFY and reduce desal size
• To accomplish primary objective, GWR needs to:
  – Commence operation by start of 2017
  – Be cost effective
  – Comply with public health regulations
GWR Project Components

- **Source water** – diversion, collection, conveyance to RTP
- **Treatment** – Advanced Water Treatment Plant & concentrate disposal
- **Product water conveyance** – pump stations & pipelines
- **Injection** – deep injection and vadose zone wells, backflush facilities
- **Extraction** – Water purveyor facilities needed to convey GWR water to customers
Proposed Project Source Waters

- Secondary effluent
- Produce wash water
- Stormwater and urban dry weather runoff
- Farm Ditches--Agricultural Tile Drain and Ag Runoff Water
Salinas Ponds – Produce Wash Water (Then)
Salinas Ponds – Produce Wash Water (Now)
Lake El Estero - Stormwater
Blanco Drain – Ag Drainage Water
Reclamation Ditch - Salinas
Tembladero Slough - Castroville
Our Project is Complicated

- Severe water restrictions looming
- Declining wastewater flows
- Developing New Interruptible Rate for new water sources
- Partnerships
- Public outreach
- Surpassing FAT
REGIONAL PLANT FLOW
APRIL 2010 TO MAY 2014

Salinas Industrial Pond
Water shunt start date
April 2, 2014
MRWPCA Proposed Groundwater Replenishment Project Phasing
Updated 6/16/14

2013

Q1
- EIR Scoping: Project Understanding, Notice of Preparation, and Public Meeting
- Technical Reports & Feasibility Reports
- Scoping Report

Q2
- Project Description & Investigations
  - Source Water
  - Treatment
  - Product Water Conveyance
  - Groundwater Injection
  - Cal Am Distribution
- Background Development & Investigations
- Water Quality Sampling & Shunt Tests
- IAP Meetings
- Outreach Meetings

Q3
- Technical Reports for Admin Draft EIR
- SRF & Title XVI Funding Coordination
- Internal Draft Facilities Plan & Feasibility Study Reports

Q4
- Technical Reports for Admin Draft EIR
- Final Facilities Plan Report
- Certify EIR and Approve GWR Dec. 2014
- Complete

2014

Q1
- Technical Team Prepares Conceptual Design Information
  - Source Water
  - Treatment
  - Product Water Conveyance
  - Groundwater Injection
  - Cal Am Distribution
- 2nd Admin/Screen-Check Draft EIR Prep
- IAP Meetings
- Outreach Meetings

Q2
-Alternative Analysis Report
- Final Facilities Plan Report
- CPUC Desal ADER Sections
- Certified EIR and Approve GWR
- Complete

Q3
- Technical Reports and Admin Draft EIR Preparation
- Feasibility Study Report
- Product Water Conveyance, Injection Well Design, Siting
- Product Water Conveyance, Injection Well Easements and Design Refinements

Q4
- Source Water Rights & Purchase Agreement
- PILOT PLANT & WELL TESTING
- Feasibility Study Report
- CPUC Hearing & Workshops
- 30% Design

2015

Q1
- REGULATORY PERMITTING & ENGINEERING REPORT
- CPUC Determination July 2015
- Mobilization & Final Design
- Construction

Q2
- SRF & Title XVI Applications
- Construction

Q3
- CPUC Settlement Hearings
- CPUC Settlement
- Start Up
- Complete

Q4
- Facility Testing
- Construction
Groundwater Replenishment

Project Restart

- Pilot Tests
- Joint Agreements
- CEQA
- Project Report for CDPH

10% Design Cost Estimate

Dec 2014 CPUC Testimony

DELAYED
MF (outside-in)
UF (inside-out)
O$_3$
RO (2-stage)
Contaminants of Emerging Concern - CECs

Secondary Effluent

Ag Wash Water

Ag Drain Water
Dr. Pierre Mukheibir – One Water Approach

- Lack of unified vision
- Lack of systems thinking and integration
- Planning & collaboration
- Culture, knowledge and capacity
- Citizens engagement
- Economics & finance
- Legislation & regulations
- Lack of leadership & political will
- Lack of Data collection and sharing
- Lack of drivers and urgency
Anxiety and Shutdown

Navigating Complexity

Divergent Zone

Groan Zone

Convergent Zone

The Collaborative Solution

Business as usual

Uncertainty and Chaos

Breakthrough

Closure Zone

Time

Facilitators Guide to Participatory Decision Making – Sam Kaner
Minimize Danger – Maximize Reward

David Rock – Your Brain at Work
SCARF Definitions

• Status – importance to others
• Certainty – predicting the future
• Autonomy – Control over events
• Relatedness – Safety with others
• Fairness – Fair exchanges between people
SCARF Threats

• Reduces capacity to make decisions
• Reduces ability to solve problems
• Reduce ability to collaborate
• Err on the side of pessimism
SCARF Rewards

• Larger Group means better memory/knowing
• Creates a more insightful experience for group
• More and Better Ideas
• Creates a larger field of vision
SCARF – A Winning Formula

• Status – be aware of what you say and do to bring safety to the status of others
• Certainty – be very clear and consistent in messaging
• Autonomy – No micromanaging, commit to engaging others in the decision making process
• Relatedness – help to create a feeling of inclusion and sense of belonging
• Fairness – Transparency is non-negotiable
Questions?

Pure Water Monterey
A Groundwater Replenishment Project