An aerial photograph of Monterey County, California, showing the coastline, inland terrain, and agricultural areas. The map is oriented with the coastline on the right and the interior on the left. The text is overlaid on the dark ocean area.

Water for Monterey County

Project Update

October 2009



Initial Phase Takes Advantage of Three Existing Initiatives

■ Seaside ASR	920 AFY	} Immediate Implementation
■ Sand City Desal	300 AFY	
■ RUWAP	1,000 AFY	



Desalination Supply is Mix of Ocean Water and Intruded Groundwater

■ Seaside ASR	920 AFY
■ Sand City Desal	300 AFY
■ Urban Recycled	1,000 AFY
■ Desalination	10,500 AFY

} Immediate
Implementation



Diverse Supplies Ensure Reliability

■ Seaside ASR	920 AFY
■ Sand City Desal	300 AFY
■ Urban Recycled	1,000 AFY
■ Desalination	10,500 AFY
Total	12,720 AFY

Immediate
Implementation



Seawater Intrusion has Slowed Since Implementation of CSIP

Monterey Bay
Seawater Intrusion
in the
180 Foot Aquifer

Marina

Former
Fort Ord

Castroville

Salinas

1975

1985

1993

2003

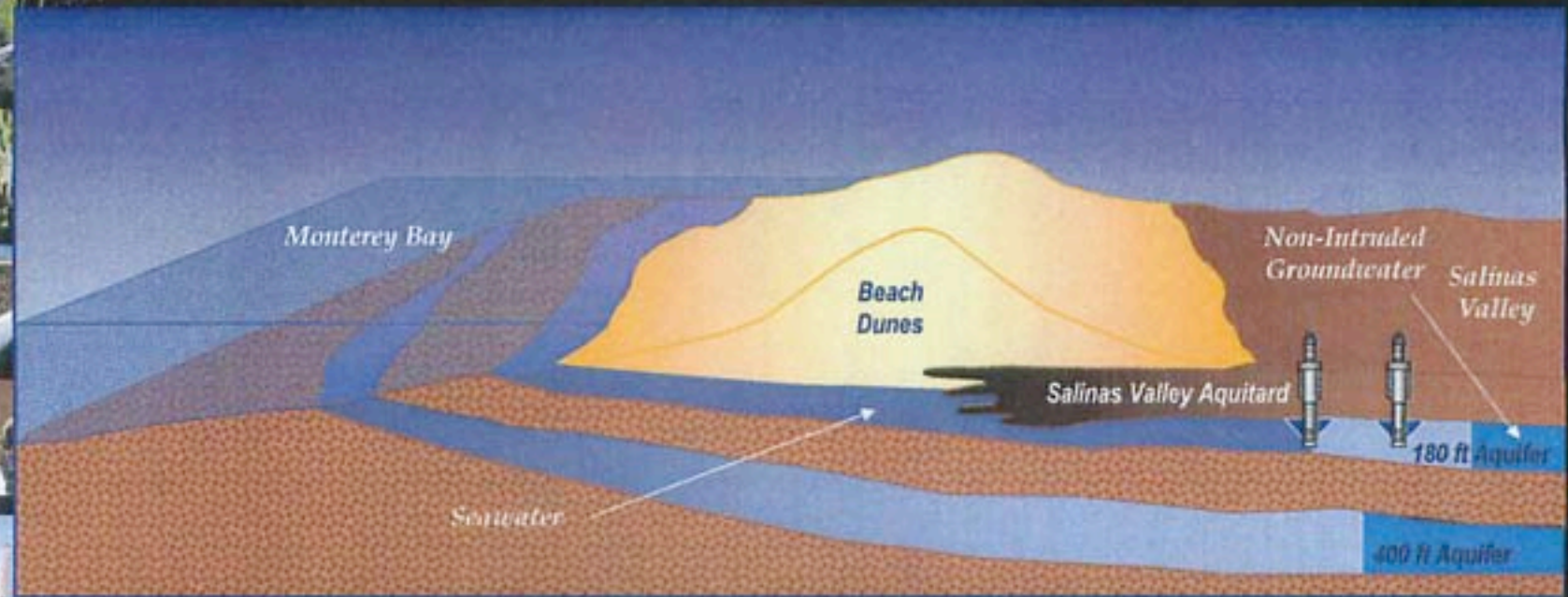
1999

2005

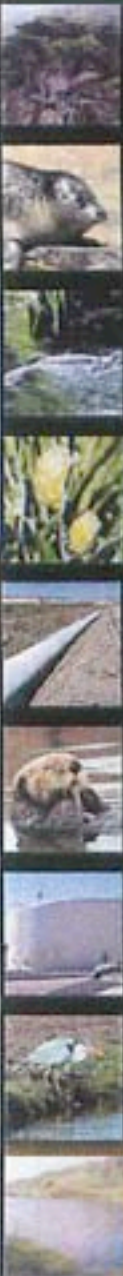
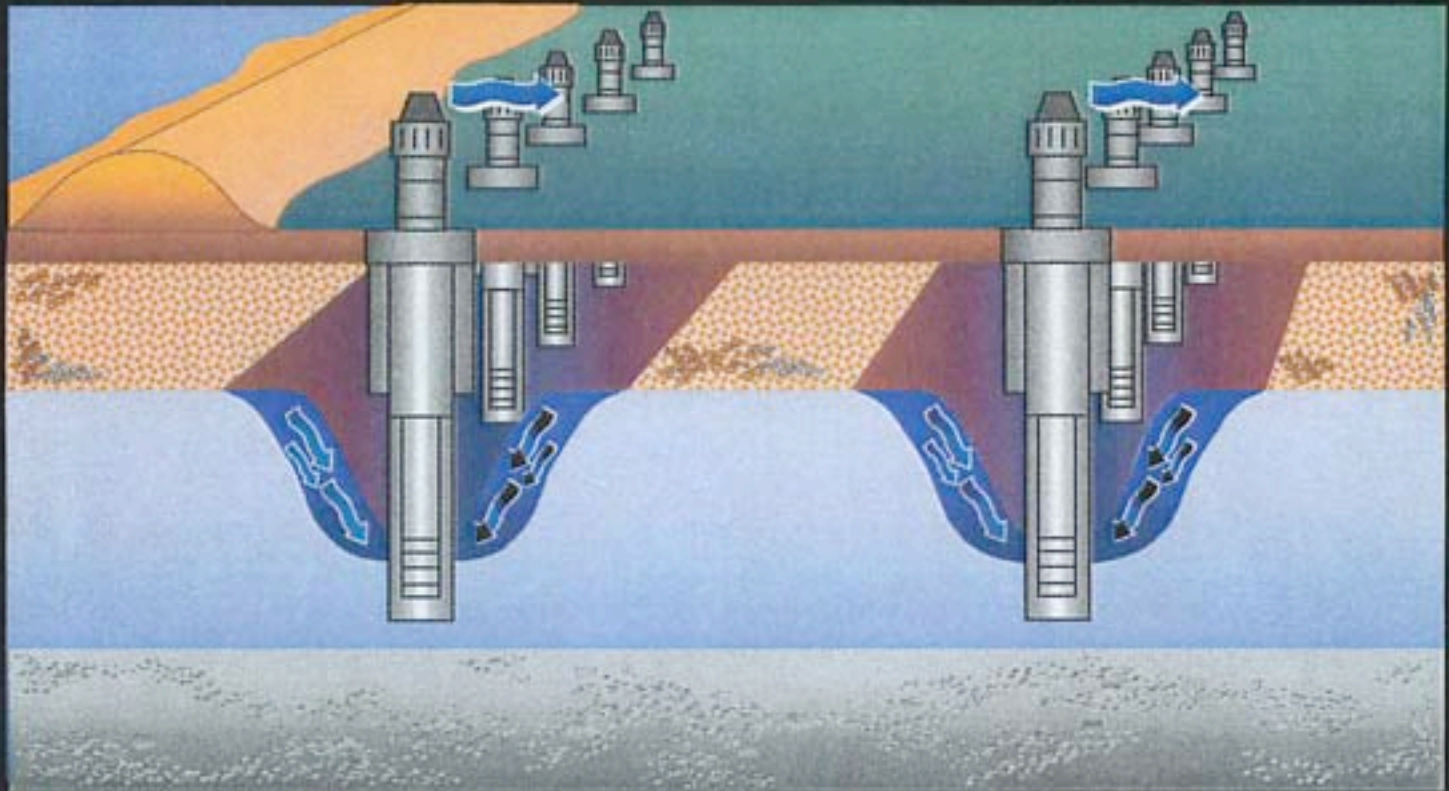
Water for Monterey County Provides a Sustainable Regional Supply



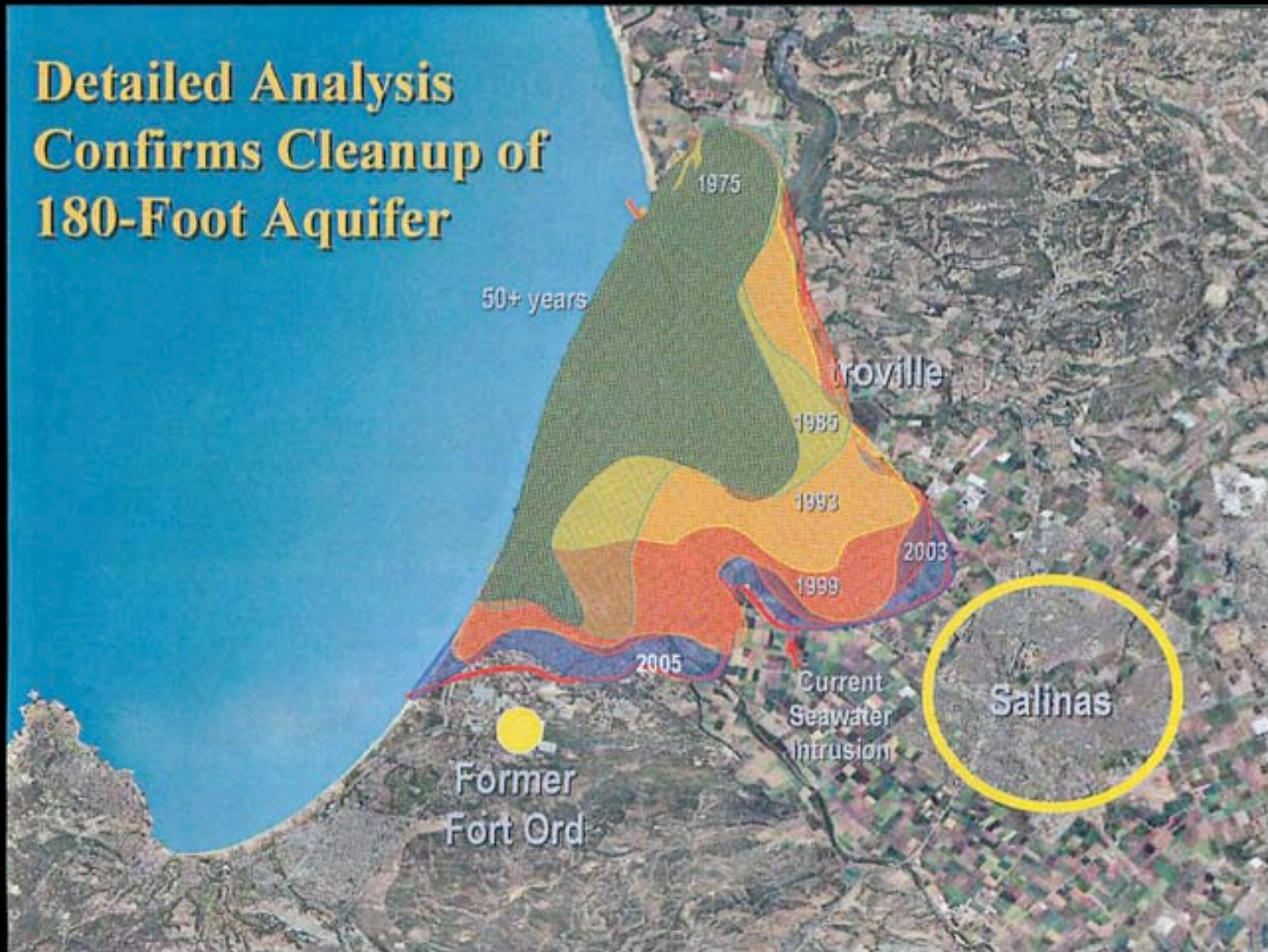
Proposed Program Utilizes Intruded Groundwater and Restores Aquifer



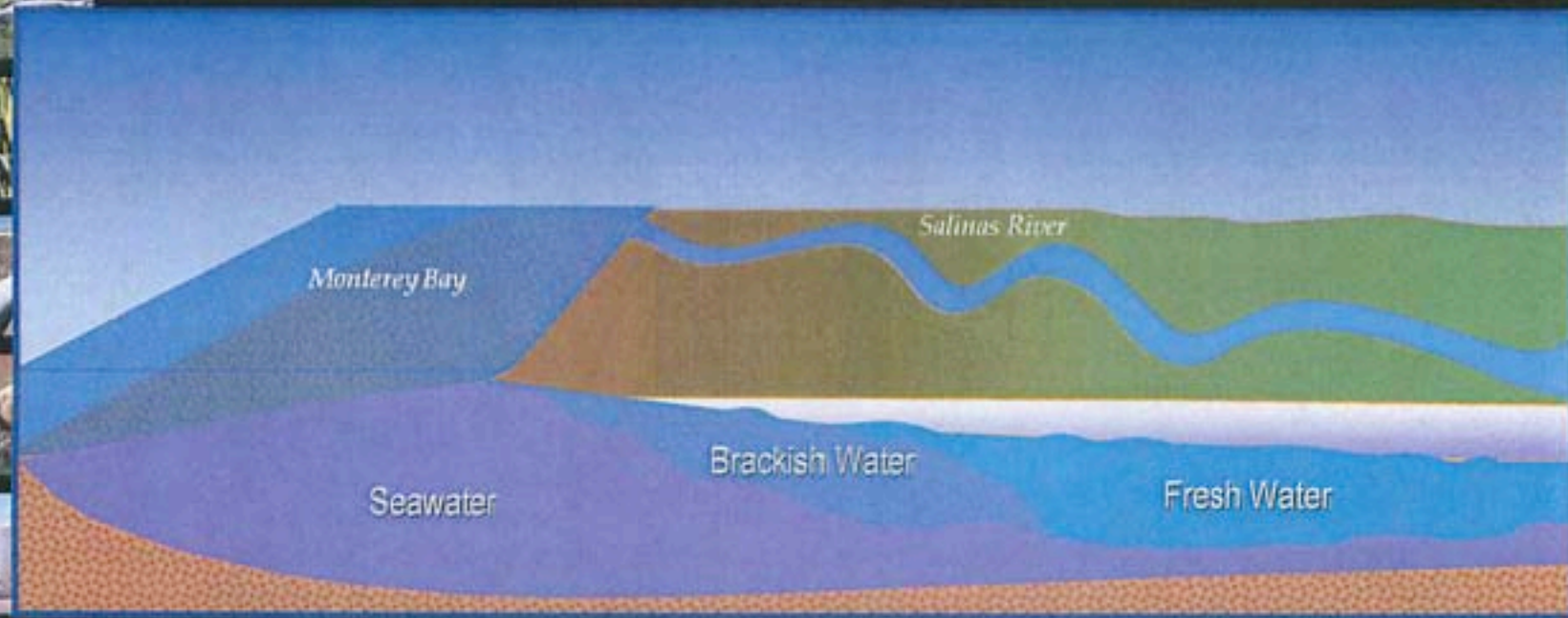
Coastal Wells Create Trough That Protects Basin from Seawater Intrusion



Detailed Analysis Confirms Cleanup of 180-Foot Aquifer



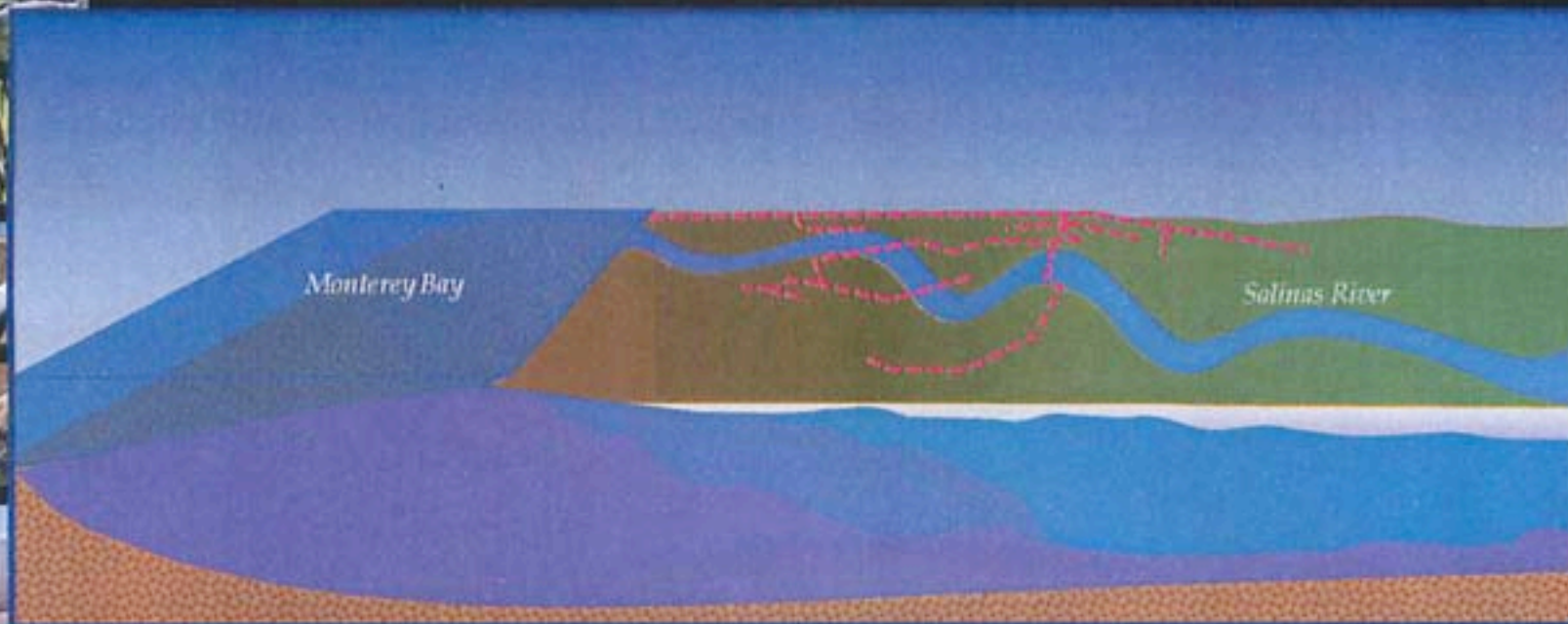
Lowered Groundwater Elevations Allowed Seawater to Intrude



10

10

CSIP Recycled Water Deliveries Improve Groundwater Levels and Slowed Intrusion



Regional Project Takes Advantage of Intruded 180-foot Aquifer

Sand Plant

Monterey Bay

Potential location
of desalination wells

Salinas River

Reservation Road

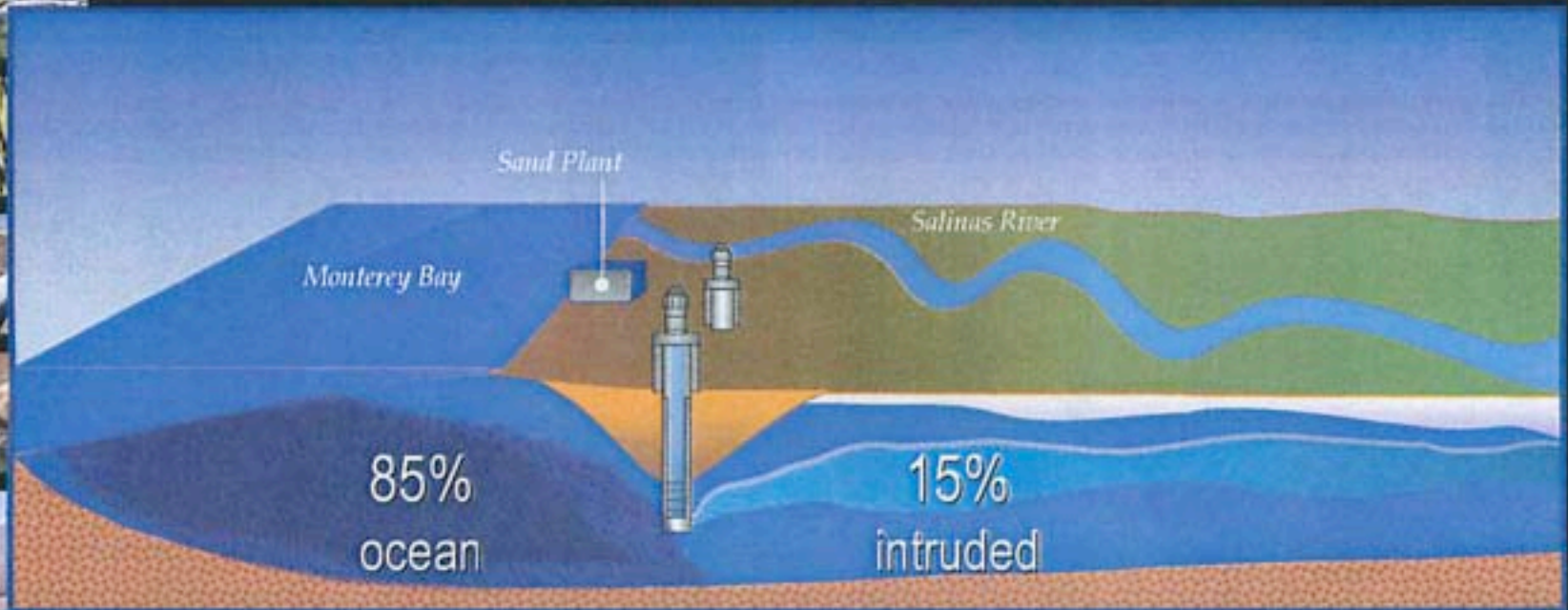


Impacts of Desalination Intake Wells is Localized

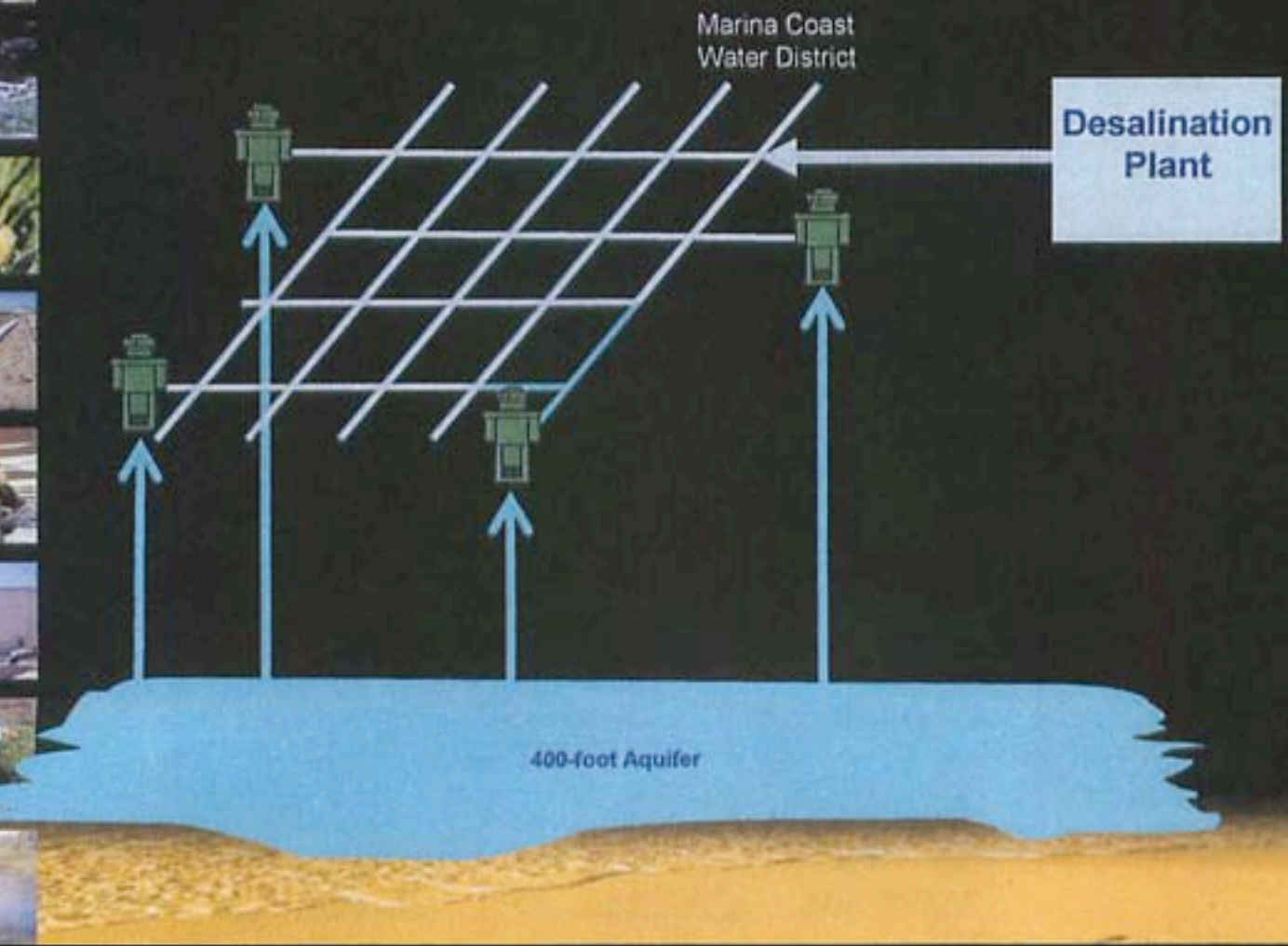
- Regional Project
 - Intake wells between Highway 1 and dunes
 - Localized affect in groundwater elevations immediately surrounding wells
 - Helps restore basin



Desalination Intake Wells Create Local Trough and Barrier to Intrusion



Use of Desalinated Water Enhances Storage in Zone 2C



Proposed Facilities Location Offers Green Power and Brine Disposal Benefits



- Green landfill gas power from new cogeneration facility
- Potential to use
 - Nacimiento hydropower,
 - wind turbines
 - biomass conversion
- Adequate outfall capacity to meet wet weather conditions

Existing Outfall Provides Effective Means for Brine Disposal



- Brine TDS within 10% of ocean TDS
- Meets SWRCB proposed Ocean Plan
- Saves > \$30 M
- Adequate outfall capacity to meet wet weather conditions

Desalination Plant energy demands are significant.

Process	kw-hrs	Kw
Treatment	38,500,000	4,400
Distribution	3,200,000	400
Total	41,700,000	4,800

Total of 10,000 AFY

Power Options Considered:

- ~~Locate desalination plant adjacent to existing power plant~~
- ~~Power Supply from local utility (PG&E)~~
- ~~Natural Gas powered engine generators on site~~
- "Green" Power from Landfill Gas

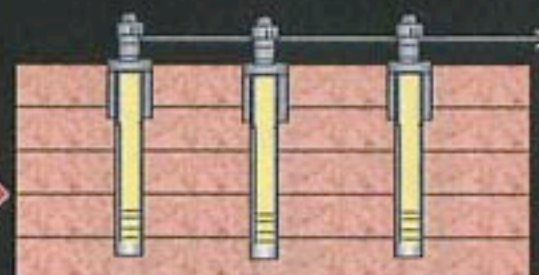
Environmental Park benefits 3 public agencies

20



Improvements in Biosolids Handling Yield More Energy Potential

40,000 Tons/yr
Biosolids to Dedicated
Bioreactor



Bioreactor Managed
For Maximum Methane
Production



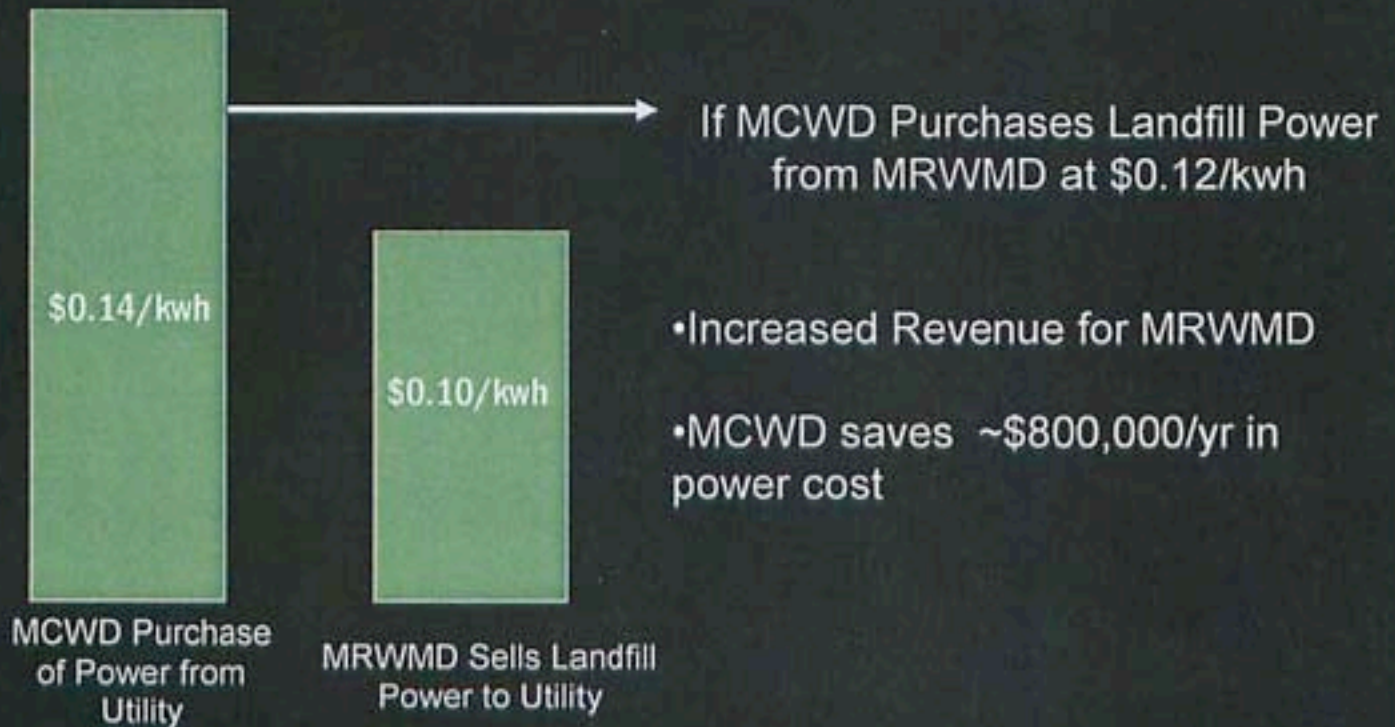
Methane collected and
used in Expanded
Landfill Gas Energy
Project



Energy Sold to
Desalination Project,
MRWPCA, and Excess
to Grid



A Win/Win Opportunity Exists from Cost of Power



Additional Renewable Energy Sources Under Consideration



Solar Panels

- Roof-mounted panels could produce ~600,000 kwh/yr (1.4% of Total Energy Demand)
- Meeting total energy demand would require ~48 acres of solar arrays



Wind Power

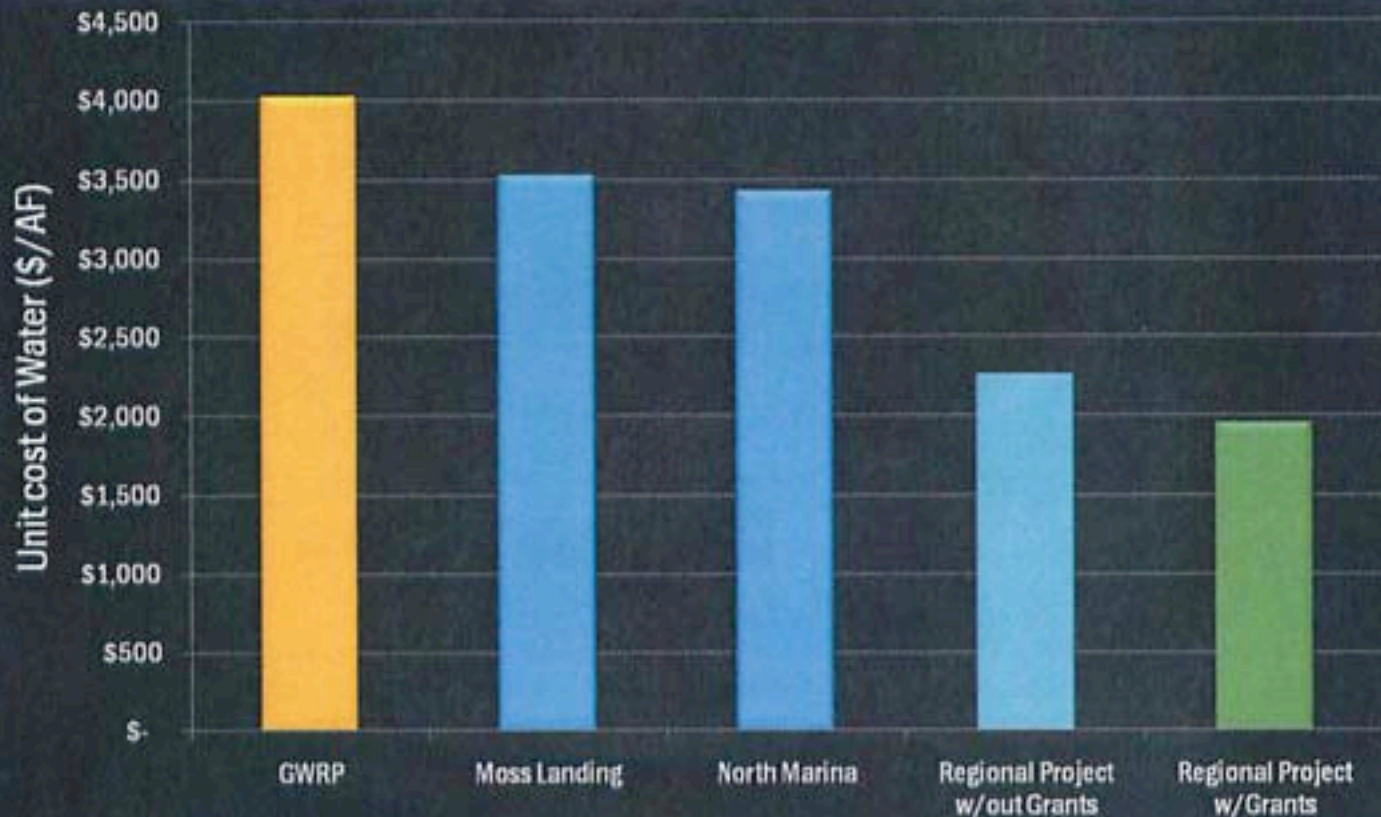
- Production ~1.4 to 3.5 Mwh/yr depending on size of turbine
- Need wind farm of 10 to 30 turbines to meet total energy demand
- Permitting issues due to nearby airport, proximity to Marine Sanctuary - aesthetics, avian mortality

Landfill Gas Produces Sustainable, Reliable Green Power for Desalination Project



- Adjacent facilities enables over-the-fence power sales - without wheeling through power utility
- Existing landfill operations already produce sufficient power
- Developing dedicated biosolids bioreactor maximizes benefits:
 - more methane production
 - reduced biosolids handling cost
 - reduced fugitive emissions from stockpiled biosolids.

Regional Project Provides Needed Water at Lower Cost



What Are The Continuing Steps?

- Stakeholder/Public Input
- Finalize Institutional Agreements
- Complete Permitting
- Secure Financing

