Steven Tanaka

PRIOR WATER RECYCLING STUDIES

SOUTH SAN LUIS OBISPO COUNTY WATER RECYCLING FORUM

June 7, 2012
South County Regional Center

Hosted by: South San Luis Obispo County Sanitation District

Prior Recycled Studies in South County Area

Presented by: Steven G. Tanaka, PE, Wallace Group

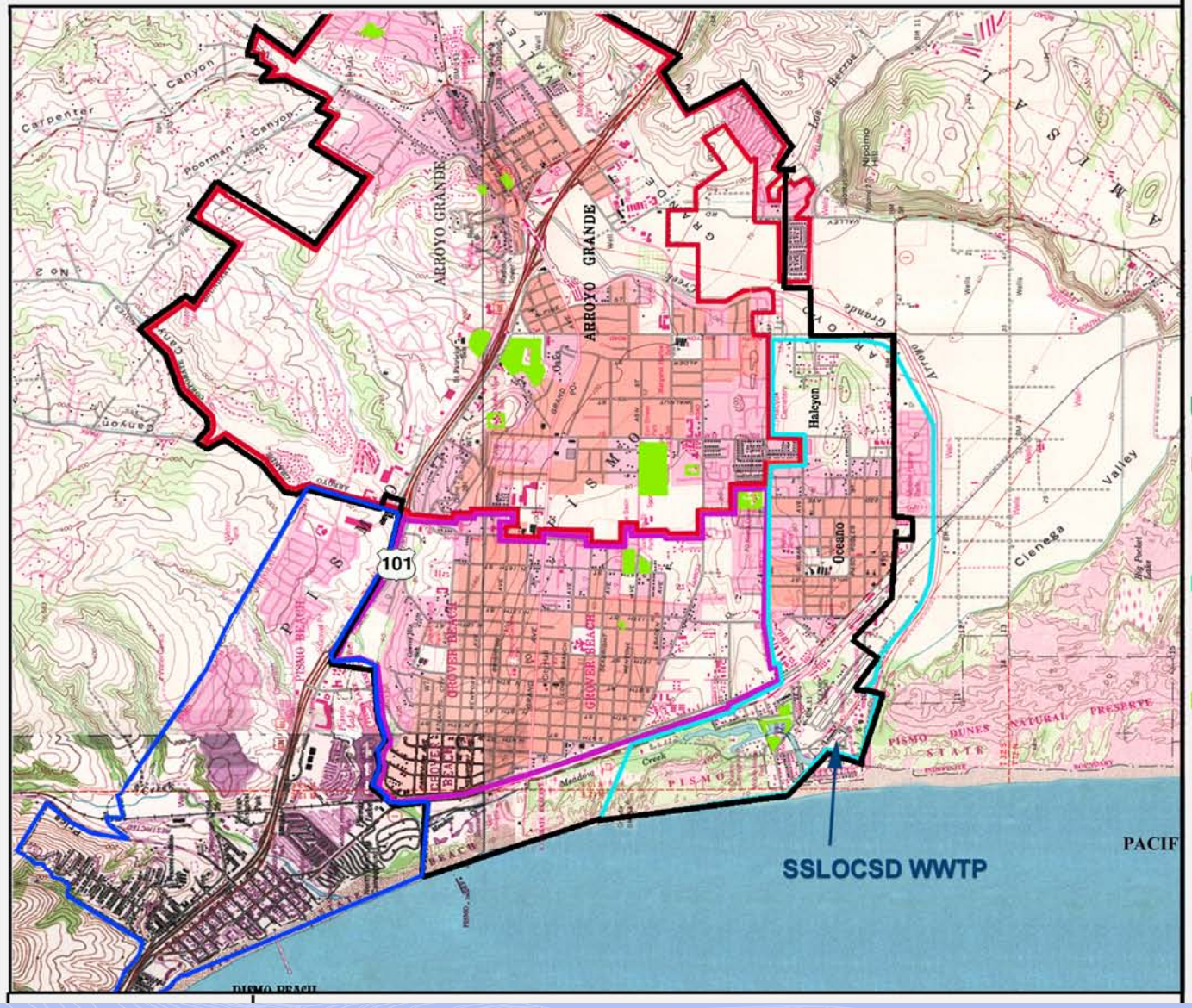
Prior Recycled Water Studies

- 2001, SRF Grant-Funded Study
- 2007, City of Pismo Beach RW Study
- 2009, South County RW Update
  - Landscape (secondary and tertiary)
  - Agricultural Reuse
  - Stream Augmentation/Environmental
  - Groundwater Replenishment/Indirect Potable Reuse
- 2011 Focused Studies
  - Serve AG Cemetery and Caltrans Medians:
    - From SSLOCSD WWTP
    - From City of Pismo Beach WWTP

Study Objectives

- Determine Viability of Recycling Water from Area WWTPs:
  - Existing and Future Wastewater Flows from AG, Grover, Oceano CSD, City of Pismo
  - Water Quality and Supply Considerations
  - Market Study/Recycled Water Demands
  - Regulatory Review
  - WWTP Upgrade Requirements
  - Economic Analysis

Service Area Defined



Water Recycling

Legend

- SSLOCSD BOUNDARY
- CITY OF ARROYO GRANDE
- CITY OF GROVER BEACH
- OCEANO CSD
- CITY OF PISMO BEACH
- POTENTIAL USERS-PARKS & SCHOOLS

- City of AG – 17,000 population
- City of Grover – 14,000 population
- Oceano CSD – 8,000 population

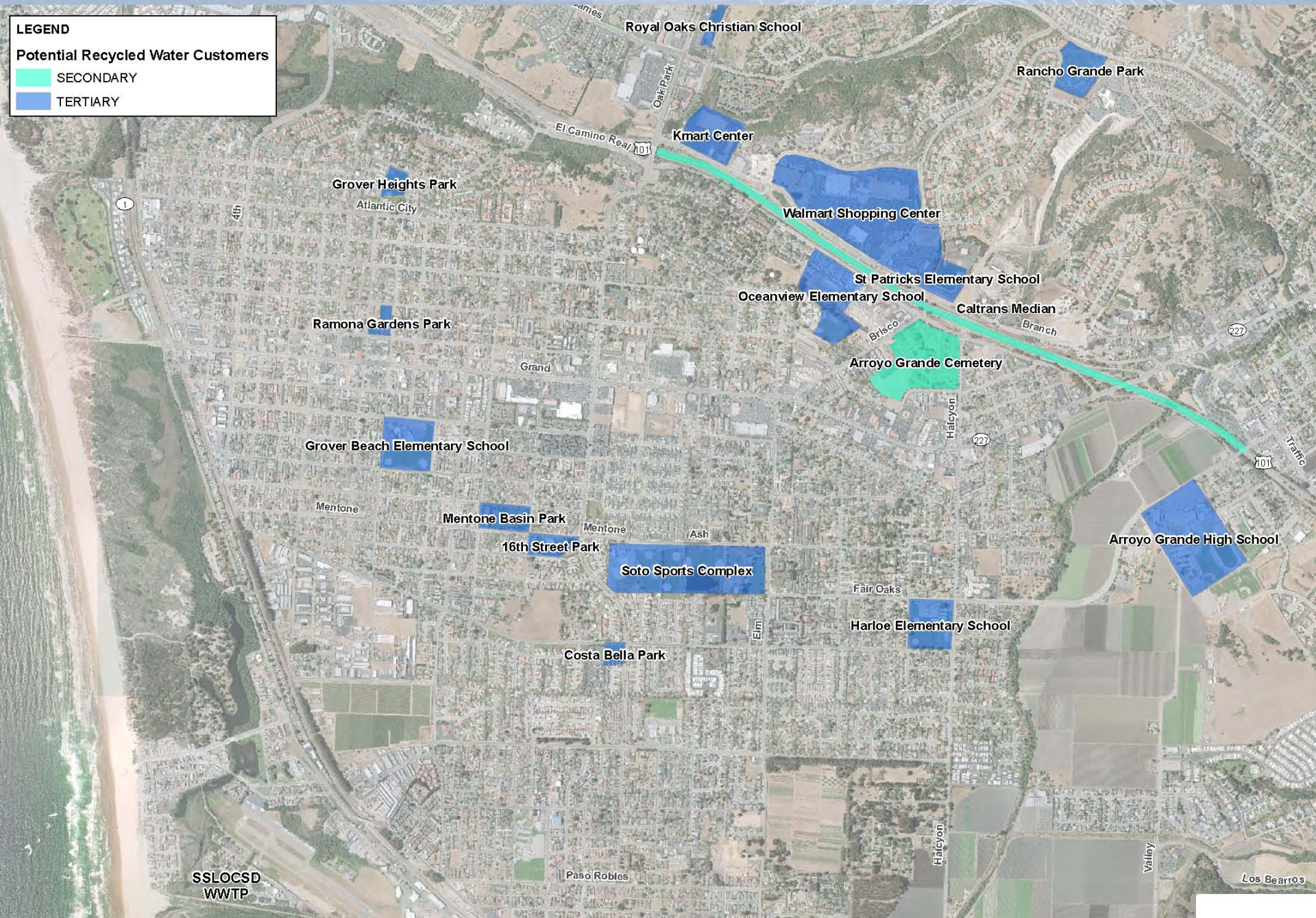
Alternatives Considered

- Secondary and Tertiary Landscape Irrigation
- Agricultural Reuse
- GW Recharge/Indirect Potable Use
- Stream Augmentation
- Industrial Use (CP Refinery)

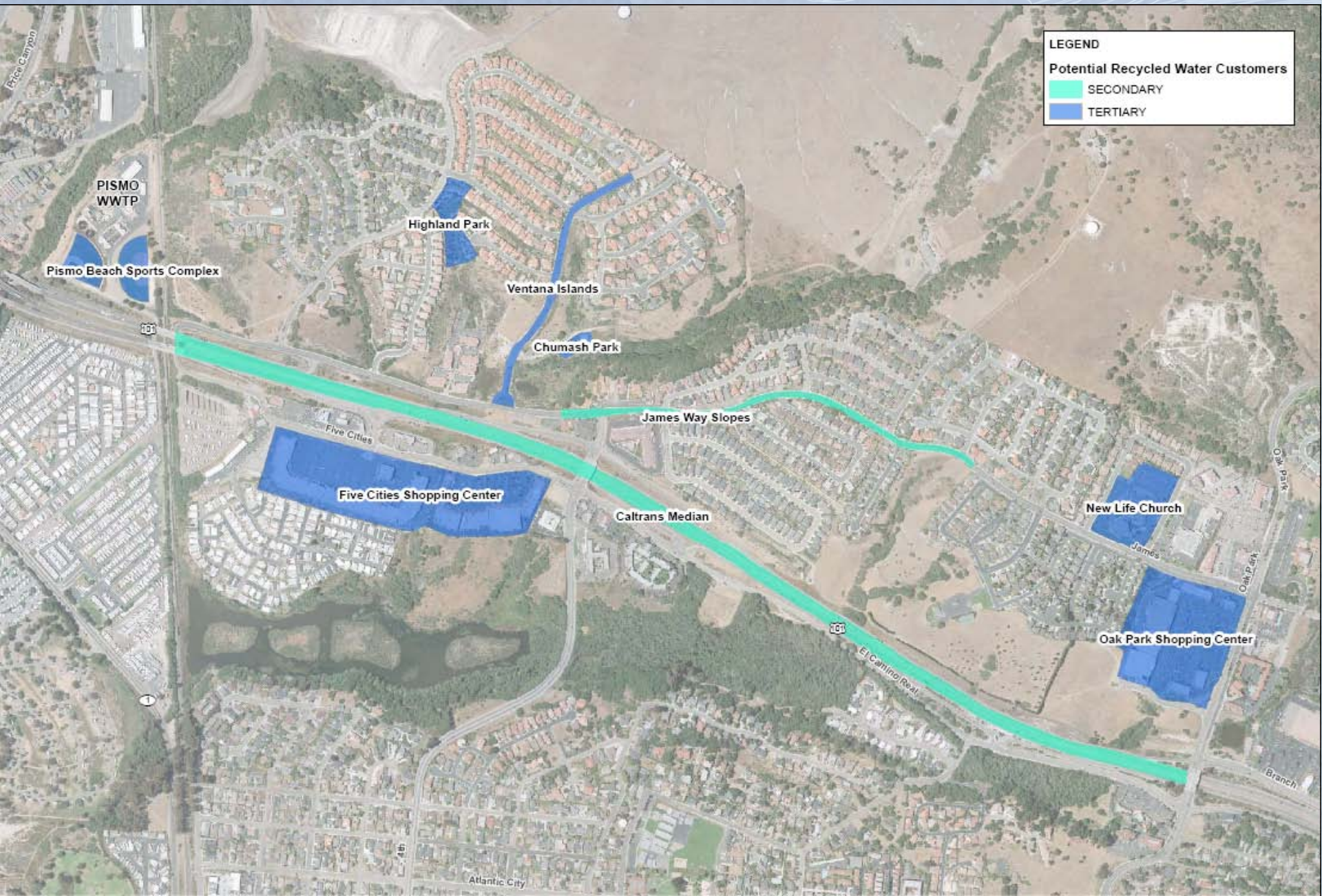
Recycled Water Demand

- **SSLOCSD AREA LANDSCAPE IRRIGATION**
  - Estimated Irrigated Area, 75 Acres
  - Annual Demand, 150 AF
- **CITY OF PISMO BEACH AREA LANDSCAPE IRRIGATION**
  - Estimated Irrigated Area, 340 Acres
  - Annual Demand, 1,000 AF
- **GROUNDWATER RECHARGE/STREAM AUG**
  - Annual Demand, 950 AF
- **DIRECT AGRICULTURAL IRRIGATION**
  - Estimated Irrigated Area, 3,000 Acres
  - Annual Demand, 7,500 AF
- **INDUSTRIAL (CONOCO PHILLIPS)**
  - Annual Demand, 1,290 AF

RW Market Overview

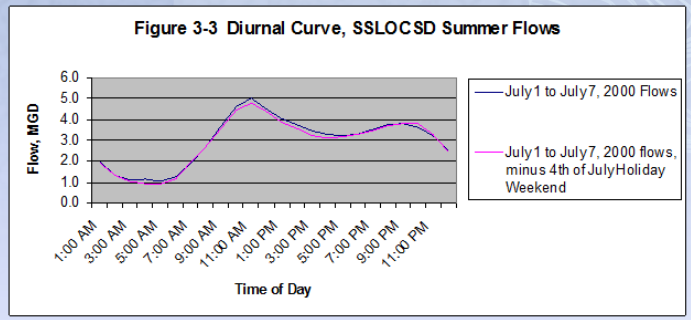


Potential RW Market – City of Pismo Beach WWTP

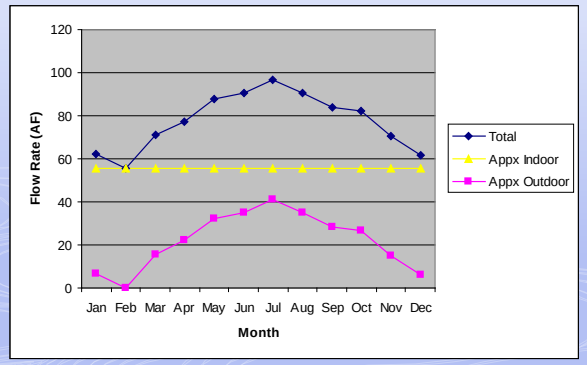


Recycled Water Supply

- SSLOCSD/City of Pismo WWTP
  - Today: 3.9 mgd (4,370 AFY)
  - At Combined Plant Design Capacity: 6.9 mgd (7,725 AFY)



- Diurnal Fluctuation vs. Irrigation Demand
- Seasonal Demand Considerations
- Joint SSLOCSD/Pismo Ocean Outfall Considerations



Cost Overview

Alternative	Capital Cost, $M	Annualized Cost, $/AFY
Turf Irrigation in SSLOCSD Service Area (tertiary), south of Hwy 101	$16	$11,600
Above Turf Irrigation + expanding north of Hwy 101	$19	$12,000
City of Pismo Beach Turf	$4 to $9	$3,300 to $14,000
Secondary Effluent to Caltrans and AG Cemetery	$6.5[b]/$5.5[c]	$11,000[b]/$8,000[c]
Tri-Cities Mesa Groundwater Recharge	$26	$4,900
GW Recharge plus SSLOCSD service area turf irrigation	$28	$5,100
Direct AG Reuse (tertiary)	$23	$1,400
Direct AG Reuse plus landscape irrigation in SSLOCSD service area	$28	$5,200
Stream Augmentation, Arroyo Grande Creek	$15[d]/$30[e]	$1,700[d]/$4,200[e]
Indirect Potable Reuse/GW Recharge	$38	$2,000

[a]2001 RW Study
[b]From SSLOCSD WWTP
[c]From Pismo WWTP
[d]Tertiary Treatment Only
[e]With MF/RO