



NORTH SAN DIEGO
WATER REUSE
c o a l i t i o n

Greg Thomas, General Manager, Rincon del Diablo Municipal Water District

Multi-State Salinity Coalition

1/28/2016



Regional Recycled Water Project

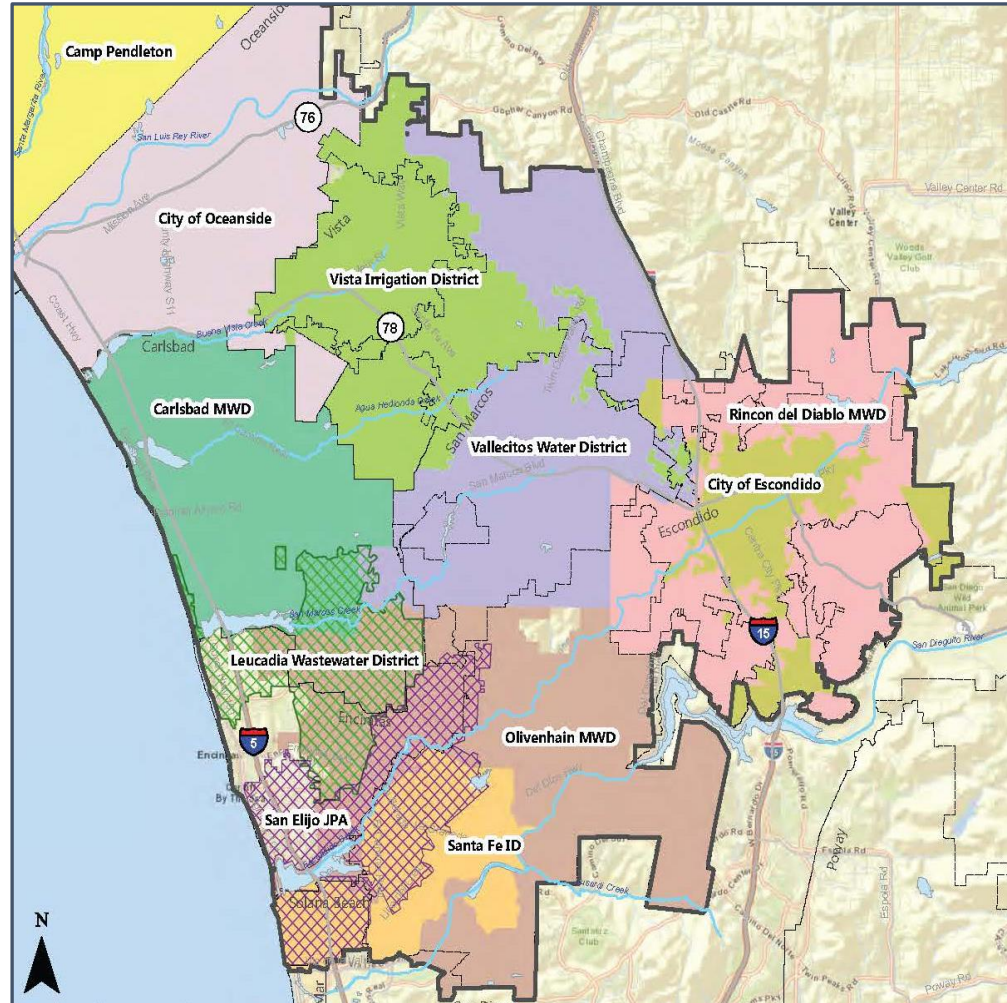
AGENDA

- Introduce you to NSDWRC
- Recycled water supply and demand overview
- Overview the Regional Recycled Water Project
- Costs and Next Steps





Regional Recycled Water Project





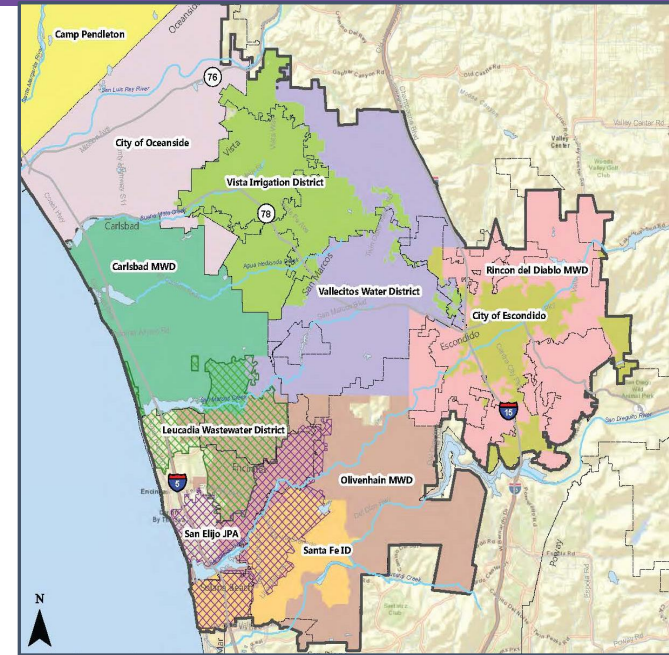
North San Diego Water Reuse Coalition



Regional Recycled Water Project Objectives



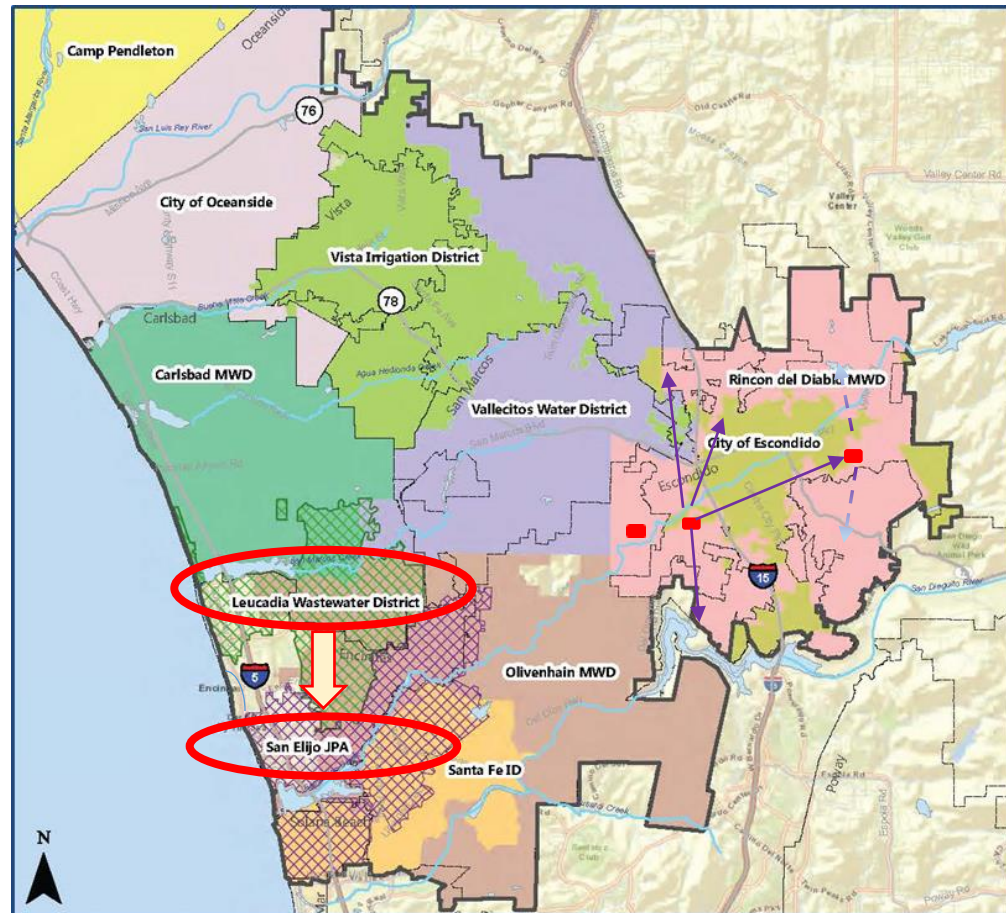
- Ultimate Objective: Connect recycled water supplies with recycled water demand throughout North San Diego County, including storage, IPR, and future DPR
- Create win/win situations for all agencies involved and the region as a whole
- Optimize reuse of available wastewater in North County
 - Without regard to jurisdictions
 - Which will offload potable demands and offload ocean discharges
- Create Drought tolerant and Sustainable Supply
 - Increase Reliability





Utilizing A Regional Approach

- Interconnecting Systems
- Decentralized Treatment
- Moving Supply to Demand
- Designer Water Concept
- Optimize System Costs
- Maximum Utilization of Infrastructure





Facilities Plan From 2010-2013

Facilities Plan had Options A to D

- *Option A: Decentralized Supply*
- *Option B: Centralized Supply*
- *Option C: Seasonal Storage*
- *Option D: Indirect Potable Reuse (IPR)*



San Elijo Joint Powers Authority
Advanced Water Treatment Facility



Master Plans And CIPs Of All Agencies

- Environmental Impact Assessments
- Looked at existing facilities
- Unused potable tanks; repurposed facilities
- Plans to convert potable to recycled
- Unused wastewater flows and plant capacity
- Where were wastewater supplies and the need to convert potable demand the closest in proximity?





Examples Of Uses



In general, places (not at home) where families, kids, and dogs play;
Industrial, fire fighting, and power generation facilities



Potential Regional Recycled Water Demands

Agency	Average Annual Demand (afy)				
	Existing	Additional Short-Term	Total by 2025	Additional Long-Term	Total by 2035
Carlsbad MWD	4,150	1,752	5,902	1,585	7,487
City of Escondido	771	6,870*	7,641	3,035	10,676
City of Oceanside	300	4,717*	5,017	4,490*	9,507
Olivenhain MWD	1,100	1,400*	2,500	1,030*	3,530
Rincon Del Diablo MWD	3,279	920*	4,199	0	4,199
Santa Fe Irrigation District	510	1,140*	1,650	1,030*	2,680
San Elijo JPA ⁺	700	80	780	0	780
Vallecitos Water District	--	1,674*	1,674	2,892*	4,566
Vista Irrigation District	--	255	255	2,600	2,855
Totals	10,810 (16%)	18,808	29,618 (32%)	16,662	46,280 (42%)
Wastewater Flow	67,900		92,300		109,400

Note: Values updated in 2014. + Serves demands in San Dieguito Water District * Includes potable reuse demand



Matching Supply With Demand

Agency	Additional Recycled Water Demand (afy)	Average Annual Recycled Water Supply (afy)							
		San Luis Rey	Shadowridge	Carlsbad	HARRF / Escondido AWT	Gafner	Meadowlark / AWT	San Elijo / San Elijo AWT	Harmony Grove
Carlsbad MWD	3,337			3,000*		150*	187		
City of Escondido	9,905				9,905				
City of Oceanside	9,207	8,930		277					
Olivenhain MWD	2,430					300*		2,130*	
Rincon del Diablo MWD	920				700				220
Santa Fe Irrigation District	2,170					200*		2,130*	
San Elijo JPA	80							80	
Vallecitos Water District	4,566			454	1,496		2,616		
Vista Irrigation District	2,855	720		2,135					
TOTAL	35,470	9,650	0	6,466	12,101	650	2,803	4,340	220

Note: Values updated in 2014. * Denotes where flows may come from multiple treatment plants.



Project Costs Overview

Short Term (2025) Project Costs

*2014 recycled costs

ITEM	UNITS
Regional Capital Costs	\$ 438,000,000
Regional O&M Costs	\$ 7,188,000 / year
Additional Recycled Water Use	18,700 AFY
Regional Unit Costs	\$1,580 / AFY



Project Costs Overview

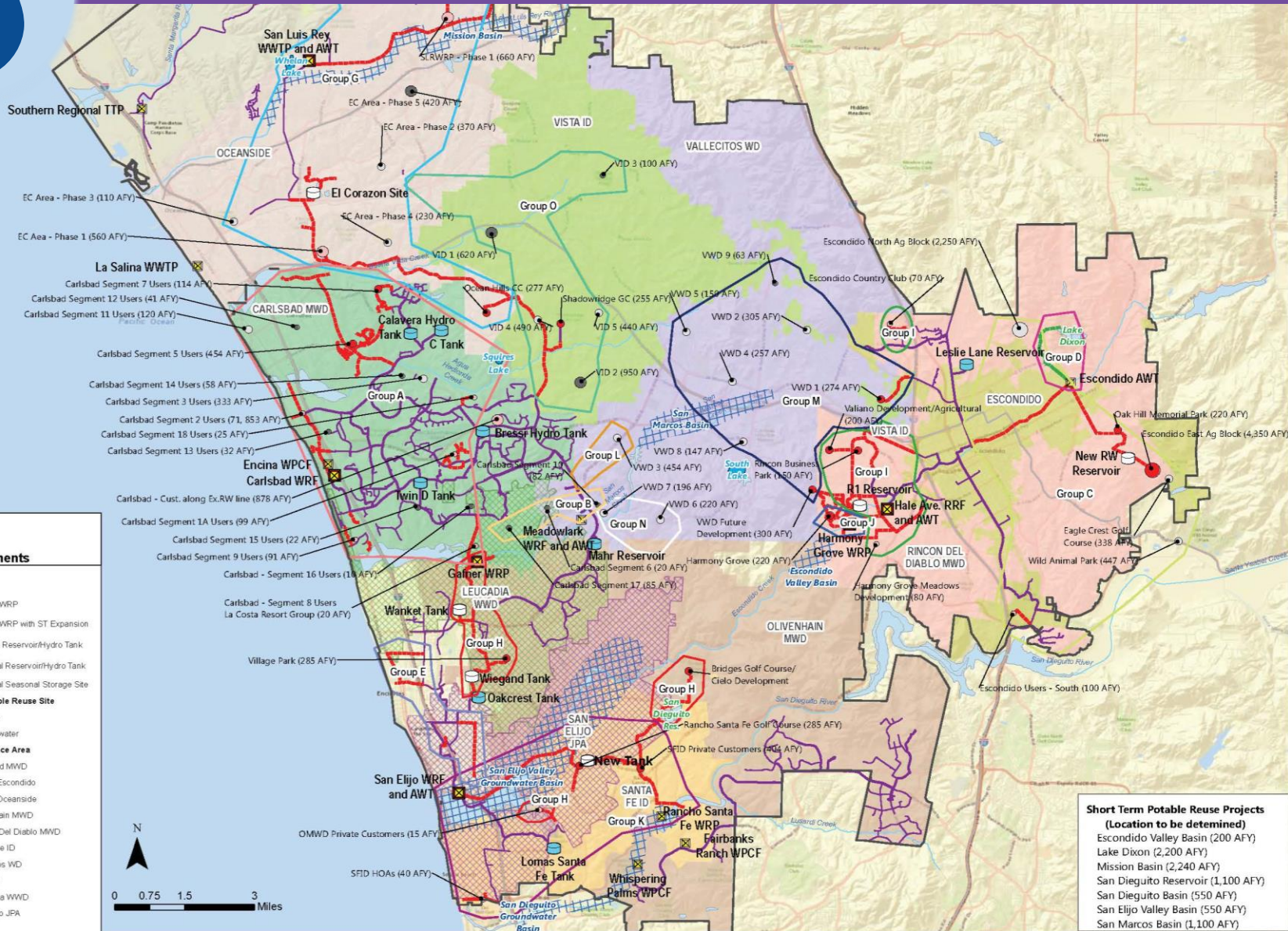
Long Term (2035)

*2014 recycled costs

ITEM	UNITS
Regional Capital Costs	\$ 780,000,000
Regional O&M Costs	\$ 13,904,000 / year
Additional Recycled Water Use	35,400 AFY
Regional Unit Costs	\$1,520 / AFY



Regional Recycled Water Project



**Figure 2-3:
Proposed Project:
Short-Term Project Components**

- Potential Short Term RW Demand**
 - 3- 100
 - 101 - 500
 - 501 - 1000
 - Greater than 1,000
- Potential Long Term RW Demand**
 - 0 - 100
 - 101 - 500
 - 501 - 1000
 - Greater than 1,000
- Potential Potable Reuse Site**
 - Surface
 - Groundwater
- Partner's Service Area**
 - Carlsbad MWD
 - City of Escondido
 - City of Oceanside
 - Olivenhain MWD
 - Rincon Del Diablo MWD
 - Santa Fe ID
 - Vallecitos WD
 - Vista ID
- Conceptual Future RW Pipelines**
 - Short Term
 - Short Term Potable Reuse
- Existing Recycled Water Pipeline**
 - Less than 12"
 - 12" and Greater
- Other**
 - Study Area
 - WWTP/WRP
 - WWTP/WRP with ST Expansion
 - Existing Reservoir/Hydro Tank
 - Potential Reservoir/Hydro Tank
 - Potential Seasonal Storage Site

- Short Term Potable Reuse Projects
(Location to be determined)**
- Escondido Valley Basin (200 AFY)
 - Lake Dixon (2,200 AFY)
 - Mission Basin (2,240 AFY)
 - San Diegoito Reservoir (1,100 AFY)
 - San Diegoito Basin (550 AFY)
 - San Eljio Valley Basin (550 AFY)
 - San Marcos Basin (1,100 AFY)



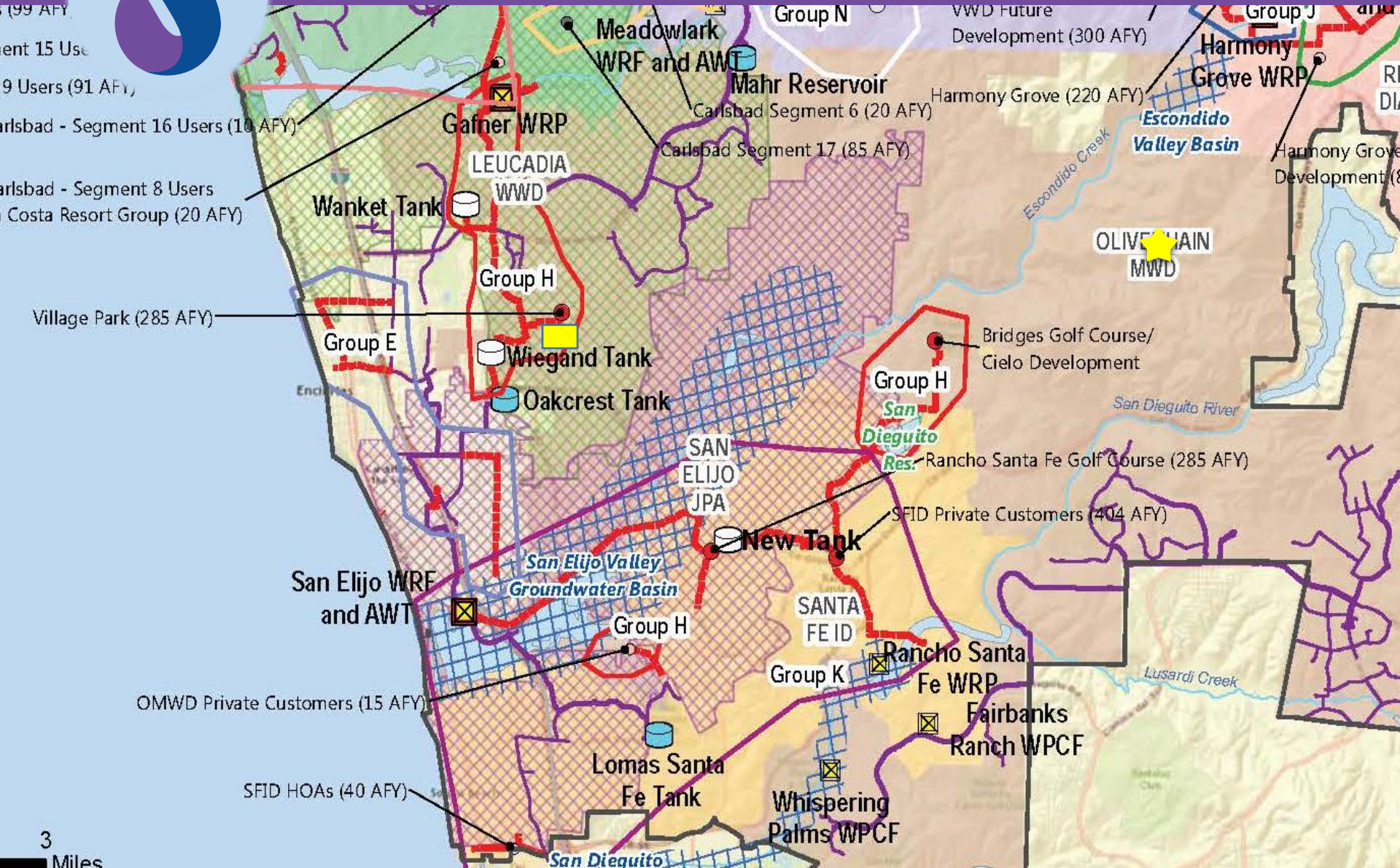


OMWD Facilities: Group H

Coalition Agency	Coalition Member Delivers Water to End User	Coalition Member Provides Supply to Partner
Olivenhain MWD	Group H	N/A
Carlsbad MWD	Group A, Group B	Group L, Group O
City of Escondido	Group C, Group D	Group I, Group M
City of Oceanside	Group G	Group O
Leucadia WWD	N/A	Group A, Group E, Group H, Group K
Rincon del Diablo MWD	Group I, Group J	N/A
San Elijo JPA	Group E	Group H, Group K
Santa Fe ID	Group K	N/A
Vallecitos WD	Group L, Group M, Group N	Group B
Vista ID	Group O	N/A



OMWD Facilities: Group H

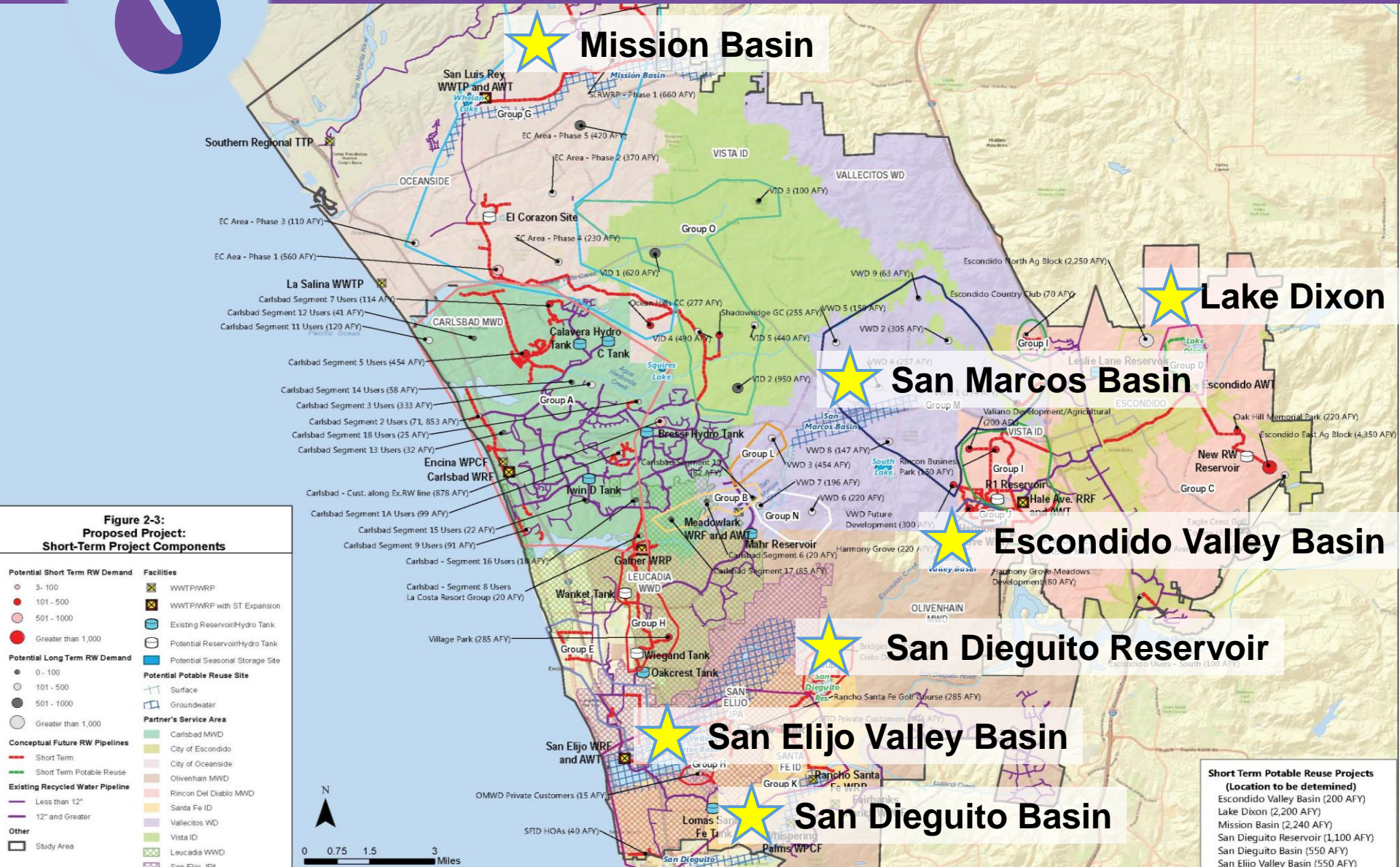


Village Park (285 AFY)

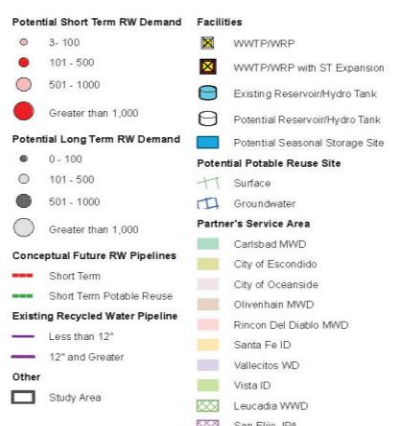
3 Miles



Potable Reuse Opportunities

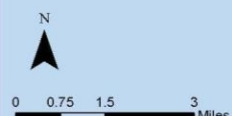


**Figure 2-3:
Proposed Project:
Short-Term Project Components**



**Short Term Potable Reuse Projects
(Location to be determined)**

- Escondido Valley Basin (200 AFY)
- Lake Dixon (2,200 AFY)
- Mission Basin (2,240 AFY)
- San Diegouito Reservoir (1,100 AFY)
- San Diegouito Basin (550 AFY)
- San Elijo Valley Basin (550 AFY)





State and Federal Funding Opportunities

- IRWM project for Prop 84 Grant Funding in first 2 rounds
- Phase I - Awarded **\$1.5 million** for programmatic EIR, feasibility study, and outreach plan AND direct reimbursement to each partner for their agency's chosen component
- Phase II - Awarded IRWM Round 2 funding **\$3.4 million** for construction
- Pursuing Federal Title XVI - Multi-state coalition to include revitalization of Title XVI in drought bill before end of 2015 (*pushed to 2016*)
- Pursuing Water Resources Reform Development Act Funding
 - With Army Corps - "Environmental Infrastructure"



Next Steps

- Suite of projects awarded IRWM Round 2 funding (\$3.4M) under construction
- Continue the pursuit of state and federal funding
- Agencies to continue work on individual water resource development efforts with collective goals in mind



QUESTIONS AND THANK YOU!

Potable Reuse - A Matter Of When, Not “If”

