

# Data & New Technology To Plan & Implement Stormwater Projects

## Chino Basin Groundwater Recharge Program

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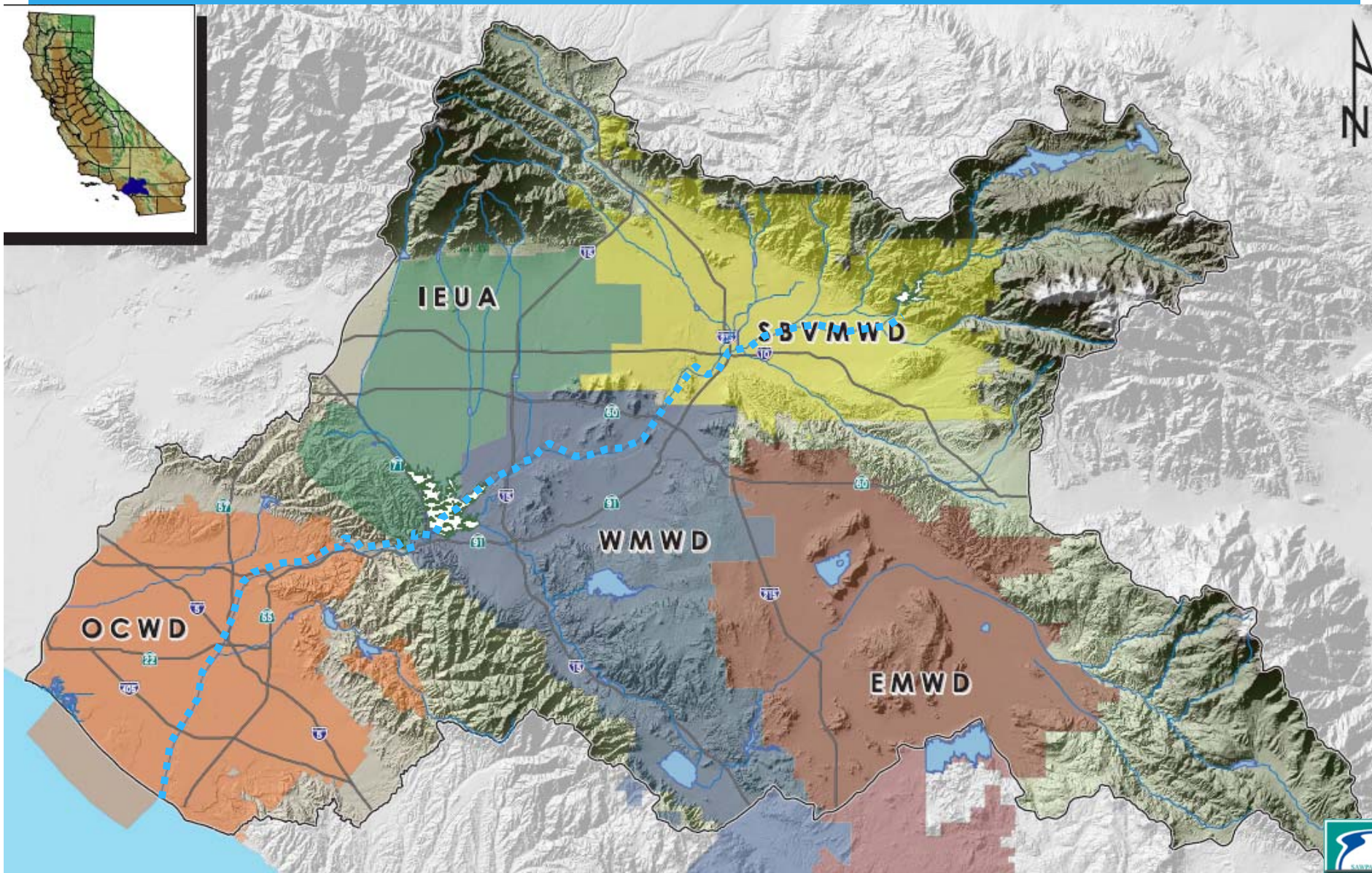


**Southern California Water Committee**  
**Stormwater Workshop**  
**October 11, 2017**



# Introduction

- \* Chino Groundwater Basin
- \* Program History
- \* Grants Received
- \* Typical Infrastructure
- \* Estimating Unit SW Capture Cost



**IEUA**

**SBVMWD**

**WMWD**

**OCWD**

**EMWD**

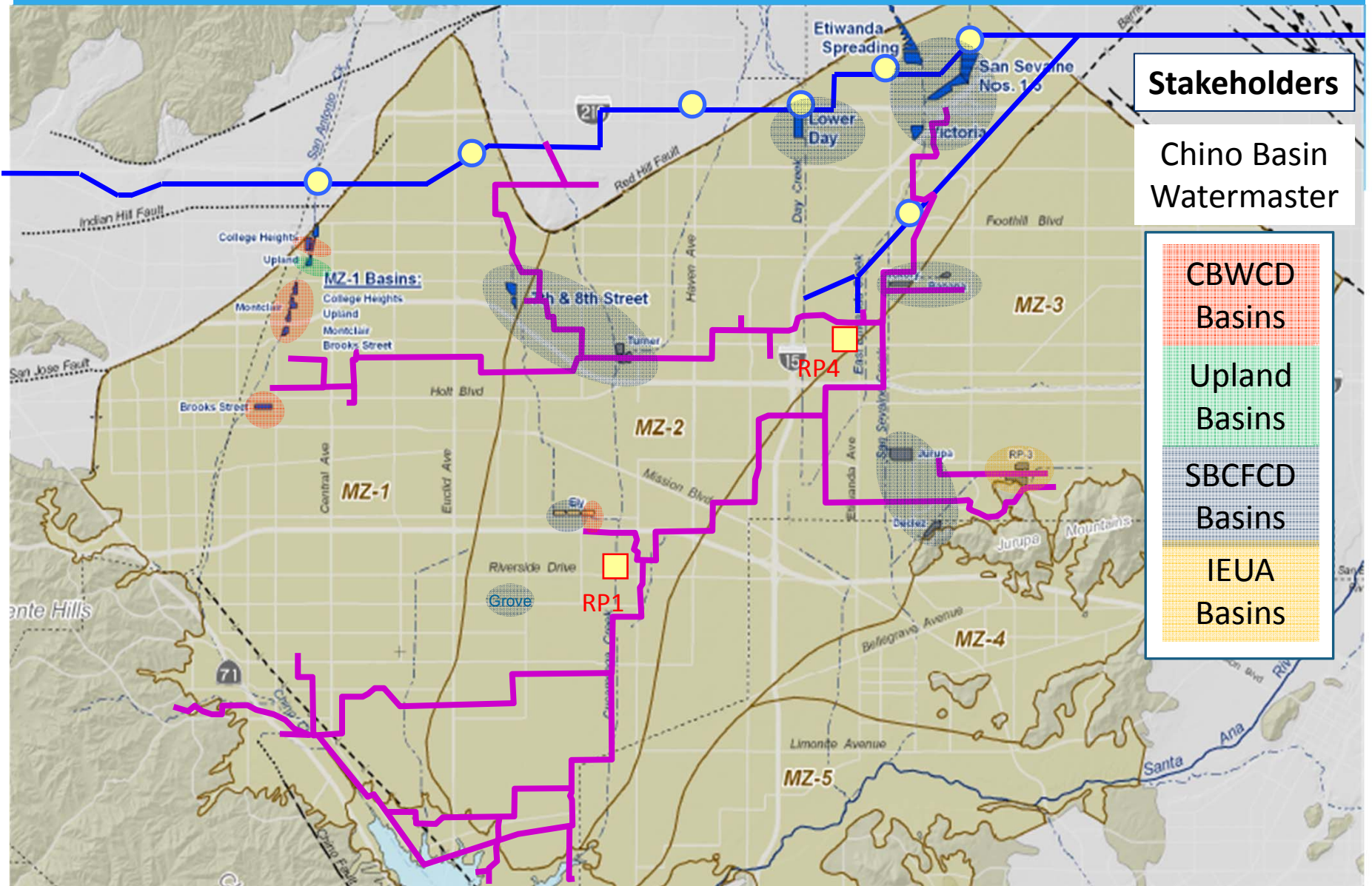
# Historical Milestones for the Chino Basin Recharge Program

- ❖ 1978 - Chino Basin Judgment
- ❖ 1999 - Optimum Basin Management Plan
- ❖ 2002 - CBWM adopted Recharge Master Plan
- ❖ 2002 - CBWM approved IEUA 30,000 AFY RW GWR
- ❖ 2003 - Four Party Agreement for Recharge Program
- ❖ 2004 - Max. Benefit Basin Plan Amendment for TDS
- ❖ 2004 - MOU with OCWD for Hydraulic Control
- ❖ 2005 - Recharge Facility Improvements Operational
- ❖ 2005, 2007, 2009 - Recharge Permits and Update
- ❖ 2011, 2015, 2017, 2018 Additional Improvements

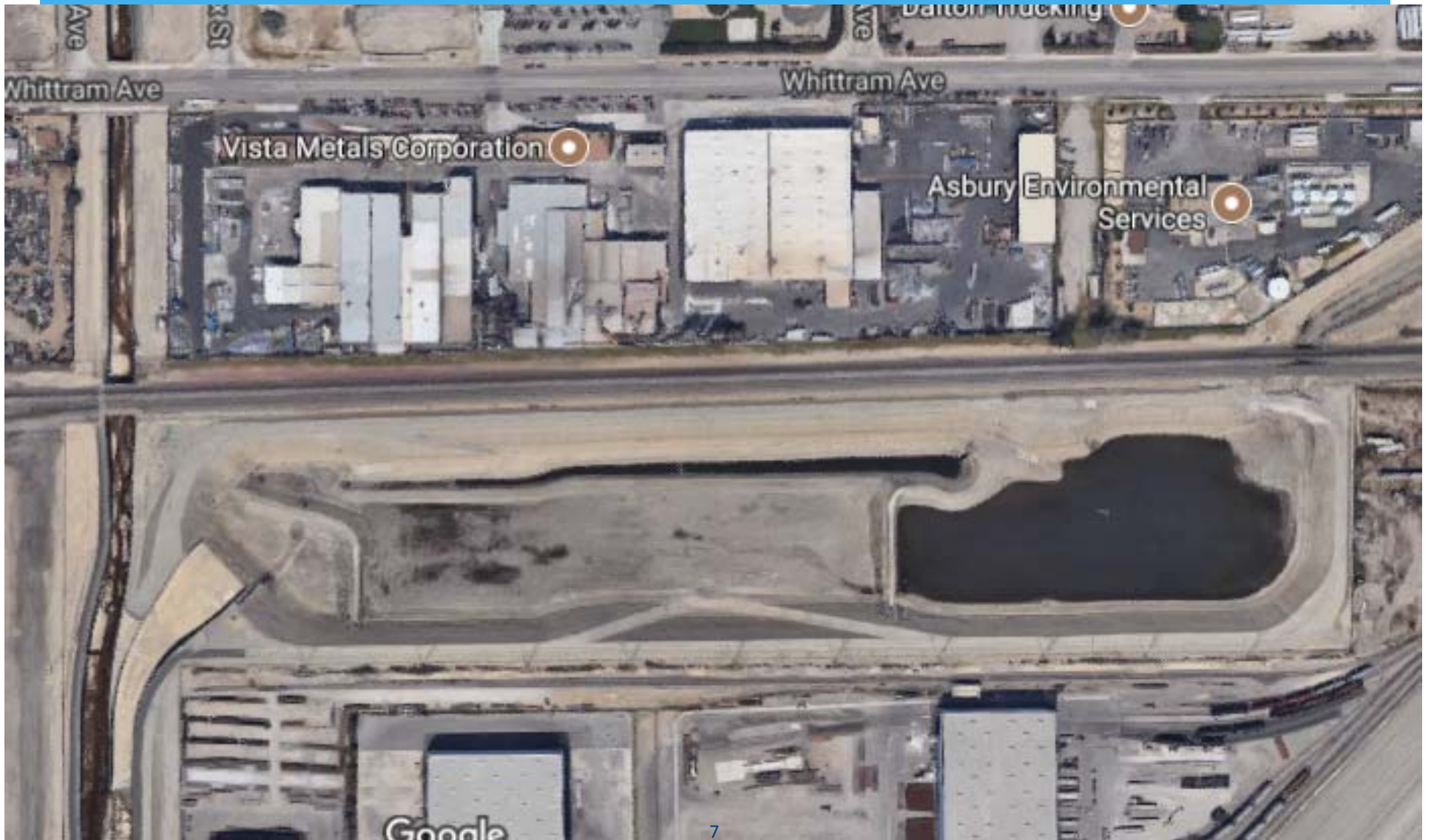
# Grant Funding

Year	Source	Grant Amount	Match	Total	Brief Description
2002	SWRCB/SAWPA Prop 13	\$ 18,991,778	\$20,000,000	\$38,991,778	Chino Basin Recharge Facilities Improvement Project
2003	SWRCB	\$ 75,000	\$ 75,000	\$ 150,000	RP-4 Outfall Groundwater Recharge Planning study that consists of analyzing alternatives to recharge the Chino Basin table at 3 sites
2005	DWR Prop 13	\$ 5,275,000	\$ 6,000,000	\$11,275,000	Chino Basin Conjunctive Use Expansion Program Total grant was \$15,500,000 Phase 2 was for Recharge Basins
2005	CALEMA/FEMA FEMA Disaster Funds for Recharge Basins	\$ 705,752	\$ -	\$ 705,752	FEMA Disaster Funds for Recharge Basins
2011	CALEMA/FEMAFEMA Winter Storm 2010 Disaster Fund	\$ 459,474	\$ -	\$ 459,474	To repair storm damage - Level Sensor Failures , Erosion Repairs, Mud and Debris Removal at 13 Recharge Basin sites
2011	USBR, CALFED Water Use Efficiency Grant Program	\$ 406,712	\$ 950,000	\$ 1,356,712	Turner Basin Recharge Improvements Project
2014	SAWPA/DWR Prop 84	\$ 750,000	\$ 2,800,000	\$ 3,550,000	Lower Day Basin
2014	SAWPA/DWR Prop 84	\$ 750,000	\$ 1,730,000	\$ 2,480,000	San Sevaine Basins Improvement Project
2003	DWR AB303	\$ 250,000	\$ 250,000	\$ 500,000	AB303 Groundwater Monitoring Wells Project
2005	DWR AB303	\$ 250,000	\$ 250,000	\$ 500,000	AB303 Management Zone 3 Groundwater monitoring Wells
2014	MWD Foundational Action Funding Program	\$ 50,000	\$ 50,000	\$ 100,000	Pilot Scale 3-D Fluorescence Excitation-Emission Matrix to Enhance Recycled Water Recharge
2015	USBR	\$ 406,712	\$ 948,996	\$ 1,355,708	Turner 4B, 4C excavation and structures, Turner 8 inlet
	Total	\$ 27,963,716	\$ 32,105,000	\$ 60,068,716	for Recharge Benefit (SW, IW, RW)
	<b>Stormwater Benefit</b>	<b>\$ 25,080,202</b>	<b>\$27,898,996</b>	<b>\$52,979,198</b>	<b>Subtotal</b>

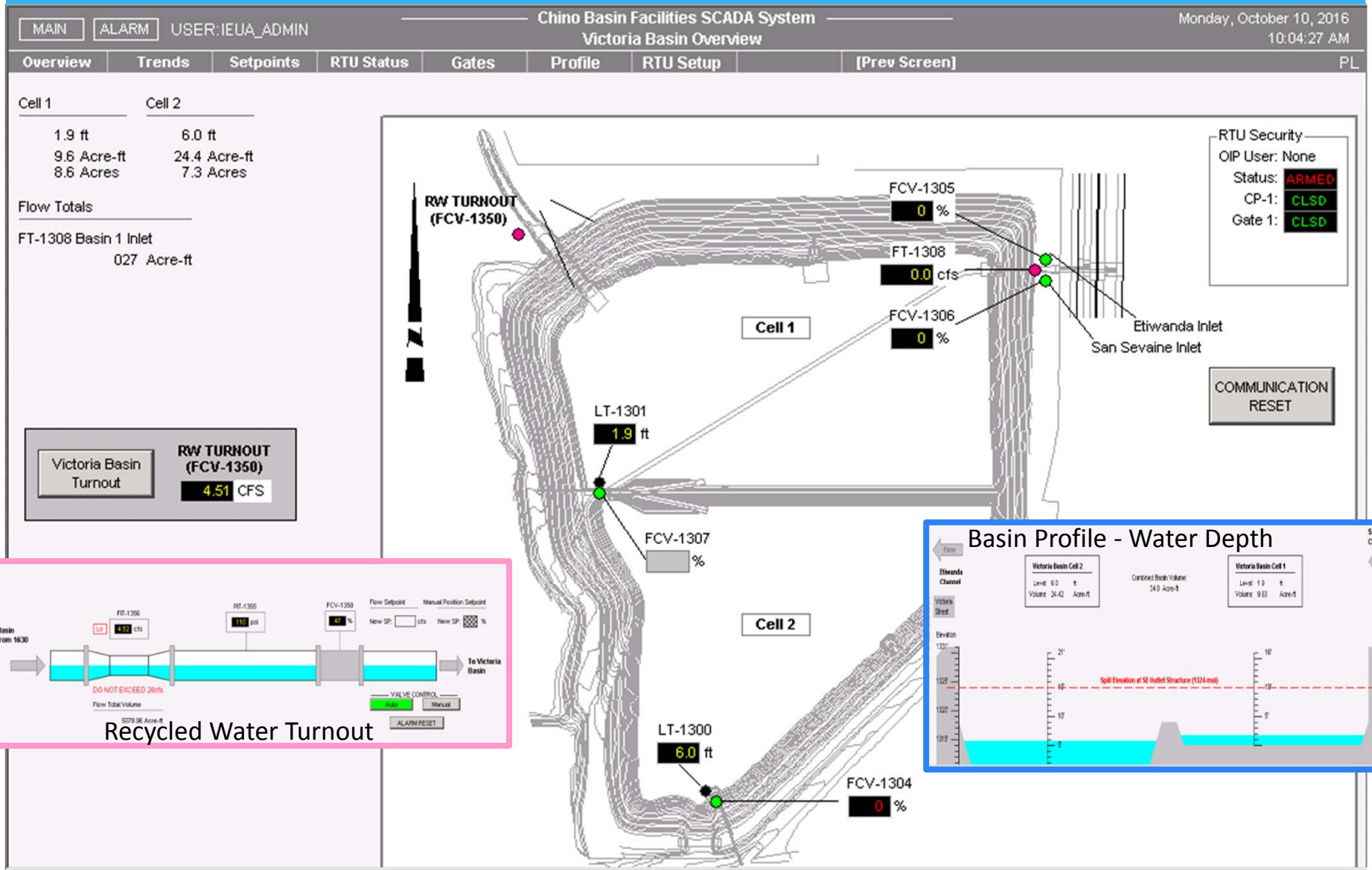
# Recharge Facilities



# Types of Recharge Infrastructure

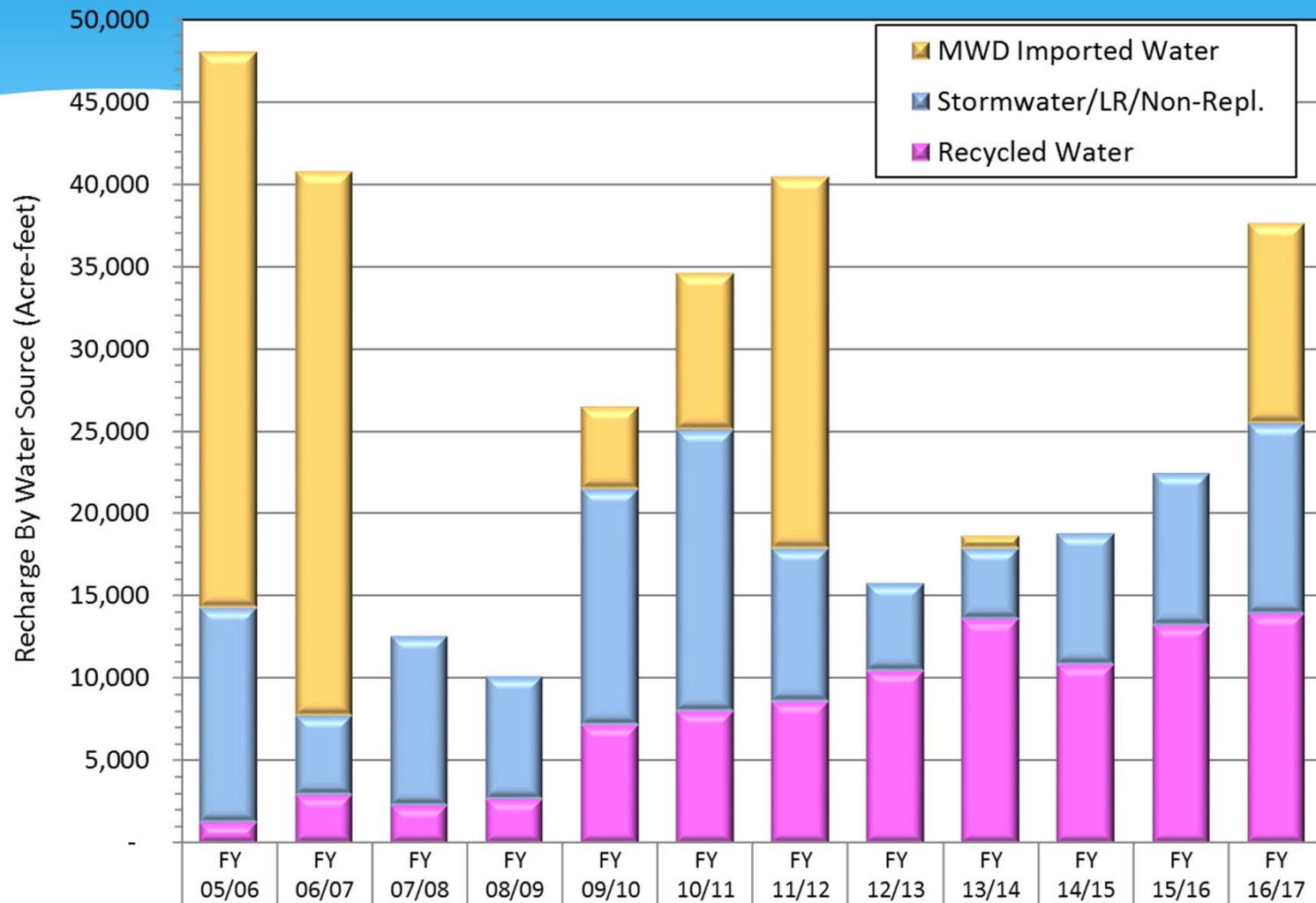


# Typical Basin Controls



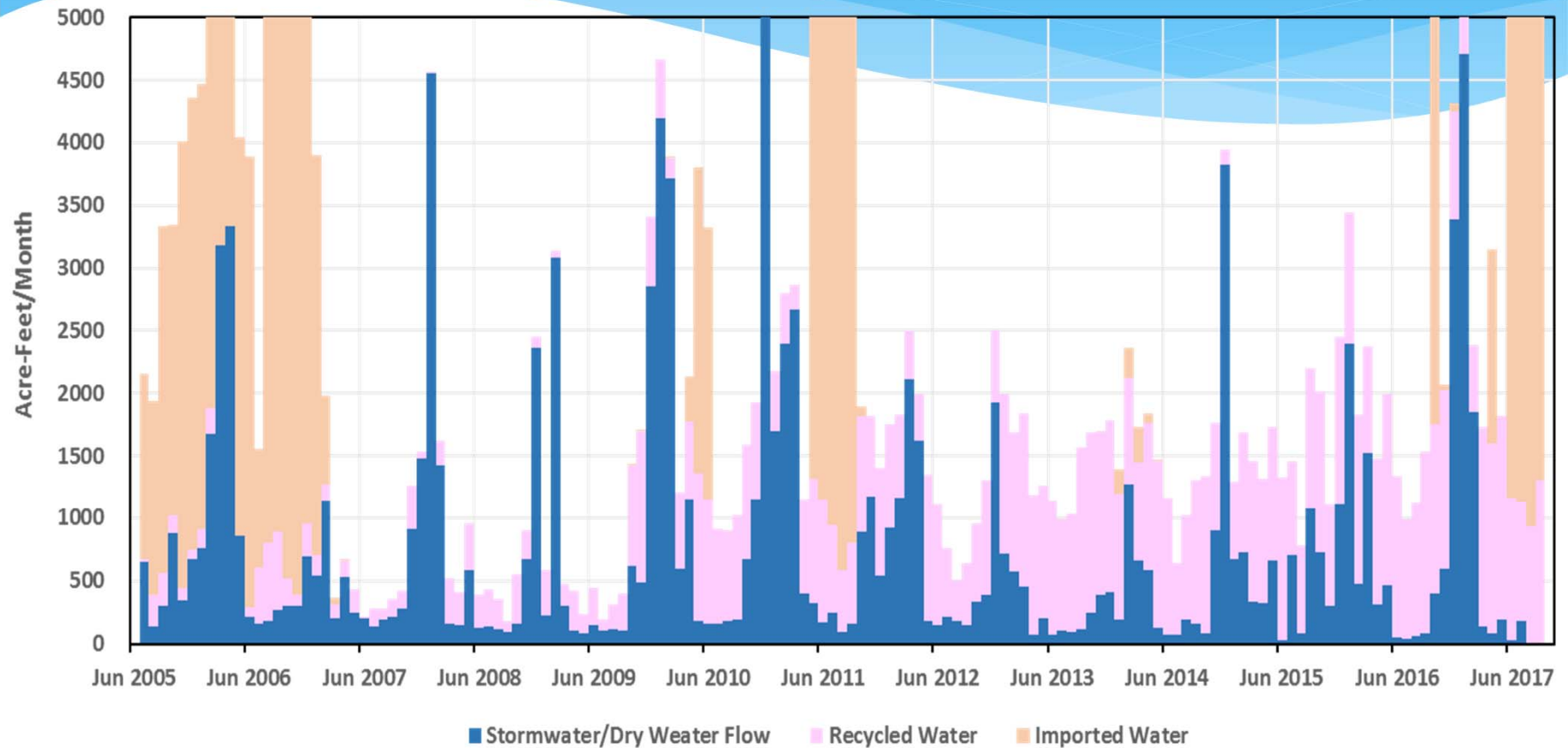


# Historical Operations



■ MWD Imported Water	33,705	32,968	-	-	5,000	9,465	22,560	-	795	-	-	12,129
■ Stormwater/LR/Non-Repl.	12,999	4,770	10,243	7,494	14,274	17,051	9,266	5,298	4,299	7,996	9,233	11,574
■ Recycled Water	1,304	2,989	2,340	2,684	7,210	8,065	8,634	10,479	13,593	10,840	13,222	13,934

# Historical Monthly Operations (good records)



# Estimating Unit Stormwater Cost (Difficulties)

- \* Grant Reports report total cost, but no by-basin detail
- \* Changing Financial Software
- \* Financial records not kept beyond 7 years
- \* Project managers saved work progress payment tables
- \* Improvements made over several years
- \* Facilities with any SW benefit not pro rated by source
- \* Design Infiltration & recharge 1.6x higher than actual

# Operation & Maintenance Costs (good records)

- \* IEUA Pro Rata Costs Sharing of O&M
  - \* IEUA share = Costs by site by % recycled water
  - \* Basin cost tracking in SAP software
  - \* Program general costs divided by number of sites
- \* Annual Review of Costs and Recharge

Thank you