

San Fernando Basin Groundwater Remediation & Clean-up Initiatives and Groundwater Replenishment

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Southern California Water Dialogue

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CONTENTS

- Water Supply Challenges
- Groundwater Remediation & Cleanup Initiatives
- Groundwater Replenishment Project

Water Supply Challenges

Nearly 90% of L.A.'s Water Comes from Hundreds of Miles Away



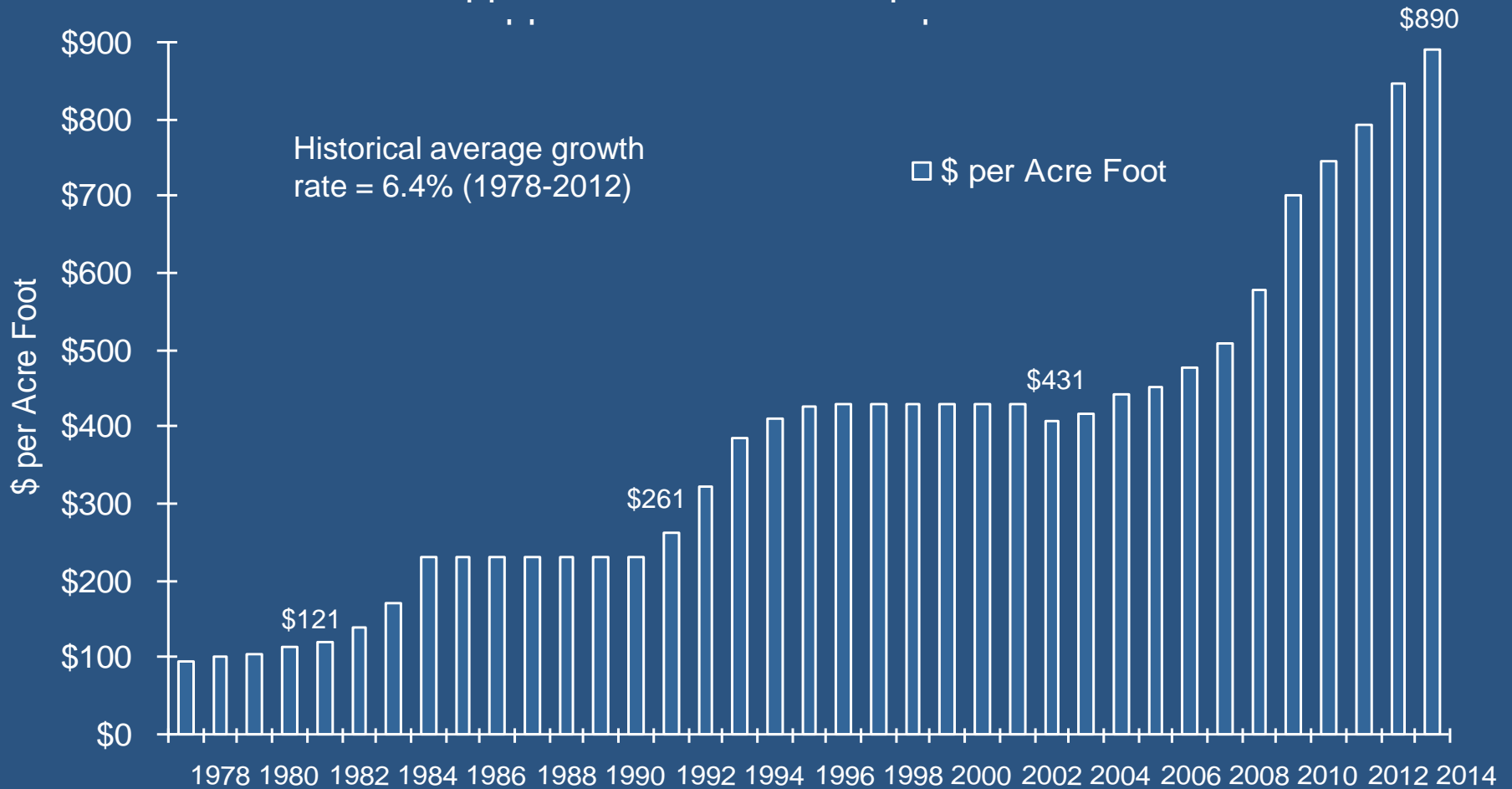
Current Challenges



- Climate change impacts
- Regulatory/
Environmental
Restriction
- Water/energy nexus
- Contaminated
groundwater
- Costs

Purchased Imported Water Costs Continue to Increase

Historical and Approved MWD Tier 1 Imported Treated Water Rates



Local Water Reliability Initiatives



Local Water Supply Program

Enhance stormwater capture

Increase water conservation

Increase water recycling

Accelerate groundwater cleanup

Groundwater Remediation & Cleanup Initiatives

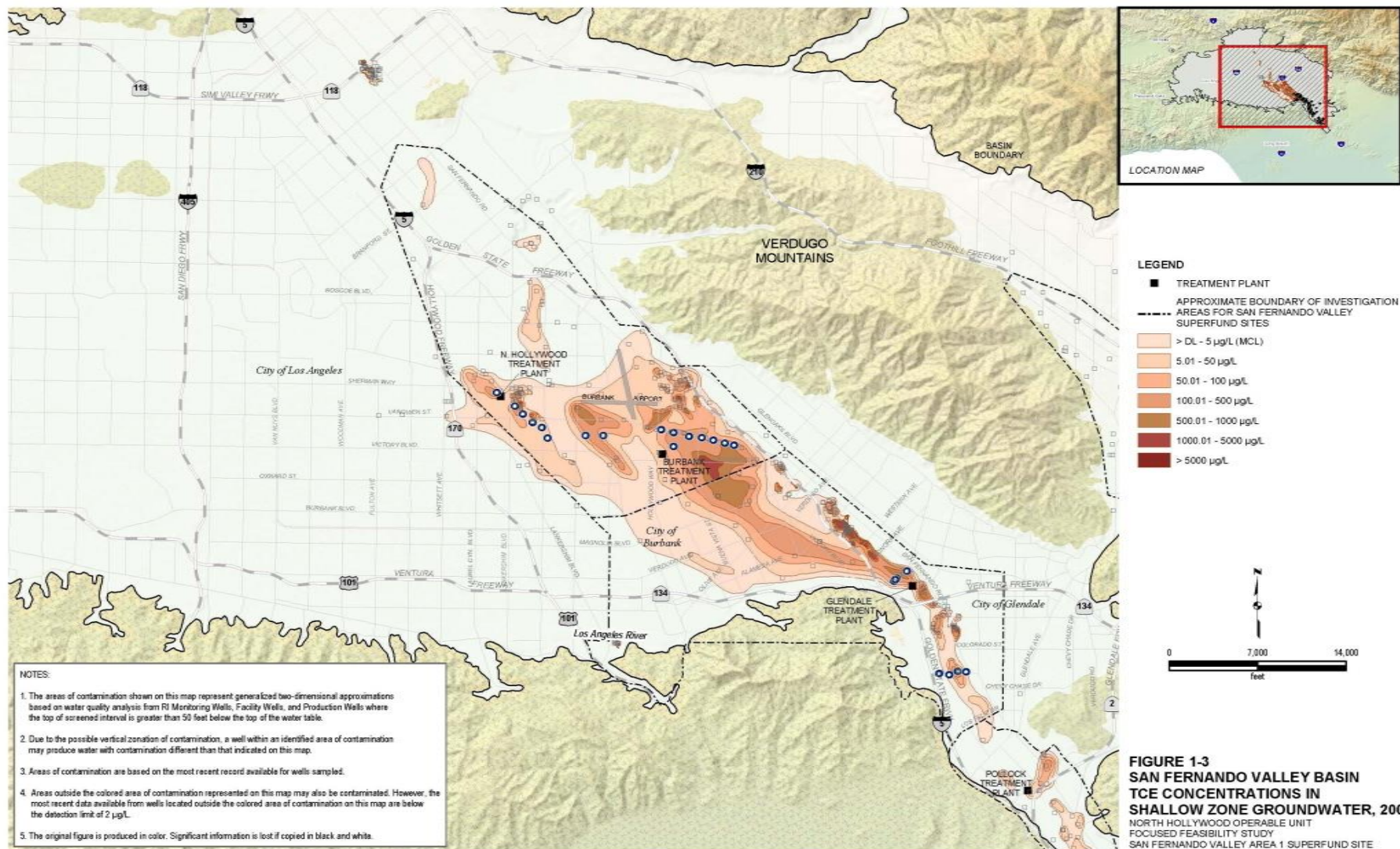
Background

- LADWP Water Rights in SFB – 87,000 acre-feet/year
- Local Groundwater has provided:
 - 11% of the total water supply
 - 30% of the total supply in drought years
- SFB provides approximately 80% of the City's total groundwater supply

Background

- Contamination continues to limit LADWP's ability to fully utilize groundwater
- As of 2012, 57 (out of 115) groundwater production wells have been removed from service due to contamination
- The City of Los Angeles will lose the ability to use its groundwater if contamination issues are not addressed

San Fernando Basin Groundwater Contamination



Groundwater contamination
must be remediated to prevent
total loss of this resource
within the next decade

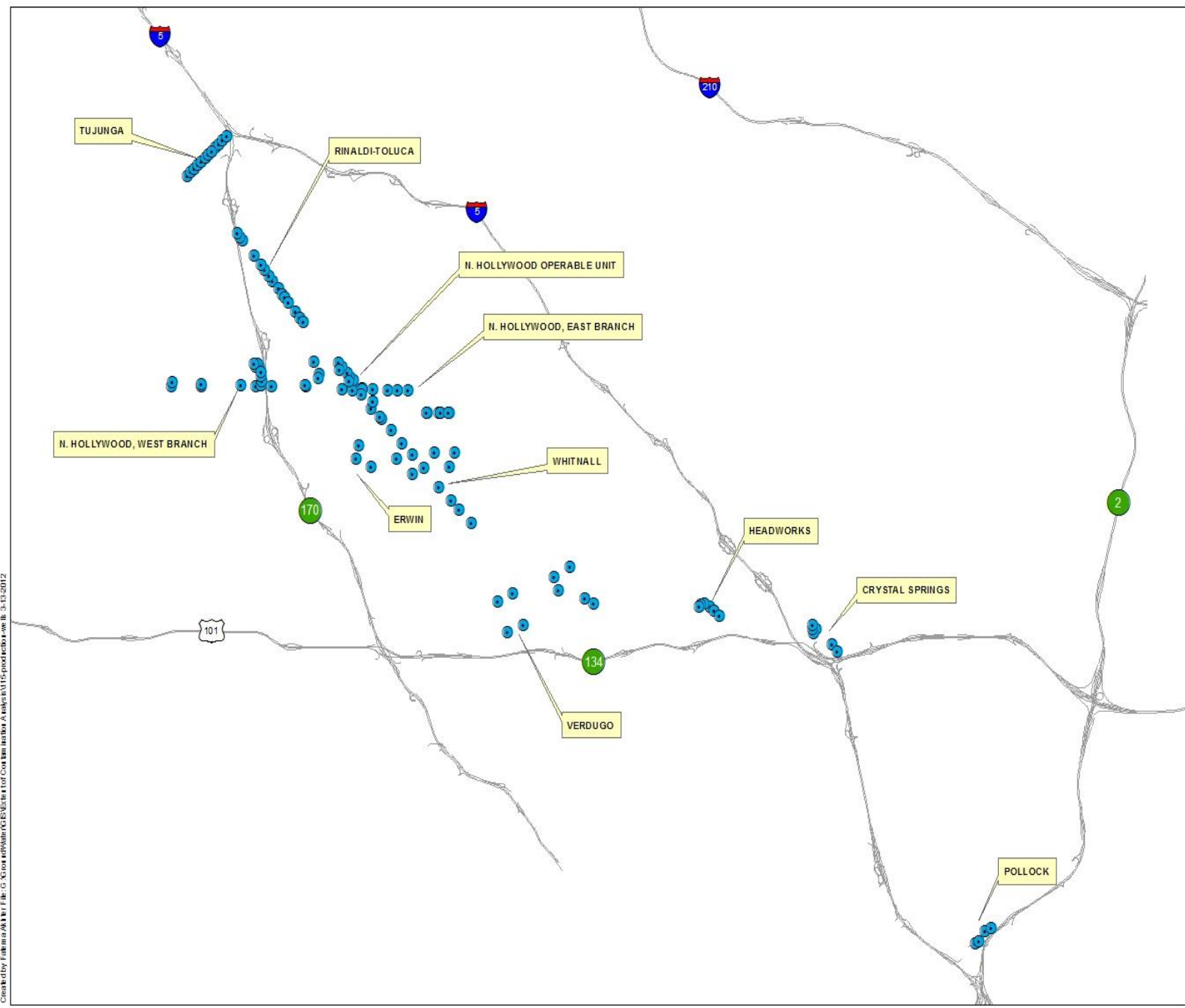
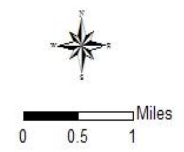
**Groundwater Production Wells
are Impacted by
Contamination in the Basin**

San Fernando Basin Groundwater Contamination

115 Total Production Wells
(LADWP)

Legend

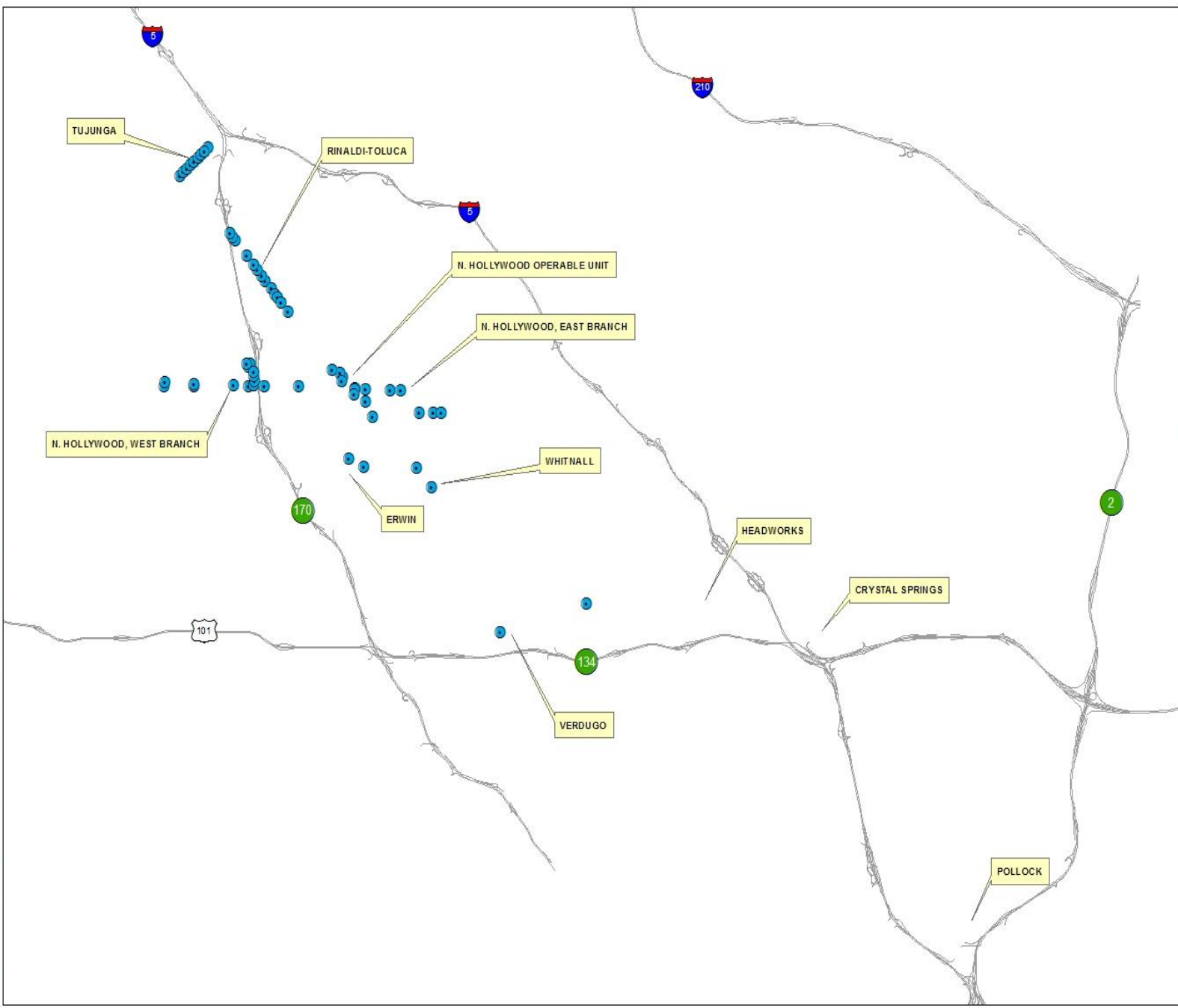
- 115 Production Wells



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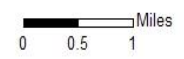
San Fernando Basin Groundwater Contamination

Effects of Groundwater
Contamination on LADWP
1998 Total No. of Reliable
Production Wells



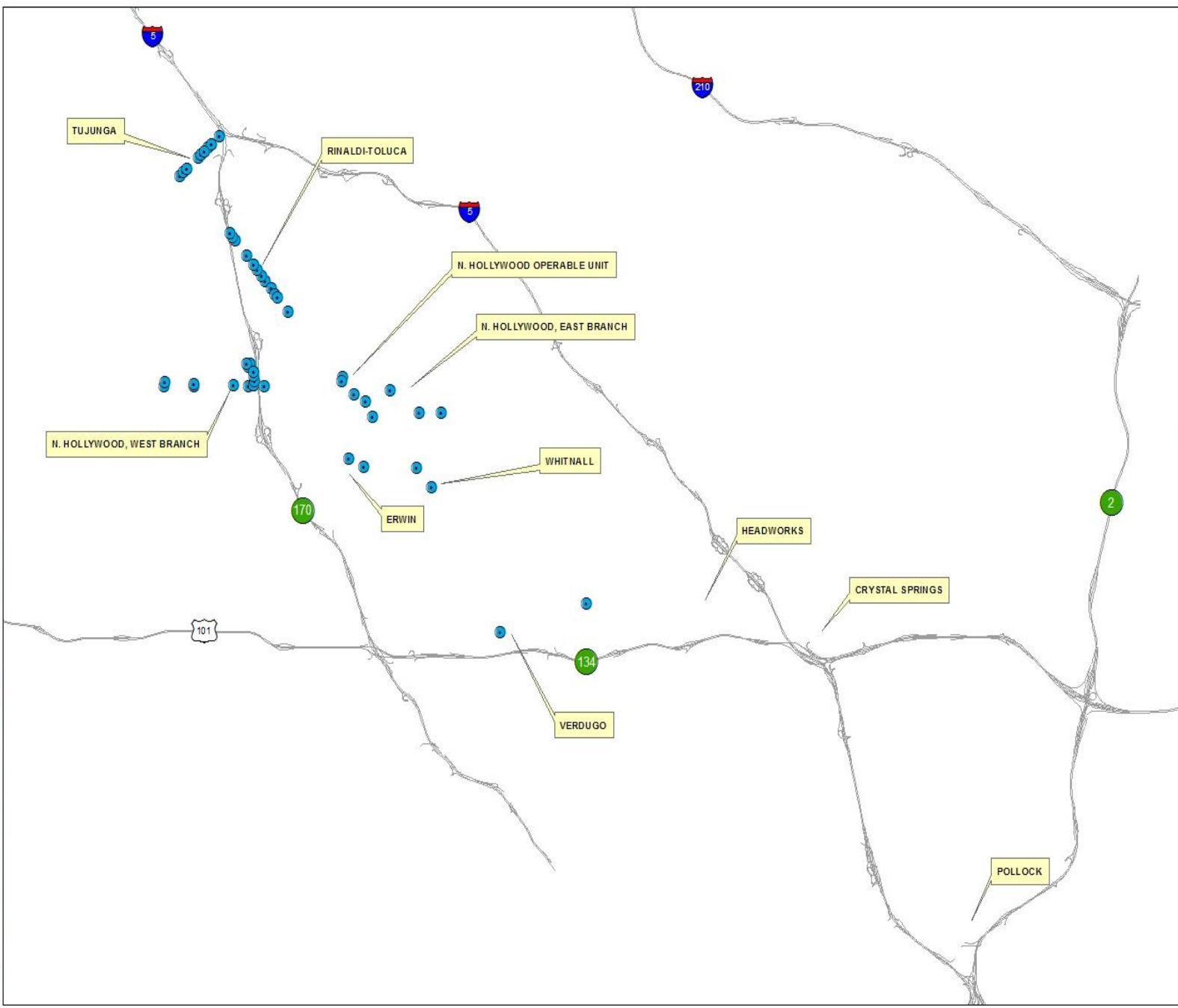
Legend

- 58 Reliable Production Wells



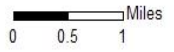
San Fernando Basin Groundwater Contamination

Effects of Groundwater
Contamination on LADWP
2002 Total No. of Reliable
Production Wells



Legend

- 49 Reliable Production Wells



Graphic by Fallina, M. File: G:\GIS\m\Water\GIS\ES\Views\1 of Contam\Inbox\A\aly's 8\2002\Fa\Inbox-P\ind\ctha wells_3-13-2012

Existing Groundwater Remediation Facilities

- USEPA North Hollywood Operable Unit (NHOU)
- Pollock Water Treatment Plant
- Tujunga Wellfield Temporary GW Treatment Plant – Pilot Study



Groundwater System Improvement Study (GSIS)

- Purpose
- Ongoing Activities
 - Identifying, Characterizing and Evaluating Basin Contaminants
 - Drilling 20 - 30 New Monitoring Wells
 - Water quality Monitoring and Analysis
 - Conceptual Planning for GW Remediation Facilities



DRAFT

Proposed Locations of New Groundwater Monitoring Wells

San Fernando Basin

GSIS Task 3.2
Proposed Location for
the New Monitoring Wells

Legend

- Tujunga Proposed Monitoring Wells
- Rinaldi-Toluca Proposed Monitoring Wells
- NH West Proposed Monitoring Wells

Production Wells

- Production Wells

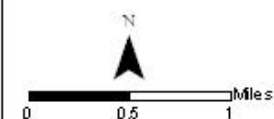
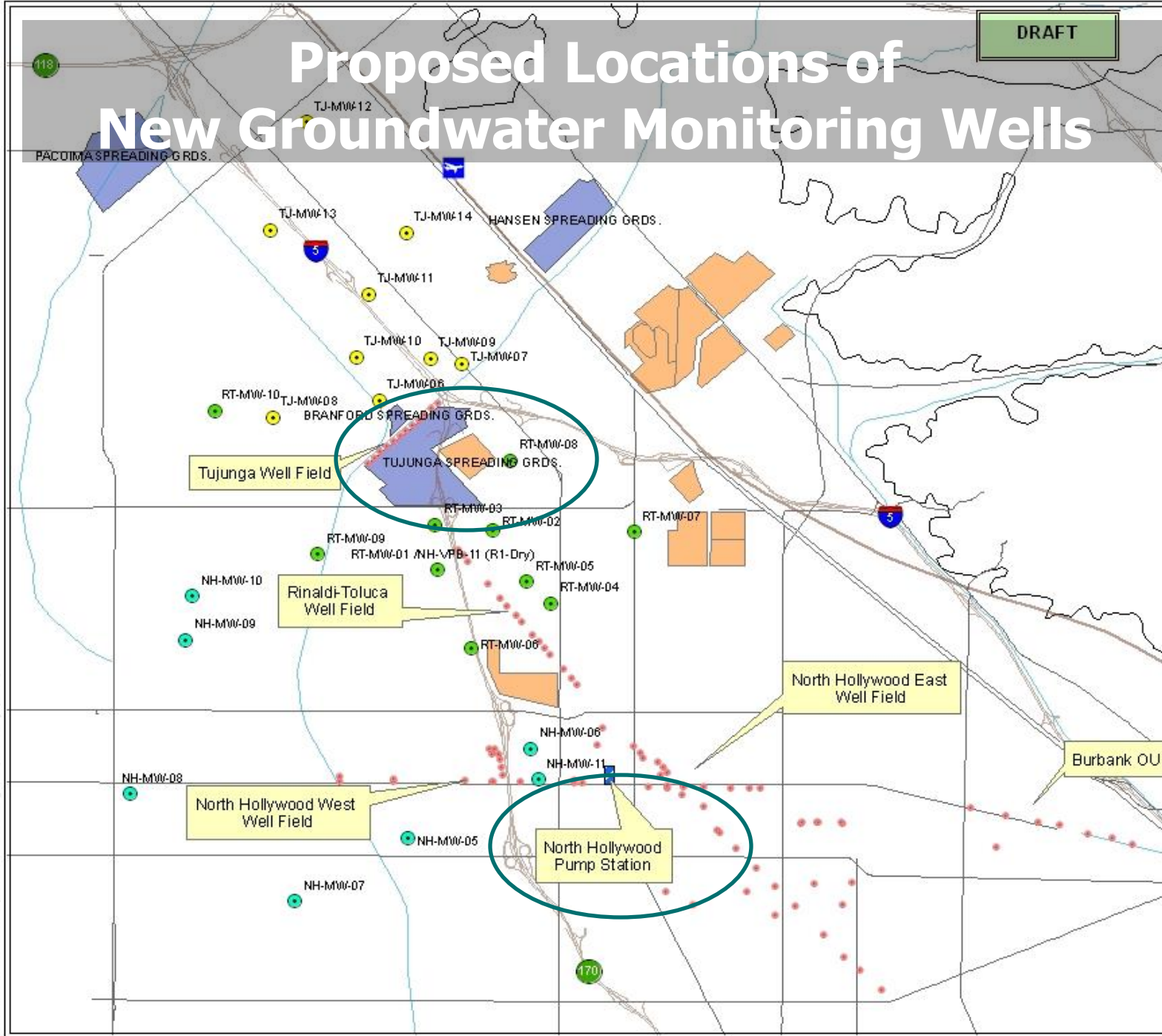
North Hollywood Pump Station

Groundwater Basins

- San Fernando
- Sylmar
- Verdugo
- Boyle Rock

Others

- fault
- primary streams
- landfills
- spreading grounds



Additional Ongoing Remediation Activities

- Remediate contamination outside of USEPA's NHOU Remedy
- Identify contamination sources and Potentially Responsible Parties

Potential Remediation Strategies

- Centralized
- Localized (Wellfield/Wellhead)
- Hybrid

Potential Remediation Strategies

Contaminants of Concern

- TCE (VOC)
- PCE (VOC)
- 1,1-DCE (VOC)
- Chromium (VI)
- Nitrate
- Perchlorate
- Others
 - NDMA
 - 1,4 Dioxane
 - Iron
 - Manganese
 - TDS

Potential Remediation Strategies

Technologies

- Air Stripping
- Granular Activated Carbon
- Reduction Coagulation Filtration
- Ion Exchange

Potential Remediation Strategies

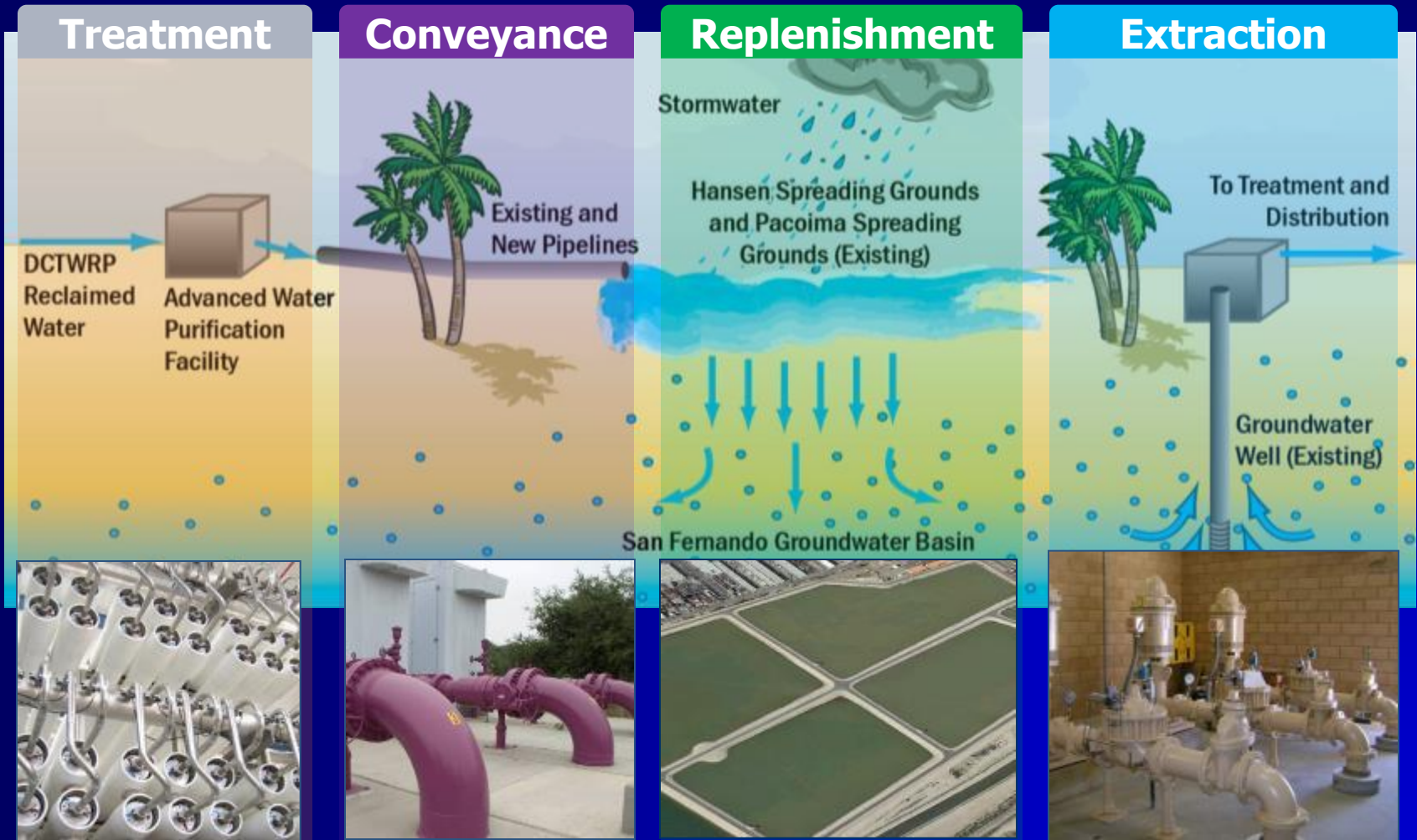
- Ultimately, remediation will depend on:
 - Upcoming basin characterization
 - Remediation requirements – Federal and State laws, rules, and regulations
 - CDPH Policy 97-005 permit guidelines
 - Necessary and reasonable costs for remediation

Groundwater Remediation Facilities Preliminary Timeline

- Complete SFB Characterization - 2015
- Complete Environmental Documentation - 2017
- Anticipated In Service Date – 2021 to 2023

Groundwater Replenishment Project

Groundwater Replenishment



Project Overview Map



- Existing 54" pipeline
- - - Proposed 42" pipeline

Proposed Project Site Plan

Donald C. Tillman Water Reclamation Plant



Proposed



Not Part of Project

Alternative Site Plan

Valley Generating Station



Proposed

Alternative Site Plan

Donald C. Tillman Water Reclamation Plant



Proposed



Not Part of Project

Alternative Conveyance

Valley Generating Station



- Existing 54" pipeline
- Proposed 42" pipeline
- Proposed 21" brine line

GWR Project: NEXT STEPS

- **GWR ENVIRONMENTAL ANALYSIS IN PROGRESS**
 - Notice of Preparation and Release of GWR Initial Study
 - September 6
 - 3 Public Scoping Meetings Completed
 - September 25, October 3, October 12
 - Public Comment Period Concluded
 - October 21
 - Draft EIR: Summer 2014 (60-day public comment period)
 - Final EIR: Early 2015

www.ladwp.com/envnotices

Questions and Discussion

www.ladwp.com/wells

www.ladwp.com/rw

