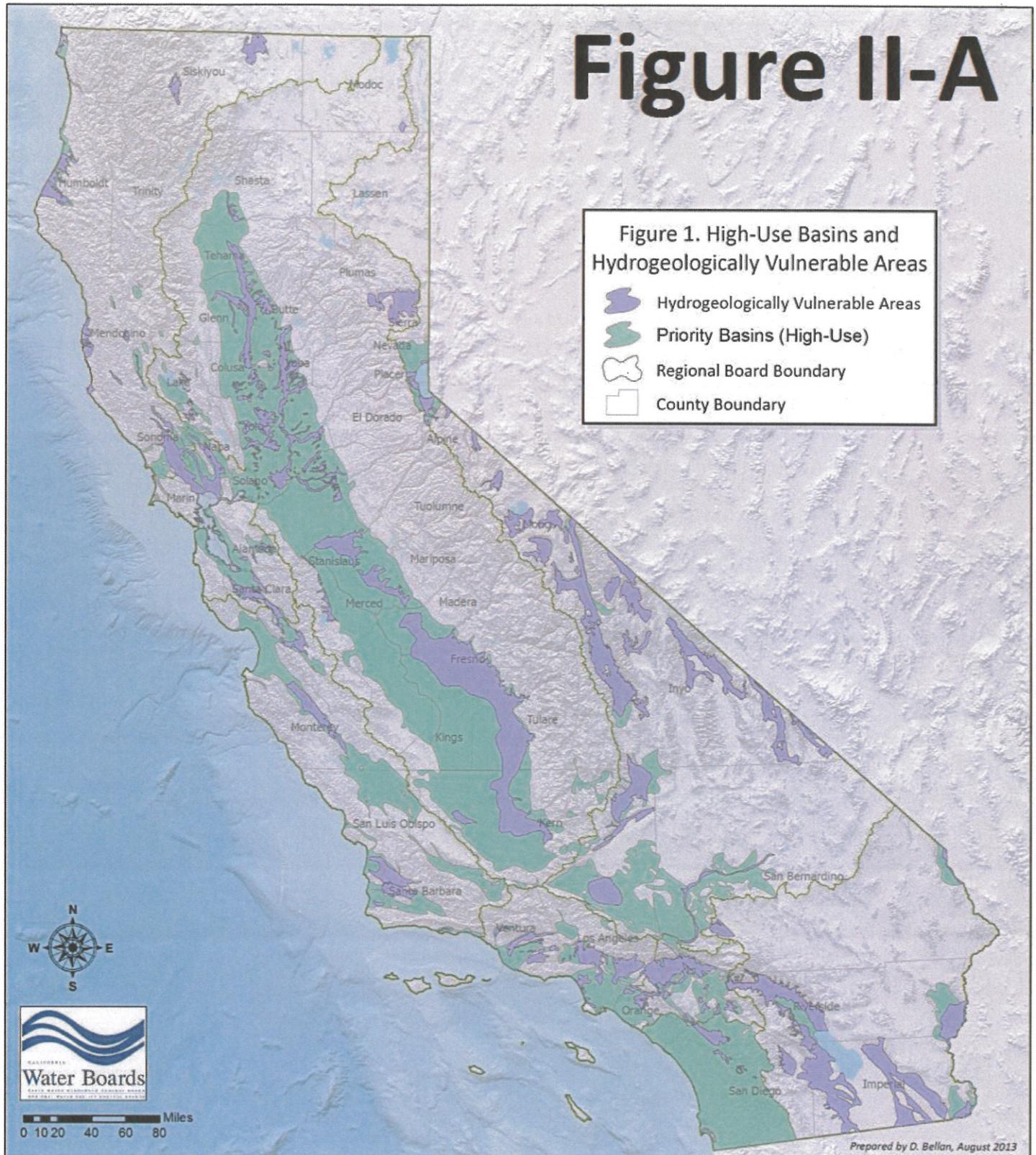


Figure II-A



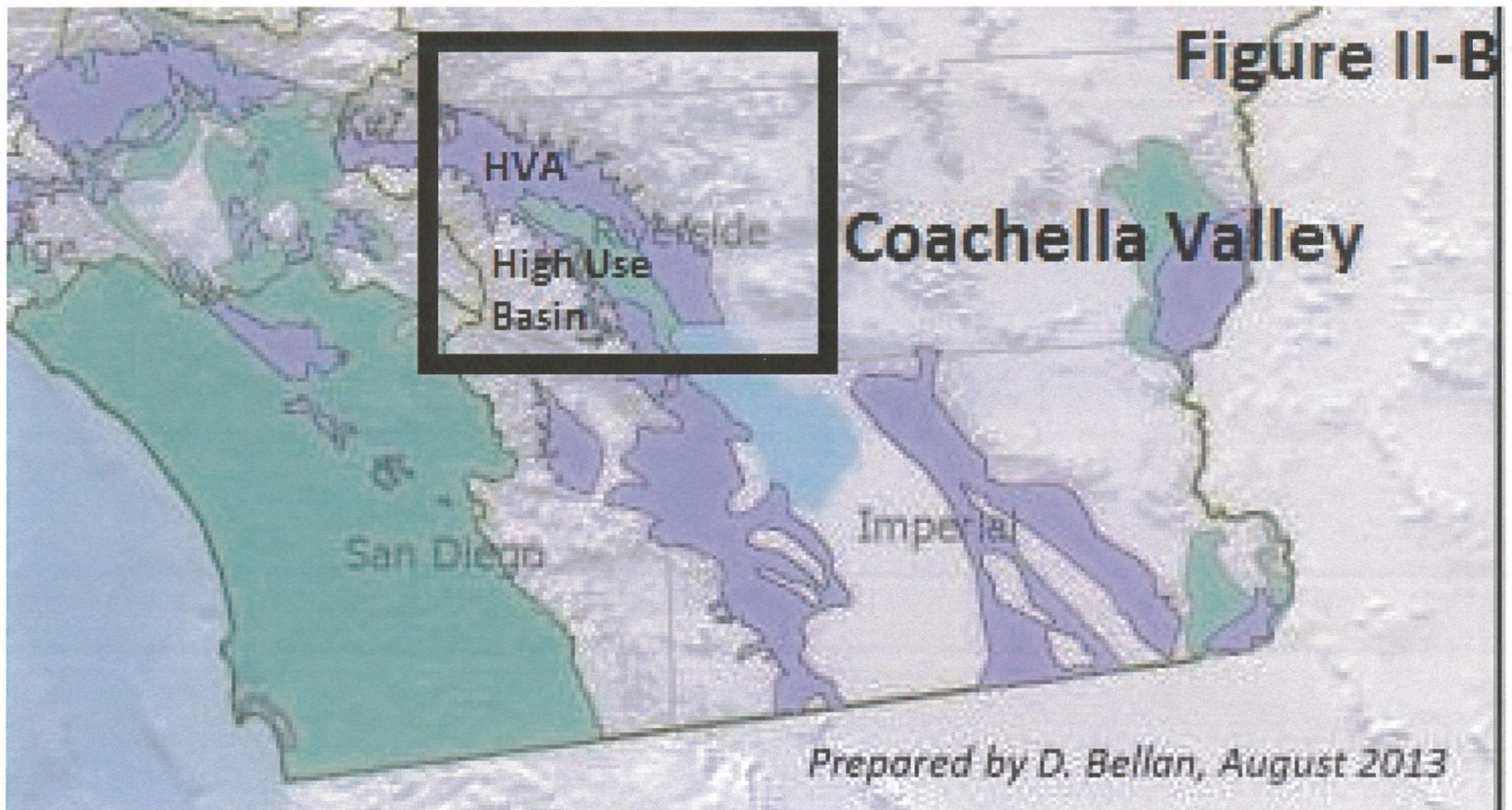


Figure II-C

Fig 3. Nitrate High-Risk Areas Using all CDPH, Monitoring, and GAMA Wells

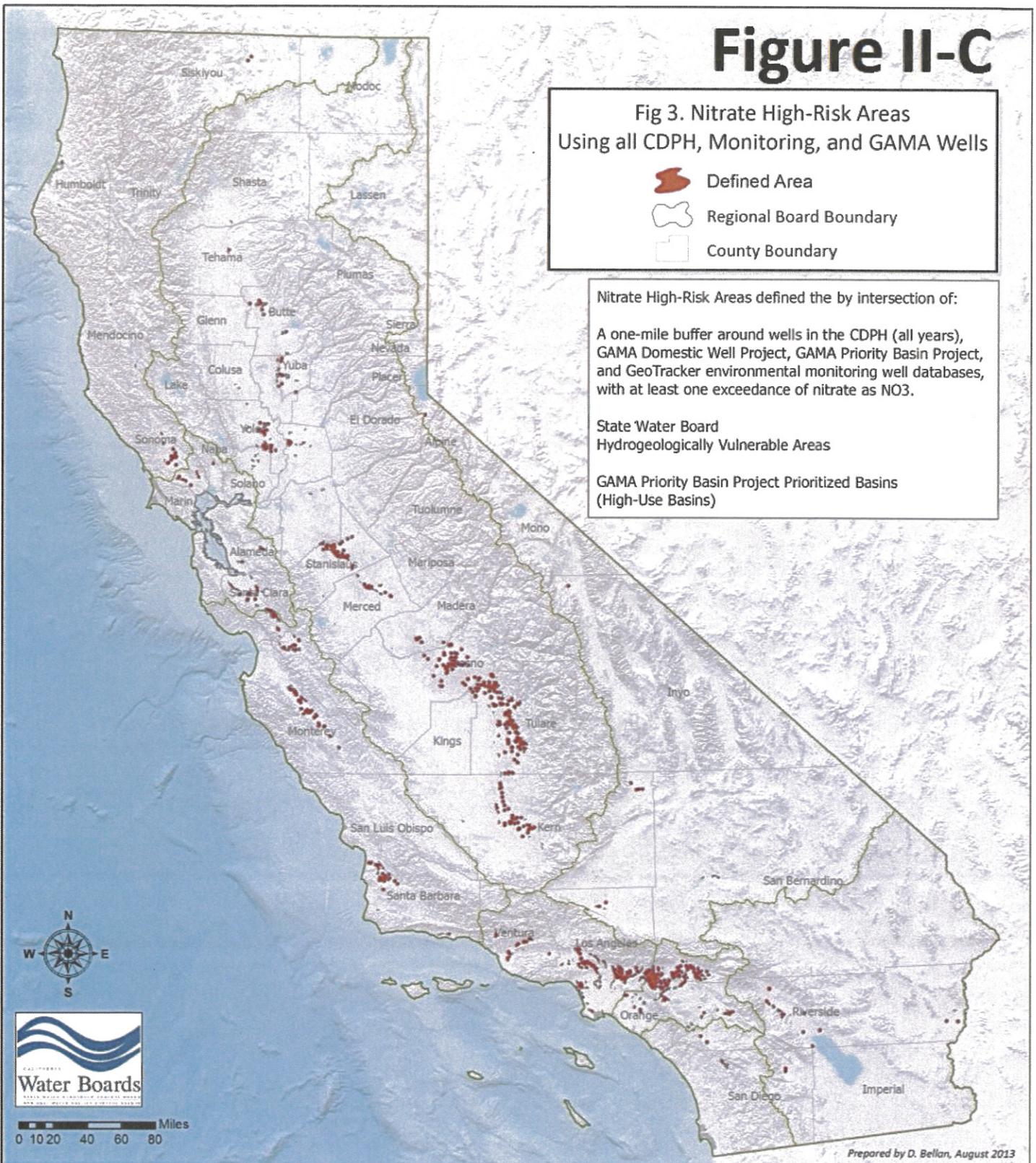
-  Defined Area
-  Regional Board Boundary
-  County Boundary

Nitrate High-Risk Areas defined the by intersection of:

A one-mile buffer around wells in the CDPH (all years), GAMA Domestic Well Project, GAMA Priority Basin Project, and GeoTracker environmental monitoring well databases, with at least one exceedance of nitrate as NO₃.

State Water Board
Hydrogeologically Vulnerable Areas

GAMA Priority Basin Project Prioritized Basins
(High-Use Basins)



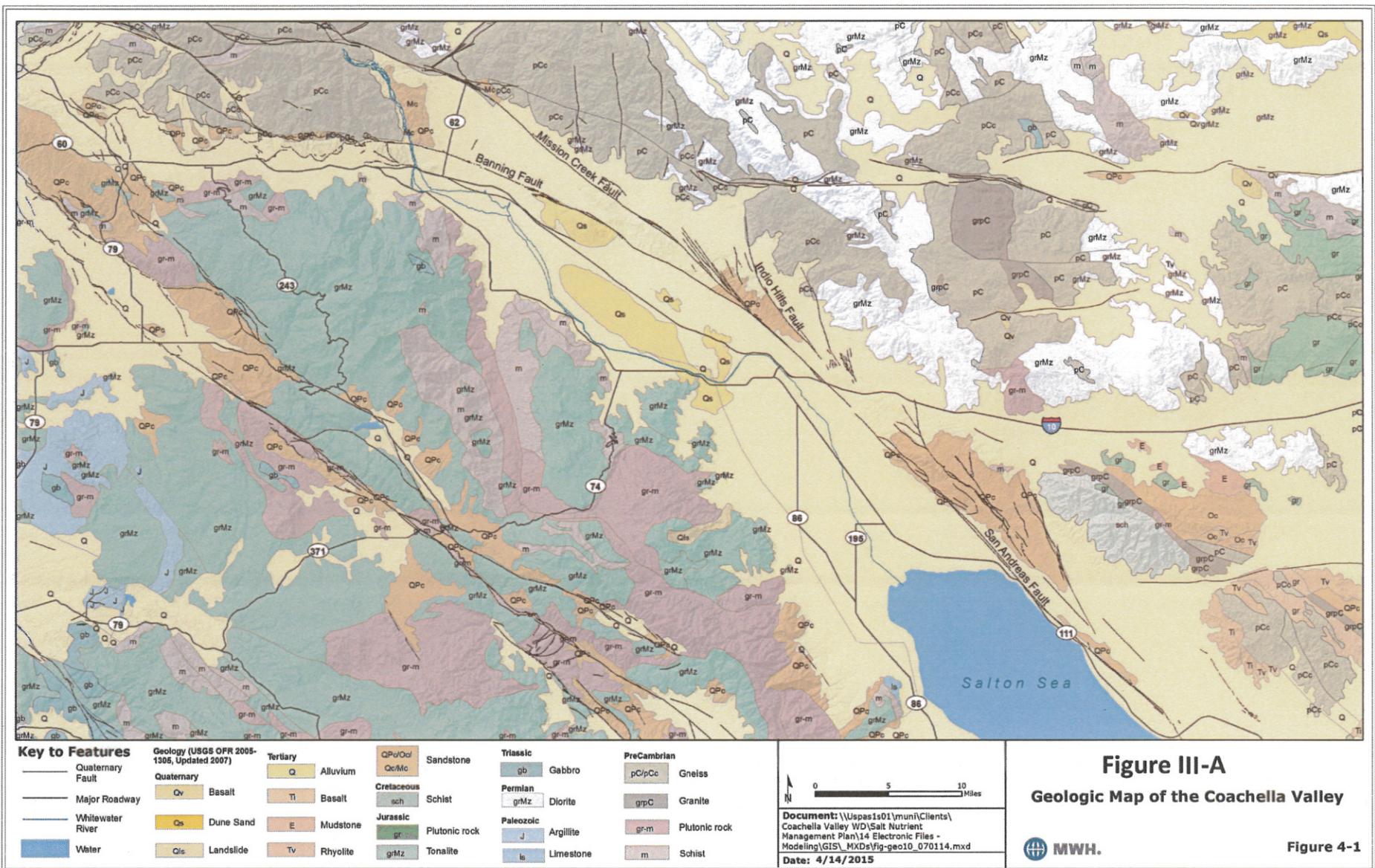
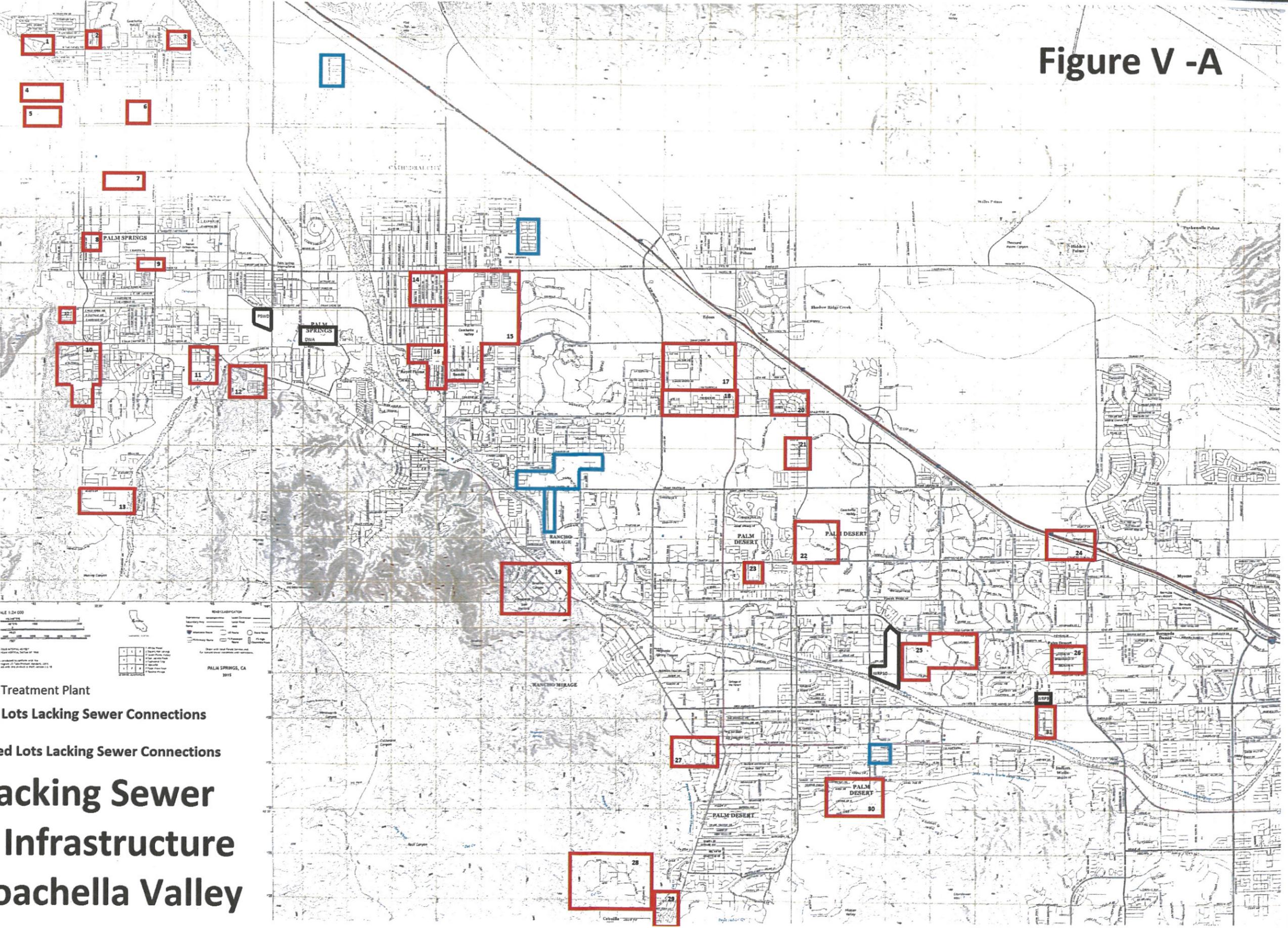


Figure V -A



-  Wastewater Treatment Plant
-  Developed Lots Lacking Sewer Connections
-  Undeveloped Lots Lacking Sewer Connections

Areas Lacking Sewer System Infrastructure West Coachella Valley

Figure VI -A

Home » Water Issues » Programs » Sso » Sso Map

Sanitary Sewer Overflow (SSO) Incident Map

SANITARY SEWER OVERFLOWS: 08/10/2008 - 08/10/2017

Spill type: + Category 1 ● Category 2 ▲ Category 3
Click on a map icon for incident information.

Note: Map does not include spills from sewage treatment plants.



- Show all incidents
- Show only incidents with valid GPS coordinates

Filter by Volume (gallons):
0 - 1,000,000+ gal.

Minimum:

Maximum:

Filter by date:
08/10/2008 - 08/10/2017

Start:

End:

Filter by Agency:
(All)

(Example: "123 Main Street, Sacramento, CA")

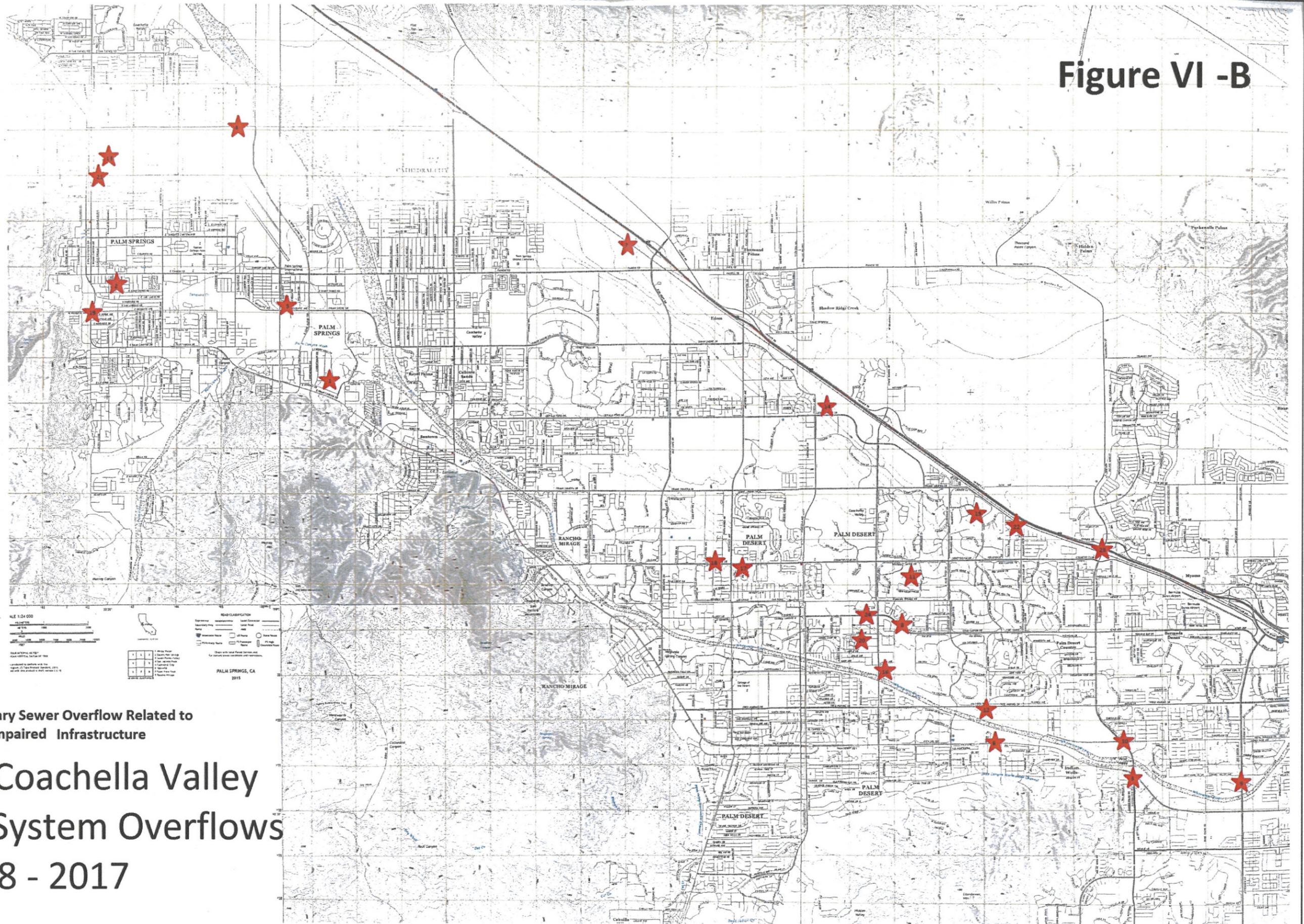
Go to street address:

Go to county:

Go to Regional Board:

QA Tools

Figure VI -B



 Sanitary Sewer Overflow Related to Impaired Infrastructure

West Coachella Valley Sewer System Overflows 2008 - 2017

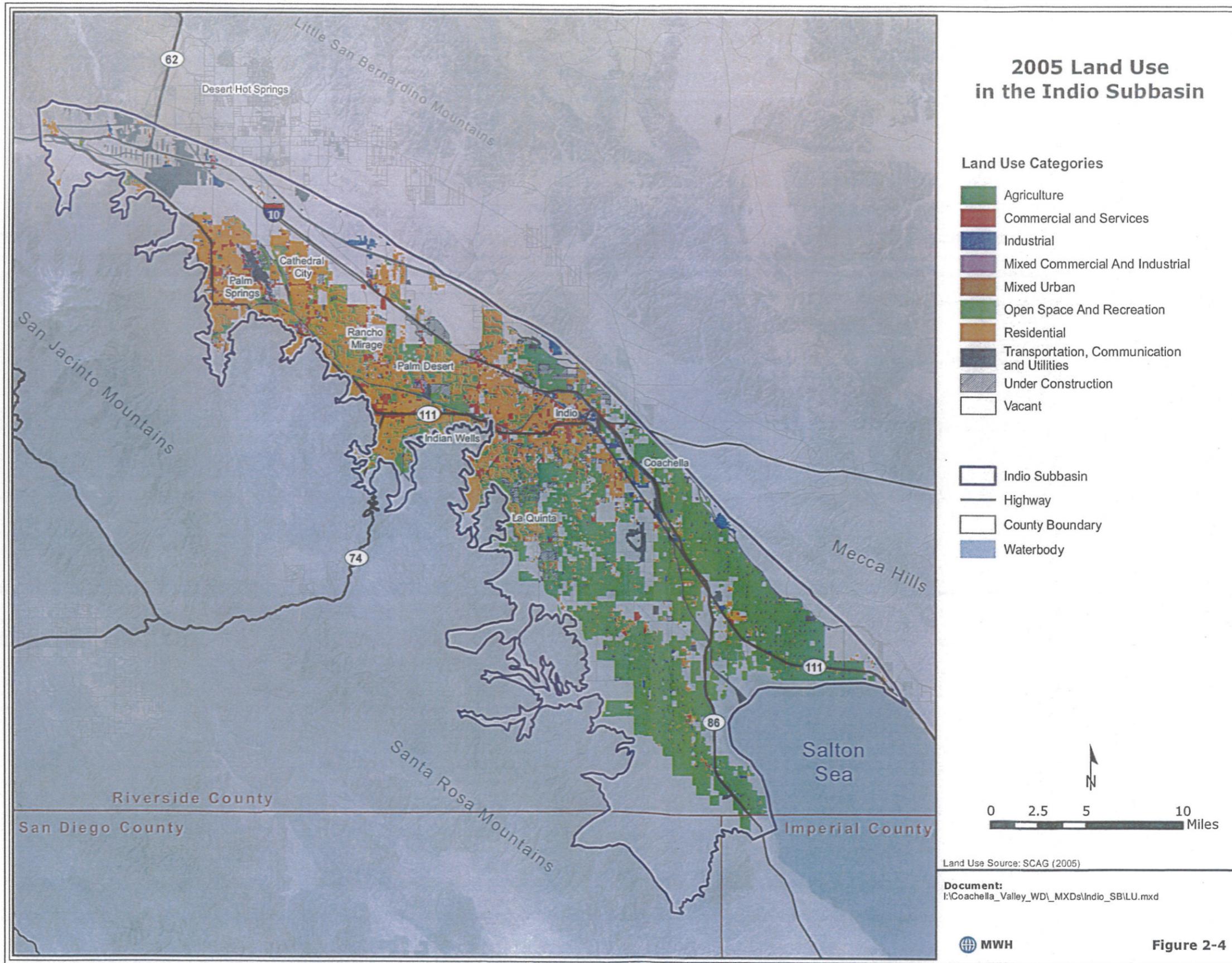
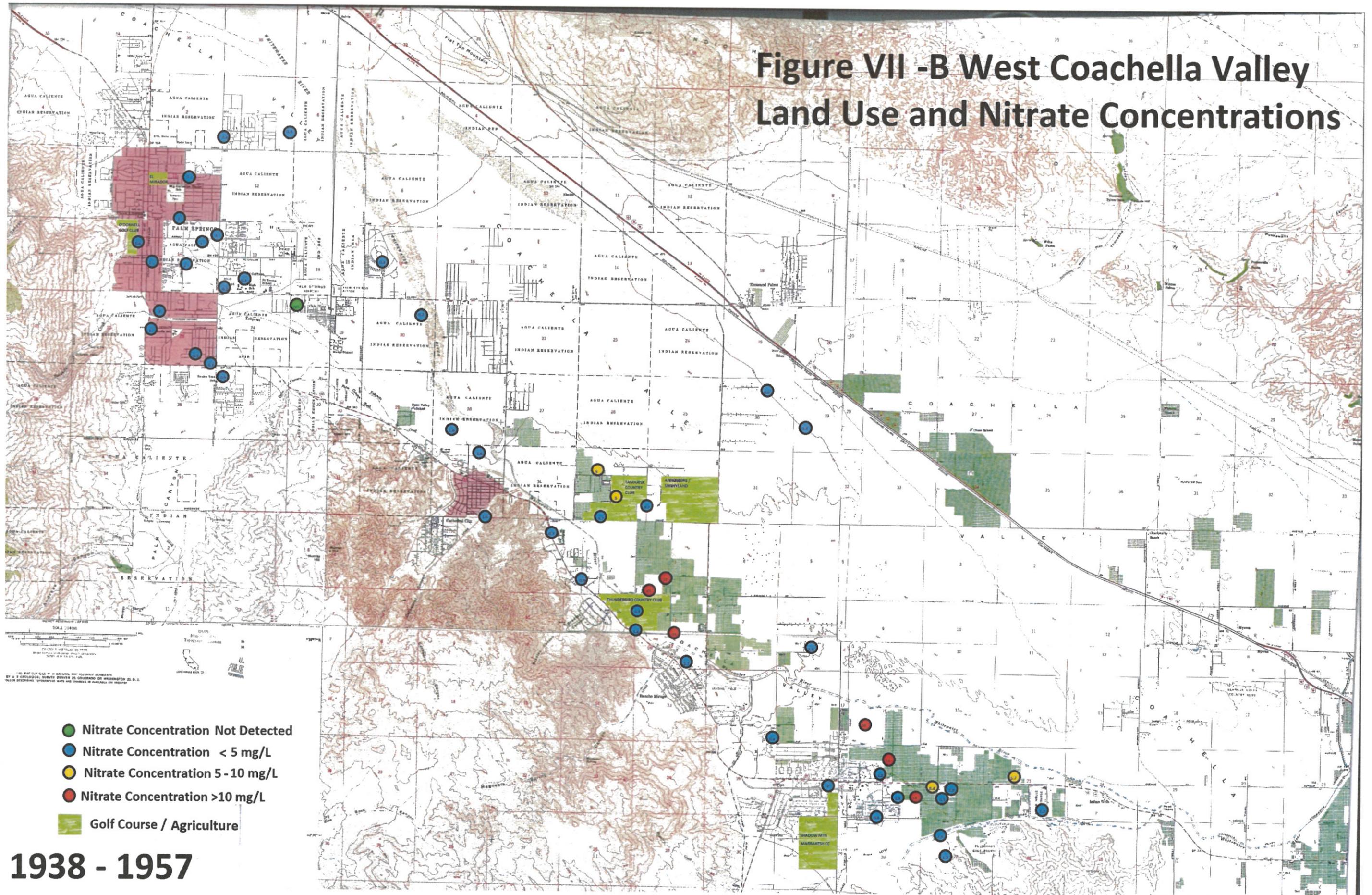


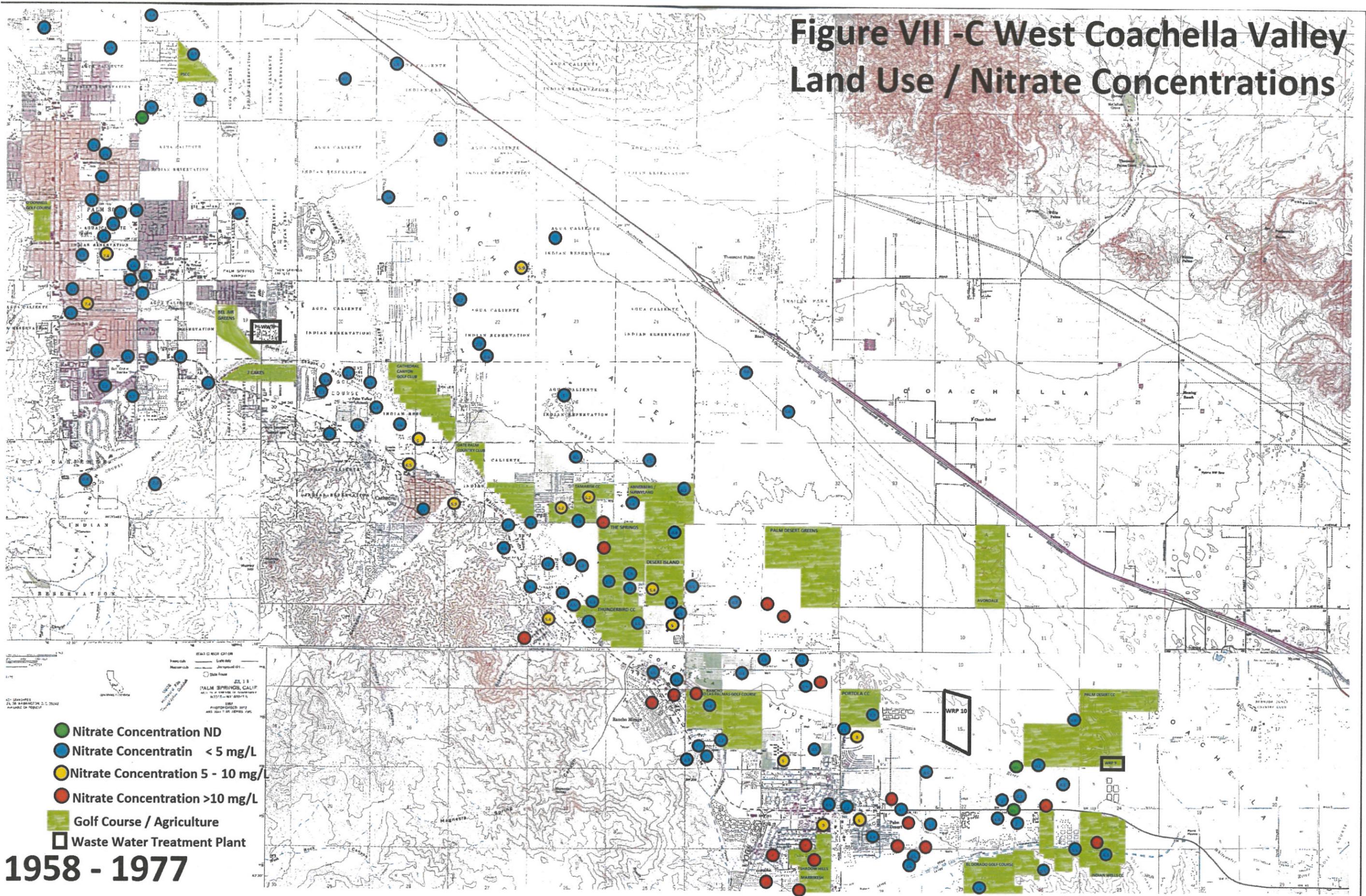
Figure VII -A

Figure VII -B West Coachella Valley Land Use and Nitrate Concentrations



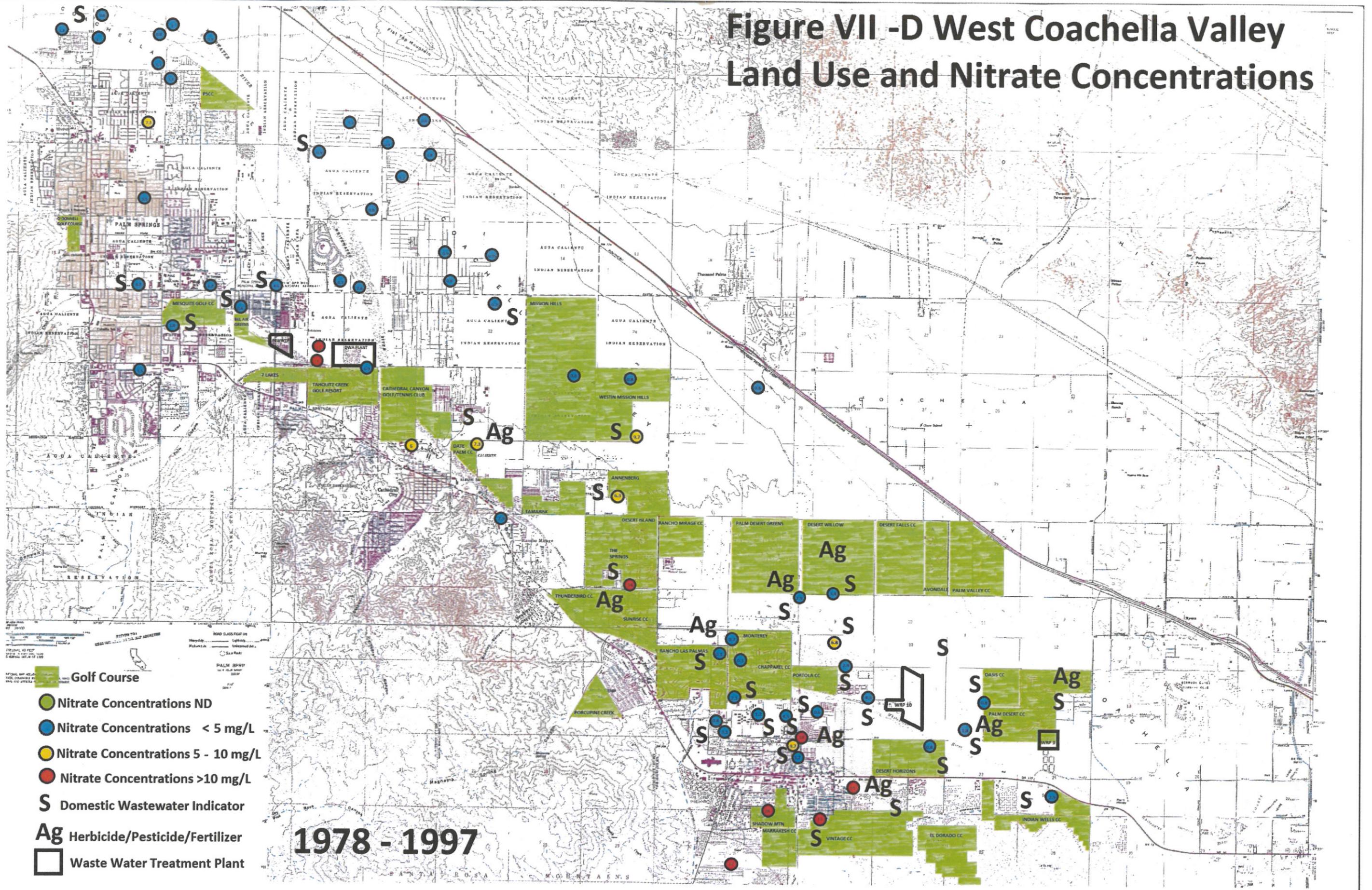
1938 - 1957

Figure VII -C West Coachella Valley Land Use / Nitrate Concentrations



1958 - 1977

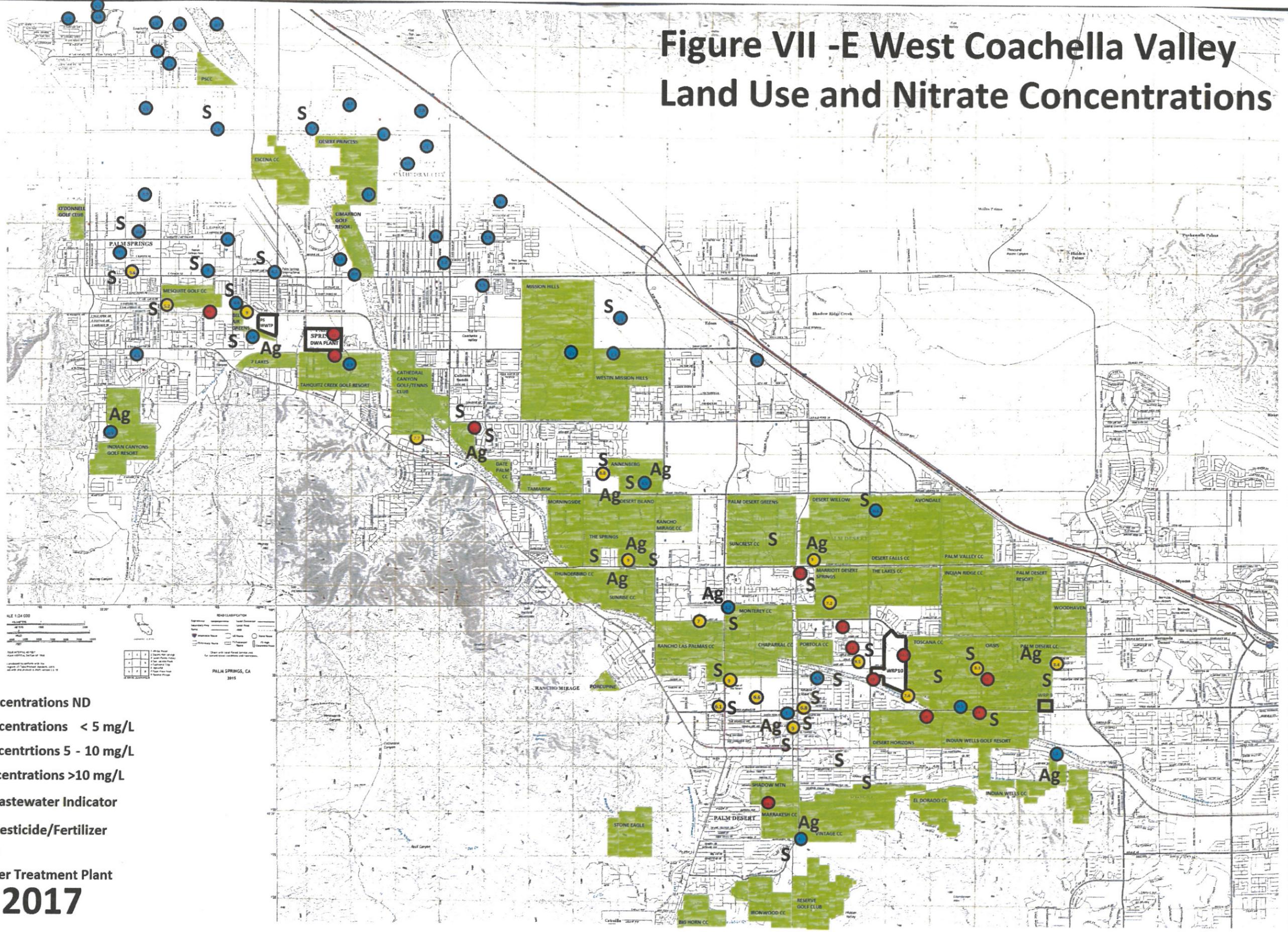
Figure VII -D West Coachella Valley Land Use and Nitrate Concentrations



- Golf Course
- Nitrate Concentrations ND
- Nitrate Concentrations < 5 mg/L
- Nitrate Concentrations 5 - 10 mg/L
- Nitrate Concentrations >10 mg/L
- S** Domestic Wastewater Indicator
- Ag** Herbicide/Pesticide/Fertilizer
- Waste Water Treatment Plant

1978 - 1997

Figure VII -E West Coachella Valley Land Use and Nitrate Concentrations



- Nitrate Concentrations ND
 - Nitrate Concentrations < 5 mg/L
 - Nitrate Concentrations 5 - 10 mg/L
 - Nitrate Concentrations >10 mg/L
 - S** Domestic Wastewater Indicator
 - Ag** Herbicide/Pesticide/Fertilizer
 - Golf Course
 - Waste Water Treatment Plant
- 1998 - 2017**

Figure VII -F West Coachella Valley Correlation of Land Use & Nitrate Concentrations

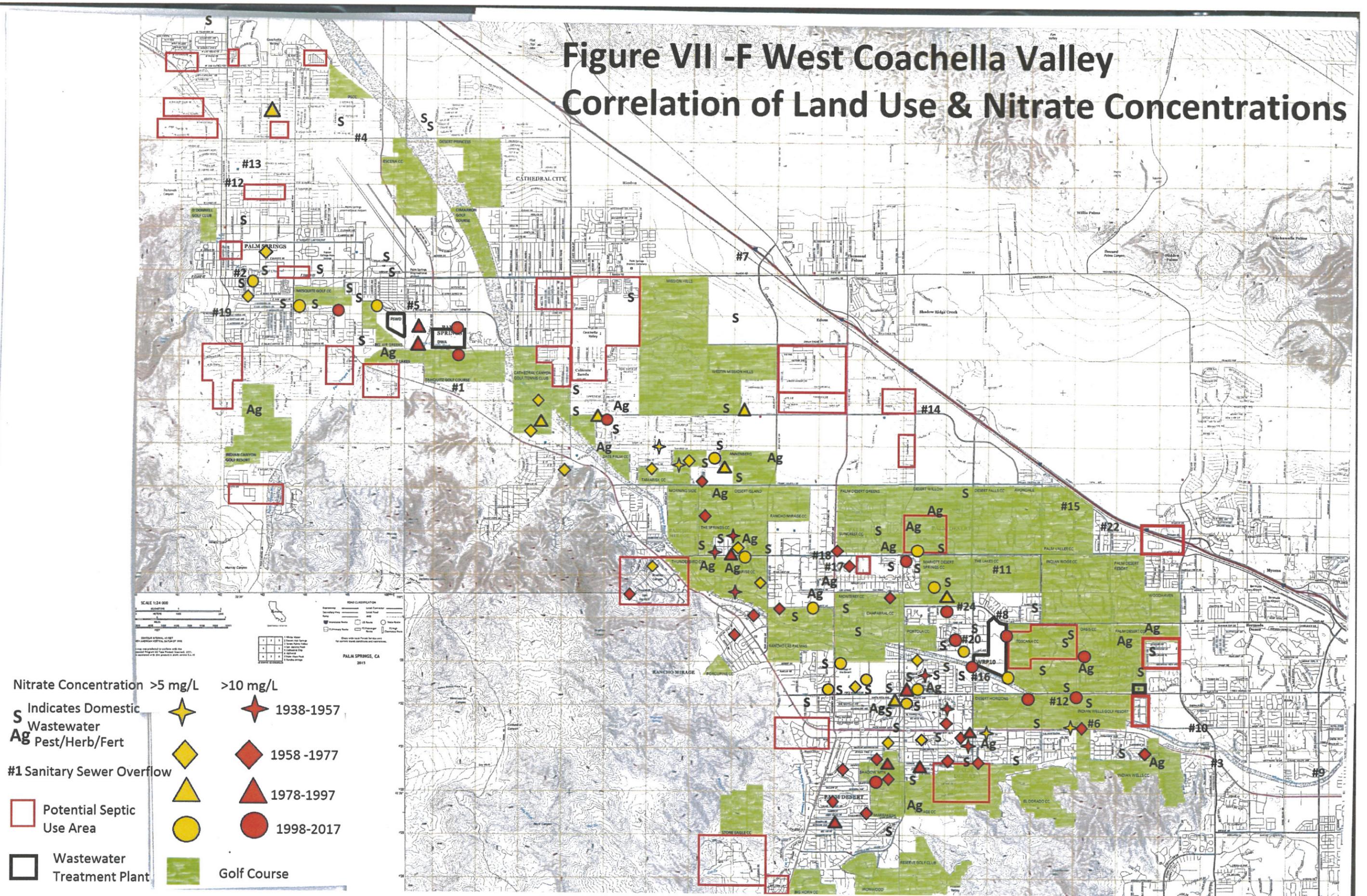


Table VI-A
West Coachella Valley Sanitary Sewer Overflow Report Details
Category 1

Figure VII-B Location	Date	Location	Gallons Spilled	Gallons Recovered	Gallons Not Recovered	Cause
3	11/27/2008	Washington St / 100' S Miles Ave La Quinta	5,500	3,000	2,500	Other
4	12/20/2008	3180 Vista Chino Dr Palm Springs	800	700	100	Vandalism
	10/8/2010	Fred Waring / Alaska St Palm Desert	300	0	300	Fat / Oil / Grease
9	12/28/2010	Area North of CVSC at Jefferson St La Quinta	10,800	0	10,800	Other
10	1/17/2011	Washington St / Miles Ave Indian Wells	6,000	500	5,500	Other
12	5/11/2011	Hyatt Grand Champions 44-600 Indian Wells Lane Indian Wells	10,600	4,500	6,100	Other
	6/25/2012	Manitou Dr/ Sioux Dr Indian Wells	350	300	50	Fat / Oil / Grease
	9/8/2014	Vista Del Sol Indian Wells	75	0	75	Rain
24	6/3/2017	The First Tee West of Cook Street Palm Desert	241,900	0	241,900	Damage

Total Gallons Spilled 276,325

Total Gallons Recovered 9,000

Total Gallons Not Recovered

267,325

Table VI-B
West Coachella Valley Sanitary Sewer Overflow Report Details
Category 2

Figure VII-B Location	Date	Location	Gallons Spilled	Gallons Recovered	Gallons Not Recovered	Cause
6	10/5/2009	Renaissance Esmeralda Resort and Spa Hotel Bar Indian Wells	3,884	3,884	0	Other
8	4/6/2010	Building Construction Site CVWD Office Palm Desert	3,700	0	3,700	Other
	7/16/2010	E06003 - Via Miraleste / Vereda Del Sur Palm Springs	2,000	1,000	1,000	Debris / Rags
	4/13/2013	53-54 Tyler St Thousand Palms	1,353	1,353	0	Fat / Oil / Grease
16	8/19/2013	Cook St / Sheryl Ave Palm Desert	4,000	4,000	0	Pipe Structural Failure
21	11/7/2016	Manhole #D07125 N. Avenida Palos Verdes Palm Springs	1,650	1,400	250	Roots

Total Gallons Spilled 16,587
Total Gallons Recovered 11,637

Total Gallons Not Recovered 4,950

Table VI-C
West Coachella Valley Sanitary Sewer Overflow Report Details
Category 3

Figure VII-B Location	Date	Location	Gallons Spilled	Gallons Recovered	Gallons Not Recovered	Cause
1	10/30/2008	5369 Lakeside Dr Cathedral City	500	250	250	Pump Station Failure
2	11/13/2008	608 Indian Trail Palm Springs	100	0	100	Other
	12/6/2008	Bob Hope Dr / Avenida Las Palmas Manhole #20 Rancho Mirage	250	0	250	Debris
5	3/6/2009	4375 Mesquite Ave Palm Springs	750	740	10	Other
	4/6/2009	Corp Way/ Avenue 42 Palm Desert	500	500	0	Fat / Oil / Grease
7	10/14/2009	1,500' Northwest of Ramon Rd / Bob Hope Rancho Mirage	600	0	600	Other
	12/12/2009	68-630 Ortega Rd Cathedral City	300	300	0	Fat / Oil / Grease
	12/30/2009	Via Pellegrino Palm Desert	455	0	455	Debris
	8/18/2010	75-001 Vintage Dr Indian Wells	300	300	0	Fat / Oil / Grease
11	2/25/2011	The Lakes Country Club Blue River / Red River Palm Desert	475	475	0	Roots
	11/28/2011	Hwy 111 700' West of Washington Street La Quinta	510	0	510	Debris
13	1/5/2012	Miraleste / E Vereda Sur Manhole E06003 Palm Springs	900	800	100	Other
14	7/31/2012	Retention Basin Portola Ave/Dinah Shore Palm Desert	700	0	700	Other
	1/24/2013	Ramon Rd / Sky Blue Water Trail Cathedral City	250	200	50	Fat / Oil / Grease

Colorado River Basin Regional Water Quality Control Board

TO: Jose Angel

FROM: Cathy L. Sanford
Engineering Geologist
Basin Planning Unit

DATE: October 20, 2015

**SUBJECT: BASIN PLAN 2014 TRIENNIAL REVIEW - ISSUE 3:
WORK PLAN TO RESEARCH THREATS TO GROUNDWATER QUALITY
FROM SEPTIC SYSTEM WASTEWATER DISCHARGES IN LA QUINTA COVE**

Background:

The Water Quality Control Plan for the Colorado River Basin – Region 7 (Basin Plan) is a master-planning document for ground and surface waters in the Colorado River Basin Region. Pursuant to State and Federal regulations [§ 13240 of the California Water Code (CWC), § 303(c) of the Federal Clean Water Act (CWA) (33 U.S.C. § 1313(c)), and § 130 of Title 40 of the Code of Federal Regulations (CFR)], the Regional Water Boards must hold public hearings to evaluate water quality standards (WQSs) and their need for revision, identify potential water quality problems/issues, and reaffirm parts of the Basin Plan where no potential problems are identified during the "Triennial Review" of the Basin Plan.

As part of the 2014 Basin Plan Triennial Review, staff proposed the Regional Water Board reaffirm all beneficial uses of ground and surface waters and identified threats to groundwater from septic system wastewater discharge as one of five priority issues for review and/or update. In support of the Regional Water Board's effort to eliminate wastewater discharges from septic systems in the Region to the extent feasible and reasonable, staff proposes to evaluate groundwater data in populated areas of Coachella Valley that are without a community sewer system to determine if a nexus exists between septic systems and nitrate impacts to groundwater.

With California facing an unprecedented drought and several aquifers in significant overdraft, the need to develop and promote sustainable water supplies is especially urgent, particularly in areas like Coachella Valley that rely solely on groundwater for local water supply. Eliminating nitrate sources to the Valley's groundwater is paramount to the long term efforts to protect this valuable resource, given that current polluting activities are likely to affect nitrate levels in groundwater for several decades.

Summary of Issue 3:

Onsite wastewater treatment systems (OWTS), or septic systems, are useful and necessary structures that allow habitation at locations that are removed from centralized wastewater treatment systems. However, in some cases, the use of OWTS have not satisfactorily protected either water quality or public health. Some instances of these failures are related to the OWTS not being able to adequately treat and dispose of waste as a result of poor design or improper site conditions, or the OWTS are operating as designed but their densities are such that the

combined effluent resulting from multiple systems is more than can be assimilated into the environment.

Recently the local water agencies (primarily Coachella Valley Water District and Desert Water Agency) collaborated on a Salt and Nutrient Management Plan for the Coachella Valley pursuant to the State Recycle Water Policy. Groundwater data collected in support of this effort shows high levels of nitrate occurring sporadically throughout the Valley, mostly within the upper aquifer where impacts from waste dischargers are first observed. These impacts likely result from anthropogenic activities given that natural nitrate levels in groundwater are generally low (typically under 10 milligrams per liter [mg/l]). Activities in the Valley that may contribute nitrate to groundwater include: (1) excess fertilization of agricultural lands, golf courses or general landscape maintenance, and (2) domestic effluents from septic systems, leaky sewer lines, wastewater ponds, and agricultural ponds.

Staff proposes to begin groundwater studies in the cove area of La Quinta. This is a residential area with a high density of homes that use septic tanks as the primary method of wastewater disposal. In addition, the cove is located at the toe of the Santa Rosa Mountains where soils are characteristically coarse grained and highly porous/permeable, providing optimal conditions for the downward migration of wastewater to the Valley's drinking water supply.

If data indicates "substantive evidence" of degradation, a septic system prohibition may be recommended to the Regional Water Board to protect groundwater in the subject area, as was done in other parts of the Region with groundwater impacts from nitrate (e.g., City of Yucca Valley, Cathedral City Cove). Alternatively, if water quality data is inconclusive, staff may require responsible parties to conduct a subsurface investigation pursuant to the CWC (§ 13267), or contract with an outside agency (e.g., United States Geological Survey) if funding is available.

Staff proposes the following milestones and deadlines to characterize the usage of OWTS and the potential subsequent impact to groundwater within Coachella Valley:

Task	Due Date
1. Determine areas within Coachella Valley that are currently utilizing OWTS [septic systems]	January 2016
2. Request / obtain information regarding existing OWTS design, construction, maintenance, failure rates, and population densities in OWTS usage areas	March 2016
3. Request / obtain available upper aquifer groundwater data from water purveyors for areas utilizing OWTS	March 2016
4. Assess groundwater and other data received and determine sufficiency	May 2017
5. Request additional data if needed	July 2017
6. Finalize assessment of groundwater and other pertinent data	January 2018
7. Evaluate the need for septic tank prohibitions, density restrictions, and other strategies to protect water quality	May 2018
8. Finalize report for Issue 3	December 31, 2018

RESOURCES REQUIRED: Approximately 1.5 PYs of existing staff resources.

PRIORITY: High

cc: Abdi Haile
Joan Stormo



Colorado River Basin Regional Water Quality Control Board

January 10, 2018

Coachella Valley City

SUBJECT: REQUEST FOR INFORMATION

Recent groundwater analyses reported to the State of California Groundwater Ambient Monitoring and Assessment (GAMA) Program database from municipal supply wells in the *Coachella Valley City* indicate sporadic nitrate impacts that sometimes exceed drinking water standards, particularly in areas utilizing septic systems for wastewater disposal. Addressing the adverse water quality impacts of these discharges is a key factor in the Regional Water Board's efforts to protect the Valley's groundwater.

The *Coachella Valley City* Municipal Code addresses requirements for connecting to a centralized sewer system for new construction and existing buildings within city limits. Existing properties and buildings are required to connect upon sale or transfer or if the existing private septic system fails. The Municipal Code provides temporary exceptions to sewer connection for all properties more than 200 feet from an existing sewer line, and for existing buildings that are below the sewer flow line, or sewer connection requires excessive cost and the property has an existing septic system that is less than 20 years old.

As part of the Regional Water Board's efforts, we are requesting the *Coachella Valley City* provide a list of all: (1) properties utilizing private septic systems, (2) properties that have received sewer connection exceptions, (3) records of failures on existing septic system, and (4) verification of septic system maintenance. We request this information by **March 30, 2018**. Regional Water Board Staff appreciates your quick response, and looks forward to receiving the requested information. If you have any questions or require additional information please contact Ms. Cathy Sanford at cathy.sanford@waterboards.ca.gov or at (760) 776-8934.

Sincerely,

Joan Stormo, PG, CHG
Senior Engineering Geologist
Regional Water Quality Control Board - Colorado River Basin

NANCY WRIGHT, VICE CHAIR | JOSE L. ANGEL, EXECUTIVE OFFICER

73-720 Fred Waring Drive, Suite 100, Palm Desert, CA 92260 | www.waterboards.ca.gov/coloradoriver





EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIGUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

Colorado River Basin Regional Water Quality Control Board

January 10, 2018

SUBJECT: REQUEST FOR INFORMATION

City of Cathedral City
68700 Avenida Lalo Guerrero
Cathedral City, Ca 92234

City of Coachella
1515 Sixth Street
Coachella CA 92236

City of Indio
100 Civic Center Mall
Indio, California 92201

City of Indian Wells
44-950 Eldorado Drive
Indian Wells, CA 92210

City of La Quinta
78-495 Calle Tampico
La Quinta, CA 92253

City of Palm Desert
73510 Fred Waring Drive
Palm Desert, CA 92260

City of Palm Springs
3200 E. Tahquitz Canyon Way
Palm Springs, CA 92262

City of Rancho Mirage
69-825 Highway 111
Rancho Mirage, CA 92270

NANCY WRIGHT, VICE CHAIR | JOSE L. ANGEL, EXECUTIVE OFFICER

73-720 Fred Waring Drive, Suite 100, Palm Desert, CA 92260 | www.waterboards.ca.gov/coloradoriver

Attachment VII-A

Detected Indicator Chemicals- West Coachella Valley

[S] Acetaminophen: - detection in USGS report 2007

well COAU-03 (detected 07) analyzed 2007

- medicine

[Ag] Atrazine:

well 128 [COA-14] (detected 07 & 11) analyzed 07 & 2011

well 267 [COAU-09] (detected 07) analyzed 07 [located in East CV]

- to prevent pre- and post-emergence broadleaf weeds in crops such as maize (corn) and sugarcane and on turf, such as golf courses and residential lawns

[S] Chloroform:

well 7 [COAU-15] (detected 07) analyzed 2007

well 59 (detected 94 & 2010-16) analyzed 1994-2016

well COAU-03 (detected 07) analyzed 2007

well 128 [COA-14] (detected 07 & 11) analyzed 07 & 2011

well 200B (detected 94) analyzed 84 -2016

well 200C (detected 86 & 89) analyzed 86 -2016

well 188 [COA-09] (detected 07) analyzed 2007

well 222 (detected 97) analyzed 97 -2016

- industry
- sewage waste water treatment using chlorine

[Ag] 1,2-dibromo-3-chloropropane [DBCP]: detections

well 72 (detected 91-03) analyzed 91-03

well 73 (detected 00-03)] analyzed 00-03

well 74A (detected 90-94)] analyzed 90-94

- It is a soil fumigant formerly used in American agriculture [banned in 1979]
- used as an intermediate in the synthesis of organic chemicals

[S] Delta H2/H1:

well COA-05 [DETECTED 2007]

well 7 [COAU-15] [DETECTED 2007]

well 128 [COA-14] [DETECTED 2007]

well 201

- Medicine [histamine receptor]

[S] Dibromochloromethane [THM]:

well 186

well 200B

well 216

- Disinfectant byproduct [found in chlorinated drinking water]

Attachment VII-A

Detected Indicator Chemicals- West Coachella Valley

[S] Dichloromethane [Methylene Chloride]:

well 89A-F (detected 96-99) analyzed 88-2005
well 105A (detected 96-99) analyzed 88-2008 [well adjacent analy 88-14 detections in 96-99 & 2014]
well 70 (detected 96-99) analyzed 88-2011
well 74B (detected 96-99) analyzed 88-1999
well 189 (detected 14)
well 216 (detected 02)
well 200B (detected 94)

- Industrial Solvent

[Ag] Diuron:

well 188 (detected 07) analyzed 2007

- Herbicide

[S] Foaming Agents:

well 51A-B (detected 87-90) analyzed 87-1990
well 52 (detected 90-15) analyzed 90-2015
well 53 (detected 90) analyzed 90
well 54 (detected 90) analyzed 90
well 56 (detected 90-03) analyzed 90-2003
well 57 (detected 87-06) analyzed 87-2006
well 58 (detected 87-14) analyzed 87-2014
well 69 (detected 91-97) analyzed 91-1997
well 70 (detected 87-14) analyzed 87-2014
well 71 (detected 87-09) analyzed 90-2009
well 72 (detected 87-14) analyzed 87-2014
well 73 (detected 87-99) analyzed 87-1999
well 74A-B (detected 87-09) analyzed 87-2009
well 89A, B, D-G (detected 87-06) analyzed 87-2006
well 101 (detected 90-03) analyzed 90-2003
well 102 (detected 90-95) analyzed 90-1995
well 104 (detected 87-15) analyzed 87-2015
well 105A-D (detected 87-16) analyzed 87-2016
well 143D (detected 87-17) analyzed 87-2017
well 147 (detected 90-93) analyzed 90-93
well 148 (detected 87-10) analyzed 87-2010
well 217 (detected 87-13) analyzed 87-2013
well 194 A/B (detected 86-99 & 2013) analyzed 86-2013
well 200 A/B/C (detected 86-99) analyzed 86-2016
well 186 (detected 86-99) analyzed 86-2016
well 189 (detected 85-99) analyzed 85-2016
well 191 (detected 86-99) analyzed 86-2016

Attachment VII-A

Detected Indicator Chemicals- West Coachella Valley

- Indicate waste water treatment

[Ag] Orthophosphate:

well 7 [COAU-15] (detected 07) analyzed 2007
well 128 [COA-14] (detected 07 & 11) analyzed 07 & 2011
well 188 [COA-09] (detected 07) analyzed 07
well 165 [COAU-08] (detected 07) analyzed 07

- Ag fertilizer

[Ag] Prometon:

well 7 [COAU-15] (detected 07) analyzed 2007

- herbicide

[Ag] Simazine:

well 7 [COAU-15] (detected 07) analyzed 2007
well 128 [COA-14] (detected 07 & 11) analyzed 07 & 2011
well 188 [COA-09] (detected 07) analyzed 07

- herbicide

[S] Total Trihalomethanes:

well 56 (detected 1999) analyzed 1990-2011
well 59 (detected 94 & 10-16) analyzed 94-2016
well 73 (detected 2000) analyzed 88-2000
well 186 (detected 2014) analyzed 88-2016
well 200B (detected 94) analyzed 89-2016
well 216 (detected 02 & 2010 - 16) analyzed 02-2016

- Refrigerants/ solvents
- By-product of chlorination during disinfection of recycled wastewater

[S/Ag] Trichlorofluoromethane:

well 52 (detected 1989 & 90) analyzed 1988-1990
well 54 (detected 90 & 96-99 & 06 & 14) analyzed 90-2014
well 89C (detected 1996-99 & 2014) analyzed 1988-2014
well 89D (detected 90 & 96-99) analyzed 88-2002
well 101 (detected 1990 & 96-99) analyzed 1990-2002
well 104 (detected 90 & 96-99 & 14) analyzed 88-2014
well 105C (detected 85 & 89) analyzed 85-2000
well 143C (detected 1990 & 2014) analyzed 89-2014

- refrigerant
- pesticide