CHAPTER 2. IDENTIFYING DISADVANTAGED COMMUNITIES

The first task of this project has been to *identify disadvantaged communities* in the Greater Monterey County IRWM planning region, with emphasis on small disadvantaged communities in unincorporated areas. The plan has focused particularly on the Salinas Valley and North County areas of the Greater Monterey County IRWM region. This chapter describes the process and methods used for identifying disadvantaged communities.

To provide context for this planning effort, a brief overview of the physical setting, land use, economic milieu, water resources, and water supply for the Salinas Valley and North County areas of the Greater Monterey County IRWM region is presented below.

2.1 Project Context: Physical Setting, Economy, Water Resources

2.1.1 Geographic Context

The Salinas Valley is cradled between two major northwest-southeast trending mountain ranges – the Santa Lucia Range along the coast, and the Gabilan Range along the county's eastern border, both of which are part of the Pacific Coast Range. Famous for its productive soils, the Salinas Valley is a broad gentle basin filled with several thousand feet of sediment that has been captured over the millennia from the surrounding mountains. The valley is 130 miles long, 10-20 miles wide, narrowing to only about three miles wide in its southeastern end. The Valley rises in altitude from sea level at the Monterey Bay to approximately 400 feet at its southern end near Bradley, and contains about 640,000 acres of broad bottomland.[1] Wending its way along the floor of the Salinas Valley is the Salinas River, the largest river on California's Central Coast. The river drains approximately 4,000 square miles of land.[2]

At the northern coastal end of the Greater Monterey County IRWM region, between the Pajaro Valley and the Salinas Valley, is an area known as "North County." North County extends from the Pajaro River southward to Espinoza Road and the mouth of the Salinas River. North County has a more undulating topography than the Salinas Valley, and much of the land is cultivated in agricultural crops, including strawberries and caneberries. The coastal area of North County contains wide sandy beaches and the primary commercial fishing harbor for the entire county. Also located in this northern coastal area is the Elkhorn Slough National Estuarine Research Reserve. Elkhorn Slough provides some of the most important freshwater marsh and brackish marsh habitat for wildlife in California. The slough is one of the few coastal wetlands remaining in California. The main channel of Elkhorn Slough, which winds inland nearly seven miles, is flanked by a broad salt marsh second in size in California only to San Francisco Bay.

[1] Monterey County Water Resources Agency (MCWRA). 2008. *Monterey County Floodplain Management Plan.* Salinas, CA, p. 10. Also: Monterey County Planning Department. 2010. *Monterey County General Plan Final Environmental Impact Report.* Prepared by ICF International.

[2] There is some discrepancy between various plans regarding this number: Monterey County 2010 General Plan Environmental Impact Report claims the drainage area to be 3,950 square miles, Newman et al. 2003 (CSUMB Watershed Institute Land Use Mapping report) claims it to be 4,043 square miles, the Monterey County General Plan claims it to be 3,300 square miles, the Monterey County Groundwater Management Plan 5,000 square miles, and the Salinas River Management Plan 4,600 square miles.

The climate in Monterey County is considered Mediterranean, with dry summers, rainy winters, and moderate temperatures year-round. Precipitation in the region falls mainly between November and April. Marked variations exist in rainfall amounts between the Big Sur coast and inland areas, as well as from year to year and from sea level to altitude along the coast. Average annual rainfall is 15 inches in the City of Salinas and 11 inches in King City in the Salinas Valley, whereas at Pfeiffer Big Sur State Park near the coast annual rainfall averages about 42 inches (with a low on record of 18 inches in 1990 and over 90 inches in 2017), and at higher elevations in the Santa Lucia Mountains precipitation is substantially higher (e.g., average annual rainfall is 78 inches at Mining Ridge at an elevation 4,760 feet, with an annual low on record of 44 inches in 1987 and an annual high of 173 inches in 1983).[3]

2.1.2 Land Use and Economy

The Salinas Valley is one of the most productive agricultural regions in the world. Because of the intensity of production, Salinas Valley has been dubbed the "Salad Bowl of the World." Monterey County supplies the United States and the rest of the world with strawberries, lettuce, nursery crops, broccoli, and numerous other crops. The Salinas Valley is also an important viticultural area, with eight American Viticultural Association appellations located in the region in addition to the overall "Monterey" appellation.[4] Agriculture is unique in this region compared with other parts of the state, such as the Central or Imperial Valley; the majority of operations in the Salinas Valley are less than 50 acres and many properties have been held in families for many generations.[5] Agriculture influences the lifestyle and permeates cultural and social values in the Salinas Valley.

Photo credit: Monterey County Agricultural Commissioner's Office. Photo used by permission.

Agriculture also dominates the economy of Monterey County, with the vast majority of that production occurring in the Salinas Valley. In 2016, agriculture accounted for 28.2 percent of the county's workforce[6] and generated $4.25 billion in gross production value.[7] Monterey County's top three producing crops – leaf lettuce, strawberries, and head lettuce – accounted for 44 percent of the gross agricultural income in 2016. Approximately 1.47 million acres (about 2,290 square

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[3] Henson, P. and D.J. Usner. 1993. *The Natural History of Big Sur.* Berkeley, CA: University of California Press. Updated rainfall information (2017) for Pfeiffer Big Sur State Park from the State Park Facebook page, dated April 6, 2017 (https://www.facebook.com/PfeifferBigSurSP/).

[4] See https://montereywines.org/vineyards/avas/.

[5] Casagrande, J. and F. Watson. 2005. *Final Report: Monterey County Water Resources Agency - Reclamation Ditch Watershed Assessment and Management Strategy*. Prepared for the Monterey County Water Resources Agency Board of Directors. Central Coast Watershed Studies, Watershed Institute, California State University Monterey Bay. Final Report is available on MCWRA website under "Available Data and Reports": http://www.mcwra.co.monterey.ca.us/

[6] California Employment Development Department. Industry Employment & Labor Force - by Annual Average. March 2016 benchmark.

[7] Monterey County Agricultural Commissioner's Office, 2016 Monterey County Crop Report. Salinas, CA.

miles) was used for crops in 2016 throughout the County.[8]

2.1.3 Water Resources and Water Supply

Surface Waters: At the center of the Salinas Valley flows the Salinas River. The Salinas River is the third longest river in the state of California and the largest water system in Monterey County, extending about 120 miles from its headwaters at the Santa Margarita Reservoir in San Luis Obispo County to its mouth at the Monterey Bay. Several tributaries enter the river along its length, including among others the Nacimiento River, San Antonio River, and Arroyo Seco River. The Nacimiento and San Antonio Rivers are by far the largest tributaries to the Salinas River, with watersheds of about 328 and 330 square miles, respectively. Dams owned and operated by the Monterey County Water Resources Agency (MCWRA) control both of these rivers. The Nacimiento River has a total length of 54 miles and contributes approximately 200,000 acre-feet/year (AFY) to the Salinas River. The San Antonio River is 58 miles in length and contributes approximately 70,000 AFY to the Salinas River.[9]

The Nacimiento and San Antonio Dams—built in 1957 and 1965, respectively—were constructed to control floodwaters and to release water into the Salinas River for percolation to underground aquifers throughout the summer. At maximum pool, the Nacimiento Reservoir's storage capacity is 377,900 AF with a surface elevation of 800 feet and a surface area of 5,400 acres. The Nacimiento Reservoir yields on average about 62 percent of the total water in the Salinas River system. At full pool, the San Antonio Reservoir has a volume of 335,000 AF, surface elevation of 780 feet, and a maximum depth of 180 feet. The San Antonio Reservoir yields on average about 13 percent of the total water in the Salinas River system.[10]

The Arroyo Seco River is the largest undammed tributary to the Salinas River and is an important source of groundwater recharge to the Salinas Valley Groundwater Basin. The Arroyo Seco is 40 miles long and drains 275 square miles of watershed, most of which lies in the rugged coastal range areas southwest of Greenfield and Soledad.

Groundwater: An estimated 95 percent of all water used in Monterey County is derived from groundwater wells. Groundwater is the sole source of water supply for almost all of the residents in the Salinas Valley, with the exception of residents in an area near Greenfield, who have a diversion from the Arroyo Seco River. The largest groundwater basin in the Greater Monterey County IRWM region is the Salinas Valley Groundwater Basin. All of the disadvantaged communities located within the Salinas Valley depend upon the Salinas Valley Groundwater Basin for their water supply, while some communities in North County depend on the Pajaro Valley Groundwater Basin for their water supply.

The California Department of Water Resources has designated the groundwater basins in California that must comply with the Sustainable Groundwater Management Act. The Department's Bulletin 118 defines the groundwater basin boundaries. The Salinas Valley Groundwater Basin is made up of eight sub-basins, highlighted in color on the map in Figure 2.1. The Upper Valley and Forebay sub-basins are unconfined and in direct hydraulic connection with the Salinas River. The Paso Robles sub-basin extends into San Luis Obispo County (outside of the Greater Monterey County IRWM region).

[8] Ibid.

[9] Monterey County Water Resources Agency. 2006. *Monterey County Groundwater Management Plan.* Salinas, CA.

[10] MCWRA 2008, *op. cit.*

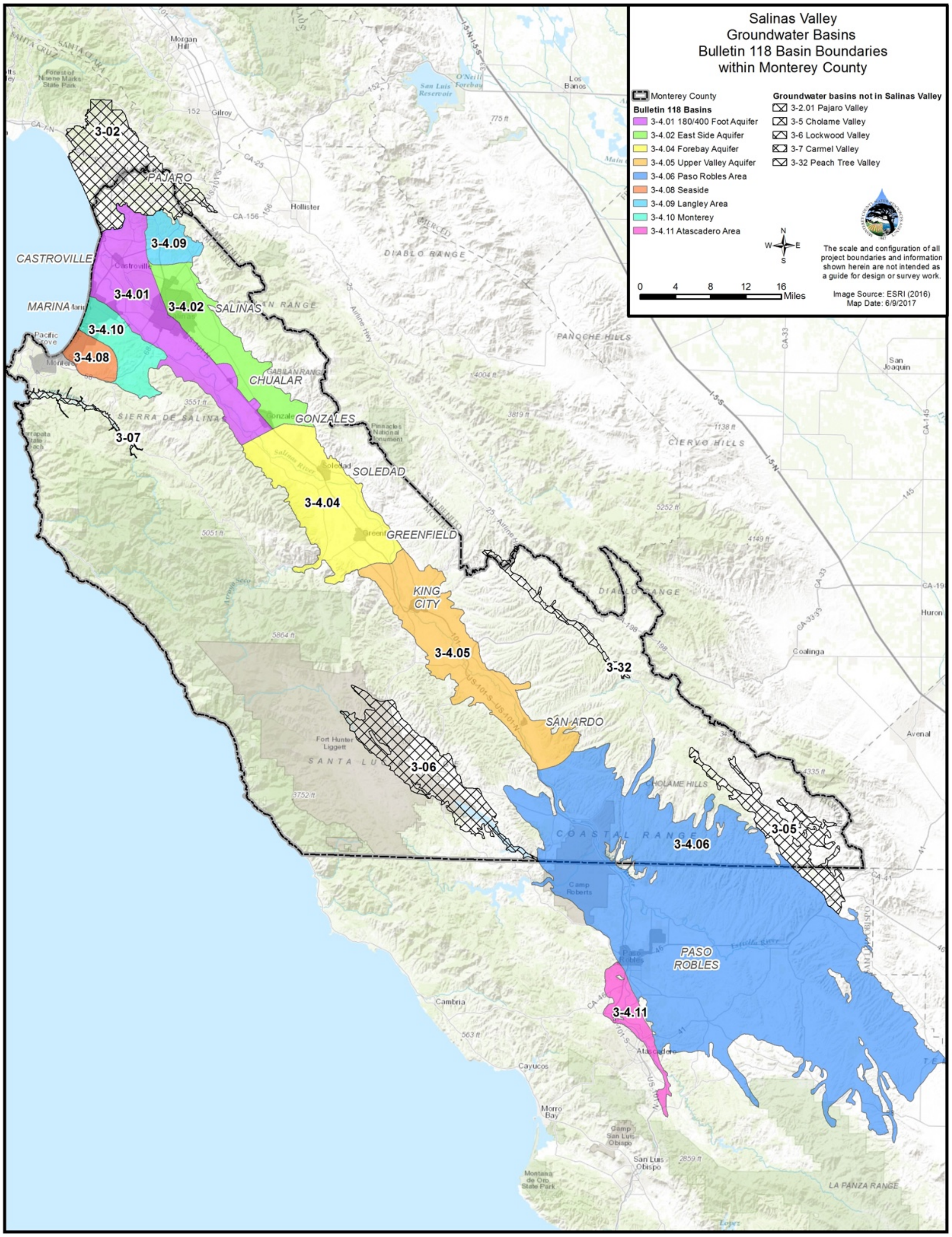

Figure 2.1 Sub-basins of the Salinas Valley Groundwater Basin

Groundwater recharge in the Salinas Valley is principally from infiltration from the Salinas River, Arroyo Seco River and to a much less extent, other tributaries to the Salinas River, and from deep percolation of rainfall. Both natural runoff and conservation releases from Nacimiento and San Antonio Reservoirs contribute to the flow in the Salinas River. It is estimated that stream recharge accounts for approximately half of the total basin recharge. The recharge area is generally believed to end at a point between Chualar and the City of Salinas. Average precipitation in the Salinas Valley ranges from 15 to 60 inches in the mountain ranges on either side of the valley, and from 10 to 15 inches within the valley itself. Most of the precipitation occurs in winter, from November through March. Deep percolation of applied irrigation water is the second largest component of the groundwater budget, but because it represents recirculation of existing groundwater rather than an inflow of "new" water, it is not considered a source of recharge.[11]

The only source of groundwater recharge in the North County area, except for the extreme southwestern portion of that area, is rainfall. This area has significant water supply and water quality problems in many of its aquifers, including falling water levels in its eastern areas, seawater infiltration and intrusion in the western areas, and nitrate ion contamination due to septic tank proliferation and the historic use of commercial fertilizers.[12]

Most of the groundwater used in the Salinas Valley, by far, is for agricultural purposes. According to the 2015 MCWRA Ground Water Extraction Data Summary Report, total groundwater pumping from the Salinas Valley Groundwater Basin in the 2015 reporting year was 514,714 acre feet (AF). Agricultural pumping accounted for 93 percent of that amount and urban uses accounted for the remaining 7 percent.

Figure 2.2 illustrates agricultural and urban water use trends from 1970-2015. While urban pumping accounts for a much smaller proportion of groundwater extraction, note that urban use has been slowly increasing relative to agricultural water use over the years.

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[11] MCWRA 2006, op. cit.

[12] LandWatch Monterey County. 2008. "Summary of Water Supply Projects for Monterey County." Dated October 21, 2008.

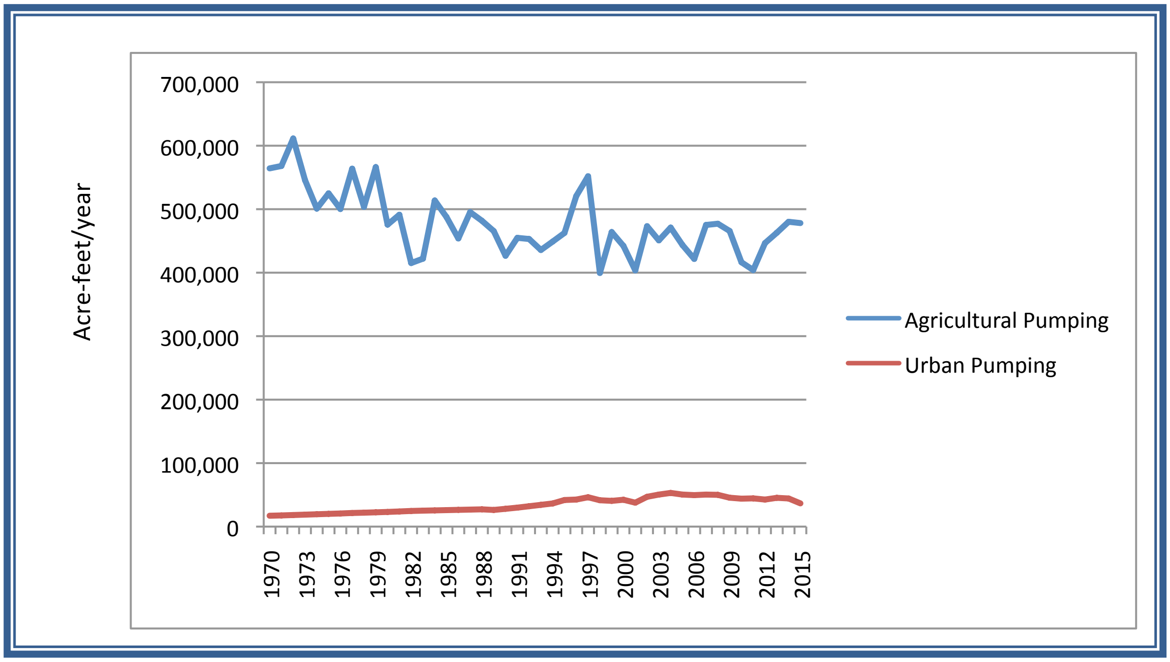

Figure 2.2 Agricultural and Urban Water Use Trends in Acre-Feet/Year, 1970-2015
Source: MCWRA. Salinas Valley Integrated Ground and Surface Water Model for 1970-1994; Ground Water Extraction Summary Reports for 1995-2015 (raw data, with less than 100% reporting).

2.1.4 Water Quality

Surface Water Quality: The quality of surface waters in the region is greatly influenced by land use practices. In the Salinas Valley, surface waters are impacted largely by intensive agricultural use and by nonpoint source pollutants from urban uses. Salinas Valley surface waters are especially impaired by nitrate, pesticides, toxicity, and pathogens.

Within the Greater Monterey County IRWM region, 29 water bodies have been determined by the Central Coast Regional Water Quality Control Board to be impaired under Section 303(d) of the Clean Water Act (2012 303(d) List). These water bodies are illustrated in Figure 2.3. The region has 332 miles of impaired rivers (20 rivers/creeks, including over 100 miles of the Salinas River), 2,339 acres of impaired estuaries (mostly Elkhorn Slough with 2,034 acres listed), 79 acres of impaired harbor (Moss Landing Harbor), and 5,580 acres of impaired lakes/reservoirs (most of which – 5,417 acres – is the San Antonio Reservoir, listed for mercury). Note that Nacimiento Reservoir, which is not located within the Greater Monterey County IRWM region but is an important water supply source for the region, is also listed for mercury and metals (5,736 acres).

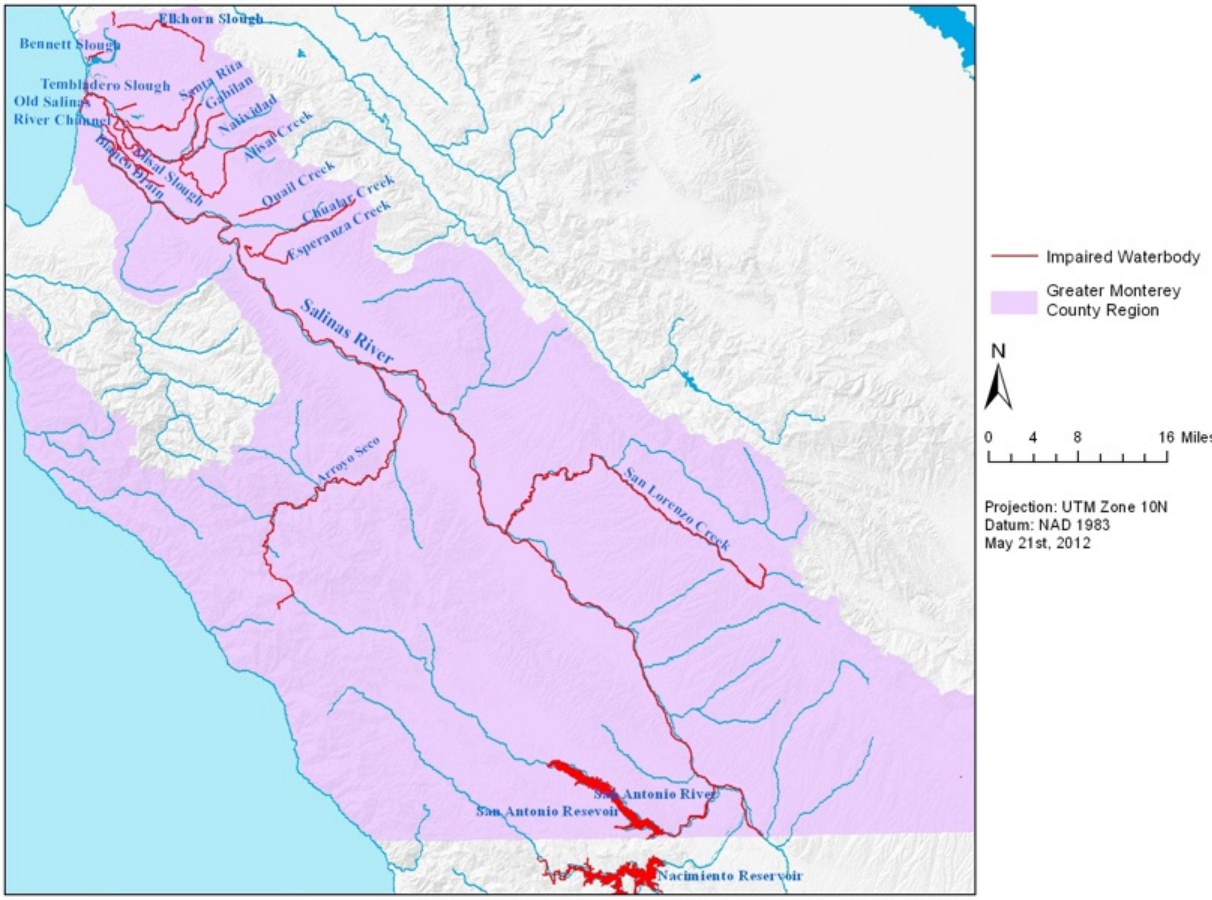

Figure 2.3 Impaired Surface Waters in the Greater Monterey County IRWM Region

Groundwater Quality: The two major water quality problems affecting the Salinas Valley Groundwater Basin are: 1) seawater intrusion, due to overpumping, and 2) nitrate contamination from fertilizer inputs. The entire Salinas Valley Groundwater Basin is listed by the Regional Board in the Watershed Management Initiative as impaired and as only partially supporting beneficial uses due to seawater intrusion and nitrate contamination.[13] The East Side subarea (Basin Number 3-4.02), the 180/400-Foot subarea (Basin Number 3-4.01), and the Paso Robles subarea (Basin Number 3-4.06) of the Salinas Valley Groundwater Basin have been designated as "high priority basins" under the California Statewide Groundwater Elevation Monitoring (CASGEM) program. The East Side subarea is listed due to overdraft conditions, high TDS, and nitrate exceeding drinking water standards; the 180/400-Foot subarea is listed due to overdraft conditions and seawater intrusion; and the Paso Robles subarea, in the southern Salinas Valley, is listed due to high nitrate and TDS. The East Side sub-basin has the number 1 ranking for "high priority basin" for groundwater basins throughout the state. The Pajaro Valley Basin (Basin Number 3-02) has also been designated as a "high priority basin" under CASGEM, listed for overdraft conditions and seawater intrusion.

In addition, the 180/400-Foot Aquifer, the Pajaro Valley Basin, and the Paso Robles subarea of the Salinas Valley Groundwater Basin have been designated as "critically overdrafted basins" under the Sustainable

[13] California Regional Water Quality Control Board, Central Coast Region (RWQCB). 2002. *Watershed Management Initiative Chapter* (January 2002, with revisions through 2015), p. 29.

Groundwater Management Act (SGMA).[14] As defined in SGMA, "A basin is subject to critical overdraft when continuation of present water management practices would probably result in significant adverse overdraft-related environmental, social, or economic impacts." As required in SGMA, all groundwater basins designated as high or medium priority *and* critically overdrafted shall be managed under a groundwater sustainability plan or coordinated groundwater sustainability plans by January 31, 2020. This applies to all three of these basins/subbasins.

Seawater intrusion as determined by 500 mg/L Chloride Areas, has reached approximately 7 miles inland in the 180-Foot Aquifer, and over 4.5 miles inland in the 400-Foot Aquifer.[15] As a result of seawater intrusion, urban and agricultural supply wells have been abandoned, destroyed, and relocated. *Chapter 3 Identifying Problems* describes further detail about seawater intrusion and its impacts on local communities.

Nitrate contamination is the primary concern for drinking water supplies in the Salinas Valley. In a July 1995 staff report, the State Water Board ranked the Salinas Valley as their number one water quality concern due to the severity of nitrate contamination. Groundwater concentrations of nitrate have been found to vary spatially. The Central Coast Groundwater Coalition report, *Distribution of Groundwater Nitrate Concentrations, Salinas Valley, CA* (dated April 30, 2014) provides a good summary of previous groundwater monitoring in Monterey County, described below.[16]

There are six primary programs that have sampled groundwater to assess groundwater nitrate contamination in the Salinas Valley:

- Sampling of irrigation and monitoring wells by the MCWRA.
- Public water systems with 15-199 connections are required to systematically test their well water and the results are reported to Monterey County Health Department.
- The Monterey County Health Department is responsible for sampling domestic water supply wells with 2-14 connections (local and state small systems).
- Groundwater Ambient Monitoring and Assessment (GAMA) studies conducted by the California State Water Resources Control Board (39 wells within Salinas Valley) and United States Geological Survey (USGS) (46 wells within Salinas Valley, 21 with nitrate data) sampled domestic and public supply wells throughout the basin.
- Central Coast Ambient Monitoring Program – Groundwater Assessment and Protection (CCAMP-GAP) Domestic Well Project for the Salinas and Pajaro valleys sampled domestic wells, conducted by the Central Coast Regional Water Quality Control Board in cooperation with the USGS (74 wells within Salinas Valley).
- More recently, groundwater well data collected by the Central Coast Groundwater Coalition on behalf of landowners and growers to fulfill requirements of the Irrigated Lands Regulatory Program (described below).

The MCWRA has used a network of wells to monitor groundwater conditions in the Salinas Valley

[14] http://www.water.ca.gov/groundwater/sgm/cod.cfm

[15] See http://www.co.monterey.ca.us/home/showdocument?id=31294.

[16] HydroFocus, Inc. 2014. Distribution of Groundwater Nitrate Concentrations, Salinas Valley, CA. Prepared for the Central Coast Groundwater Coalition. Dated April 30, 2014. Davis, CA. Excerpted from pp. 7-8.

Groundwater Basin since the 1940s. The MCWRA monitors over 300 wells for water quality, most of which are used for irrigation. In a 2010 Technical Memorandum,[17] MCWRA reported that 37 percent of 152 wells sampled showed nitrate levels greater than the state maximum contaminant level (MCL) of 10 mg/L NO_3-N. Reported concentrations ranged from 1 to over 500 mg/L nitrate. In the Upper Valley Subarea of the Salinas Valley Groundwater Basin, 68 percent of wells showed nitrate levels greater than the MCL, with a maximum concentration of 96 mg/L; in the East Side Subarea, 60 percent of wells had nitrate concentrations exceeding the MCL, with a maximum concentration of 113 mg/L. All of the Salinas Valley cities have had to replace domestic water wells due to high nitrate levels.

The Monterey County Heath Department's Drinking Water Protection Services regulate domestic water systems that serve 2-199 connections or systems that serve at least 25 people at least 60 days a year.[18] State and local small water supply systems serving 2-14 connections must conduct routine monitoring and reporting in accordance with Monterey County Code (Chapter 15.04). In September 2016, 163 state and local small water systems (17 percent) were listed as being out of compliance for nitrate; in addition, 79 systems were out of compliance for arsenic, and 83 were out of compliance for chromium-6. The high number of out-of-compliance state and local small water systems is a possible indicator of a high number of private wells that are out of compliance near those systems.

Monterey County has a delegation agreement with the State Water Board to regulate public water systems that serve 15 to 199 connections as a Local Primacy Agency (LPA). Title 22 of the California Code of Regulations requires routine monitoring and reporting of all public water systems to ensure the provision of safe, potable water. In July 2016, 16 LPA systems in Monterey County (6 percent of the total) exceeded the nitrate standard, 8 LPA systems (3 percent exceeded the arsenic standard, and 2 LPA systems (1 percent) exceeded both the arsenic and cadmium standard.

In 2012, the Regional Water Board secured the services of the USGS to sample domestic wells within the Pajaro and Salinas Valleys in coordination with the State Water Board's GAMA Program Priority Basin Project – Shallow Aquifer Assessment.[19] The USGS sampled 90 household taps associated with shallow wells with an emphasis on private domestic wells (i.e., well providing drinking water to a single household) between October 2012 and May 2013. The USGS conducted focused door-to-door outreach to solicit participation in the voluntary program. They tested water samples for a suite of parameters/constituents including nitrate plus nitrite and arsenic. Preliminary evaluations of the data indicate that 29 of the 90 (32 percent) of the household tap samples exceeded the drinking water standard of 10 mg/L for nitrate as nitrogen (NO_3-N), and that 5 of the 90 (6 percent) of the household tap samples exceed the drinking water standard for arsenic of 10 mg/L.

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[17] Monterey County Water Resources Agency. 2010. Technical Memorandum – NITRATE Tasks 2.01, 2.02, 2.04-2b EPA Grant XP-96995301 – Groundwater Sampling, Reporting and Storage, Groundwater Sampling Data, QA/QC, Data Reduction and Representation.

[18] County of Monterey Drinking Water Protection Services provided out-of-compliance reports dated September 2016 for the state and local small water systems and dated July 2016 for the public water systems they manage. More information is available on their website: http://www.co.monterey.ca.us/government/departments-a-h/health/environmental-health/drinking-water-protection

[19] California Regional Water Quality Control Board, Central Coast Region. 2013. Staff Report for Regular Meeting of January 31, 2013, February 1, 2013. Prepared on January 8, 2013. Item Number: 22. Subject: Executive Officer's Report to the Board. Available at: http://www.swrcb.ca.gov/centralcoast/water_issues/programs/gap/docs/eo_rpt_gap_update_final_013113.pdf

On March 15, 2012, the Central Coast Regional Water Board adopted Order No. R3- 2012-0011 Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands (Agricultural Order) and associated Monitoring and Reporting Program Orders (MRPs). The Agricultural Order and the MRPs specify that landowners and growers may meet groundwater monitoring requirements by either monitoring groundwater individually on their agricultural operations or by joining a cooperative groundwater monitoring program. The Central Coast Groundwater Coalition (CCGC) is a third-party cooperative groundwater monitoring program that was established for landowners/operators in the Central Coast region as an alternative to the individual groundwater monitoring program. The cooperative program collects and synthesizes groundwater monitoring data on behalf of its members to fulfill requirements of the Irrigated Lands Regulatory Program. The Central Coast Regional Water Board required that the CCGC characterize groundwater quality in the uppermost aquifer and identify and evaluate groundwater used for drinking water purposes.

Between October 2013 and August 2014, CCGC collected a total of 229 samples from domestic and irrigation wells in the Salinas Valley. CCGC also used GeoTracker GAMA data[20] (which includes data from the California Department of Public Health, GAMA – SWRCB data collection efforts and Regulated Sites), USGS National Water Information System data,[21] and data extracted from the GAMA special study carried out by Lawrence Livermore National Laboratory.[22] In its Groundwater Characterization Report[23] dated June 2015, CCGC made the following conclusions:

- 41% of wells with nitrate concentrations (758 wells) had maximum concentrations over the MCL.
- 34% of the land area within the Salinas Valley has nitrate concentrations over the MCL.
- 55% of domestic wells sampled on CCGC-member properties had concentrations exceeding the MCL.

Table 2.1 summarizes CCGC's findings for groundwater nitrate concentrations in the Salinas Valley (from the Groundwater Characterization Report, approved by the Central Coast Regional Water Board on June 25, 2015).

[20] http://geotracker.waterboards.ca.gov/gama/, accessed by Central Coast Groundwater Coalition on February 6, 2014.

[21] http://waterdata.usgs.gov/nwis, accessed by Central Coast Groundwater Coalition on April 4, 2013.

[22] Moran J.E., B.K. Esser, D. Hillegonds, M. Holtz, S.K. Roberts, M.J. Singleton, A. Visser. 2011. California GAMA Special Study, Nitrate Fate and Transport in the Salinas Valley. Final Report for the California State Water Resources Control Board. GAMA Special Studies Task 10.5: Surface water- groundwater interaction and nitrate in Central Coast streams. LLNL- TR- 484186.

[23] Central Coast Groundwater Coalition. 2015. Northern Counties Groundwater Characterization: Salinas Valley, Pajaro Valley and Gilroy-Hollister Valley. Submitted to the Central Coast Regional Water Quality Control Board on June 1, 2015. Salinas, CA. Also see: Central Coast Groundwater Coalition. 2015. Characterization Summary Report: Characterizing Nitrates in Central Coast Groundwater. Both documents are available at: http://www.centralcoastgc.org/coalition-reports/

Table 2.1 Summary Statistics for Groundwater Nitrate Concentrations (NO3-N) in Shallow Groundwater in Salinas Valley

	Entire Salinas Valley	Langley Subbasin	Pressure Subbasin	East Side Subbasin	Forebay Subbasin	Upper Valley Subbasin
Mean (mg/L)	**15.4**	4.3	6.6	23.7	21.2	13.6
Median (mg/L)	**5.9**	1.8	1.6	11.3	13.3	5.4
Minimum (mg/L)	**0.0**	0.0	0.0	0.0	0.1	0.0
Maximum (mg/L)	**138.7**	64.2	58.5	138.7	115.4	108.9
Number of Wells	**758**	108	150	149	239	112
Number of Wells (Percent) with Max Concentration above MCL	**309 (41%)**	14 (13%)	34 (23%)	78 (52%)	138 (58%)	45 (40%)
Total Area Mapped (Acres)	**320,408**	15,342	82,136	56,590	90,708	75,632
Percent of Area Mapped as Over the MCL	**34%**	7%	14%	58%	44%	31%

Source: Central Coast Groundwater Coalition. 2015. Northern Counties Groundwater Characterization: Salinas Valley, Pajaro Valley and Gilroy-Hollister Valley. Note: The original table shows as nitrate as nitrate (NO3) rather than nitrate as nitrogen (NO3-N). The values have been interconverted for consistency with State reporting, where the MCL has been set at 10 mg/L measured as NO3-N.

The Salinas Valley Disadvantaged Community planning effort was initiated out of concern for the disadvantaged communities in the Salinas Valley who rely on groundwater for their drinking water supply. The following sections describe the process of identifying disadvantaged communities in the planning region.

2.2 Defining Parameters

2.2.1 Geographic Scope

As noted previously, while the initial purpose of this project was to address the problem of nitrate contamination in drinking water for disadvantaged communities in the Salinas Valley, the geographic scope has been expanded to include the entire Greater Monterey County IRWM region, since the Regional Water Management Group is concerned with all disadvantaged communities within the IRWM boundaries. The only areas where disadvantaged communities have been identified thus far are in the Salinas Valley and North County areas of the IRWM region, and therefore this plan concentrates in those areas.

2.2.2 Focus on Small, Rural Disadvantaged Communities

This plan focuses specifically on small disadvantaged communities in unincorporated areas that are served by *small public water systems* (that is, 200 connections or less), with emphasis on the smallest of these communities, including “state small” water systems (5-14 connections), “local small” water systems (2-4 connections), and households served by private domestic wells. The rationale for focusing on small disadvantaged communities in unincorporated areas is as follows.

There is a significant difference in capacity, water supply, and infrastructure needs between a disadvantaged community served by a large water system (e.g., a large disadvantaged community of several thousand people, or a small disadvantaged community served by a large water utility) and a small disadvantaged community served by a small water system (or by private wells). The State Water Board summarized these differences in its 2015 report, *Safe Drinking Water Plan for California*:

> Small water systems have the greatest difficulty in providing safe drinking water because they are least able to address the threats to public health associated with water quality.
>
> Larger water systems are better equipped to deal with water quality issues because they have more customers to fund the necessary improvements, have economy of scale, more technical expertise, better management skills and knowledge, are able to solve operational problems internally, and have dedicated financial and business-related staff. They generally have more sophisticated treatment and distribution system operators who are able to react to incidents and changes in treatment conditions that may occur during operations.
>
> On the other hand, small systems, especially those in disadvantaged communities, have only a small number of customers, which provides them with limited fiscal assets and no economy of scale. They often lack technical expertise, the ability to address many of the issues pertinent to operating a water system, as well as qualified management and financial and business personnel. In many instances, especially for very small water systems, the system operator may be just a part-time position.[24]

The *King's Basin Disadvantaged Community Pilot Project Study* described the common challenges that small disadvantaged communities face: "In addition to economy of scale, other unique challenges faced by small disadvantaged communities and severely disadvantaged communities include:

1. Geographic isolation, making consolidation challenging;
2. Low revenues and high delinquency rates;
3. Small or nonexistent reserve funds;
4. Dependence on a sole source of water;
5. A limited pool of informed/educated individuals who can run the water systems and governing boards;
6. Lack of equipment and other resources;
7. Lack of access to technology in an increasingly technological world;
8. Limited ability to hire paid staff or consultants;
9. Limited understanding of regional or state dialogue around water policy; and,
10. Lack of office space and a secure location for board meetings, records storage and computer equipment." [25]

This plan focuses on small, rural disadvantaged communities that face these types of unique challenges. It is these communities that the Project Team has deemed most in need of assistance, and most capable of benefiting by this planning process.

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[24] California State Water Resources Control Board, 2015 op. cit., p. 60.

[25] Kings Basin Water Authority. 2013. *Final Report: Kings Basin Disadvantaged Community Pilot Project Study.* Submitted to the Department of Water Resources, August 2013. Grant Agreement 4600009465, p. 17.

2.3 Identifying Disadvantaged Communities

2.3.1 Definition of "Disadvantaged Community"

A "disadvantaged community" is defined in the California Water Code (§79505.5(a)) as "a community with an annual median household income that is less than 80 percent of the statewide annual median household income." The California Water Code definition of "disadvantaged community" is significant because in order for a community to be eligible for State grant funds specially allocated for disadvantaged communities, or to be eligible for reduced matching fund requirements, a community must meet this strict definition. Since one of the objectives of this plan is to help position disadvantaged communities for State grant funds, the Project Team has relied upon the State's definition of disadvantaged community.

What is a "disadvantaged community"?

A community with an annual median household income that is less than 80 percent of the statewide annual median household income.

At the same time, the Project Team also recognizes the existence of communities that are economically challenged but that are not designated as being "disadvantaged" according to US Census data. For the purpose of this plan, these communities have been labeled "suspected disadvantaged communities" until their status can be proven either way (see Section 2.4 below for a full discussion).

Additionally, with the release of the Proposition 1 IRWM Program Guidelines, the Department of Water Resources (DWR) now recognizes, in addition to disadvantaged communities, "economically distressed areas." An economically distressed area (EDA) is defined as: "a municipality with a population of 20,000 persons or less, a rural county, or a reasonably isolated and divisible segment of a larger municipality where the segment of the population is 20,000 persons or less, with an annual median household income that is less than 85 percent of the statewide median household income, and with one or more of the following conditions as determined by the department: (1) financial hardship, (2) unemployment rate at least 2 percent higher than the statewide average, or (3) low population density (Water Code §79702(k))." For the Proposition 1 IRWM Disadvantaged Community Involvement Grant Program, DWR includes not only disadvantaged communities but also EDAs and "underrepresented communities" (which is not defined) as being eligible for grant funds, referring to all three collectively as "disadvantaged communities."

This plan relies primarily upon the California Water Code (§79505.5(a)) definition of "disadvantaged community," while also recognizing "suspected" disadvantaged communities. Many "suspected" disadvantaged communities may attain "disadvantaged community" designation through MHI surveys or other means, and may also be eligible for certain State grant funds (including Proposition 1 IRWM Disadvantaged Community Involvement funds) as EDAs and/or underrepresented communities. For example, according to Central Coast Regional Board data, 51 small water systems in Monterey County with high nitrate levels qualified as "disadvantaged communities" based on 2015 US Census data; an additional 22 small water systems with high nitrate levels did not qualify as "disadvantaged communities" but did qualify as EDAs.[26]

[26] Pers. comm. with Gabrielle Ostermayer, Central Coast Regional Board staff, August 2, 2017. Median household income, population, and unemployment data was obtained from 2015 American Community Survey. Nitrate values were based on

These 22 additional small water systems, therefore, may be eligible for special grant programs even though they do not meet the narrower definition of "disadvantaged." (See Appendix 2.1 for a spreadsheet developed by Central Coast Regional Board staff that illustrates the differences and overlap between disadvantaged communities and EDAs with nitrate exceedances, based on both 2014 and 2015 ACS data.)

2.3.2 American Community Survey

The American Community Survey is an ongoing statistical survey by the US Census Bureau. The ACS regularly gathers information previously contained only in the long form of the *decennial census*, such as ancestry, income, education, language proficiency, migration, disability, employment, and housing characteristics.

The American Community Survey (ACS) of the US Census Bureau is the standard data source accepted by all state and federal agencies for defining MHI levels. The ACS is conducted every year to provide information about the social and economic needs of communities across the country, and also produces five-year estimates based on the most recent five years of data. ACS datasets provide MHI estimates for different census geographies, including states, counties, places, census tracts, and census block groups. ACS produces one-year estimates (data for areas with populations of 65,000+), three-year estimates (data for areas with populations of 20,000+), and five-year estimates (data for all areas). Some definitions:

- **Place:** A "place" is defined by the Census Bureau as a concentration of population. A place may or may not have legally prescribed limits, powers, or functions. This concentration of population must have a name, be locally recognized, and not be part of any other place. A place either is legally incorporated under the laws of its respective state, or a statistical equivalent that the Census Bureau treats as a census designated place.

- **Census-designated Place:** Census designated places (CDPs) are communities that lack separate governments but otherwise resemble incorporated places. They are settled population centers with a definite residential core, a relatively high population density, and a degree of local identity. Often a CDP includes commercial, industrial, or other urban types of land use.

- **Census Tract:** Census tracts are small, relatively permanent geographic entities within counties (or the statistical equivalents of counties) delineated by a committee of local data users. Generally, census tracts have between 2,500 and 8,000 residents and boundaries that follow visible features. When first established, census tracts are to be as homogeneous as possible with respect to population characteristics, economic status, and living conditions.

- **Block Group:** Block groups are made up of census blocks, which are the smallest geographic area for which the Census Bureau collects and tabulates decennial census data. Census blocks are formed by streets, roads, railroads, streams and other bodies of water, other visible physical and cultural features.

At the start of this planning process in January 2015, the Project Team utilized the most current ACS database – which at that time was 2013 ACS five-year estimates (2009-2013) – to define the MHI for places, census tracts, and block groups within the Greater Monterey County IRWM region. The statewide annual MHI was $61,094 (in 2013 inflation-adjusted dollars), and all US Census places, census tracts, and block groups that

monitoring between 2003 – 2017. "Small water system" includes local small systems (2-4 connections) and state small systems (5-14 connections).

had an annual MHI of $48,875 or less were designated as disadvantaged. The Project Team utilized this information to create an initial list of disadvantaged communities in the region.

This initial list of disadvantaged communities has changed somewhat over the three-year planning period as new MHI data has been released by ACS each year. The most recent ACS database consists of 2015 five-year estimates (2011-2015). The statewide annual MHI is $61,818 (in 2015 inflation-adjusted dollars). All US Census places, census tracts, and block groups with an annual MHI of $49,454 or less are considered disadvantaged, and those with an annual MHI of $37,091 or less are considered severely disadvantaged. This Plan reflects the most current data, utilizing 2015 ACS five-year estimates.

The fact that ACS data changes every year creates certain challenges for those trying to seek funding to address the needs of disadvantaged communities. A community whose MHI hovers around the "disadvantaged community" MHI threshold may be in no better financial position in a year that its MHI exceeds the threshold than a year it falls below the threshold. Moreover, substantial resources may be spent investigating problems and solutions for communities identified as being "disadvantaged" within a region, but if a community is no longer designated as disadvantaged when it comes time for a planning or construction application, the project under development may fail for lack of funding opportunities.

Based on the 2015 ACS data, eight US Census places within the Greater Monterey County IRWM region are defined as disadvantaged. Table 2.2 shows the population and MHI for each of these places, and also illustrates how disadvantaged community status has changed for US Census places in the Greater Monterey County IRWM region over the three years of this planning effort. The community of Castroville and the City of Salinas are included in the table to show how consistently close their MHIs have been to the "disadvantaged community" threshold.

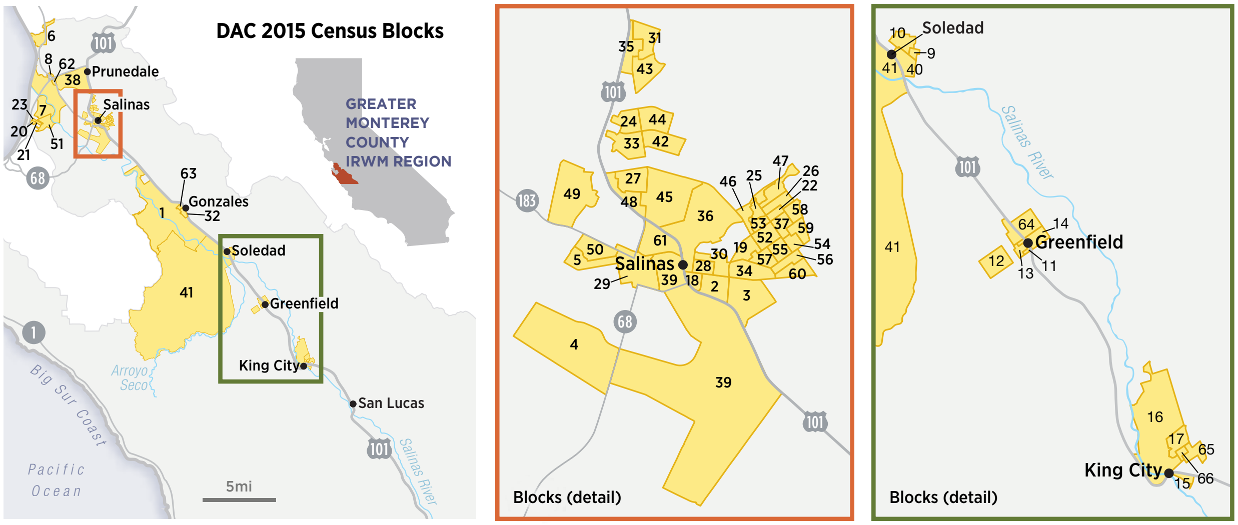
Table 2.2 Disadvantaged Community Status of US Census "Places" in the Greater Monterey County IRWM Region from 2013 – 2015 (ACS Five-Year Estimates)

	Estimate; Total Population	**Estimate; Median household income in the past 12 months (in Inflation-adjusted dollars)**		
	2015	**2015**	**2014**	**2013**
Disadvantaged Community		*49,454*	*49,191*	*48,875*
Severely Disadvantaged Community		*37,091*	*35,149*	*36,656*
Moss Landing CDP	153	31,500	30,500	28,750
Boronda CDP	1,271	34,009	42,333	41,094
King City city	13,389	40,238	40,500	45,905
San Ardo CDP	746	40,375	42,333	40,781
San Lucas CDP	384	43,750	45,417	47,500
Gonzales city	8,378	48,865	51,178	50,168
Greenfield city	16,869	49,263	52,374	53,805
Soledad city	25,826	51,161	46,010	49,570
Castroville CDP	6,707	49,654	50,000	53,580
Salinas city	155,366	49,840	49,728	49,264
Pine Canyon CDP	2,243	57,424	46,683	55,125
Lockwood CDP	446	46,538	94,615	94,607

Source: American Community Survey five-year estimates.

Numerous census tracts and block groups also fall within the definition of "disadvantaged community," including 26 census tracts and 77 block groups (six of the census tracts and 25 of the block groups are severely disadvantaged). In all, 36 percent of the population within the Greater Monterey County IRWM region is defined as being disadvantaged, according to 2015 ACS data at the block group level. Figure 2.4 illustrates disadvantaged communities in the Greater Monterey County IRWM Region according to 2015 ACS data, showing the distinctions between US Census places, tracts, and block groups and identifying those regions by the US Census geographic identification number. Figure 2.5 shows how disadvantaged community status has changed from 2013 – 2015; this map combines disadvantaged community places, tracts, and block groups to show the aggregated disadvantaged community area.

2015 Disadvantaged Community Block Groups, Census Tracts, and Places



Block map label	GeoID
1	108042
2	009001
3	009003
4	015001
5	017001
6	101012
7	143021
8	104001
9	111012
10	111021
11	112021
12	112042
13	112031
14	112023
15	113032
16	113042
17	113043
18	009002
19	006001
20	142013
21	142022
22	007022
23	142021
24	105042
25	106072
26	007012
27	004001
28	005012
29	013001
30	005011
31	105052
32	108043
33	003001
34	008002
35	105061
36	005022
37	007023
38	103061
39	145001
40	111013
41	111011
42	002001
43	105062
44	001031
45	004002
46	106082
47	106071
48	004003
49	018011
50	017002
51	141021
52	006003
53	106083
54	007021
55	006004
56	008003
57	006002
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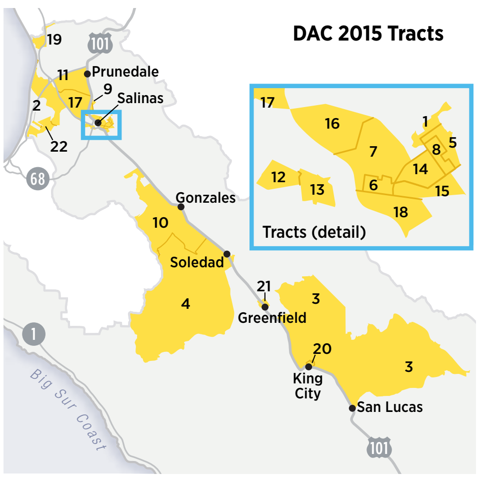
65	113021
66	113022



Tract map label	Tract #
1	106.07
2	142.02
3	113.04
4	111.01
5	007.01
6	005.01
7	005.02
8	007.02
9	105.06
10	108.04
11	103.06
12	017.00
13	013.00
14	008.00
15	006.00
16	004.00
17	105.04
18	009.00
19	101.01
20	113.02
21	112.02
22	141.02

Figure 2.4 Disadvantaged Community Places, Tracts, and Block Groups in the Greater Monterey County IRWM Region

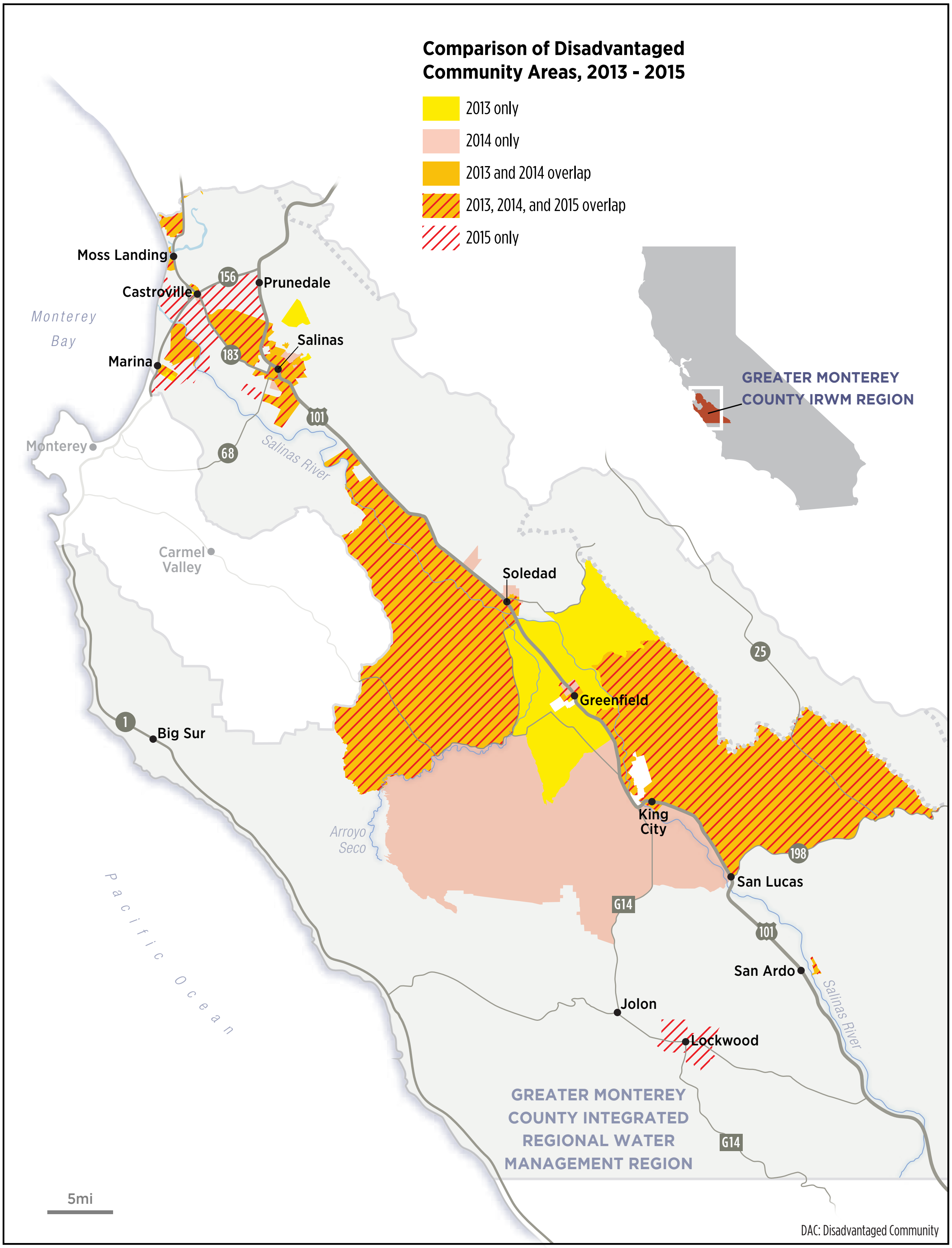


Figure 2.5 Disadvantaged Community Places, Tracts, and Block Groups Combined, from 2013 – 2015

2.4 Identifying "Suspected" Disadvantaged Communities

As noted previously, many small low-income communities that face drinking water and wastewater issues are located in neighborhoods or communities that are not identified as being "disadvantaged" by large-scale income survey efforts such as the US Census. The scale of census tract or even block group data, particularly in rural areas, may not be fine enough to identify very small disadvantaged communities. For example, California Rural Legal Assistance completed an MHI survey in 2013 for Alpine Court Labor Camp, a 19-household farmworker community in the Salinas Valley. The census tract that includes Alpine Court stretches 16 miles north to south and covers half the town of Gonzales. While census income data did indicate the community was a disadvantaged community at $42,300, the MHI survey revealed that Alpine Court had a much lower MHI at $24,000, well below the "severely disadvantaged community (SDAC)" MHI threshold. An affluent development in one part of a census block group can drive the MHI of the whole block group above the "disadvantaged community" MHI threshold.[27]

Income survey reports may also be falsely represented on account of overcrowded housing. In the community of Castroville and the City of Salinas, for example, it is not uncommon for several low-income families to occupy a single household in order to minimize household living expenses. Since household income surveys reflect the combined incomes of all adults living in a household, a relatively high "household income" may be reported for what may actually be three extremely low-income families living in one house. Overcrowding can significantly skew MHI results, and a community that appears economically affluent according to census data may in fact be severely disadvantaged.

Recognizing that US Census data alone would likely fail to account for all disadvantaged communities located within the region, the Project Team conducted a search for "hidden" disadvantaged communities, using alternative methods to help identify geographic areas where such communities are likely to exist.

The Project Team worked closely with the University of California (UC) Davis Center for Regional Change to collect secondary sources of data that might indicate potential "hidden" disadvantaged communities. The Center for Regional Change used CalEnviroScreen to obtain the majority of this data. CalEnviroScreen is a mapping tool developed by the California Office of Environmental Health Hazard Assessment (OEHHA) as part of CalEPA's environmental justice program. The CalEnviroScreen screening tool is used to identify communities that face multiple burdens of pollution and socioeconomic disadvantage.[28] In addition to CalEnviroScreen, the Center for Regional Change obtained demographic and other data including: ethnicity, additional income data (MHI all, MHI family, MHI non-family), poverty data, Center for Regional Change's social vulnerability index, households occupied by renters, land cover data for Monterey County (showing occupied areas) and traffic analysis zones 2020 and 2035 (in order to be able to exclude non-residential areas). These indicators helped the Project Team identify geographic areas likely to include communities that were potentially disadvantaged.

The Project Team then contracted with the nonprofit organization GreenInfo Network to map all of these data layers using a mapping tool called MapCollaborator. MapCollaborator is an interactive web-based viewing platform that allows users to view aggregated data on a map. MapCollaborator allowed the Project

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[27] This example was excerpted from: Governor's Drinking Water Stakeholder Group. 2014. Data Collection and Management for Local and State Small Water Systems, dated January 2014. p. 7.

[28] For more information about CalEnviroScreen: http://oehha.ca.gov/calenviroscreen

Team to view attribute data by clicking on any point on the map. Data included, for example: population, MHI, percent below the poverty level, rent as a percentage of income, and racial makeup.

Consolidating the ACS data with the secondary data, and then mapping the GIS data layers, provided the Project Team with a visual tool for identifying both disadvantaged and potentially disadvantaged communities in the Greater Monterey County IRWM region. Figures 2.6 – 2.9 below provide examples of the MapCollaborator interactive maps indicating disadvantaged and potentially disadvantaged communities (based on 2013 ACS data and CalEnviroScreen data collected in early 2015).

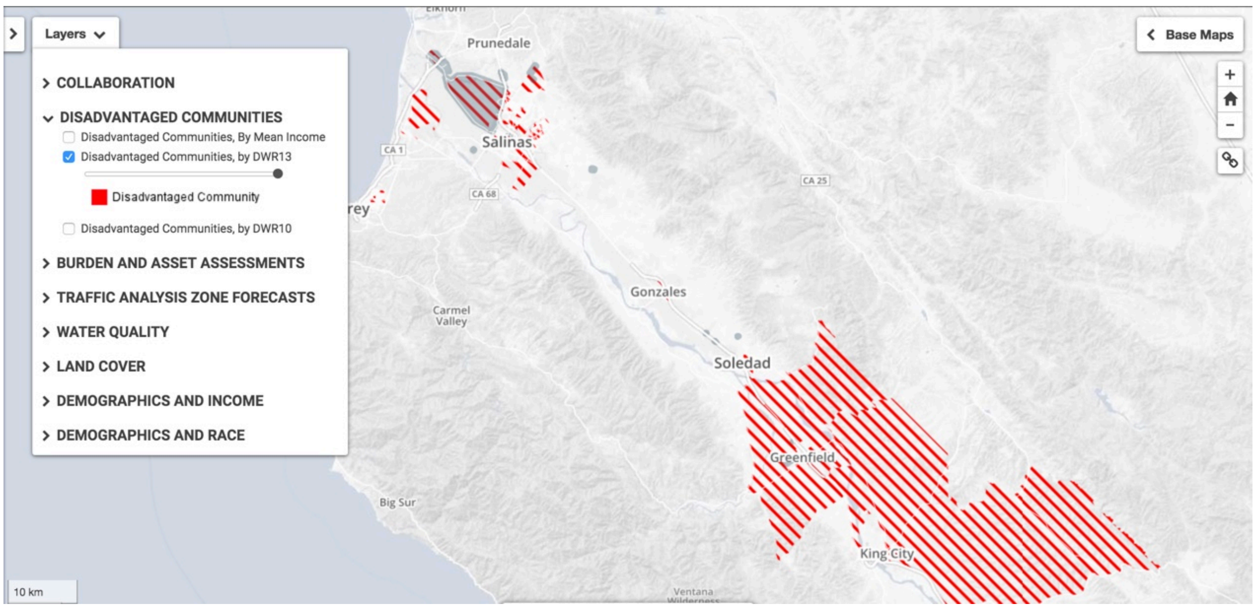

Figure 2.6 MapCollaborator, example of Disadvantaged Communities. Red-hatched areas indicate disadvantaged communities as identified through the Department of Water Resources Disadvantaged Community Mapping Tool (which was based on 2013 ACS data). The shaded areas indicate "potential" disadvantaged communities identified through secondary sources, as described above.

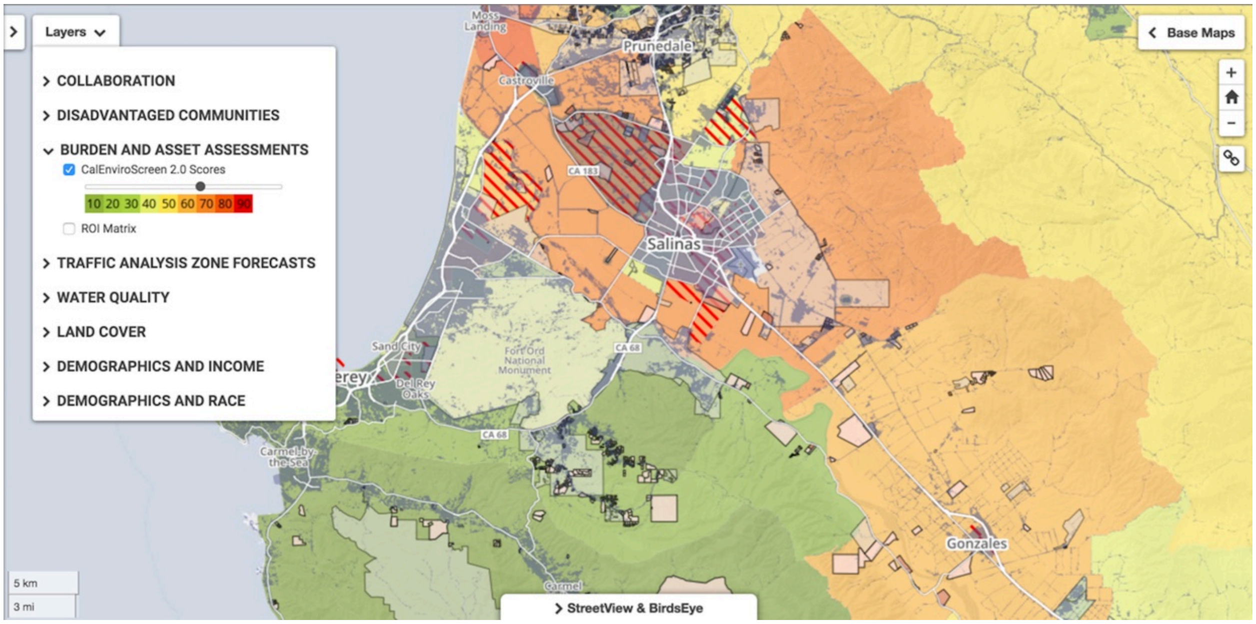

Figure 2.7 MapCollaborator, example of CalEnviroScreen Indicators. The CalEnviroScreen 2.0 model is made up of four components that exemplify geographic, socioeconomic, public health, and environmental hazard criteria, and uses a suite of 19 indicators to characterize pollution burden and population characteristics.

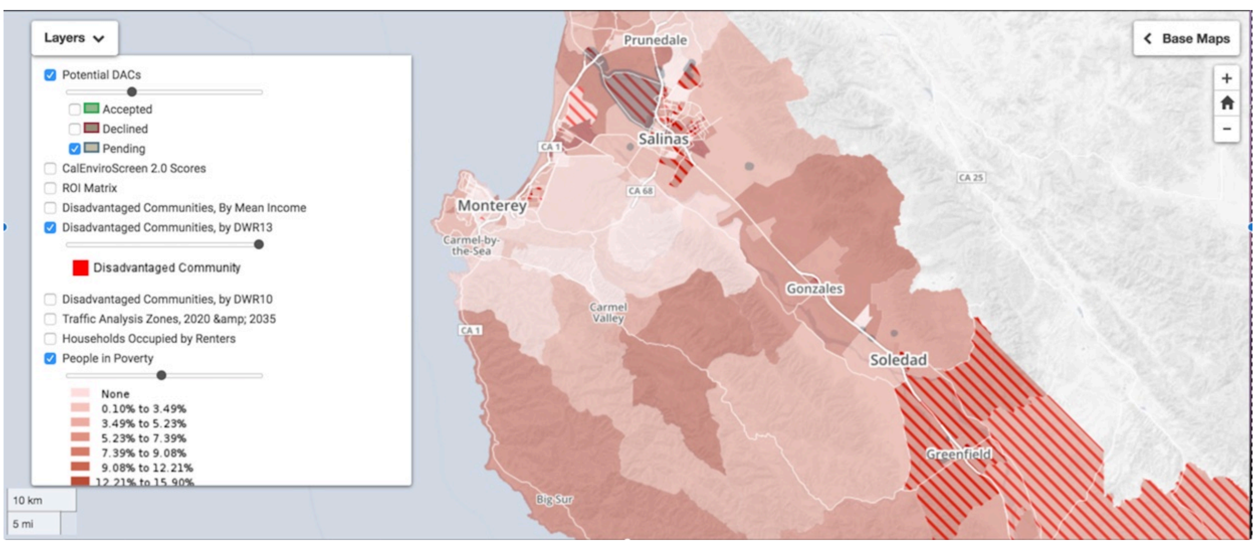

Figure 2.8 Example of MapCollaborator showing “People in Poverty.”

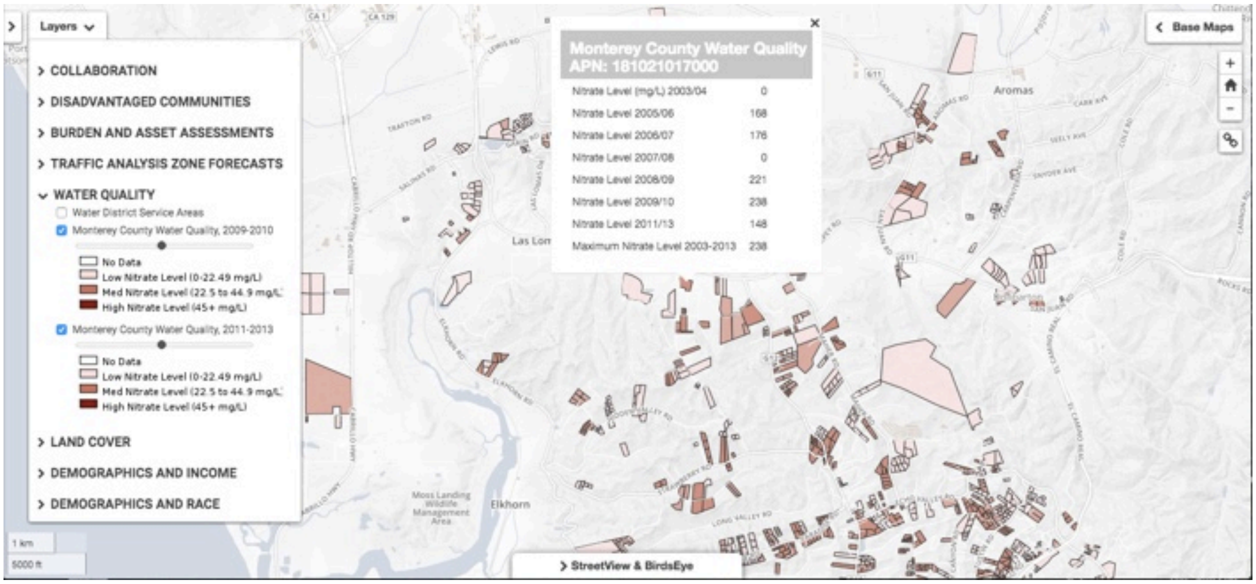

Figure 2.9 Example of MapCollaborator showing Attribute Data for Nitrate Levels. The "pop-up" data box allows users to view attribute data by clicking on any point on the map.

2.5 Identifying Small Disadvantaged and Suspected Disadvantaged Communities with Potential Drinking Water Problems

2.5.1 Mapping Drinking Water and Small Water Systems Data

In order to determine which disadvantaged, and suspected disadvantaged, communities were likely to lack access to safe drinking water, the Project Team obtained drinking water quality data to identify the geographic areas potentially impacted by nitrate contamination. Data was obtained initially from Monterey County Health Department for small public water systems, from testing periods 2009-2010 and 2011-2013, showing "high," "medium," and "low" nitrate levels in Monterey County. These data were used as an indicator only (the data represented as-served nitrate concentration from one or more supply wells and did not represent the areal extent of nitrate contamination in groundwater).

In addition to the water quality data, the Project Team also obtained maps to show the locations and boundaries of water utilities and water districts in order to determine which communities were served by large utilities, which were served by small water systems, and where the disadvantaged communities were located in relation to one another and to nearby utilities. A map showing the location of "small water systems" was obtained from Monterey County Department of Environmental Health, and boundary maps of water district service areas were obtained from the California Department of Public Health.[29]

The water quality and water systems data layers were added to the disadvantaged community data layers on MapCollaborator, allowing the Project Team to target disadvantaged and potential disadvantaged communities with known (or likely) drinking water problems. Figure 2.10 below provides an example of water quality and water system data layers, intersected with disadvantaged community boundaries.

[29] See http://cehtp.org/faq/water/about_the_water_systems_geographic_reporting_tool.

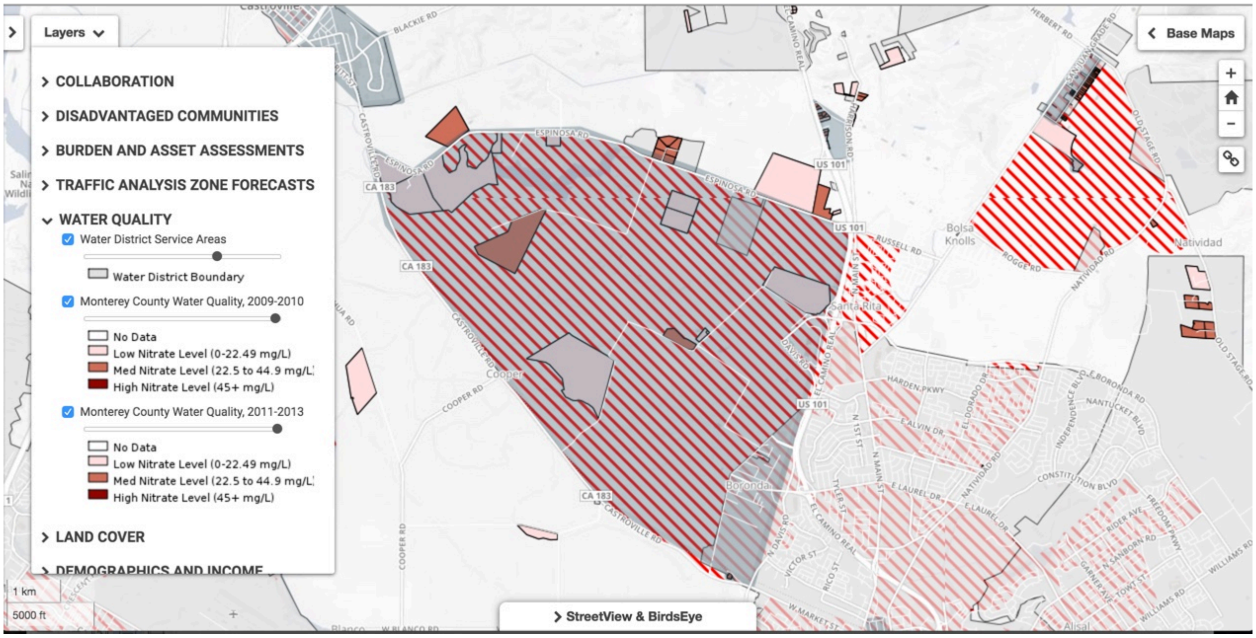

Figure 2.10 Example of MapCollaborator showing nitrate data (as NO_3, where MCL = 45 mg/L), water district service areas, and disadvantaged community boundaries.

2.5.2 Analysis of Data Maps

The Project Team analyzed the MapCollaborator maps to hone in on small disadvantaged and suspected disadvantaged communities in unincorporated areas that were likely to be experiencing drinking water problems. Environmental Justice Coalition for Water (EJCW) staff (members of the Project Team) obtained local input during their ongoing community outreach efforts to identify additional “pockets” of disadvantaged communities that may not have been captured on the MapCollaborator maps. They printed out the MapCollaborator maps and brought them to the Technical Advisory Committee (TAC) for input. The TAC consisted of staff from the Central Coast Regional Water Quality Control Board and Monterey County Department of Public Health, among several others, who were able to provide firsthand knowledge of many of these communities and their drinking water and/or wastewater problems. Monterey County staff was able to point out which communities were currently out of compliance, and others that had suspected problems.

The result of this effort was a final list of small disadvantaged and suspected disadvantaged communities in the Greater Monterey County IRWM region that were considered likely to have drinking water or wastewater problems. These communities are listed in Table 2.3 below. The table includes the communities listed by their common names (e.g., street name, farmworker community name, or apartment complex). As demonstrated in Figure 2.5, the disadvantaged status has changed for some of these communities over the three-year planning period because the ACS database is updated every year. Table 2.3 reflects the most current ACS data (2015 five-year estimates). Some of the communities listed as disadvantaged were designated on the basis of MHI surveys rather than ACS data (as noted in the table). Figure 2.11 shows the intersection of high nitrate areas with disadvantaged and suspected disadvantaged communities in the region (this map shows disadvantaged community places, tracts, and block groups combined, based on 2015 ACS data).

The "small" disadvantaged communities are often smaller than US Census block group boundaries in which they are located. If the block group MHI indicates that block group to be "disadvantaged," then the community is identified as "disadvantaged"; if the block group MHI is higher than the disadvantaged community MHI threshold of $49,454, then the community is listed as "suspected disadvantaged community" unless an MHI survey has been conducted that proves it to be "disadvantaged."

Table 2.3 Small Disadvantaged and Suspected Disadvantaged Communities in the Greater Monterey County IRWM Region Likely to have Drinking Water or Wastewater Problems

Community / Small Water System Name	Located within US Census Block Group #	Geographic Area	MHI[1]	Households or Estimated # of Individuals[2]	Disadvantaged Community Status
Middlefield Rd.	60530001012	No. Salinas Valley, near Salinas (Bolsa Knolls area)	$38,200	13 households	DAC (MHI survey conducted by EJCW in 2016 and 2017)
Johnson Rd, McGinnis Rd, lower Live Oak Rd.	60530102012	North County, Las Lomas area	$49,673	85 households	EDA, Suspected DAC
San Juan Grade Rd.	60530001012	North County	TBD	7 households	Suspected DAC, 2013 DAC
Walnut Ave.	60530112042	So. Salinas Valley, near Greenfield	$30,100	6 households	SDAC (MHI survey conducted by EJCW in 2016)
Apple Ave. (Mittelsteadt)	60530112042	So. Salinas Valley, near Greenfield	$24,196	6 households	SDAC (MHI survey conducted by RCAC in 2016)
Apple Ave. (Rocha Camp)	60530112042	Near Greenfield (on Apple Ave)	$21,600	60 people	SDAC (MHI survey conducted by RCAC in 2016)
Hudson Landing Rd.	60530146012	North County, Las Lomas area	TBD	80 households	Suspected DAC
Schoch Rd.	60530105011	Near Salinas, Bolsa Knolls area	TBD	44 households	Suspected DAC
Springfield, Struve, and Giberson Rds (including Springfield Mobile Home Park)	60530101012	North County, Moss Landing area	$38,558	163 households	DAC
Bluff, Jensen Rds	60530101012	North County	$38,558	35 households	DAC
Alpine Court, River Road WS #25	60530108042	So. Salinas Valley, near Gonzales	$24,000	65 people	SDAC (MHI survey conducted by CRLA in 2013)
Chinatown	60530018022	City of Salinas	$36,757	n/a	SDAC
Santa Teresa	60530111023	So. Salinas Valley, near Soledad	$40,000	9 households	DAC (MHI survey conducted by CRLA in 2014)
Blue Rock Apartments	60530018011	Boronda area	$32,759	11 households	SDAC
Pryor Farms	60530108042	So. Salinas Valley, near Soledad	$41,989	8 households	DAC
Mercado Camp	60530112042	So. Salinas Valley, near Greenfield	$48,672	75 people	DAC
San Jerardo	60530106061	Near Salinas	TBD	250 people	Suspected DAC

Collegeville	60530113041	So. Salinas Valley, San Lucas area	TBD	n/a	Suspected DAC, 2013 & 2014 DAC
Toro Camp	60530106061	Near Salinas	TBD	195 people	Suspected DAC
Camp Jimenez	60530109001	City of Soledad	TBD	72 people	Suspected DAC
El Camino Real	60530112041	So. Salinas Valley, near Greenfield	TBD	n/a	Suspected DAC

Notes:

1. MHI as determined either by ACS 2015 five-year estimates or by MHI survey, as noted.

2. The estimated number of households or individuals represents the *targeted community*, not necessarily the entire block group. Number of individuals rather than number of households is reported for communities that do not primarily consist of discrete households, such as farm labor camps.

Definitions:

CDP: Census Designated Place.

DAC: A community identified as being a disadvantaged community based on ACS 2015 five-year estimates (MHI less than $49,454).

EDA: Economically Distressed Area, defined by the Department of Water Resources as: "a municipality with a population of 20,000 persons or less, a rural county, or a reasonably isolated and divisible segment of a larger municipality where the segment of the population is 20,000 persons or less, with an annual median household income that is less than 85 percent of the statewide median household income, and with one or more of the following conditions as determined by the department: (1) financial hardship, (2) unemployment rate at least 2 percent higher than the statewide average, or (3) low population density (Water Code §79702(k))."

SDAC: A community identified as being a severely disadvantaged community based on ACS 2015 five-year estimates (MHI less than $37,090).

Suspected DAC: A community whose MHI according to ACS data is above the "disadvantaged community" threshold, but which has indications of being disadvantaged. Typically the community is a smaller neighborhood or complex within a larger block group. MHI surveys will likely be conducted to determine the status of "suspected DACs."

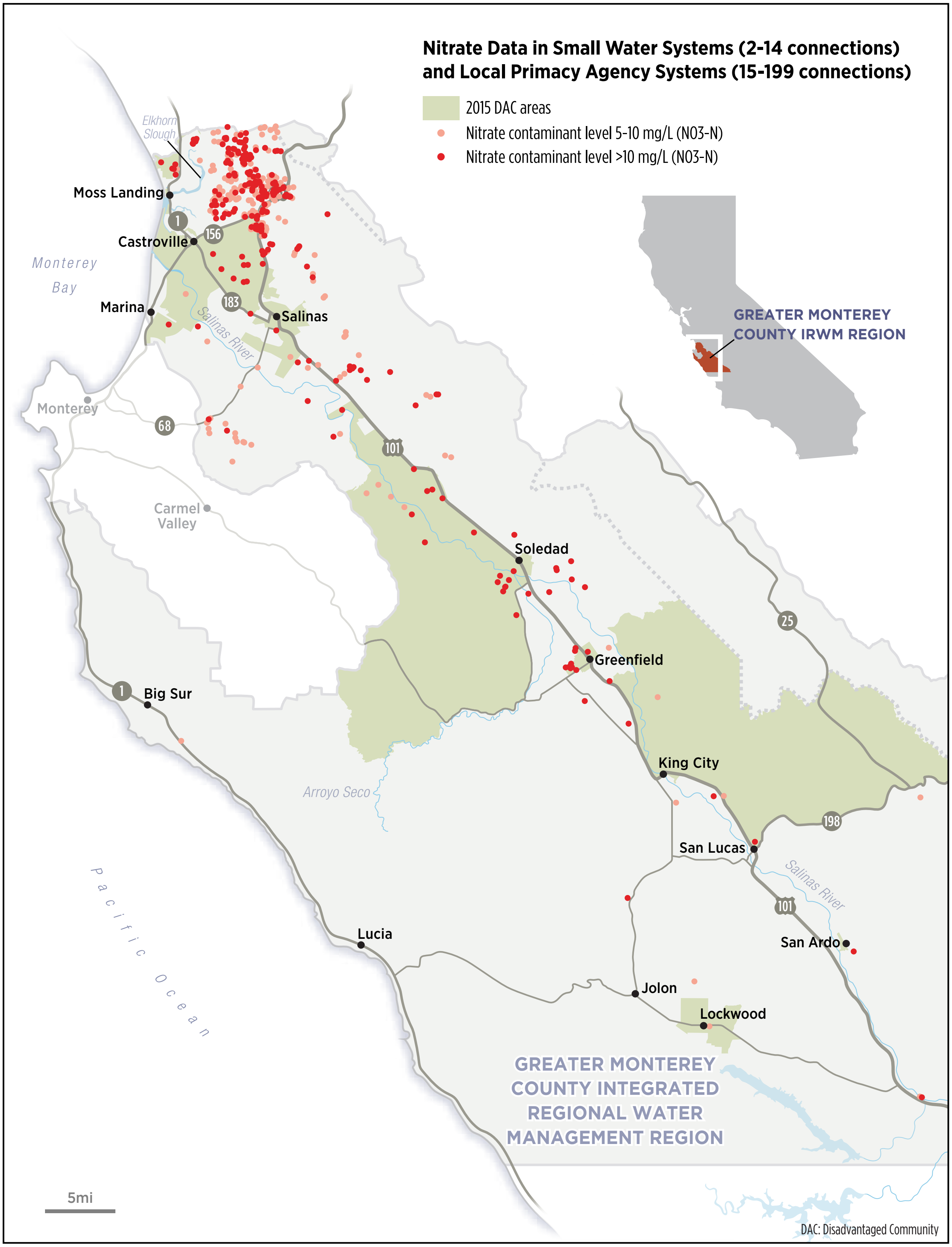

Figure 2.11 Areas of nitrate contamination in disadvantaged and suspected disadvantaged communities

2.6 Disadvantaged Community Database

In 2017, data for this project was transferred from GreenInfo to a new online platform. The Water Resources and Policy Initiatives at California State University will host the Salinas Valley project GIS layers on a three-year renewable basis. This partnership has created a new viewing platform for the data to replace MapCollaborator. The map viewer (beta version) can be accessed on the Greater Monterey County IRWM website: http://www.greatermontereyirwmp.org/documents/disadvantaged-community-plan-for-drinking-water-and-wastewater.

The database is a collection of information from ACS (census data), Monterey County Department of Environmental Health, Central Coast Regional Water Quality Control Board, UC Davis Center for Regional Change, California Office of Environmental Health Hazard Assessment (CalEnviroScreen), EJCW, RCAC, California Rural Legal Assistance, and other sources.

The database includes the best available data but is not complete. It is likely that there are communities and/or systems with water quality problems that have not been specifically identified because water quality data was limited or not available. Data is especially limited, and often nonexistent, for private wells. It is the intention of the Project Team to update the database as new datasets are released and as new information becomes available. The database will continue to be maintained and updated by EJCW in partnership with the Water Resources and Policy Initiatives at California State University and the UC Davis Center for Regional Change after the completion of this project.