

Demographic Evaluation of Current Monterey Peninsula Water Management District Director Divisions Using Census 2010 Data

July 12, 2011

This report presents the results of our demographic evaluation of the current director divisions of the Monterey Peninsula Water Management District (MPWMD, the District) in order to determine whether the populations of those areas are balanced or “equal.” Our analysis of Census 2010 data shows that the populations are balanced, so that no change is required in MPWMD’s current director division boundaries. This report documents our findings.

What is Redistricting?

In jurisdictions that elect board members by district or division, redistricting involves the review of the district boundaries after each Census and any necessary adjustment to those boundaries that will balance division populations. This review applies to the election districts for the U.S. House of Representatives, state legislatures, and local political entities (such as water boards, community college districts, county boards of supervisors, city councils, public school districts, and other special districts).

Legal Requirements

After each decennial census, jurisdictions that vote by division (also called districts) must evaluate their division boundaries and adjust them as necessary if the divisions are not equal in population. Three different legal requirements apply:

1. **Population Equality**: Divisions must be fairly equal in population size. The difference between the largest and smallest division should not exceed 10 percent of the ideal population size of a division.
2. **Federal Voting Rights Act**: If division populations are unequal, boundaries must be adjusted in ways that do not violate the Voting Rights Act. In particular, the changes must not be “retrogressive”; to the extent possible, maintain voting strength of minority groups as it currently exists in the divisions. Moreover, jurisdictions in certain counties of California, such as Monterey County, must preclear any changes in district boundaries with the U.S. Department of Justice before the changes take effect, and the preclearance submission requires that the jurisdictions provide evidence that the changes are not retrogressive.
3. **Communities of Interest**: The Fourteenth Amendment prohibits using race as the “predominant” criterion (subordinating other considerations) in drawing or adjusting division boundaries. (*Shaw v. Reno* (1993) and subsequent cases). It does not, however, prohibit all consideration of race in redistricting (*Easley v. Cromartie* (2001)). Bizarrely shaped trustee areas can be evidence that racial considerations predominate. There needs to be a broad focus on communities of interest (including, but not limited to, race).

Current Director Divisions

MPWMD has five election districts, called director divisions. Map 1 shows the current boundaries of these areas. We received an electronic file of the director divisions from District staff, and translated the director divisions into Census 2010 geography (Census blocks).

The current MPWMD director division outer boundaries do not conform to Census geography. MPWMD contains 58 census blocks that are only partly within the District. In these 58 cases, we estimated the number of people in the blocks that reside within MPWMD boundaries. There are three categories of blocks:

1. In 34 blocks, the population was zero.
2. One split block is on the campus of California State University-Monterey Bay (CSUMB) and divides the block in which the dormitories are located. In discussion with District staff and the staff in the County Registrar of Voters, we learned that three of eight dormitories are within MPWMD. After discussing the population counts in the dormitories with the Residence Hall Director, we believe three-eighths (3/8) of the population lives within MPWMD. Accordingly, we allocated three-eighths of the total block population to MPWMD.¹
3. The remaining 23 census blocks are populated. Most of these blocks are located in Director Division 5. Using Google Earth satellite images, we estimated the share of houses in each split block that are located within MPWMD. We then used this percentage to allocate the block population. For example, if 40 percent of the houses were located within MPWMD, then we assigned 40 percent of the block population to MPWMD.

A list of split Census blocks is provided in Appendix A. Map A-1 shows split census blocks (shaded), along with the total Census 2010 population. We sent electronic files (shape files) of the director divisions to MPWMD's GIS staff, so that these maps and data can be easily replicated, if desired.

After tabulating the block populations, we computed each division's population characteristics.

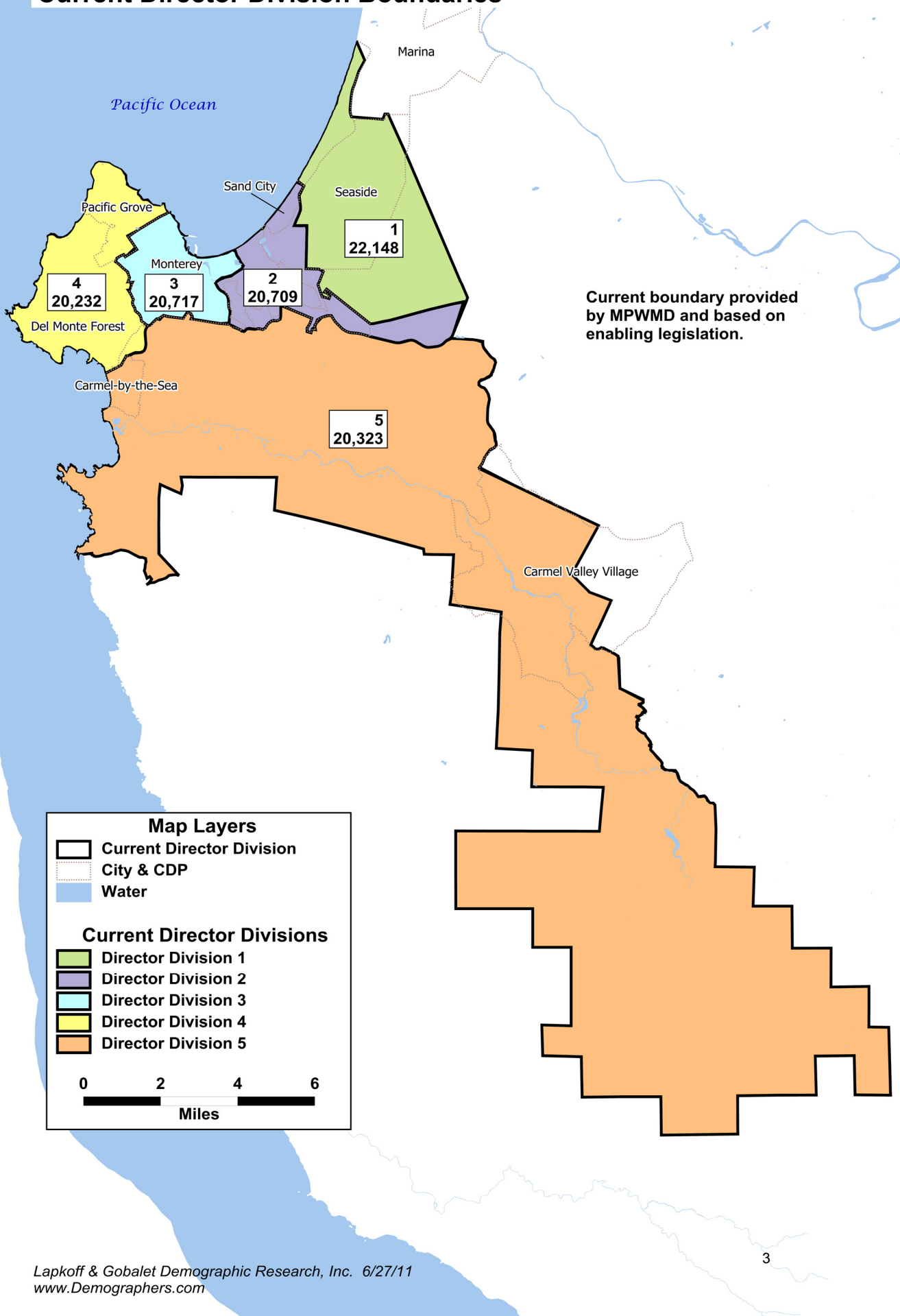
Population Equality

Census 2010 counted 104,129 people living within the MPWMD jurisdiction. Each of the five director divisions would have an ideal population of 20,826, which is one-fifth of the District's total population. Census counts show that current division populations range from a low of 20,232 (Director Division 4) to a high of 22,148 (Director Division 1).

Table 1 shows the population of each director division, its deviation from the ideal district size, and its percentage deviation from the ideal size. For example, Director Division 1 has a Census 2010 population of 22,148, which is 1,322 persons greater than the ideal. That represents a deviation of 6.3 percent from the ideal size. Area 4, with the smallest population, has a deviation of (minus) 2.9 percent.

¹ There are 977 persons counted in the Census block, of which 366 are allocated to MPWMD.

Monterey Peninsula Water Management District Current Director Division Boundaries



Map Layers

- Current Director Division
- City & CDP
- Water

Current Director Divisions

- Director Division 1
- Director Division 2
- Director Division 3
- Director Division 4
- Director Division 5



Table 1 also shows the relative population equality among the director divisions. The populations of director divisions do not need to be exactly equal; the guideline is that a districting plan should not exceed a “10 percent deviation,” which we define below.

There are several ways one can calculate a districting plan’s deviation. One way is to measure the difference between the most and least populous director divisions and divide that number by the ideal director division size. For MPWMD, the difference between Director Divisions 1 and 4 (the most and least populous divisions) is 1,916. The current plan has a deviation of 9.2 percent (1,916 divided by the ideal division size of 20,826).

Another way to calculate a plan’s deviation is to sum the absolute values of the percentage deviations of the most and least populous director divisions. For MPWMD, the least populous division has a deviation of 2.9 percent while the most populous division has a deviation of 6.3 percent. These deviations combine to the total of 9.2 percent.

The current plan’s deviation, 9.2 percent, is within the 10 percent maximum deviation guideline.

Table 1: Director Division Census 2010 Population

Election District	Population	Deviation	Percent Deviation
Division 1	22,148	1,322	6.3%
Division 2	20,709	-117	-0.6%
Division 3	20,717	-109	-0.5%
Division 4	20,232	-594	-2.9%
Division 5	20,323	-503	-2.4%
Total	104,129		
Ideal Division Size	20,826	(one fifth of the total population)	
This Plan's Deviation	1,916	(largest minus smallest district)	
Percent Deviation	9.2%		

Voting Rights Act Considerations

Although our analysis shows that MPWMD’s director division boundaries do not need to be adjusted at this time, we performed a comprehensive analysis of the District’s Census 2010 population characteristics and report the results here. We have no reason to believe that the federal Voting Rights Act requires any change in the division boundaries, and we present the information here so that the District will have a record of what Census 2010 showed regarding Voting Rights Act considerations.

Section 2 of the Federal Voting Rights Act has been interpreted to mean that, if there are sufficiently numerous, geographically compact, politically cohesive, protected groups (including Hispanics, Asian Americans, and African Americans) in a jurisdiction, political subdivisions

should be drawn (and adjusted) so as to permit members of these groups to elect representatives of their choice. For Voting Rights Act purposes, the population over age 18 is most relevant, since this is the group eligible to vote.

Census 2010 showed that Non-Hispanic Whites are the District's most numerous adult population group, representing 68 percent of the voting age (aged 18+) population (VAP), followed by Hispanics at 17 percent, non-Hispanic Asians at eight percent, non-Hispanic African-Americans at four percent, and others comprising the remainder. Maps 2a and 2b show the geographical distributions of these groups; Table 2 shows Census 2010 population statistics for the current plan director divisions.

The Census 2010 enumerations show that MPWMD does not have a *single* protected group that is sufficiently numerous that it can be assured of electing a representative of choice from any current director division. Hispanics are a substantial minority group in Divisions 1 and 2, comprising 31 and 35 percent of the voting age population (VAP), respectively. Because the citizenship rates of Hispanics are lower than those of Whites, they have less influence than the VAP share would suggest.

However, the geographical concentrations of members of the various protected groups in the District (particularly Hispanics, Asians, and African-Americans) and the fact that the various groups live together (along with non-Hispanic Whites) in northern MPWMD communities suggest that they may qualify as a single community of interest. Representatives of these groups have made statements over the years that they, collectively, are a community of interest and are politically cohesive. The combined protected group populations comprise 60 percent of the VAP of Division 1 and 50 percent of the VAP of Division 2.

We geocoded the *registered voters* in the MPWMD, and identified those with Spanish Surnames. With these data, we estimated the number and share of registered voters in each Census block that are likely to be Hispanic. In Division 1, 17 percent of 2010 *registered voters* had Spanish surnames, as did 15 percent of *actual voters* in the November 2008 general election. Division 2 had the next largest concentration of Spanish surname voters, with 14 percent of 2010 *registered voters* and 11 percent of 2008 *actual voters*. Unfortunately, there is no way to identify African American registered voters, and the Asian surname analysis methodology is relatively untested, so that we cannot estimate the share of registered and actual voters who belong to all of the protected groups. Nevertheless, in both the current Divisions 1 and 2, protected groups have large population shares.

Appendix B provides maps of MPWMD socioeconomic characteristics that indicate communities of interest.

Table 2: Census 2010 Population Statistics for Current Plan Director Divisions

Divisions	Population	Deviation from Ideal		Percent of Population in Each Ethnic Group								
		Number	Percent	Hispanic	NH White	NH Black	NH Indian	NH Asian	NH Hawaiian	NH Other	NH Multiple Race	Total
1	22,148	1,322	6.3%	35%	36%	11%	1%	12%	2%	0%	2%	100%
2	20,709	-117	-0.6%	41%	44%	3%	1%	9%	1%	0%	1%	100%
3	20,717	-109	-0.5%	10%	75%	3%	1%	10%	0%	0%	1%	100%
4	20,232	-594	-2.9%	9%	80%	2%	1%	8%	0%	0%	0%	100%
5	20,323	-503	-2.4%	6%	87%	1%	1%	5%	0%	0%	0%	100%
Total	104,129			21%	64%	4%	1%	9%	1%	0%	1%	100%
Ideal district size	20,826											
Smallest district	20,232											
Largest district	22,148											
% Deviation	9.2%											
				Percent of Population 18+ in Each Ethnic Group								
		Divisions	Total Pop 18+	Hispanic	NH White	NH Black	NH Indian	NH Asian	NH Hawaiian	NH Other	NH Multiple Race	Total
		1	16,132	31%	40%	12%	1%	13%	2%	0%	2%	100%
		2	15,900	35%	50%	3%	1%	9%	1%	0%	1%	100%
		3	17,743	9%	77%	3%	1%	9%	0%	0%	1%	100%
		4	16,911	8%	83%	1%	1%	7%	0%	0%	0%	100%
		5	17,471	5%	89%	1%	1%	4%	0%	0%	0%	100%
		Total	84,157	17%	68%	4%	1%	8%	1%	0%	1%	100%
		Divisions	Registered Voters, 2010	2010 Registered Voters with Spanish Surnames			Voters, 2008	Voters, 2008 with Spanish Surnames				
		1	8,001		17%		5789	15%				
		2	8,424		14%		6452	11%				
		3	9,636		7%		7551	6%				
		4	13,045		5%		10693	5%				
		5	14,873		4%		12599	3%				
		Total	53,979		8%		43,084	7%				

Comparison to 2000 Populations

Overall, the 2010 Census counted fewer people in MPWMD than in 2000. See Table 3. Divisions 3 and 5 lost substantial populations while Division 1 gained population. Some of the gain in Division 1 was a result of dormitories being built in CSUMB.

Table 3

Division	Population in 2000	Population in 2010	Change
1	21,204	22,148	944
2	20,857	20,709	-148
3	22,082	20,717	-1,365
4	20,874	20,232	-642
5	21,579	20,323	-1,256
Total	106,596	104,129	-2,467

Table 4 compares the 2000 and 2010 populations of cities and “Census Designated Places” (unincorporated communities) on the peninsula. Only Sand City and Seaside did not lose population; Seaside in fact gained more than 1,300 persons.

Table 4

Cities	2000 Population	2010 Population	Change
Carmel-by-the-Sea	4,081	3,722	-359
Del Rey Oaks	1,650	1,624	-26
Monterey	29,674	27,810	-1,864
Pacific Grove	15,522	15,041	-481
Sand City	261	334	73
Seaside	31,696	33,025	1,329
<u>Census Designated Places</u>			
Carmel Valley Village	4,700	4,407	-293
Del Monte Forest	4,531	4,514	-17

Conclusion

Because the range between the least and most populous MPWMD director division total populations is less than 10 percent of the ideal division size, MPWMD can continue to use its current boundaries. Because no boundaries are changed, no preclearance by the U.S. Department of Justice is needed. No further work is needed from the demographers. No public hearings are required. Also, the Monterey County Registrar of Voters will not need to change its precinct configurations (which would also require preclearance).

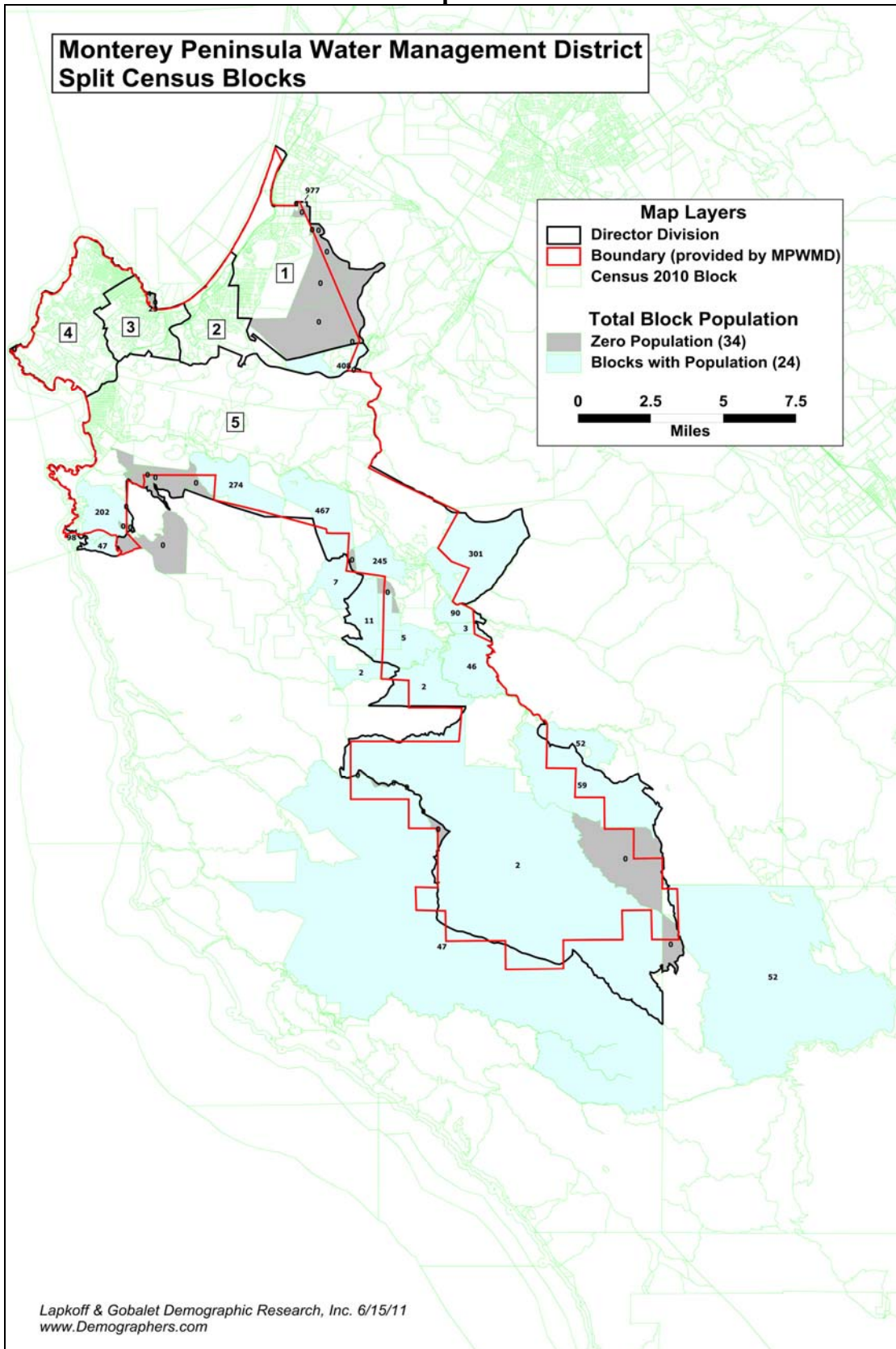
Appendix A – Split Census Blocks

Table A-1 shows the Census blocks that needed to be split to match MPWMD's outer boundary. Map A-1 shows their location.

Table A-1

Census 2010 Block #	Director Division	Block Population	Total Housing Units	Estimated Housing Units in MPWMD	% in MPWMD	Block Population in MPWMD
060530141041006	1	977	1	CSUMB	38%	366
060530132001015	2	408	167	166	99%	406
060530127002003	3	23	14	14	100%	23
060530125022040	3	4	3	3	100%	4
060530116041074	5	98	89	13	15%	14
060530110003011	5	7	12	0	0%	0
060530110003058	5	2	6	4	67%	1
060530115021021	5	47	26	0	0%	0
060530111011106	5	52	45	1	2%	1
060530110005072	5	52	27	1	4%	2
060530116041054	5	202	137	122	89%	180
060530116041071	5	47	31	0	0%	0
060530116041002	5	274	138	138	100%	274
060530110003002	5	467	332	332	100%	467
060530110003018	5	245	120	120	100%	245
060530110003016	5	11	12	5	42%	5
060530110003048	5	5	86	86	100%	5
060530110003052	5	2	1	0	0%	0
060530110003074	5	2	1	1	100%	2
060530110005058	5	59	24	9	38%	22
060530110005049	5	46	28	28	100%	46
060530110005036	5	3	1	1	100%	3
060530110005030	5	90	45	41	91%	82
060530110004000	5	301	138	131	95%	286
060530126001000	3	0	0	0	n.a.	0
060530127002004	3	0	0	0	n.a.	0
060530127002001	3	0	0	0	n.a.	0
060530126001002	3	0	0	0	n.a.	0
060530126001001	3	0	0	0	n.a.	0
060530119002051	4	0	0	0	n.a.	0
060530119002052	4	0	0	0	n.a.	0
060530116041061	5	0	0	0	n.a.	0
060530116041070	5	0	0	0	n.a.	0
060530116041063		0	0	0	n.a.	0
060530116041035		0	0	0	n.a.	0
060530116041029	5	0	0	0	n.a.	0
060530116041027	5	0	0	0	n.a.	0
060530116041026	5	0	0	0	n.a.	0
060530116041081	5	0	2	2	n.a.	2
060530110003089	5	0	0	0	n.a.	0
060530110003017	5	0	0	0	n.a.	0
060530115021022		0	0	0	n.a.	0
060530110003076		0	0	0	n.a.	0
060530115021042	5	0	0	0	n.a.	0
060530110003082		0	0	0	n.a.	0
060530115021039		0	0	0	n.a.	0
060530110003083	5	0	0	0	n.a.	0
060530110005084	5	0	0	0	n.a.	0
060530132001019	2	0	0	0	n.a.	0
060530132001014	1	0	0	0	n.a.	0
060530141073120	1	0	0	0	n.a.	0
060530141073127	1	0	0	0	n.a.	0
060530141073093	1	0	0	0	n.a.	0
060530141073096	1	0	0	0	n.a.	0
060530141073095	1	0	0	0	n.a.	0
060530141073094	1	0	0	0	n.a.	0
060530141041011	1	0	0	0	n.a.	0
060530141043010	1	0	0	0	n.a.	0

Map A-1

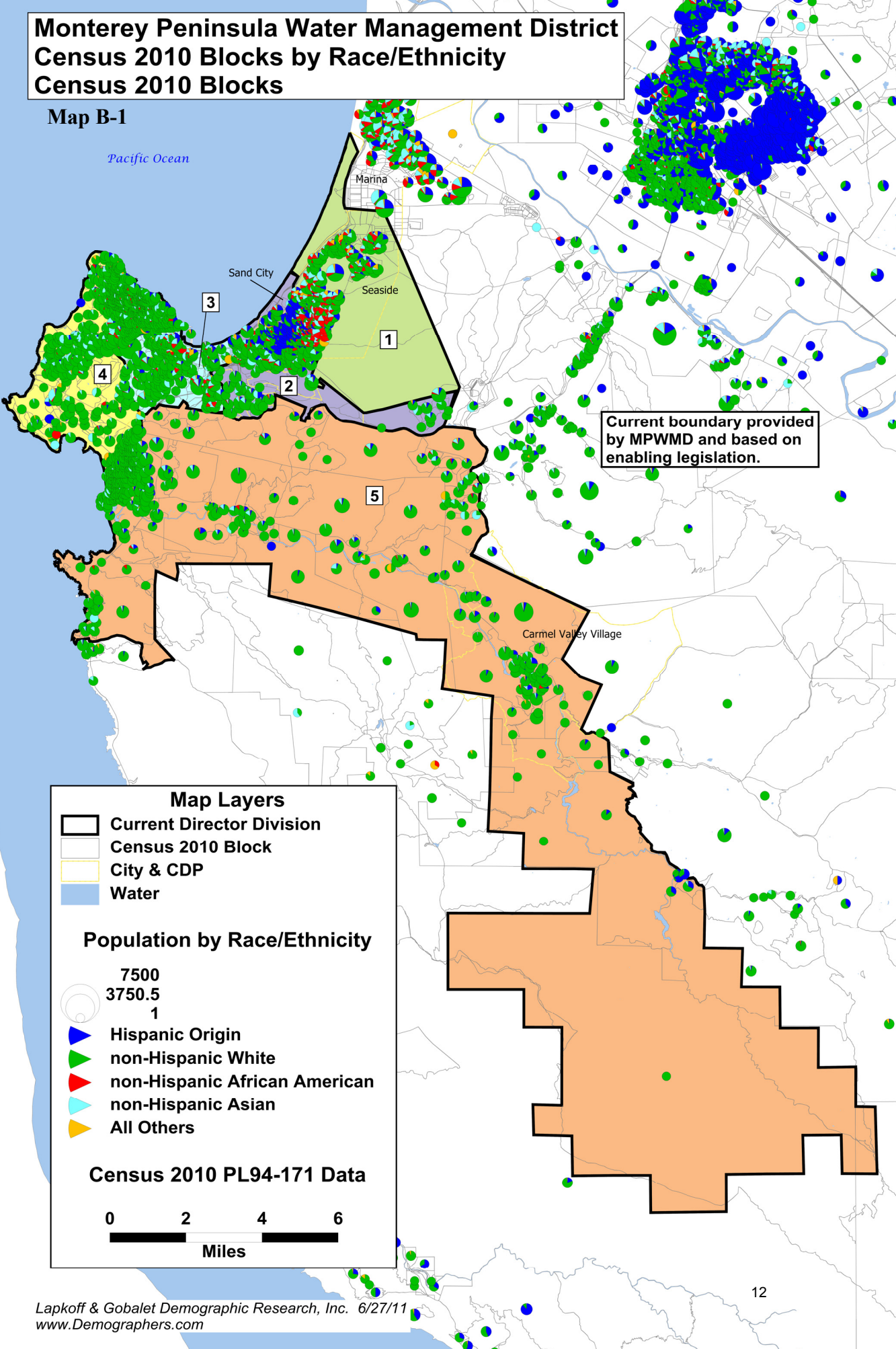


Appendix B – Maps

Maps of MPWMD Socioeconomic Characteristics
that Indicate Communities of Interest

Monterey Peninsula Water Management District Census 2010 Blocks by Race/Ethnicity Census 2010 Blocks

Map B-1



Pacific Ocean

Marina

Sand City

Seaside

Current boundary provided by MPWMD and based on enabling legislation.

Carmel Valley Village

Map Layers

- Current Director Division
- Census 2010 Block
- City & CDP
- Water

Population by Race/Ethnicity

7500
3750.5
1

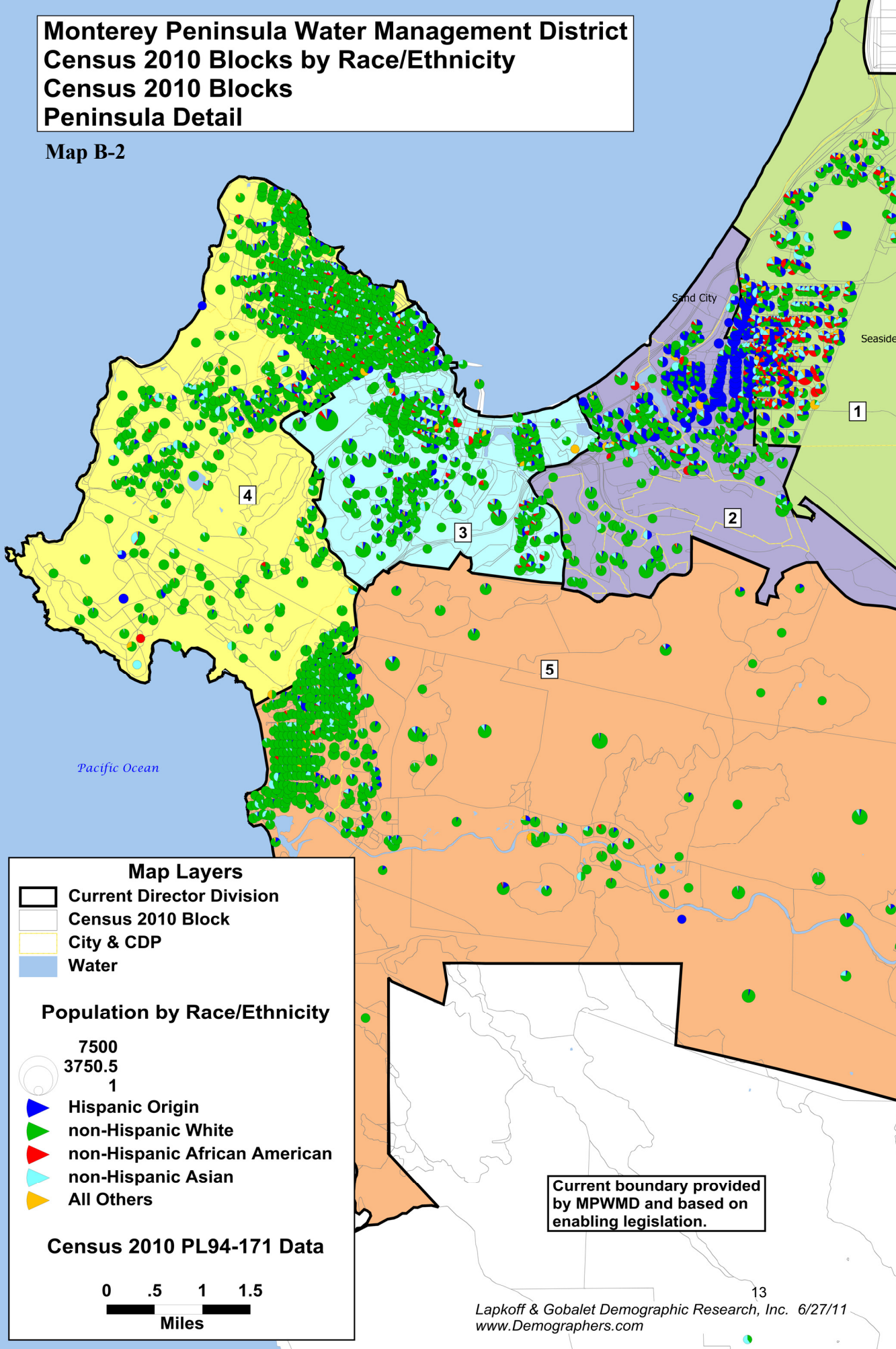
- Hispanic Origin
- non-Hispanic White
- non-Hispanic African American
- non-Hispanic Asian
- All Others

Census 2010 PL94-171 Data

0 2 4 6
 Miles

**Monterey Peninsula Water Management District
 Census 2010 Blocks by Race/Ethnicity
 Census 2010 Blocks
 Peninsula Detail**

Map B-2



Map Layers

- Current Director Division
- Census 2010 Block
- City & CDP
- Water

Population by Race/Ethnicity

- 7500
- 3750.5
- 1
- Hispanic Origin
- non-Hispanic White
- non-Hispanic African American
- non-Hispanic Asian
- All Others

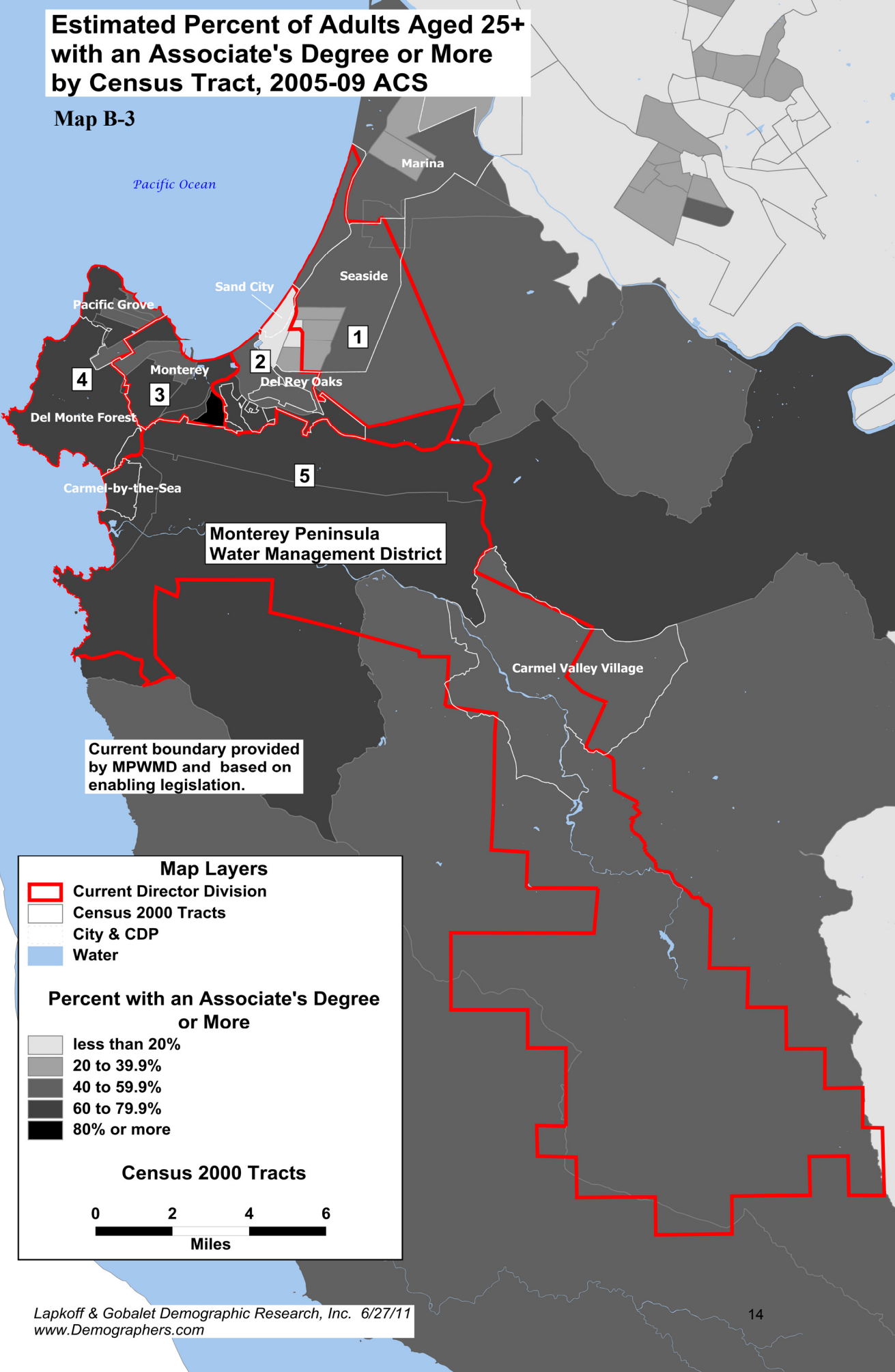
Census 2010 PL94-171 Data



Current boundary provided by MPWMD and based on enabling legislation.

Estimated Percent of Adults Aged 25+ with an Associate's Degree or More by Census Tract, 2005-09 ACS

Map B-3



**Monterey Peninsula
Water Management District**

Current boundary provided by MPWMD and based on enabling legislation.

Map Layers

- Current Director Division
- Census 2000 Tracts
- City & CDP
- Water

Percent with an Associate's Degree or More

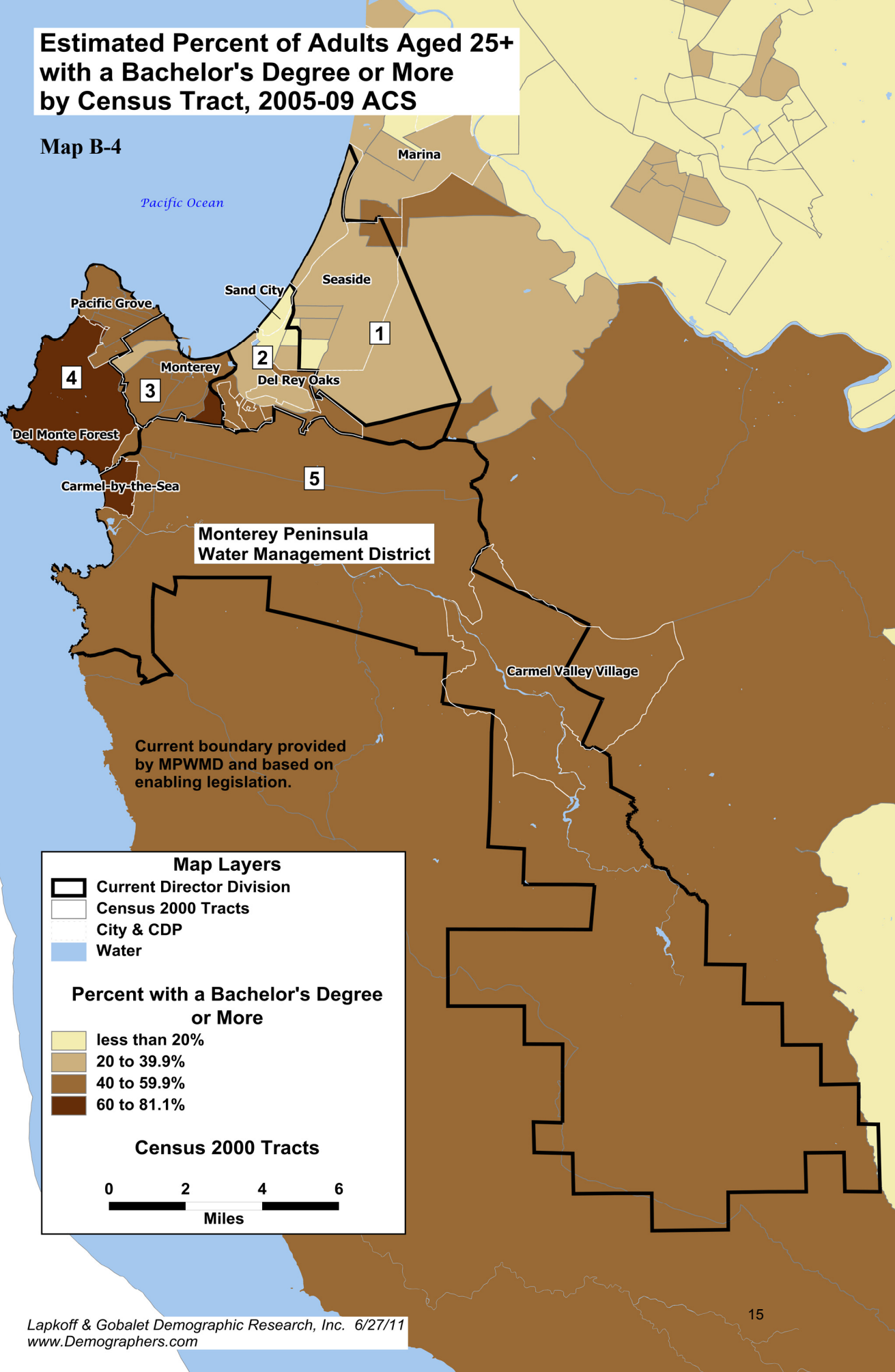
- less than 20%
- 20 to 39.9%
- 40 to 59.9%
- 60 to 79.9%
- 80% or more

Census 2000 Tracts



Estimated Percent of Adults Aged 25+ with a Bachelor's Degree or More by Census Tract, 2005-09 ACS

Map B-4



Map Layers

- Current Director Division
- Census 2000 Tracts
- City & CDP
- Water

Percent with a Bachelor's Degree or More

- less than 20%
- 20 to 39.9%
- 40 to 59.9%
- 60 to 81.1%

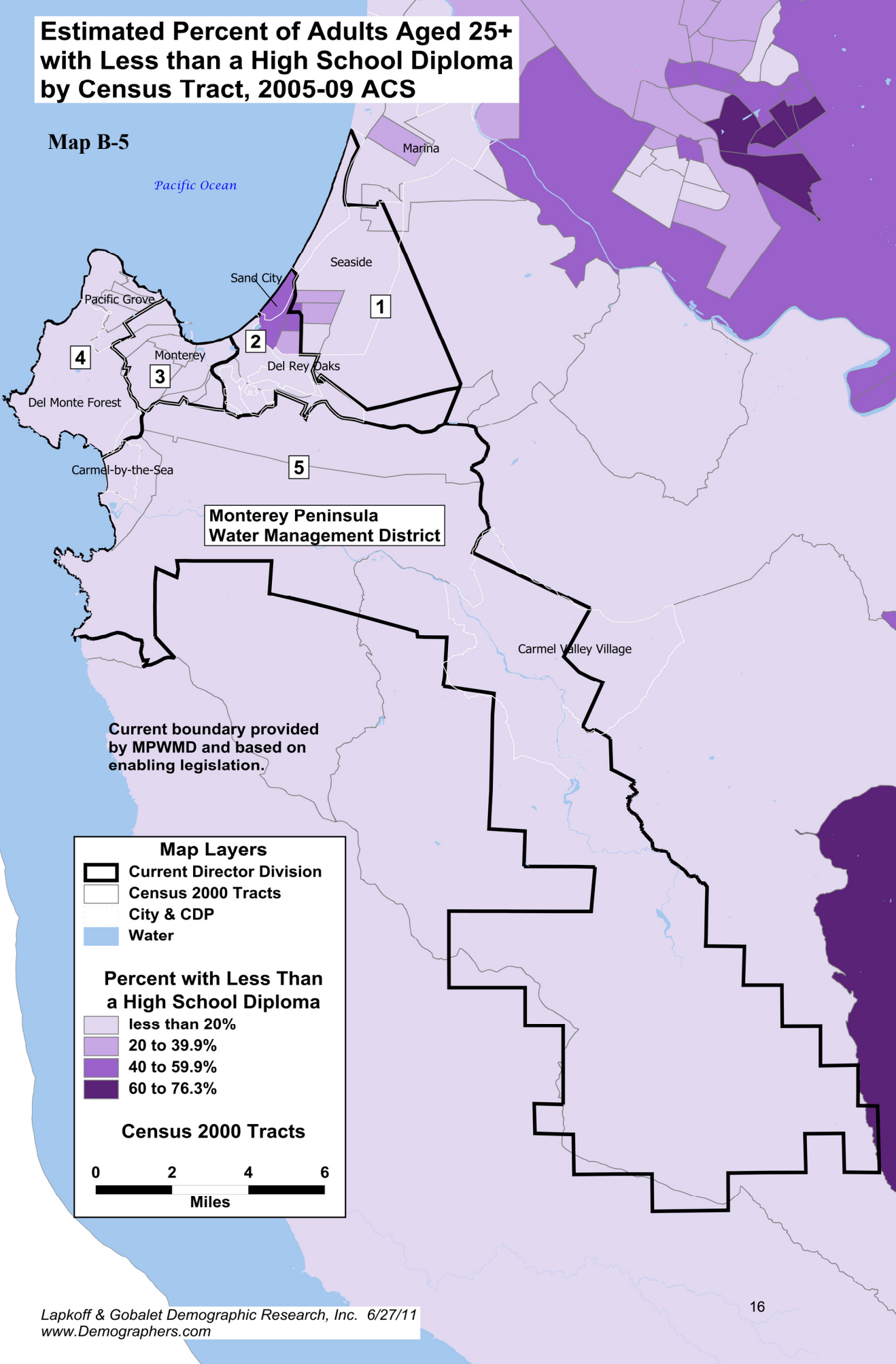
Census 2000 Tracts

0 2 4 6

Miles

Estimated Percent of Adults Aged 25+ with Less than a High School Diploma by Census Tract, 2005-09 ACS





Map B-5







**Monterey Peninsula
Water Management District**

Current boundary provided by MPWMD and based on enabling legislation.

Map Layers

-  Current Director Division
-  Census 2000 Tracts
-  City & CDP
-  Water

Percent with Less Than a High School Diploma

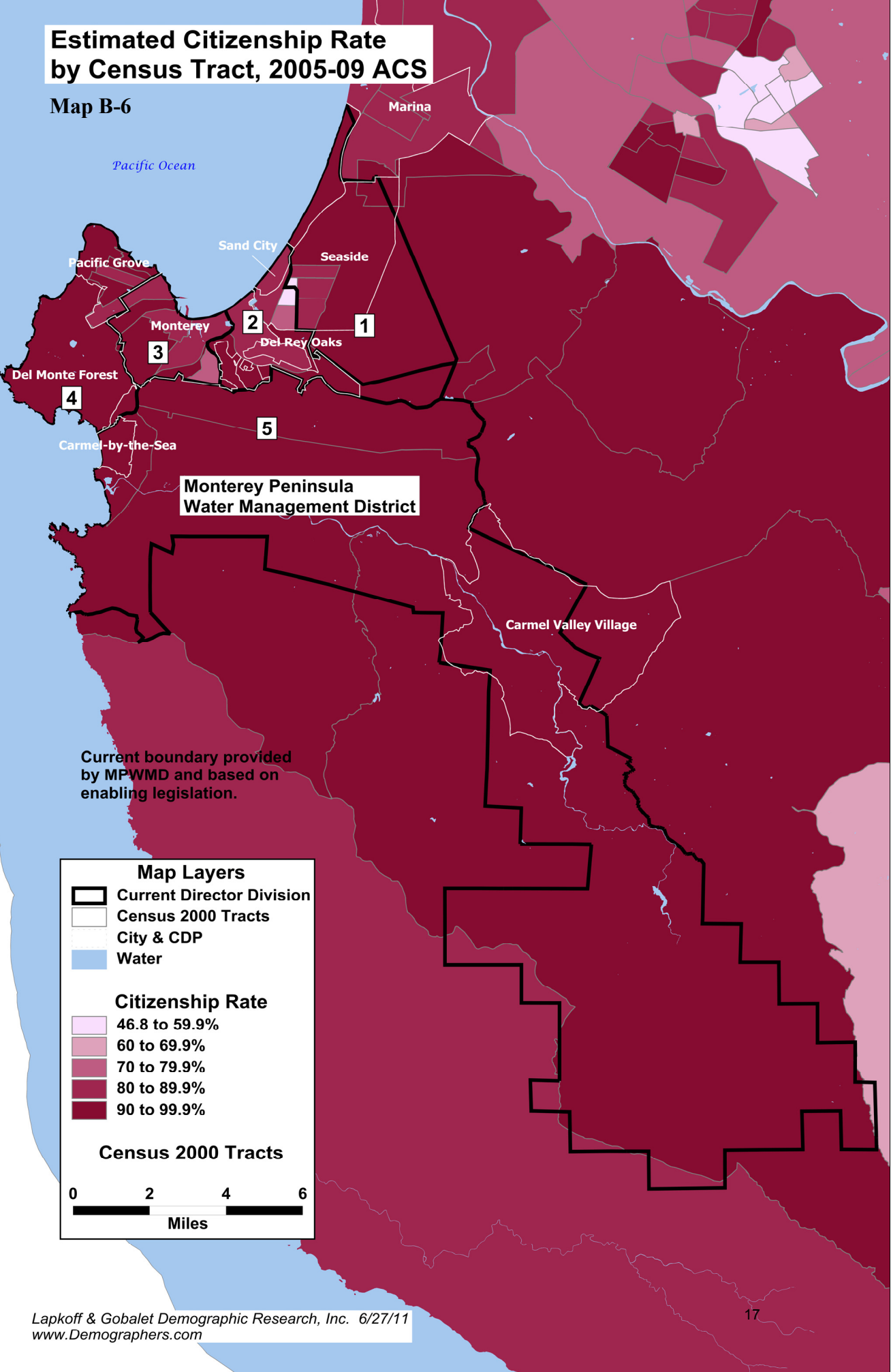
-  less than 20%
-  20 to 39.9%
-  40 to 59.9%
-  60 to 76.3%

Census 2000 Tracts

0 2 4 6
Miles

Estimated Citizenship Rate by Census Tract, 2005-09 ACS

Map B-6



**Monterey Peninsula
Water Management District**

Current boundary provided
by MPWMD and based on
enabling legislation.

Map Layers

- Current Director Division
- Census 2000 Tracts
- City & CDP
- Water

Citizenship Rate

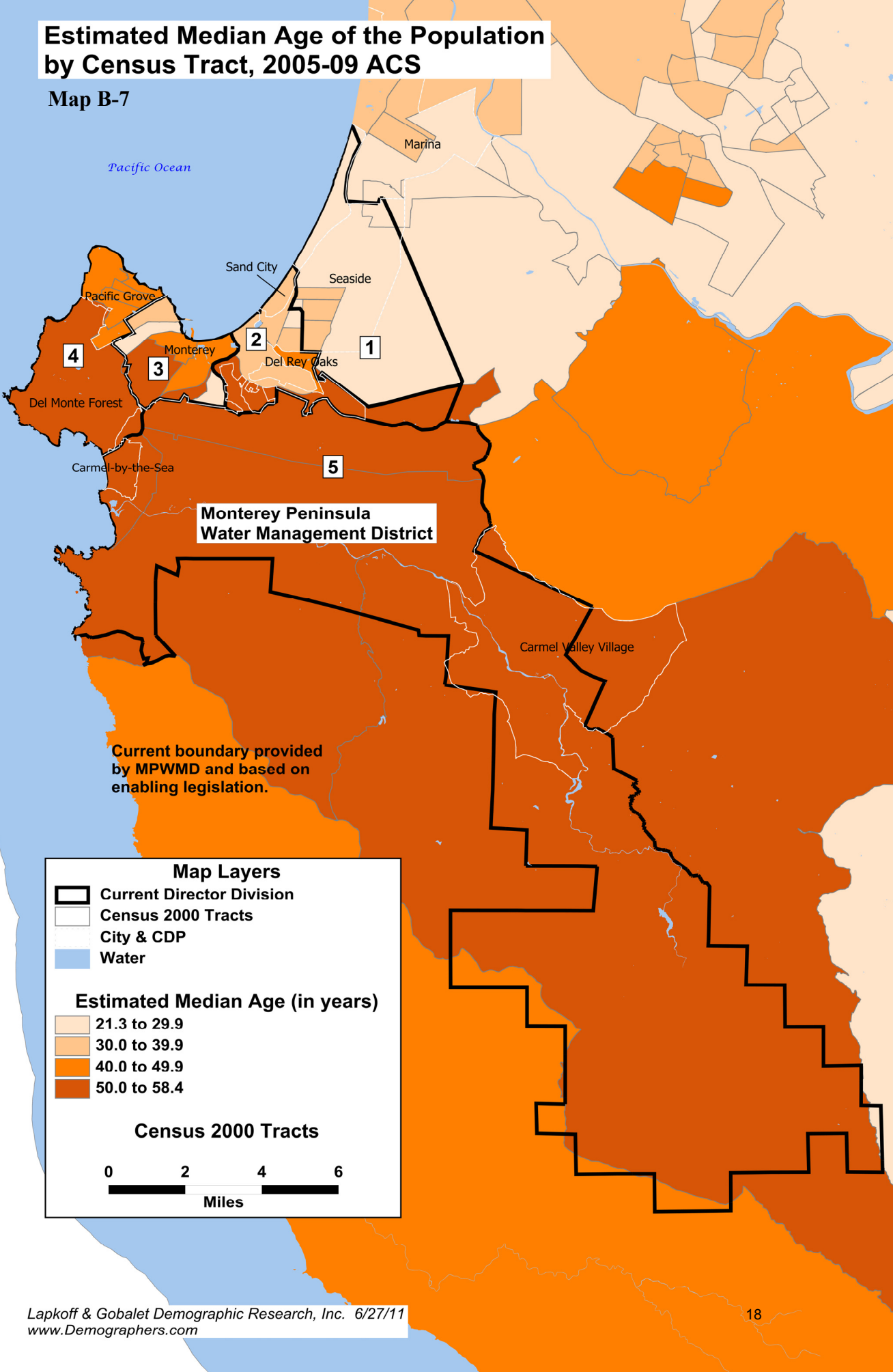
- 46.8 to 59.9%
- 60 to 69.9%
- 70 to 79.9%
- 80 to 89.9%
- 90 to 99.9%

Census 2000 Tracts

0 2 4 6
Miles

Estimated Median Age of the Population by Census Tract, 2005-09 ACS

Map B-7



**Monterey Peninsula
Water Management District**

Current boundary provided
by MPWMD and based on
enabling legislation.

Map Layers

- Current Director Division
- Census 2000 Tracts
- City & CDP
- Water

Estimated Median Age (in years)

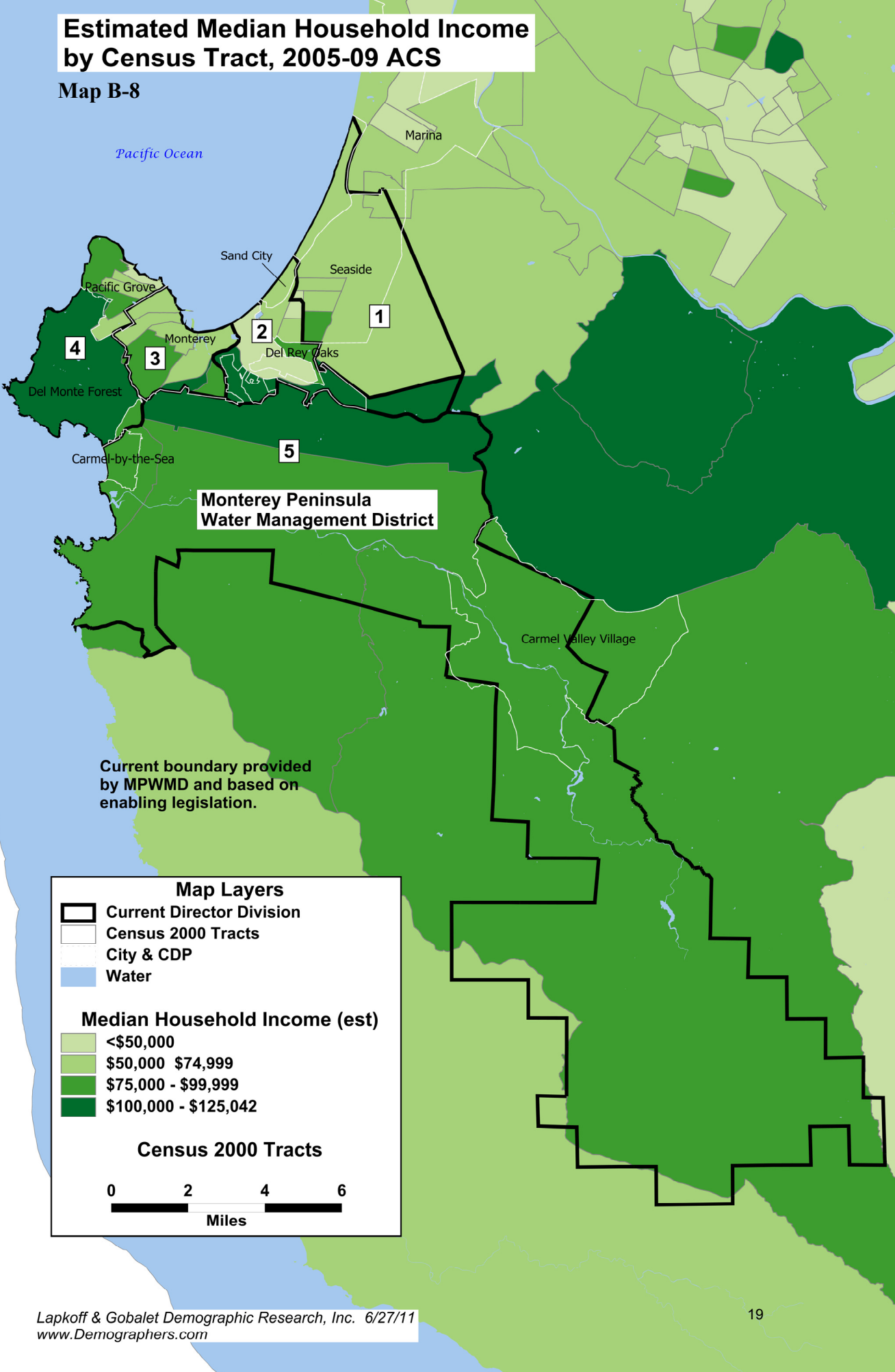
- 21.3 to 29.9
- 30.0 to 39.9
- 40.0 to 49.9
- 50.0 to 58.4

Census 2000 Tracts

0 2 4 6
 Miles

Estimated Median Household Income by Census Tract, 2005-09 ACS





Map B-8







**Monterey Peninsula
Water Management District**

Current boundary provided by MPWMD and based on enabling legislation.

Map Layers

-  Current Director Division
-  Census 2000 Tracts
-  City & CDP
-  Water

Median Household Income (est)

-  <\$50,000
-  \$50,000 - \$74,999
-  \$75,000 - \$99,999
-  \$100,000 - \$125,042

Census 2000 Tracts

