

Appendix H
County of Monterey

Table H-1
County of Monterey Estimated Population and Building Inventory

Population	Residential Buildings		Nonresidential Buildings	
2000 Census Population Count*	Total Building Count	Total Value of Buildings **- (x\$1000)	Total Building Count	Total Value of Buildings *** (x\$1000)
99,635	26,447	7,592,953	6,285	2,013,018

Source: Monterey County (residential and nonresidential buildings) and U.S. Census 2000 population data.

* Population count using census blocks within the county limits.

** Tax Assessor records.

*** Tax Assessor records.

Table H-2
County of Monterey Critical Facilities and Infrastructure

Category	Facility	Address	Estimated Insured Structural Value (x\$1000)
Government	Government Center	168 West Alisal St., Salinas CA 93901	1,180
	Courthouse	240 Church St., Salinas, CA 93901	1,180
	Health Department	1270 Natividad Rd., Salinas, CA 93906	1,180
	Information Technology Department	1590 Moffett St., Salinas, CA 93905	1,180
	Office of Education	901 Blanco Circle, Salinas, CA 93901	1,180
	Water Resources Agency	893 Blanco Circle, Salinas, CA 93901	1,180
	Department of Social and Employment Services	730 La Guardia St., Salinas, CA 93905	1,180
	East Laurel Facilities	855 East Laurel Ave., Salinas, CA 93906	1,180
	Health Department – Animal Services Division	160 Hitchcock Rd., Salinas, CA 93908	1,180
	Agricultural Commission	1428 Abbot St., Salinas, CA 93901	1,180
	Emergency Services Center / 911	1322 Natividad Rd., Salinas, CA 93906	1,180
	Harbormaster's Office	Del Monte Ave. and Figueroa Ave., Monterey, CA 93940	1,180
	Moss Landing Harbor District Office	7881 Sandholdt Rd., Moss Landing, CA 95039	1,180
	Monterey County Sheriff's Office / Jail	1414 Natividad Rd., Salinas, CA 93906	1,652

Table H-2
County of Monterey Critical Facilities and Infrastructure

Category	Facility	Address	Estimated Insured Structural Value (x\$1000)
Emergency Response	Courthouse / Sheriff's Office Substation	1200 Aguajito Rd., Monterey, CA 93940	1,652
	Sheriff's Office Substation	250 Franciscan Way, King, CA 93930	802
	Aromas Fire District	492 Carpenteria Rd., Aromas CA 95004	
	Big Sur Volunteer Fire Brigade	California 1	17,720
	Bradley Fire Department		65
	Cachagua Fire Protection District	37200 Nason Rd. Carmel Valley, CA 93924	281
	Camp Roberts Emergency Service	4050 Arizona Blvd. Camp Roberts, CA 93451	
	Carmel Highlands Fire Dept.	73 Fern Canyon Rd Carmel, CA 93923	671
	Carmel Valley Fire Protection District	8455 Carmel Valley Rd. Carmel, CA 93923	
	Carmel Valley Fire Protection District	26 Via Contenta Carmel Valley, CA 93924	
	Cypress Fire Protection District	3775 Rio Rd. Carmel, CA 93923	
	Fort Hunter Liggett Fire	Bldg. T-120 Fort Hunter Liggett, CA 93928	
	Mid-Coast Fire Brigade	38000 Palo Colorado Road Carmel, CA 93923	373
	Monterey Peninsula Airport Fire Dept.	200 Fred Kane Dr., Suite 200 Monterey, CA 93940	
	North County Fire District	11200 Speegle St. Castroville, CA 95012	
	Parkfield Fire Dept.		
	Pebble Beach Fire Station	3101 Forest Lake Rd. Pebble Beach, CA 93953	12,052
	Salinas Rural Fire District	19900 Portola Dr.	
	San Ardo Vol. Fire Dept.	62180 Railroad Road San Ardo, CA	
	Spreckles Vol. Fire Company	38 Spreckles Blvd.	62

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County of Monterey Critical Facilities and Infrastructure

Category	Facility	Address	Estimated Insured Structural Value (x\$1000)
Lifeline Utilities	Duke Energy Moss Landing Power Plant	Highway 1 and Dolan Rd., Moss Landing, CA 95039	129,800
	Ogden Power Pacific Salinas	350 Crazy Horse Rd., Salinas, CA 93907	129,800
Care	Valley Rest Residential Care Facility	25017 Valley Place Circle, Carmel, CA 93923	802
	Carmel Terrace, Inc.	25193 Hatton Rd., Carmel, CA 93923	802
	Town & Country Residential Care for Seniors	27917 Berwick Dr., Carmel, CA 93923	802
	Carmel Valley Guest Home	200 West Carmel Valley Rd., Carmel Valley, CA 93924	802
	Carmel Valley Manor	8545 Carmel Valley Rd., Carmel, CA 93923	27,321
	Carmel Valley medical Clinic	27880 Dorris Dr.	
	Clinica de Salud del Valle de Salinas	24285 Lincoln	
	Clinica de Salud del Valle de Salinas	10561 Merritt St.	
	Agape of Pancho Way / Magnolia Manor	26695 Pancho Way Carmel, CA 93923	
	Ave Maria Convalescent	1249 Josselyn Canyon Road Monterey, Ca 93940	
	Beverly Health Care	23795 Holman highway	
	Brookdale Manor	6385 Brookdale Dr.	
	Carmel Convalescent		
	Carmel Inn		
	Carmel Residential Care	P.O. Box 6177 Carmel, CA 93921	
	Carmel Villa	26635 Pancho Way Carmel, CA 93923	
	Casa Lasconia	9825 Rolling Meadows Lane	182
	Faithful Home Care	47 Norman Way	
	Flanders Court	25661 Morse Dr. Carmel, CA 93923	
	Maden's Retreat	16410 Woodland Hills Ave.	104
	Scenic Views	25770 Partridge Place	

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County of Monterey Critical Facilities and Infrastructure

Category	Facility	Address	Estimated Insured Structural Value (x\$1000)
	Serra Village Inn	20290 Anza Dr. Salinas, CA 93906	
	Shepards Inn	11899 Cypress Circle Castroville, CA 95012	
	St. Remy Residential Care	9 Los Robles	
	Touch of Grace	706 Elm St.	
	Valley Rest Residence	25017 Valley Place	
	Victorian hacienda	1000 Hacienda Carmel	
Educational	Carmel Middle School	4380 Carmel Valley Rd., Carmel, CA 93922	590
	Castroville Elementary School	11161 Merritt St., Castroville, CA 95012	590
	Echo Valley Elementary School	147 Echo Valley Rd., Salinas, CA 93907	590
	Prunedale Elementary School	17719 Pesante Rd., Salinas, CA 93907	590
	Elkhorn Elementary School	2235 Elkhorn Rd., Castroville, CA 95012	590
	Tularcitos Elementary School	35 Ford Rd., Carmel Valley, CA 93924	590
	Spreckels School	Fourth Street & Hatton Ave., Spreckels, CA 93962	590
	Captain Cooper Elementary School	Highway 1, Big Sur, CA 93920	590
	Bradley Union School	224 Dixie St., Bradley, CA 93246	590
	Chualar Union School	24285 Lincoln St., Chualar, CA 93925	590
	Pacific Unified School	69325 Highway 1, Pacific Valley #1, Big Sur, CA 93920	590
	San Antonio Union Elementary School	67550 Lockwood – Jolon Rd., Lockwood, CA 93932	590
	San Ardo Union Elementary School	62428 Center St., San Ardo, CA 93450	28
	San Lucas Union Elementary School	53675 San Benito St., San Lucas, CA 93954	590
	North Monterey County High School	13990 Castroville Blvd., Castroville, CA 95012	590
	Carmel High School	3600 Ocean Ave., Carmel, CA 93923	590

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County of Monterey Critical Facilities and Infrastructure

Category	Facility	Address	Estimated Insured Structural Value (x\$1000)
	North Monterey County Center For Independent Study	13398 Castroville Blvd., Castroville, CA 95012	590
	Carmel Valley Continuation High School	27334 Schulte Rd., Carmel, CA 93922	590
	Central Bay Continuation High School	17500 Pesante Rd., Salinas, CA 93907	590
	Monterey County Special Education	132 W. Market St., Salinas, CA 93912	590
	Boronda Independent Study	1114 Fontes Ln., Salinas, CA 933907	590
	Toro Park Elementary School	22500 Portola Dr., Salinas, CA 93908	590
	Washington Union Elementary School	340 Corral de Tierra Rd., Salinas, CA 93908	590
	La Joya Elementary School	55 Rogge Rd., Salinas, CA 93906	590
	Gavilan View Middle School	18250 Van Buren Ave., Salinas, CA 93906	590
	Buena Vista Middle School	18250 Tara Dr., Salinas, CA 93908	590
	San Benancio Middle School	43 San Benancio Rd., Salinas, CA 93908	590
	Lagunita Elementary School	975 San Juan Grade Rd., Salinas, CA 93907	590
	Mission Union Elementary School	36825 Foothill Rd., Soledad, CA 93907	590
	Joseph Gambetta Middle School / North Monterey County Middle School	10301 Seymour St., Castroville, CA 95012	590
	All Saints Episcopal Day School	8060 Carmel Valley Rd, Carmel CA 93923	7,568
	Apple Pie Pre-School	Hwy 1, Big Sur, CA 93920	590
	Bay School/Co-Op pre-School	27448 California 1 Carmel, CA 93923	590
	Cachagua Center	37320 Nason Road Carmel Valley, CA 93924	590
	Carmel Adult School at Logan Hall		590

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County of Monterey Critical Facilities and Infrastructure

Category	Facility	Address	Estimated Insured Structural Value (x\$1000)
	Carmel River Elementary School	15 th Ave. Carmel, CA 93923	590
	Carmel Child Development Center	8460 Carmel Valley Rd Carmel, CA 93923	590
	Faith Christian School	119 Springfield Rd. Moss Landing, CA 93907	370
	Graves Elementary School	15 McFadden Road	590
	La Mesa		
	Montessori Learning Center Primary School	30 Hitchcock Rd. Salinas, CA 93908	100
	Pacific Coast Christian Academy	381 San Juan Grade Rd. Salinas, CA 93906	286
	Prunedale Christian Academy & Preschool	8145 Prunedale North Rd. Salinas, CA 93907	731
	River (Rec) School Age Child Care		
	Stevenson School – Carmel Campus	24800 Dolores St. Carmel By The Sea, CA 93921	1,392
	Stevenson School – Pebble Beach Campus	3152 Forest Lake Rd. Pebble Beach, CA 93953	12,051
	The York School	9501 York Rd. Monterey, CA 93940	5,222
	Tularcitos Co-Op Pre-School		
Marine, Environmental, and Community	Monterey Bay Aquarium Research Institute (MBARI)	7700 Sandholdt Rd., Moss Landing, CA 95039	78,269
	Moss Landing Marine Lab of California State University	8272 Moss Landing Rd., Moss Landing, CA 95039	78,269
	Marine Pollution Studies Lab, California Department of Fish & Game	7544 Sandholdt Rd., Moss Landing, CA 95039	78,269
	Pebble Beach Community Service District Office	3101 Forest Lake Rd., Pebble Beach, CA 93953	1,180
	Porter – Vallejo Mansion	29 Bishop St., Pajaro, CA 95076	1,180

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County of Monterey Critical Facilities and Infrastructure

Category	Facility	Address	Estimated Insured Structural Value (x\$1000)
	SPCA of Monterey County	1002 Monterey – Salinas Highway, Monterey, CA 93940	1,180
	Mazda Raceway Laguna Seca	1021 Monterey – Salinas Highway, Monterey, CA 93940	11,006
	Pajaro / Sunny Mesa Community Services District Office	Pajaro, CA 95076	1,180
	American Red Cross Monterey – San Benito Chapter Office	942 Lupin Dr., Salinas, CA 93906	1,180
	American Red Cross – Carmel Area Chapter Office	Delores and 8 th Aves., Carmel, CA 93922	1,180

Source: FEMA HAZUS-MH (estimated values) and Monterey County data

Table H-3
County of Monterey Potential Hazard Vulnerability Analysis – Population and Buildings

		Population	SoVI	Buildings			
				Residential		Nonresidential	
Hazard Type	Methodology	Number	Score	Number	Value (\$)¹	Number	Value (\$)¹
Agricultural Emergency	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Coastal Erosion	100-year erosion zone	184	N/A	163	34,640	3	9,937
Dam Failure	Inundation area	17,638	N/A	4,782	921,167	342	592,097
Earthquake	Extreme	12,251	N/A	3,357	590,989	129	260,579
	High	60,207	N/A	21,237	4,237,729	892	1,531,295
	Moderate	26,302	N/A	12,445	2,604,390	275	537,687
Flood	100-year flood zone	10,802	N/A	3,341	630,188	440	624,427
Hazardous Materials Event	1-mile buffer transport corridor	57,560	-0.22	14,136	3,342,906	2,670	1,073,225
	1-mile buffer fixed site	3,060	-0.06	712	164,412	162	96,897
Landslide	High	4,996	1.82	1,045	305,844	288	59,382
	Moderate	17,215	2.13	5,213	1,489,563	751	191,778
Sea Level Rise	Inundation area	3,846	-0.13	305	47,496	85	69,179
Tsunami	Inundation area	994	-0.07	120	40,044	42	62,048
Wildland Fire	Very high	2,486	2.03	689	330,586	162	45,708
	High	15,415	1.00	3,390	108,979	1,110	251,068
	Moderate	64,029	2.51	20,897	5,720,132	3,960	1,348,002
Windstorm	Prevailing wind zone	11,824	N/A	3,428	663,019	140	326,557

¹ Value = Building value based on Tax Assessor records (x \$1,000)

Table H-4
County of Monterey Potential Hazard Vulnerability Analysis – Critical Facilities

		Government		Emergency Response		Lifeline Utilities		Care		Educational		Marine, Environmental, and Community		Total	
Hazard	Methodology	No.	Value (\$) ¹	No.	Value (\$) ¹	No.	Value (\$) ¹	No.	Value (\$) ¹	No.	Value (\$) ¹	No.	Value (\$) ¹	No.	Value (\$) ¹
Agricultural Emergency	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Coastal Erosion	100-year erosion zone	1	1,180	0	0	0	0	0	0	0	0	0	0	1	1,180
Dam Failure	Inundation area	8	9,440	4	343	1	1,180	0	0	8	4,720	5	237,167	22	252,507
Earthquake	Extreme	0	0	3	0	0	0	0	0	2	1,180	2	2,360	4	3,540
	High	11	12,980	25	31,569	3	260,780	4	3,208	21	12,390	5	237,167	47	531,009
	Moderate	1	1,180	0	0	0	0	1	802	7	4,130	3	13,366	13	21,130
Flood	100-year flood zone	0	0	1	0	0	0	0	0	2	1,180	5	237,167	7	238,347
Hazardous Materials Event	1-mile buffer transport corridor	5	5,900	18	18,700	2	130,980	2	1,604	16	9,440	7	239,527	33	389,103
	1-mile buffer fixed site	0	0	1	0	2	845	0	0	5	885	0	0	8	1,730
Landslide	High	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Moderate	0	0	2	17,902	0	0	2	104	2	0	0	0	6	18,006
Sea Level Rise	Inundation area	0	0	0	0	0	0	1	0	2	0	0	0	3	0
Tsunami	Inundation area	0	0	0	0	0	0	0	0	1	0	0	0	1	0
Wildland Fire	Very high	0	0	1	0	0	0	4	104	2	0	0	0	7	104
	High	0	0	4	671	0	0	4	0	7	0	0	0	15	671
	Moderate	10	11,800	22	31,749	3	845	24	28,191	39	29,468	10	252,893	108	354,946
Windstorm	Prevailing wind zone	0	0	1	1,652	0	0	0	0	2	1,180	0	0	3	2,832

¹ Value = Building value based on Tax Assessor records (x1000)

Table H-5
County of Monterey Potential Hazard Vulnerability Analysis – Critical Infrastructure

Hazard	Methodology	Highways		Railroads		Bridges		Airports	
		Miles	Value (\$) ¹	Miles	Value (\$) ¹	Number	Value (\$) ¹	Number	Value (\$) ¹
Agricultural Emergency	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Coastal Erosion	100-year erosion zone	10.0	51,633	0.0	0	0	0	-	-
Dam Failure	Inundation area	72.7	481,979	59.8	82,609	79	220,319	-	-
Earthquake	Extreme	16.1	96,008	9.3	12,833	22	10,503	-	-
	High	144.7	942,401	47.6	65,657	106	172,213	-	-
	Moderate	273.4	1,673,073	47.9	66,079	110	175,902	-	-
Flood	100-year flood zone	41.3	250,631	15.5	21,426	84	213,939	-	-
Hazardous Materials Event	1-mile buffer transport corridor	329	TBD	118.2	TBD	128	TBD	8	TBD
	1-mile buffer fixed site	16.3		8.2		3		0	0
Landslide	High	40.6	TBD	2.5	TBD	18	TBD	0	0
	Moderate	20.5	TBD	3.1	TBD	3	TBD	3	TBD
Sea Level Rise	Inundation area	6.2		8.4		6		0	0
Tsunami	Inundation area	5.4	TBD	4.4	TBD	5	TBD	0	0
Wildland Fire	Very high	8.8	TBD	0.0	TBD	4	TBD	1	TBD
	High	81.4	TBD	13.8	TBD	32	TBD	14	TBD
	Moderate	108.1	TBD	40.5	TBD	17	TBD	58	TBD
Windstorm	Prevailing wind zone	127.8	947,058	68.6	94,717	40	133,152	-	-

¹ Value = Building value based on Tax Assessor records (x1000)

While the threats from hazard events may never be fully eliminated, by minimizing and mitigating the damaging impacts of hazards, we can prevent such events from becoming 'disasters'. Although no amount of preparation though can guarantee absolute protection of local residence and property, local agencies can prepare and educate themselves and local residence to the greatest extent possible to promote and encourage preparedness and safety, even if 100% protection cannot be ensured.

Agricultural Emergency

There are 91,571 acres (143.1 square miles) of cropland in the unincorporated area of Monterey County that intersect with the 100-year floodplain.

Coastal Erosion

Coastal erosion is present along the entire coast of Monterey County. However, less than 0.2 percent of the county's population resides in this hazard zone. On average, the dunes along the northern Monterey Bay erode 2.6 feet annually while the steep cliffs along the southern coastline erode 7 inches annually. Therefore, using a 100-year projection to determine areas at risk to coastal erosion, approximately 184 people, 163 residential buildings (worth \$34.6 million), 3 nonresidential buildings (worth \$9.9 million), and 1 critical facility (worth \$1.2 million) reside in the coastal erosion hazard area. Additionally, 10.0 miles of highway are located in this hazard area.

Dam Failure

Approximately 20 percent of the county's population is located in the inundation zones of the Nacimiento, San Antonio, San Clemente, Los Padres, and Black Rock Creek dams. This includes 17,638 people, 4,782 residential buildings (worth \$921.2 million), 342 nonresidential buildings (worth \$592.1 million), and 37 critical facilities (worth \$248 million). In addition, 72.7 miles of highway, 59.8 miles of railroad tracks, and 79 bridges are located in this hazard area.

Earthquake

Approximately 10 percent of the county's population resides in an extreme shaking area, while an additional 60 percent live in a high shaking area, and the remaining 30 percent live in a moderate shaking area. The strongest shaking potential is located in the southern and northern portions of the county. As such, exposed within the extreme shaking hazard area are 12,251 people, 3,357 residential buildings (worth \$591.0 million), 129 nonresidential buildings (worth \$260.6 million), and 7 critical facilities (worth \$2.4 million). 16.1 miles of highway and 9.3 miles of railroad tracks are located in this hazard area. Exposed within the high shaking hazard area are 60,207 people, 21,237 residential buildings (worth \$4.24 billion), 892 nonresidential buildings (worth \$1.5 billion), and 124 critical facilities (worth \$341 million). 144.7 miles of highway and 47.6 miles of railroad tracks are also located in this hazard area. Exposed within the moderate shaking hazard area are 26,301 people, 12,445 residential buildings (worth \$2.6 billion), 275 nonresidential buildings (worth \$537.7 million), and 4 critical facilities (worth \$14.5 million). 273.4 miles of highway and 47.9 miles of railroad tracks are located in this hazard area.

Flood

Over 10 percent of the county's population resides in the SFHA, which includes areas adjacent to the Salinas, Carmel, Pajaro, and Arroyo Seco Rivers, the Moro Cojo and Elkhorn sloughs, and low-lying coastal areas that are inundated by wave attack. Exposed within this hazard area are 10,802 people, 3,341 residential buildings (worth \$630.2 million), 440 nonresidential buildings (worth \$624.4 million), and 11 critical facilities (worth \$237 million). Approximately 41.3 miles of highway and 15.5 miles of railroad tracks are also located in the 100-year floodplain.

Hazardous Materials Event

Within the 1-mile buffer of the transportation corridors are 57,560 people (approximately 46 percent of the county's population), 14,136 residential buildings (worth \$3.3 billion), 2,670 nonresidential buildings (worth \$1.1 billion), and 84 critical facilities (worth \$276.3 million). These figures are for the entirety of the transportation corridors and, therefore, overstate the exposure since a single HAZMAT event at a given point along these corridors is unlikely to affect all of the area within the 1-mile buffer.

Within the 1-mile buffer around the fixed HAZMAT sites, 3,060 people are exposed to a fixed-site hazardous materials event. This includes 712 residential buildings (worth \$164.4 million), 162 nonresidential buildings (worth \$96.9 million), and 8 critical facilities. These figures are for all of the fixed HAZMAT sites and, therefore, overstate the exposure since a single HAZMAT event at any one location is unlikely to affect all of the area within the jurisdiction.

Landslide

A little over 22 percent of the county's population lives in moderate and high landslide hazard areas. The landslide areas within the county are located along the Big Sur coast, the Santa Lucia and Gabilan Mountain Ranges, the Carmel Valley, and the northern county limits. The high landslide hazard area includes 4,996 people, 1,045 residential buildings (worth \$305.8 million), 288 nonresidential buildings (worth \$59.3 million), and 0 critical facilities. Approximately 40.6 miles of highway and 2.5 miles of railroad tracks are located in this high hazard area. 17,215 people, 5,213 residential buildings (worth \$1.5 billion), 751 nonresidential building (worth \$191.8 million) and 6 critical facilities (worth \$18 million) are located in the moderate landslide hazard area. Approximately 20.5 miles of highway and 3.1 miles of railroad tracks are located in this moderate hazard area.

Sea Level Rise

The potential for sea level rise is present along the entire coast of Monterey County. However, less than 4 percent of the county's population resides in this hazard zone. This includes approximately 3,846 people, 305 residential buildings (worth \$47.5 million), 85 nonresidential buildings (worth \$69 million), and 3 critical facilities (worth \$18 million). Additionally, 6.2 miles of highway, 8.4 miles of railroad, 17 bridges, and 58 airports are located in this hazard area.

Tsunami

Using the New Tsunami Inundation Map data, less than 1 percent of the county's population, mainly residing in the unincorporated communities of the Carmel Highlands, Carmel, Lagoon, Castroville, Moss Landing, and Pajaro, is vulnerable to a tsunami. This includes 994 people, 120 residential buildings (worth \$40 million), 42 nonresidential buildings (worth \$62 million), and 1 critical facility. A significant coastal visitor population may also be vulnerable to tsunamis. Approximately 5.4 miles of highway and 4.4 miles of railroad tracks are located in this hazard area. Moss Landing Harbor is also vulnerable to strong and unpredictable currents.

Wildland Fire

Using the California FRAP model, very high wildland fire risk areas are located in and around the Los Padres National Forest. Within the area of very high wildland fire exposure are 2,486 people and 689 residential buildings (worth \$330.6 million), 162 nonresidential buildings (worth \$45.7 million) and 7 critical facilities (worth \$104 million). Approximately 8.8 miles of highway are located in this hazard area.

In the high wildland fire risk areas are 15,415 people, 3,390 residential buildings (worth \$109 million), 1,110 nonresidential buildings (worth \$251.1 million), and 15 critical facilities (worth \$671,000). Approximately 81.4 miles of highway and 13.8 miles of railroad tracks are located in this hazard area.

Areas of moderate wildland fire risk include 64,029 people, 20,897 residential buildings (worth \$5.7 billion), 3,960 nonresidential buildings (worth \$1.3 million), and 108 critical facilities (worth \$355 million). Approximately 108.1 miles of highway and 40.5 miles of railroad tracks are located in this hazard area.

Windstorm

Windstorms created by prevailing northwest sustained surface winds are common throughout the central and southern Salinas Valley from March to October. Therefore, 11,824 people, 3,428 residential buildings (worth \$663.0 million), 140 nonresidential buildings (worth \$326.6 million), and 3 critical facilities (worth \$2.8 million) are located in this hazard area.

Table H-6
County of Monterey Legal and Regulatory Resources Available for Hazard Mitigation

Regulatory Tool	Name	Effect on Hazard Mitigation
Plans, Ordinances, and Codes	October 2006 Draft General Plan Safety Element	Establishes policies that will minimize the potential of human injury and property damage to the following natural hazards: drainage; flood; seismic and other geologic hazards; and wild fires.
	Floodplain Management Plan 2003	Identifies flooding sources affecting Repetitive Loss Properties, establishes an implementation plan to reduce flooding, and ensures that the natural and beneficial of the floodplains are protected. The Water Resources Agency, in collaboration with the RMA Planning Department, is also working on a Drainage Design Manual to implement Policy S-3.7 of the General Plan.
	Land Area Plans	Due to the diversity of Monterey County, smaller plans have been created to provide more specific policies unique to a particular geographical area. Area plans for the inland portion of the County include Cachagua, Central Salinas Valley, Greater Monterey Peninsula, Greater Salinas, North County, South County, and Toro).
	Land Use Plans and Coastal Implementation Plans	Land Use Plans and Coastal Implementation Plans have been developed for the four areas that make up the Coastal Zone, including Big Sur, Carmel Area, Del Monte Forest, and North County Coastal.
	Stormwater Management Plan	
	Coastal Management Plan	
	Emergency Operations Plan	The Emergency Operations Plan was revised and adopted in March 2014. The Catastrophic Event Planning (addressing earthquakes) was prepared as part of the Regional Catastrophic Preparedness Grant Program.
	Winter Storm Plan	
	Climate Adaptation Plan	Currently under development.
	Community Wildfire Protection Plan	
	Evacuation Plan	Currently under development.
	Disaster Recovery Plan	Currently under development.
	Capital Improvements Plan	

Table H-6
County of Monterey Legal and Regulatory Resources Available for Hazard Mitigation

Regulatory Tool	Name	Effect on Hazard Mitigation
	Economic Development Plan	Currently under development. The Economic Development Department (EDD) is a newly formed department within the County. This plan is in its early stages (asset inventory/assessment and identification of economic opportunities). It will be determined at a later date what effect this plan will have on addressing hazard loss reduction.
	Historic Preservation Plan	Currently under development. The only hazards this plan will address would be those due to hazardous materials in older buildings that would need retrofitting.
	Transportation Plan	
	Zoning Ordinance	
	Subdivision Ordinance	
	Site Plan Review Requirements	
	Fire Prevention Codes	
Programs	National Flood Insurance Program (NFIP)	Makes affordable flood insurance available to homeowners, business owners, and renters in participating communities. In exchange, those communities must adopt and enforce minimum floodplain management regulations to reduce the risk of damage from future floods.
	Capital Improvement Program	It is a five-year program that is updated annually. It consists of construction projects, such as storm drain improvements, that have a total cost of more than \$100,000 and are planned to commence construction between July 1, 2006 and June 30, 2012.
	Monterey Regional Storm Water Program	Reduce pollution from storm water discharge and runoff with regard to the EPA's Phase II Storm Water National Pollutant Discharge Elimination System requirements. It is a collective effort and implementation of area-wide activities designed to benefit all participating entities.
	Local Coastal Program	Land Use Plans and Coastal Implementation Plans indicate the kinds, location, and intensity of land use and applicable resource protection and development policies within the Coastal Zone.

Table H-6
County of Monterey Legal and Regulatory Resources Available for Hazard Mitigation

Regulatory Tool	Name		Effect on Hazard Mitigation
Policies (County Code)	Title 10 Health and Safety	Title 10.46 Weed Control	Currently considered to be noxious weeds within the meaning of Section 5004 of the California Food and Agricultural Code which the Agricultural Commissioner finds and determines to be detrimental or destructive and difficult to control or eradicate. However, in future updates, policy could also include combustible weeds for fire hazard abatement.
		Title 10.65 Hazardous Materials Registration	Provides a continuing source of current information concerning hazardous substances and chemicals being utilized in the County of Monterey to protect the general health and safety of the public and to enable emergency personnel to respond safely and speedily to emergency situations which may arise and establish a continuing program for the purpose of preventing contamination from, and improper storage of, hazardous substances stored underground. This title also establishes orderly procedures that will ensure that newly constructed underground storage tanks meet appropriate standards and that existing tanks be properly maintained, inspected, and tested so that the health, property, and resources of the people of the County will be protected.
	Title 16 Environment	16.08 Grading	Sets forth rules and regulations to control all grading, including excavations, earthwork, road construction, fills and embankments, and establishes the administration procedure for issuance of permits; and provides for approval of plans and inspections of grading construction.
		16.12 Erosion Control	Requires control of all existing and potential conditions of accelerated (human-induced) erosion; sets forth required provisions for project planning, preparation of erosion control plans, runoff control, land clearing, and winter operations; and establishes procedures for administering those provisions.
		16.16 Regulations for Floodplains in Monterey County	Identifies areas where terrain characteristics would present new developments and their users with potential hazards to life and property from potential inundation by a 100-year frequency flood or other known flood hazards. These standards are also intended to minimize the effects of development on drainage ways and watercourses.

Table H-6
County of Monterey Legal and Regulatory Resources Available for Hazard Mitigation

Regulatory Tool	Name		Effect on Hazard Mitigation
	Title 18 Building and Construction	18.08 Monterey County Building Code	Adopts and enforces the California Building Code, 2001 Edition, Volumes 1 and 2.
		18.16 Monterey County Uniform Housing Code	Adopts and enforces the Uniform Housing Code, 1997 Edition.
		18.20 Monterey County Code for the Abatement of Dangerous Buildings	Adopts and enforces the Uniform Code for the Abatement of Dangerous Buildings, 1997 Edition.
		18.50 Residential, Commercial and Industrial Water Conservation Measures	Reduces the excessive use of water within the Greater Salinas, Toro, Greater Monterey Peninsula, and a portion of North County and Coast Planning areas by requiring the installation of low water use plumbing fixtures and low water use landscape material as part of new construction and prohibiting certain excessive use of water.
		18.56 Wildfire Protection Measures in State Responsibility Areas	Establishes wildfire protection standards in conjunction with building, construction, and development in State responsibility areas located within the boundaries of Monterey County and under the direct fire protection authority of the California Department of Forestry. These standards shall provide that future design and construction of structures, subdivisions and developments in State Responsibility Areas shall provide for emergency access and perimeter wildfire protection measures.
	Title 20 Coastal Implementation Plan Zoning	20.17 Watershed Scenic Corridor District	Provides a district to allow development in the more remote or mountainous areas in the Coastal Zone while protecting the significant and substantial resources of those areas. Of specific concern are the highly sensitive resources inherent in such areas such as viewshed, watershed, plant and wildlife habitat, streams and riparian corridors.

Table H-6
County of Monterey Legal and Regulatory Resources Available for Hazard Mitigation

Regulatory Tool	Name		Effect on Hazard Mitigation
		20.64 Development on Slopes in Excess of 30 Percent	Establishes regulations, procedures, and standards to consider development on slopes in excess of 30 percent (25 percent in North County).
		20.66 Development Standards for Hazardous Areas	Same as 21.66, see below.
	Title 21 Inland Zoning	21.66 Development Standards for Hazardous Areas	Provides development standards, including the requirement of a geologic report, which regulate land use and development, using the best available planning practices, in order to minimize risk to life and property and damage to the natural environment.

Table H-7
County of Monterey Administrative and Technical Resources for
Hazard Mitigation

Staff/Personnel Resources	Department/Division Position
Planner(s) or engineer(s) with knowledge of land development and land management practices	Planning and Building Inspection
Engineer(s) or professional(s) trained in construction practices related to buildings and/or infrastructure	Planning and Building Inspection
Planner(s) or engineer(s) with an understanding of manmade or natural hazards	Planning and Building Inspection
Building inspector	RMA-Building
Emergency manager	Office of Emergency Services
Floodplain manager	Water Resources Agency
Land surveyor(s)	Public Works
Resource development staff or grant writers	Public Works
Public information officer(s)	Chief Administrative Officer's Office
Personnel skilled in GIS and/or HAZUS-MH	Planning & Building Inspection/Information Technology/ Office of Emergency Services
Maintenance programs to reduce risk	Public Works
Warning systems/services	Office of Emergency Services
Mutual Aid Agreements	Emergency Responders

Table H-8
County of Monterey Financial Resources for Hazard Mitigation

Financial Resources	Effect on Hazard Mitigation
General funds	General Fund expenses must be considered by the Board of Supervisors but may be available for hazard mitigation activities at the discretion of the Board.
Capital improvements project funding	Funding subject to review and approval by the Board of Supervisors but may be available to support hazard mitigation activities.
Authority to levy taxes for specific purposes	Can be used for any hazard mitigation activity, but only eligible for use with voter approval.
Water/sewer fees	Most of the county is served by private wells and septic systems. However, those areas served by public water and sewer purveyors are regulated by public utilities.
Development impact fees	Development impact fees are available on a case-by-case basis.
Incur debt through general obligation bonds	Can be used for any hazard mitigation activity, but only eligible for use with voter approval.
Incur debt through special tax and revenue bonds	Revenue Bonds can be issued through the County with voter approval to raise funds for hazard mitigation activities.
Incur debt through private activity bonds	Can be used for any hazard mitigation activity but only eligible for use with voter approval.
FEMA HMGP and PDM grants	HMGP grant funding is available to local communities after a Presidentially-declared disaster. It can be used to fund both pre- and post-disaster mitigation plans and projects. PDM funding is available on an annual basis. This grant can only be used to fund pre-disaster mitigation plans and projects only.
Community Development Block Grants (CDBG)	The Community Development Block Grant (CDBG) program is a flexible program that provides communities with resources to address a wide range of unique community development needs.
United States Fire Administration (USFA) Grants	The purpose of these grants is to assist state, regional, national, or local organizations to address fire prevention and safety. The primary goal is to reach high-risk target groups including children, seniors, and firefighters.
Fire Mitigation Fees	Finance future fire protection facilities and fire capital expenditures required because of new development within Special Districts.

Table H-9
County of Monterey Education and Outreach Resources for Hazard Mitigation

Education and Outreach Resources	Effect on Hazard Mitigation
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	Land Use Advisory Committees, Housing Advisory Committee, Monterey Bay Fund, Sustainable Seaside, Ecology Action (Santa Cruz)
Ongoing public education or information program	Community Outreach is a collaborative effort between Monterey County OES and communities' fire districts. Includes school programs (Get Ready 5 th GRADE); Participation in Great Shakeout; numerous community fairs and meetings; CERT programs; PSAs; and website, Facebook, and Twitter followings.
<i>StormReady</i> certification	The Board of Supervisors acknowledged and received National Weather Service certification on October 14, 2008.

Problem Statements are statements of particular interest with regard to primary hazards of concern, geographic areas of concern, or vulnerable community assets. These statements were primarily derived from local community site visits and discussion with local staff and officials from each community during Individual Jurisdiction Meetings, in combination with a review of the Safety Elements of local General Plans and GIS analysis using best available data in support of updates to the vulnerability analysis for each jurisdiction. They were developed to assist in the identification and analysis of potential hazard mitigation actions for Monterey County.

- Overgrown vegetation and sediment build-up in the Salinas River channel has increased the potential for destructive flooding for many communities in Monterey County. The Salinas River Stream Maintenance Program proposed by the Monterey County Water Resources Agency continues to seek solutions for adequate flood protection, but to date has not been approved for implementation due to concerns raised by agricultural and environmental interests. A long-term, holistic approach to the problem is still required and should be considered among the highest priorities for the County's ongoing, multi-jurisdictional hazard risk reduction efforts.
- Many participating jurisdictions raised the problem of major resource shortages to plan for and implement activities in support of the MJHMP. Monterey County should consider the potential for coordinating with all jurisdictions (and possibly CSUMB) to jointly support the hiring or designation of a shared resource development officer or grants writer with the responsibility for addressing existing resources shortages.
- The Pajaro Valley includes populations that are particularly vulnerable to flood hazards, as was seen during the 1995 and 1998 major flood events.
- Hundreds of residential properties in Carmel Valley are susceptible to flooding, including many located in the mapped floodway. Even if not damaged, many homes in this area will

become isolated following major flood events.

- Natividad Medical Center is a critical County-owned and operated facility that has undergone numerous seismic upgrade projects but may still experience structural damage and service interruptions that pose risks to the public following a strong earthquake.
- The water and wastewater infrastructure for the unincorporated communities of Castroville, San Lucas, and San Ardo is not mapped and deemed particularly vulnerable to unmitigated losses.
- Although the Monterey County Water Resources Agency has already identified primary and secondary solutions for repetitive loss properties, current property owners are not interested in the types of flood mitigation projects (elevation) that are cost-effective and eligible for FEMA grant funding.

Table H-10
County of Monterey Mitigation Action Plan Matrix

Action Number	Description	Ranking / Prioritization	Administering Department	Potential Funding	Timeframe	Benefit-Costs	Status	Narrative Update/Explanation
1	Identify hazard-prone critical facilities and infrastructure and carry out acquisition, relocation, and structural and nonstructural retrofitting measures as necessary.	Priority / High	OES	HMGP and PDM Grants	Ongoing	This action will help ensure that the community/critical facilities can operate in some capacity before, during, and after the disaster.	Partially Completed / In Progress	Identification: CIKR data has been identified and mapped. That data has been analyzed as to Threat and Vulnerability Analysis through Digital Sandbox software. Field assessment of Priority One facilities are 50% completed.
2	Develop a sustained public outreach program that encourages consistent hazard mitigation content. For example, consider publishing tsunami inundation maps in telephone books, wildland fire defensible space tips with summer water bills, and the safe handling and disposal of hazardous waste and chemicals with garbage bills.	Priority / High	OES	General Funds, HMGP, and PDM Grants	0-1 years	A mitigation outreach program will help build and support local capacity to enable the public to prepare for, respond to, and recover from disasters.	Ongoing / Continuous	OES website identifies hazard and has access to the State of CA "My Hazards." Tsunami Inundation Map Door Hangers have been produced for all homes in the Tsunami Inundation Zone for County. The door hangers include protective actions for community residents. OES has conducted on average 35 community outreach programs per year for community residents including underserved populations.

Table H-10
County of Monterey Mitigation Action Plan Matrix

Action Number	Description	Ranking / Prioritization	Administering Department	Potential Funding	Timeframe	Benefit-Costs	Status	Narrative Update/Explanation
								Facilitated READY-5th grade program in schools and pre-elementary headstart program for children and parents.
3	Review and update County inundation maps every five years and participate in DSOD mapping updates.	Priority / High	Water Resources	General Funds	Every 5 years	This action will not need additional funding and will help ensure current dam inundation areas are identified and corresponding mitigation activities are carried out.	Ongoing / Continuous	Completed for this time period
4	Examine and mitigate critical infrastructure that has been identified as currently being too narrow to ensure the safe transportation of truck loads within Monterey County.	Priority / High	Public Works	General Funds	1-3 years	This effort will ensure that heavily used critical infrastructure will ensure the safe transportation of truck loads.	Partially Completed / In Progress	See Capital Improvement Program for FY2010-2011 through 2014-2015.

Table H-10
County of Monterey Mitigation Action Plan Matrix

Action Number	Description	Ranking / Prioritization	Administering Department	Potential Funding	Timeframe	Benefit-Costs	Status	Narrative Update/Explanation
5	Continue to conduct current fuel management programs and investigate and apply new and emerging fuel management techniques.	Priority / High	County Fire	HMGP and PDM Grants	Ongoing	The probability of future damage from wildland fires could be high if this mitigation action is not implemented.	Ongoing / Continuous	See Section S-4 (Safety Element—Fire Hazards) of the 2010 General Plan. Monterey County has identified a Fire Warden and fuel mitigation officer as well as an Advisory Group to develop oversight plans for the implementation of the MCCWPP. The Advisory Committee is represented by government and private stakeholders.
6	Include provisions for dust erosion control methods in building, grading, and land clearing permits.	Priority / High	Public Works	General Funds	0-2 years	Dust control erosion measures will reduce the effects of bad air quality and soil loss, thereby improving health and work conditions.	Ongoing / Continuous	Chapter 16.12 (Erosion Control) of the Monterey County Code.
7*	Implement the Carmel River (CSA-50) Lower Carmel River Flood Control Project structural and operational improvements, including adding pumping capacity, installing flood walls, and raising and extending levees.	Priority / High	Water Resources Agency	HMGP and PDM Grants	0-5 years	The mitigation of repetitively flooded properties is a priority for FEMA grant programs.	Partially Completed / In Progress	CSA-50 is preparing an update to the lower Carmel River Flood Control project final report dated 8/9/02.

Table H-10
County of Monterey Mitigation Action Plan Matrix

Action Number	Description	Ranking / Prioritization	Administering Department	Potential Funding	Timeframe	Benefit-Costs	Status	Narrative Update/Explanation
8*	Work with Repetitive Loss property owners to implement property protection activities including constructing retaining walls, berms, and terrace drains, as well as installing debris fences and elevating structures to have the lowest floor a minimum of 1-foot above the base flood elevation.	Priority / High	Water Resources Agency	HMGP and PDM Grants	0-5 years	The mitigation of repetitively flooded properties is a priority for FEMA grant programs.	Deferred	No funding and homeowner support for this effort.
9	Develop and implement a multi-hazard public awareness program to include new risks of sea level rise and climate change impacts.	Moderate	Monterey County OES	EMPG Funds 505 match to Salaries of Emergency Planners	0-1 year	Awareness Programs provide residents and public with risk tools to understand their hazards and actions to prepare for them.	New	New
10	Develop a debris management plan.	High	Monterey County OES	UASI Funding for Crosswalk. Salaries of staff for completion	0-1 year	Existence of debris management plan (FEMA approved) provides 80% cost share to state/local during recovery efforts.	New	New

Table H-10
County of Monterey Mitigation Action Plan Matrix

Action Number	Description	Ranking / Prioritization	Administering Department	Potential Funding	Timeframe	Benefit-Costs	Status	Narrative Update/Explanation
11	Conduct bi-annual core capability assessments of Monterey County public safety agencies.	Moderate	Monterey County OES	UASI Digital Sandbox funded. Staff time EMPG match	Ongoing every 2 years	Self assessments identify.	New	New
12	Develop and implement new tsunami evacuation and maritime response playbooks to improve decision making for protective actions that are specific for local jurisdictions and coastal effects. Utilize maritime playbooks to determine where maritime facilities and infrastructure in Moss Landing Harbor can be strengthened.	High	Monterey County OES	Staff time EMPG 505 match for planning	0-1 years	Benefit of saving lives by shortening ENS notifications to public. Reduce tsunami impacts and improve recovery in Moss Landing Harbor.	New	New
13	Implement Business Operations Center and Private Sector Advisory Committee to ensure private/public partnerships.	Moderate	Monterey County OES	UASI funds, EMPG funds; General Funds Cost Share	0-1	Better information sharing; resource sharing and deployment by private sector; streamlining lifeline pathways.	New	New

Table H-10
County of Monterey Mitigation Action Plan Matrix

Action Number	Description	Ranking / Prioritization	Administering Department	Potential Funding	Timeframe	Benefit-Costs	Status	Narrative Update/Explanation
14	Encourage water conservation measures to home and business owners through public awareness outlets.	Moderate	Monterey County OES	General Funds/EMPG Cost Share 50%	Ongoing	Prevention of severe drought conditions.	Continuous	New
15	Require and maintain safe access for fire apparatus to wildland/urban interface neighborhoods/properties, and defensible space around structures.	High	RMA	CFSC, DHS, FEMA	Ongoing	Public Safety Access during emergency response. Defensible space will prevent loss of structures and lives.	New	New
16	Create and maintain community fuel breaks and other fuel management projects.	High	RMA/CAL FIRE	CFSC, DHS, FEMA	Ongoing	Defensible space will prevent loss of property, economic loss, and save lives.	New	New

Table H-10
County of Monterey Mitigation Action Plan Matrix

Action Number	Description	Ranking / Prioritization	Administering Department	Potential Funding	Timeframe	Benefit-Costs	Status	Narrative Update/Explanation
17	Use prescribed burning to reduce fuel loads that threaten public safety and property, and to manage for ecological values and functions	High	CAL FIRE	CFSC, DHS, FEMA	Ongoing	Defensible space will prevent loss of property, economic loss and save lives.	New	New
18	Create and fund positions to support the Fire Warden and Fuel Mitigation Officer.	High	RMA	CFSC, DHS, FEMA	Ongoing	The Fire Warden will ensure planning efforts are coordinated and various grants are leveraged. Ensure that stakeholders are engaged in order to keep projects on track. Ensure efficiency of fuel management activities.	New	New
19	Support outreach and education programs, in conjunction with fire authorities having jurisdiction.	High	RMA/CAL FIRE/OES/Local Fire	CFSC, DHS, FEMA	Ongoing	Awareness Programs provide residents and public with risk tools to understand their hazards and actions to prepare for.	New	New

Table H-10
County of Monterey Mitigation Action Plan Matrix

Action Number	Description	Ranking / Prioritization	Administering Department	Potential Funding	Timeframe	Benefit-Costs	Status	Narrative Update/Explanation
20	Salinas River Management Program will provide a comprehensive river ecosystem and flood mitigation planning and restoration program for the river vegetation and channel.	High	WRA	General Funds, Federal, State, NGO	Ongoing 7-10 years	Salinas River Management Program will develop a "holistic" approach to river management, providing solutions to environmental and flood mitigation issues.	New	New
21	Elkhorn Slough Road Improvement: develop plan to improve circulating tidal waters, emergency access that Elkhorn Road is currently blocking during periods of king tides and future sea level rise.	High	RMA	General Funds/	0-5 years	Protect road from flooding and prohibited emergency access to area. Improve water quality and environment to Elkhorn Slough and provide erosion control benefits.	New	New

* Additional mitigation actions identified in the Monterey County Floodplain Management Plan 2003.

