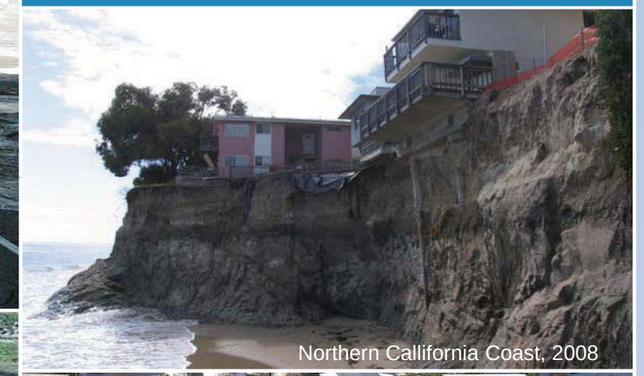
Mojave River, near Barstow, 2005

La Conchita, 2005


Northern California Coast, 2008

San Joaquin, 1997

Attachment D

1. Cover Sheet
2. Table of Contents
3. Notes
4. Summary of Available Flood Types, Flood History, and Flood Hazard Exposure (58 Maps)
5. Summary of Available Flood Infrastructure Information (58 Maps)

Attachment D
Summary of Exposure and Infrastructure Inventory by County

Mar 22, 2013

US Army Corps of Engineers ®

STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

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County	#
Alameda County	D-1 D-2
Alpine County	D-3 D-4
Amador County	D-5 D-6
Butte County	D-7 D-8
Calaveras County	D-9 D-10
Colusa County	D-11 D-12
Contra Costa County	D-13 D-14
Del Norte County	D-15 D-16
El Dorado County	D-17 D-18
Fresno County	D-19 D-20
Glenn County	D-21 D-22
Humboldt County	D-23 D-24
Imperial County	D-25 D-26
Inyo County	D-27 D-28
Kern County	D-29 D-30
Kings County	D-31 D-32

County	#
Lake County	D-33 D-44
Lassen County	D-35 D-36
Los Angeles County	D-37 D-38
Madera County	D-39 D-40
Marin County	D-41 D-42
Mariposa County	D-43 D-44
Mendocino County	D-45 D-46
Merced County	D-47 D-48
Modoc County	D-49 D-50
Mono County	D-51 D-52
Monterey County	D-53 D-54
Napa County	D-55 D-56
Nevada County	D-57 D-58
Orange County	D-59 D-60
Placer County	D-61 D-62
Plumas County	D-63 D-64

County	#
Riverside County	D-65 D-66
Sacramento County	D-67 D-68
San Benito County	D-69 D-70
San Bernardino County	D-71 D-72
San Diego County	D-73 D-74
San Francisco County	D-75 D-76
San Joaquin County	D-77 D-78
San Luis Obispo County	D-79 D-80
San Mateo County	D-81 D-82
Santa Barbara County	D-83 D-84
Santa Clara County	D-85 D-86
Santa Cruz County	D-87 D-88
Shasta County	D-89 D-90
Sierra County	D-91 D-92
Siskiyou County	D-93 D-94
Solano County	D-95 D-96

County	#
Sonoma County	D-97 D-98
Stanislaus County	D-99 D-100
Sutter	D-101 D-102
Tehama County	D-103 D-104
Trinity County	D-105 D-106
Tulare County	D-107 D-108
Tuolumne County	D-109 D-110
Ventura County	D-111 D-112
Yolo County	D-113 D-114
Yuba County	D-115 D-116

Statewide GIS Data Legend

Statewide GIS Data:

- City
- Populated Place
- DWR Local Agency Dam
- DWR Other Dam
- NFHL Dam or Weir
- CLD Pump Station
- CLD Local Agency Levee
- CLD Other Levee
- NFHL Levee
- NFHL Flood Event Structure
- NFHL Channel
- NFHL Control Structure
- NFHL Dike
- NFHL Retaining Wall
- Highway
- Major River
- Major Water Body
- 100-yr Floodplain
- 500-yr Floodplain
- County

Attachment D - Table of Contents

Table of Contents

Attachment D
Summary of Exposure and Infrastructure Inventory by County

Mar 22, 2013

US Army Corps of Engineers ®

STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

Map Contents & Sources of Information

1. Summary of Available Flood Types, Flood History, and Flood Hazard Exposure

100-year and 500-year Floodplains – The displayed floodplains were compiled for the SFMP from the following three sources (500-year floodplains were not available for some remote areas of the State):

1. The CVFPP floodplains, as defined by the CVFPP on October 4, 2011, for the Yolo, East Side, Upper Sacramento, Mariposa, Sutter, and Tisdale bypasses;
2. Floodplains defined (or refined) by USACE flood maps based on ER 1105-2-101 standards;
3. FEMA Flood Insurance Rate Maps (FIRMs).

History of Flooding by Event Year – This is a chronological list of floods of record affecting the county. When available, additional details include dates, flood name, and streams or regions affected. Sources include Agency Interviews, County Hazard Mitigation Plans, the California Water Plan 2009, Alluvial Fan Task Force Study Area Flood History, Taming Natural Disasters Appendix D, and various storm reports.

Types of Flooding – This is a list of common and possible types of flooding within the county.

Flood Hazard Exposure – This is a list of county statistics for land area, population, and structures based on the 2000 census. The quantity and percentage of area, population, structure and land values, and other important facilities exposed to the 100-year and 500-year flood events are also listed. Exposure numbers for acreage are rounded to the nearest 100 acres except where the number is smaller than 100. In such cases, they are rounded to the nearest 10 acres for values between between 10 and 100, and to the nearest 1 acre for values between 1 and 10.

Notes: Based on the source information, no 100-year or 500-year floodplain exists in Alpine County. The San Francisco County floodplain delineation was still in progress at the time it was obtained in the Fall of 2011.

Floodplain delineation in the vicinity of water bodies varies by county. In some counties the floodplain covers the entire body of water, while others include only a buffer along the shoreline. For the purposes of the enclosed maps, lakes and coastal bay layers have been shown on top of the delineated floodplain. Floodplains may have discontinuities at county boundaries.

Disclaimers

1. Information displayed on the maps does not represent all existing flood infrastructure in the county. Only infrastructure available as "Statewide GIS Data" or submitted in a GIS format by one of the interviewed agencies is shown.

2. The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.

2. Summary of Available Flood Infrastructure Information

Summary of Available Flood Infrastructure Information – This is a graphic display of the entire county showing existing flood infrastructure that has been mapped and made available in a Geographic Information System (GIS) format. Note that some of the counties were oriented differently to maximize the size of the county on the map. The following additional information and a legend of corresponding symbols is also provided on the flood infrastructure maps:

1. **Flood Infrastructure GIS Data Received from Agencies** – Infrastructure data provided by local agencies in GIS compatible formats (shapefile and geodatabase) is shown on the maps for the respective counties and is listed with the corresponding map symbol.

2. **Non-GIS, PDF/Hard Copy Flood Infrastructure Data Received from Agencies Contacted** – Infrastructure data provided by local agencies is listed for informational purposes only. This data is not displayed graphically on the maps.

3. **Agencies Contacted as Part of SFMP** – This is a list of those agencies contacted by the information gathering teams.

4. **Statewide GIS Data** – A legend of available statewide GIS data is provided at the bottom of each map. Statewide GIS Data sources include:
   - -Cities derived from California Department of Forestry and Fire Protection (CAL FIRE) Incorporated Cities polygons, 2010.
   - -Populated Places from Geographic Names Information System (GNIS), US Board on Geographic Names, USGS, 2011.
   - -Dams modified from DWR, Bulletin 17-00, 2000. Not all dams are necessarily flood infrastructure as that information is not provided specifically in the Bulletin.
   - -Pump Stations and Levees from California Levee Database (CLD), v2.2 r2, 2010.
   - -NFHL Dam or Weir, Levee, Flood Event Structure, Channel, Control Structure, Dike and Retaining Wall are from the National Flood Hazard Layer, FEMA, July 2011 or from preliminary countywide DFIRM databases.
   - -Rivers and Lakes, modified from Department of Fish Game (DFG) in 2009, previously downloaded from CalAtlas, original publication date not available.
   - -Counties and Hillshade from CalAtlas 2009.
   - -Highways from TeleAtlas, 2004.

Planned Projects – The planned projects represent information gathered from local, State, and Federal agencies for Federal Fiscal Year 2012. A number of the identified projects do not have cost associated with them.

Definitions/Acronyms

California Levee Database (CLD): The CLD contains data about the centerline of an embankment for controlling rivers, coastal areas, or other water bodies. In creating the CLD, all structures that could hold back water were digitized for flood planning purposes. Some of these structures are not technically levees (such as railroad grades, irrigation canals, etc.). However the information necessary to distinguish these features from actual "levees" is not completely present in the CLD. DWR makes no warranties, representations or guarantees, either expressed or implied, as to the completeness, accuracy or correctness of the data, nor accepts or assumes any liability arising from or for any incorrect, incomplete or misleading data provided pursuant to this request.

National Flood Hazard Layer (NFHL): The NFHL is a computer database that contains the flood hazard map information from FEMA's Flood Map Modernization program. These map data are from Digital Flood Insurance Rate Map (DFIRM) databases and Letters of Map Revision (LOMRs). Relevant NFHL flood infrastructure that was not submitted by a local agency and is not included in the CLD or listed in DWR Bulletin 17-00, 2000, is displayed on the maps and legend.

DWR Local Agency Dam: Those dams listed in DWR Bulletin 17-00, 2000, where the maintaining agency listed is one of the agencies contacted during the SFMP information collection efforts.

DWR Other Dam: All other dams listed in DWR Bulletin 17-00, 2000, which are not maintained by one of the agencies contacted during the SFMP information collection efforts.

CLD Local Agency Levee: Those levees within the CLD where the "maintaining agency" attribute is one of the agencies contacted during the SFMP information collection efforts. Note: only approximately 23% of the CLD levee lines have a populated "maintaining agency" attribute.

CLD Other Levee: All other levees in the CLD that either do not have a maintaining agency listed, or the listed agency is not one of the agencies contacted during the SFMP information collection efforts.

Attachment D - Notes

County Maps:

1. Summary of Available Flood Types, Flood History, and Flood Hazard Exposure (58 Maps)

2. Summary of Available Flood Infrastructure Information (58 Maps)

Attachment D

Summary of Exposure and Infrastructure Inventory by County

Mar 22, 2013

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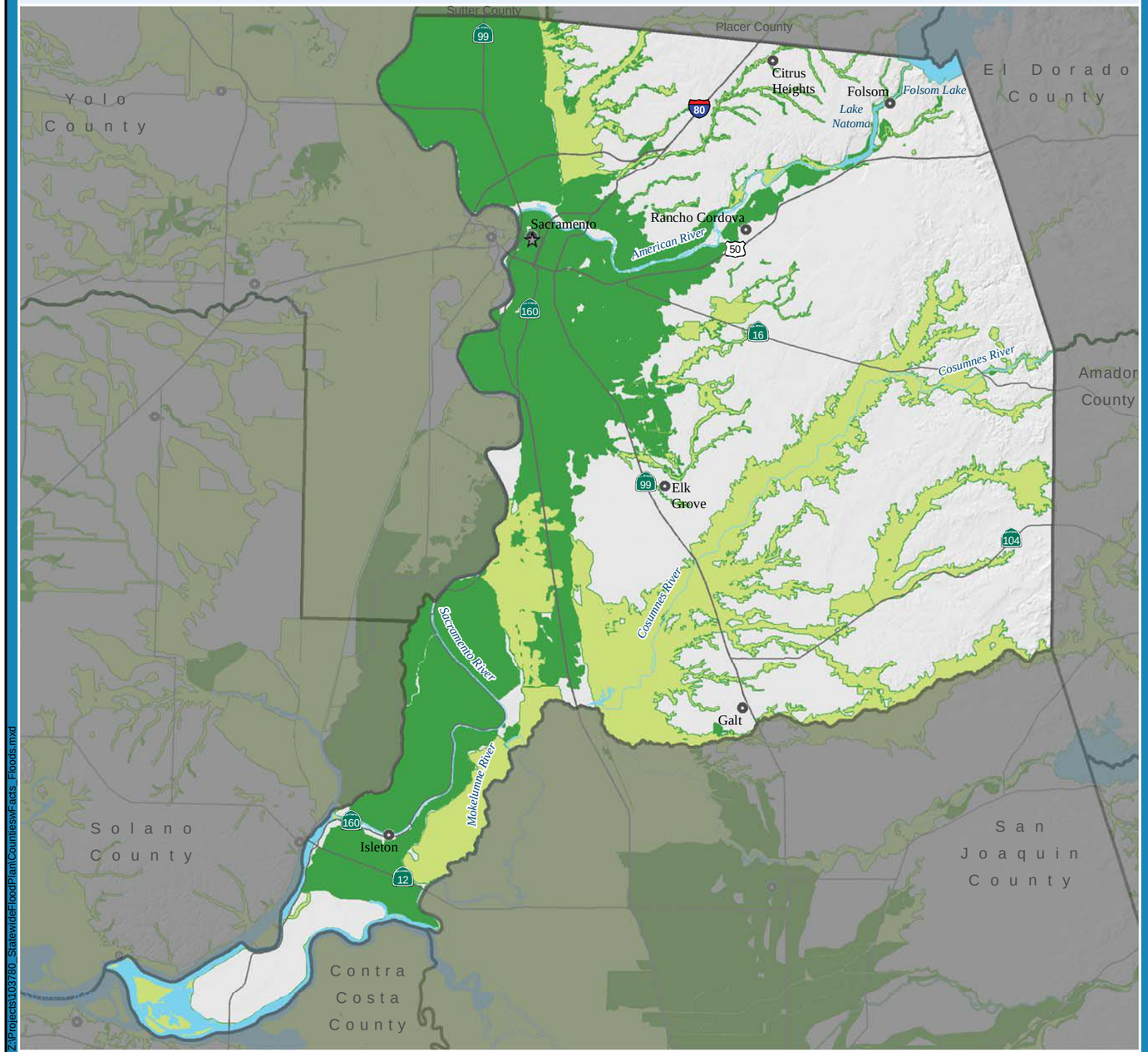
STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

FloodSAFE CALIFORNIA

Sacramento County

100-year and 500-year Floodplains



N

0 2.5 5 10

Miles

City

Populated Place

Highway

Major River

100-yr Floodplain

500-yr Floodplain

Major Water Body

County

Selected Flood Events by Event Year

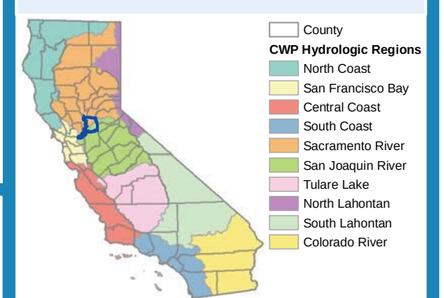
1861-1862 Winter, The Great Flood, Merced River, Stanislaus River, Sacramento and San Joaquin River Basins
1907 January-March
1955-1956 December-January, 1955 Christmas Flood, Sacramento River Basin, American River
1964-1965 December-January, Northern California Christmas 1964 Disaster, Feather, Yuba, American River Basins
1968-1969 December-February, Winter '69 Storms
1969-1970 December-March, Sacramento River
1972 Levee breach at Andrus Island
1974 January-April, Sacramento Valley
1982 JanuaryFebruary, Winter Storms
1986 February-March, St. Valentine's Day Storm
1995 January-April, 1995 Christmas Flood
1996-1997 December-January, Central Valley
1998 January-March, Sacramento Valley
2006 March 29-April 1, May 10, Sacramento and San Joaquin River Basins
2008 January 5-14, Winter Storms

Types of Flooding

Likely:
Slow Rise
Flash
Stormwater

Present:
Engineered Structure Failure

Hydrologic Regions



Flood Hazard Exposure

County Statistics

Total Acreage:	636,078
Total Population:	1.2 million
Total Structures:	414,800
Total Value of Structures and Contents:	$116.5 billion
Total Agricultural Acreage:	174,779
Total Value of Crops:	$318.0 million

Summary of Exposure to Flood Hazard Reported by County	100-yr Event	500-yr Event
Exposed Area (acres):	119,331	273,476
Percent of Area Exposed:	19	43
Population Exposed:	44,414	588,012
Percent of Population Exposed:	4	48
Structures Exposed:	13,847	189,975
Total Depreciated Replacement Value of Exposed Structures and Contents:	$3.3 billion	$39.2 billion
Exposed Crops (acres):	50,598	115,028
Value of Exposed Crops:	$91.6 million	$248.1 million
Department of Defense Facilities Exposed:	2	3
Essential Facilities Exposed:	13	249
High Potential Loss Facilities Exposed:	12	47
Lifeline Utilities Exposed:	8	28
Transportation Facilities Exposed:	124	437
Transportation Segments Exposed (miles):	62	391
Native American Tribal Land Exposed (acres):	0	0
Total Sensitive Plant Species Exposed:	24	24
Total Sensitive Animal Species Exposed:	38	43

Figure D-67
Summary of Available Flood Types, Flood History and Flood Hazard Exposure, Sacramento County

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Mar 22, 2013

US Army Corps of Engineers

STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

FloodSAFE CALIFORNIA

DISCLAIMER: *The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.*

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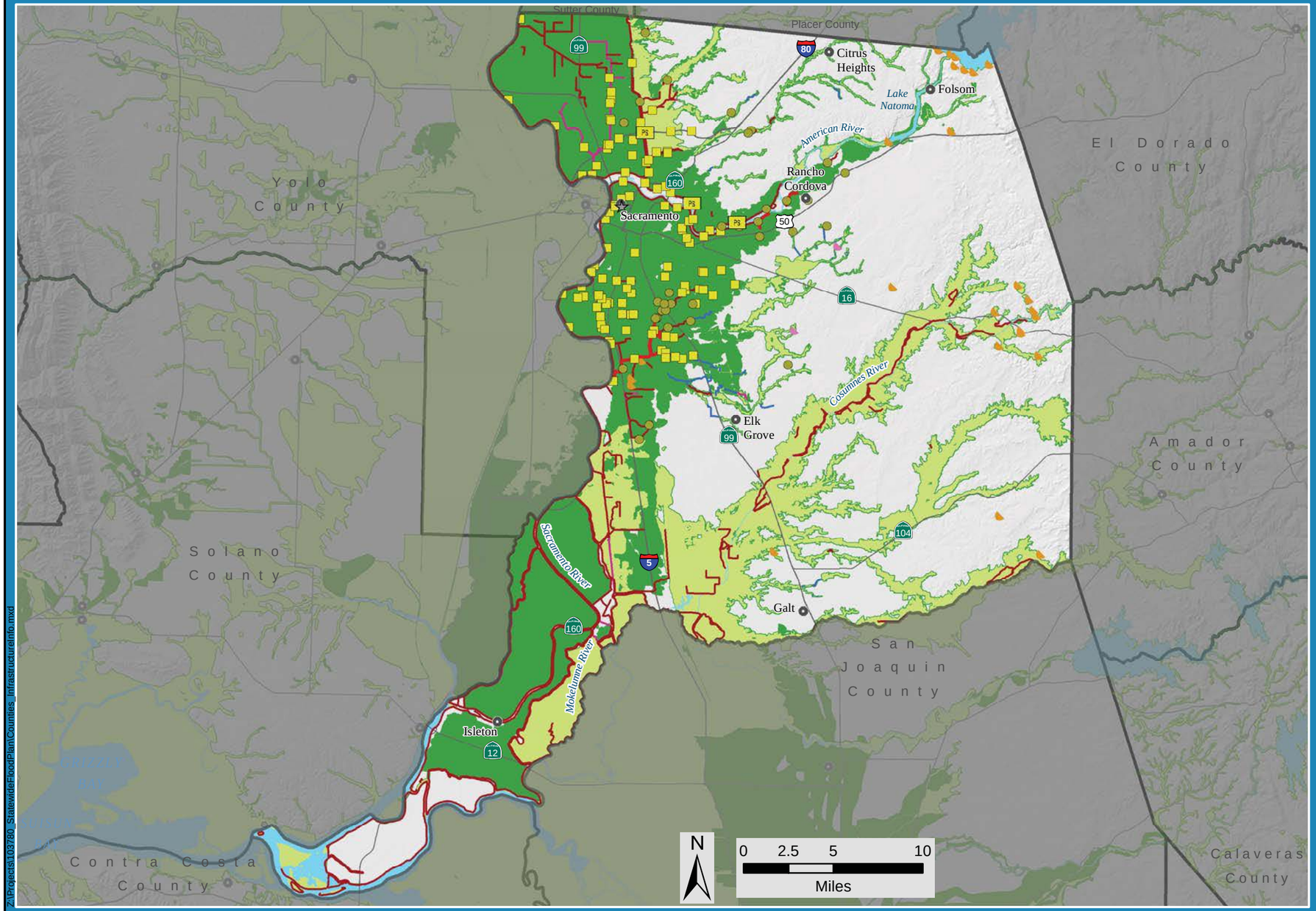
Summary of Available Flood Infrastructure Information



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Statewide GIS Data:

- City
- Populated Place
- DWR Local Agency Dam
- DWR Other Dam
- NFHL Dam or Weir
- CLD Pump Station
- CLD Local Agency Levee
- CLD Other Levee
- NFHL Levee
- NFHL Flood Event Structure
- NFHL Channel
- NFHL Control Structure
- NFHL Dike
- NFHL Retaining Wall
- Highway
- Major River
- Major Water Body
- 100-yr Floodplain
- 500-yr Floodplain
- County

Sacramento County

Flood Infrastructure GIS Data Received from Agencies Contacted:

- Drainage Pumping Station
- Pump

Non-GIS, PDF/Hard Copy Flood Infrastructure Data Received from Agencies Contacted (Not Shown On Map):

Levee
Channel
Dam
Pump Station

Agencies Contacted as Part of SFMP:

Sacramento County Department of Water Resources
American River Flood Control District
Sacramento Area Flood Control Agency
City of Sacramento

Planned Projects:

Number of Local Projects:	22
Estimated Cost of Local Projects:	$103.7 million
Number of USACE Projects:	2
Estimated Cost of USACE Projects:	$202.0 million

Statewide GIS Data Sources:

Cities derived from CAL FIRE incorporated city limit polygons, 2010. **Populated Places** from GNIS, 2011. **Counties** from CalAtlas, 2009. **Dams** modified from DWR, Bullletin 17-00, 2000. **CLD** layers are from California Levee Database, v2.2 r2, 2010. **NFHL** layers are from the National Flood Hazard Layer, FEMA, August 2011. **Highways** from TeleAtlas, 2004. **Rivers** and **Lakes** modified from DFG, N/A. **Floodplains** compiled for SFMP, 2011.
All other Flood Infrastructure GIS data, noted above, received from Agencies Contacted.

Sacramento County

Figure D-68
Summary of Available Flood Infrastructure Information, Sacramento County

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US Army Corps of Engineers

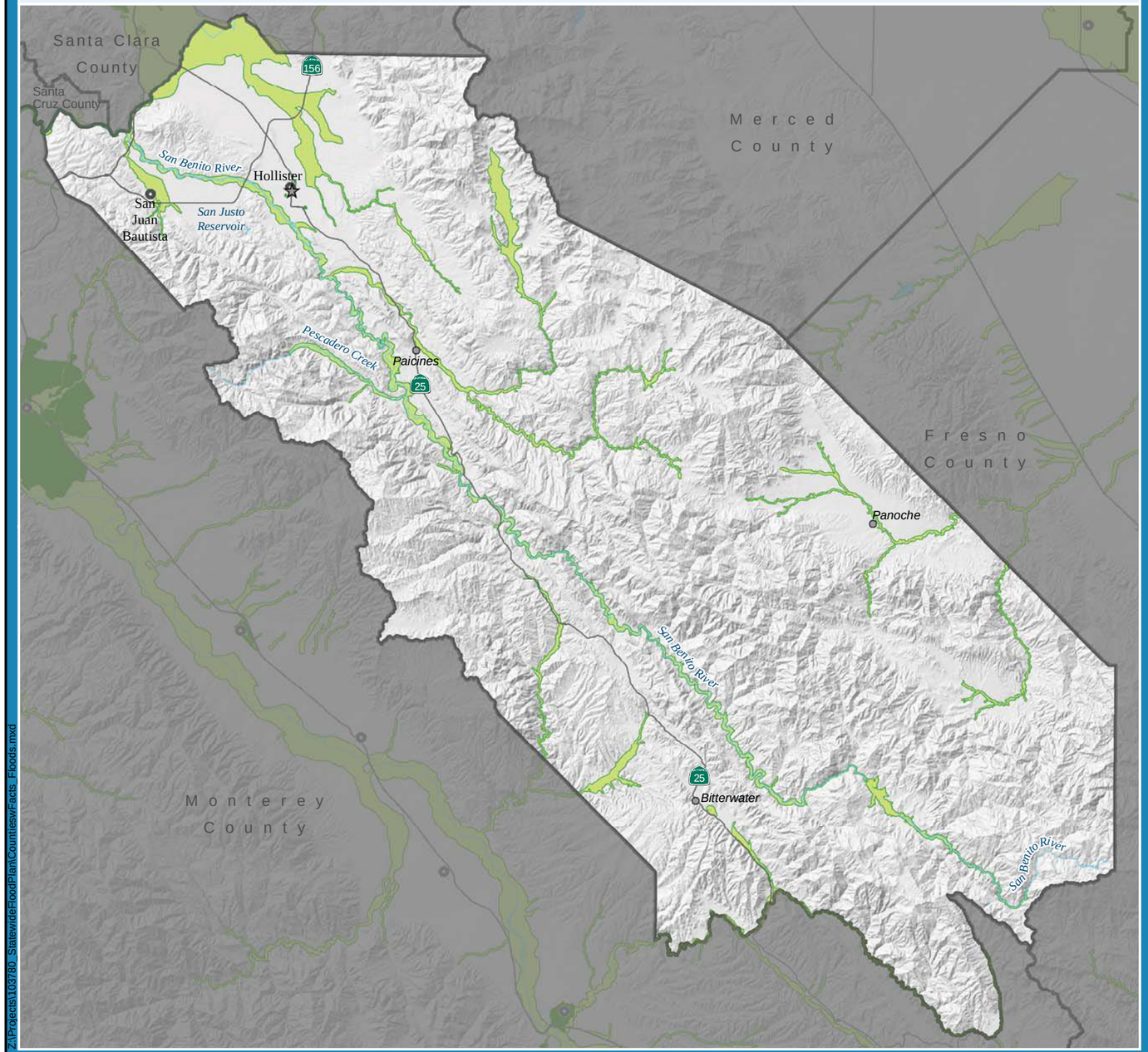
STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

FloodSAFE CALIFORNIA

DISCLAIMER: *1) Information displayed on the map does not represent all existing flood infrastructure in the county. Only infrastructure available as "Statewide GIS Data" or submitted in a GIS format by one of the interviewed agencies is shown. 2) The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.*

San Benito County

100-year and 500-year Floodplains



N

0 2.75 5.5 11
Miles

City
Populated Place
Highway
Major River
100-yr Floodplain
500-yr Floodplain
Major Water Body
County

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Selected Flood Events by Event Year

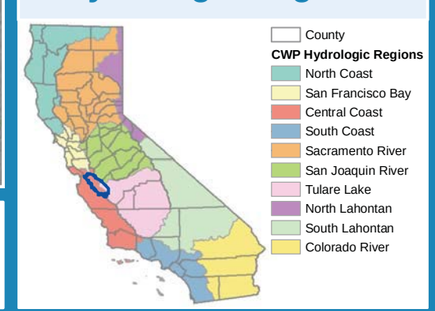
1955-1956 December-January, 1955 Christmas Flood
1958 March-April
1966-1967 December-January
1969 January-February, Winter '69 Storms, Pajaro River, Salinas River, San Lorenzo River
1973 January-February
1978 January-March
1980 January-February
1986 February, St. Valentine's Day Storm
1995 January-March, 1995 Christmas Day Floods
2001 Countywide

Types of Flooding

Likely:
Slow Rise
Stormwater

Present:
Debris Flow
Alluvial Fan
Engineered Structure Failure
Flash

Hydrologic Regions



Flood Hazard Exposure

County Statistics

Total Acreage:	889,408
Total Population:	53,194
Total Structures:	17,800
Total Value of Structures and Contents:	$5.1 billion
Total Agricultural Acreage:	49,810
Total Value of Crops:	$107.9 million

Summary of Exposure to Flood Hazard Reported by County

	100-yr Event	500-yr Event
Exposed Area (acres):	33,811	33,849
Percent of Area Exposed:	4	4
Population Exposed:	2,436	2,740
Percent of Population Exposed:	5	5
Structures Exposed:	899	1,003
Value of Exposed	$266.2 million	$291.5 million
Exposed Crops (acres) Land (acres):	13,834	13,841
Value of Exposed Crops: Agricultural Land:	$30.2 million	$30.2 million
Department of Defense Facilities Exposed:	0	0
Essential Facilities Exposed:	2	2
High Potential Loss Facilities Exposed:	2	2
Lifeline Utilities Exposed:	2	2
Transportation Facilities Exposed:	37	37
Transportation Segments Exposed (miles):	21	21
Native American Tribal Land Exposed (acres):	0	0
Total Sensitive Plant Species Exposed:	20	20
Total Sensitive Animal Species Exposed:	38	38

Figure D-69
Summary of Available Flood Types, Flood History, and Flood Hazard Exposure, San Benito County

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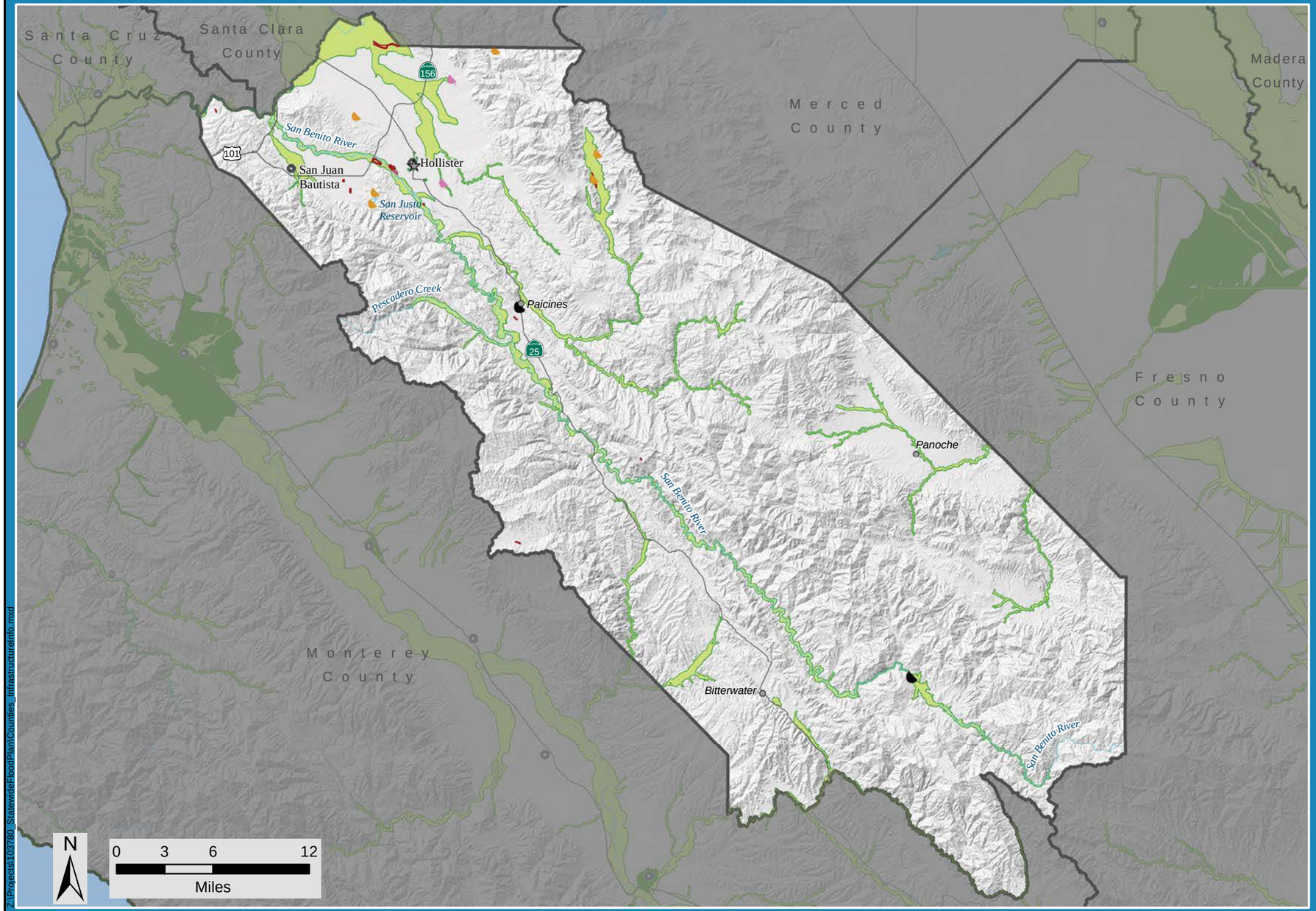
Mar 22, 2013

US Army Corps of Engineers

STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

DISCLAIMER: *The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.*

Summary of Available Flood Infrastructure Information



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Statewide GIS Data:

- City
- Populated Place
- DWR Local Agency Dam
- DWR Other Dam
- NFHL Dam or Weir
- CLD Pump Station
- CLD Local Agency Levee
- CLD Other Levee
- NFHL Levee
- NFHL Flood Event Structure
- NFHL Channel
- NFHL Control Structure
- NFHL Dike
- NFHL Retaining Wall
- Highway
- Major River
- Major Water Body
- 100-yr Floodplain
- 500-yr Floodplain
- County

San Benito County

Flood Infrastructure GIS Data Received from Agencies Contacted:

No Flood Infrastructure GIS Data Received

Non-GIS, PDF/Hard Copy Flood Infrastructure Data Received from Agencies Contacted (Not Shown On Map):

No PDF/Hard Copy Data Received

Agencies Contacted as Part of SFMP:

San Benito Water District

Planned Projects:

Number of Local Projects:	1
Estimated Cost of Local Projects:	n/a
Number of USACE Projects:	0
Estimated Cost of USACE Projects:	none

Statewide GIS Data Sources:

Cities derived from CAL FIRE incorporated city limit polygons, 2010. **Populated Places** from GNIS, 2011. **Counties** from CalAtlas, 2009. **Dams** modified from DWR, Bullletin 17-00, 2000. **CLD** layers are from California Levee Database, v2.2 r2, 2010. **NFHL** layers are from the National Flood Hazard Layer, FEMA, August 2011. **Highways** from TeleAtlas, 2004. **Rivers** and **Lakes** modified from DFG, N/A. **Floodplains** compiled for SFMP, 2011.

All other Flood Infrastructure GIS data, noted above, received from Agencies Contacted.

San Benito County

Figure D-70

Summary of Available Flood Infrastructure Information, San Benito County

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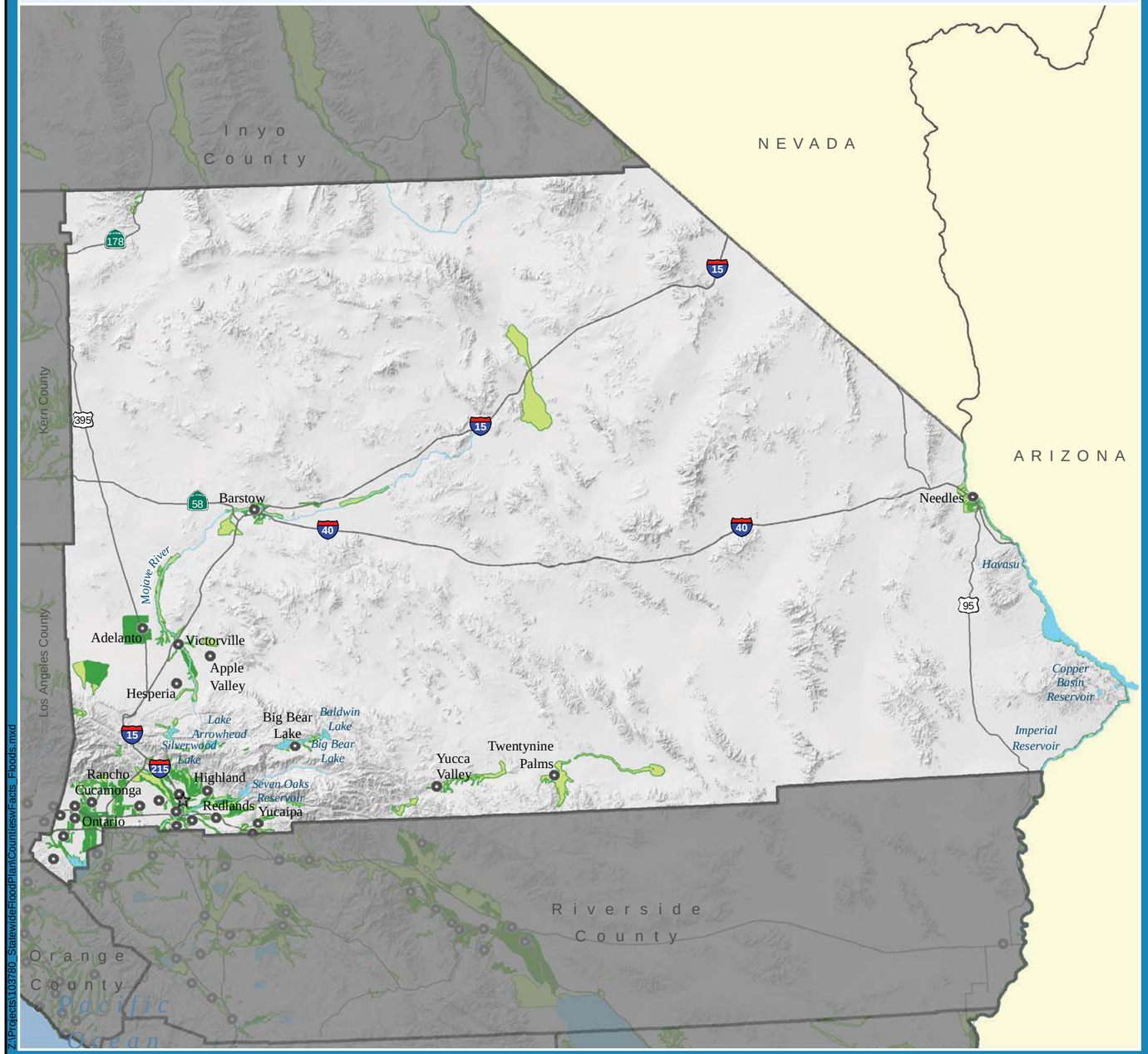
STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

FloodSAFE CALIFORNIA

DISCLAIMER: *1) Information displayed on the map does not represent all existing flood infrastructure in the county. Only infrastructure available as "Statewide GIS Data" or submitted in a GIS format by one of the interviewed agencies is shown. 2) The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.*

San Bernardino County

100-year and 500-year Floodplains



DISCLAIMER: *The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.*

Selected Flood Events by Event Year

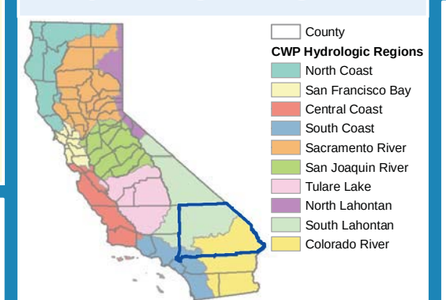
1861-1862 Winter, The Great Flood
1916 January, Great Flood of 1916
1925 Santa Ana River
1943 January, Mojave River Basin
1965 November - December
1966-1967 December-February, Santa Ana River - Redlands, Mission-Anaja Creek, Day Creek, Lytle Creek, Cucamonga Creek, San Antonio Creek, Etiwanda Creek
1969 January - February, Winter '69 Storms, Santa Ana River Basin, Mojave River drainage areas, Cucamonga area, statewide
1976 September, Regional
1978 January-March
1980 January-March, Small Canyon
1995 January - March, Severe Winter Storms
1998 February 6, El Niño Floods, Rialto Channel, Etiwanda Channel, San Timoteo Creek
2003 December, Christmas Day Storm, Little Creek, Manzanita Flats, City Creek
2004-2005 December-January, Mojave River

Types of Flooding

Likely:
Slow Rise
Flash
Debris Flow
Alluvial Fan
Stormwater

Present:
Engineered Structure Failure

Hydrologic Regions



Flood Hazard Exposure

County Statistics

Total Acreage:	12.9 million
Total Population:	1.7 million
Total Structures:	578,200
Total Value of Structures and Contents:	$126.7 billion
Total Agricultural Acreage:	67,081
Total Value of Crops:	$65.9 million

Summary of Exposure to Flood Hazard Reported by County

	100-yr Event	500-yr Event
Exposed Area (acres):	120,270	197,556
Percent of Area Exposed:	1	2
Population Exposed:	41,024	254,304
Percent of Population Exposed:	2	15
Structures Exposed:	16,367	78,402
Total Depreciated Replacement Value of Exposed Structures and Contents:	$3.3 billion	$18.9 billion
Exposed Crops (acres):	2,451	8,632
Value of Exposed Crops:	$2.2 million	$7.9 million
Department of Defense Facilities Exposed:	5	5
Essential Facilities Exposed:	30	130
High Potential Loss Facilities Exposed:	16	65
Lifeline Utilities Exposed:	3	15
Transportation Facilities Exposed:	128	296
Transportation Segments Exposed (miles):	95	258
Native American Tribal Land Exposed (acres):	7,118	7,118
Total Sensitive Plant Species Exposed:	95	95
Total Sensitive Animal Species Exposed:	103	103

Figure D-71
Summary of Available Flood Types, Flood History, and Flood Hazard Exposure, San Bernardino County

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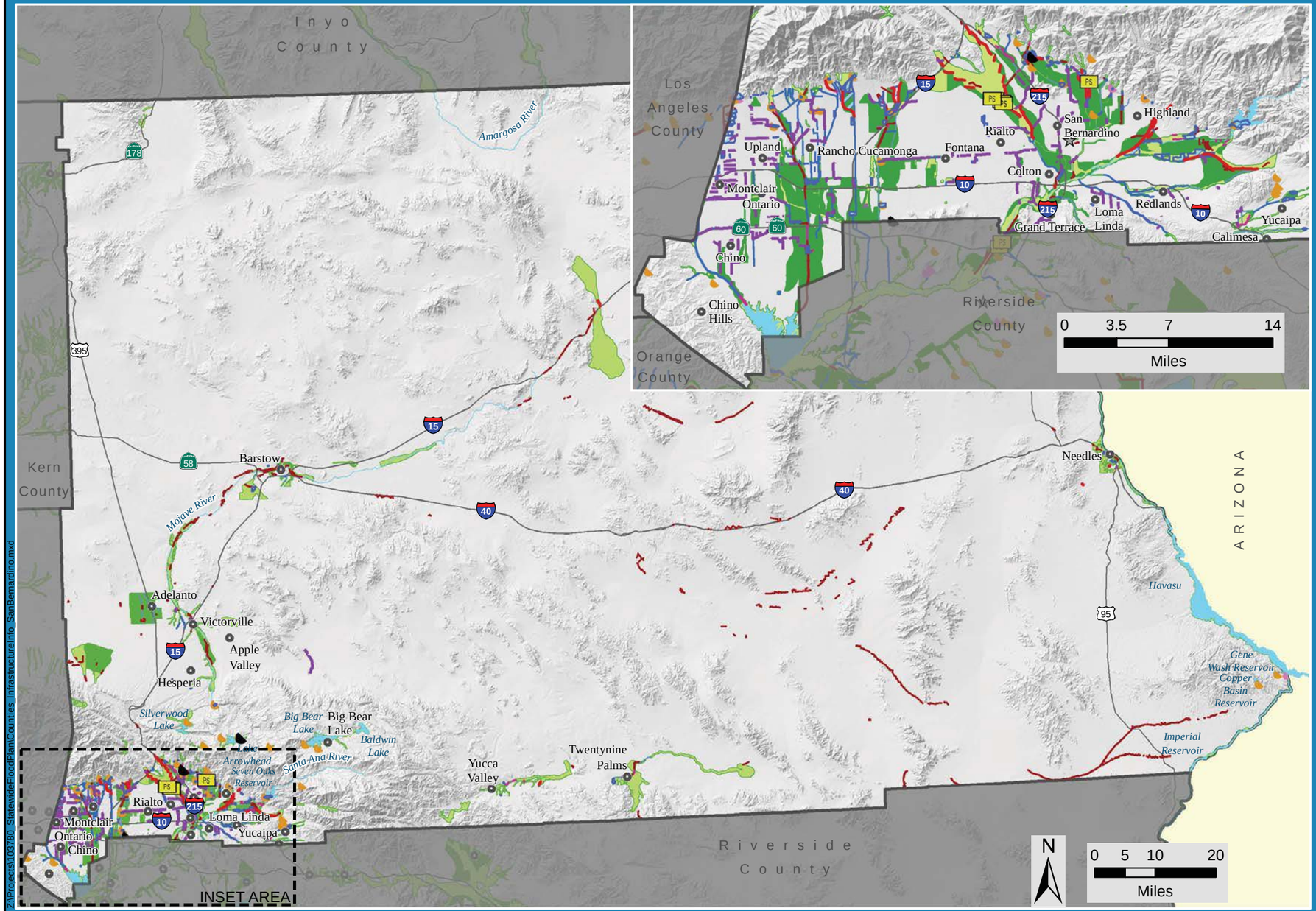
Mar 22, 2013

US Army Corps of Engineers

STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

Summary of Available Flood Infrastructure Information

San Bernardino County



Flood Infrastructure GIS Data Received from Agencies Contacted:

- Levee
- Storm Drain
- Basins

Non-GIS, PDF/Hard Copy Flood Infrastructure Data Received from Agencies Contacted (Not Shown On Map):

Channel
Dam
Basin
Levee
Storm Drain

Agencies Contacted as Part of SFMP:

San Bernardino County Department of Public Works

Planned Projects:

Number of Local Projects:	43
Estimated Cost of Local Projects:	$324.3 million
Number of USACE Projects:	0
Estimated Cost of USACE Projects:	none

Statewide GIS Data Sources:

Cities derived from CAL FIRE incorporated city limit polygons, 2010. **Populated Places** from GNIS, 2011. **Counties** from CalAtlas, 2009. **Dams** modified from DWR, Bullletin 17-00, 2000. **CLD** layers are from California Levee Database, v2.2 r2, 2010. **NFHL** layers are from the National Flood Hazard Layer, FEMA, August 2011. **Highways** from TeleAtlas, 2004. **Rivers** and **Lakes** modified from DFG, N/A. **Floodplains** compiled for SFMP, 2011.
All other Flood Infrastructure GIS data, noted above, received from Agencies Contacted.

San Bernardino County

Statewide GIS Data:

- City
- Populated Place
- DWR Local Agency Dam
- DWR Other Dam
- NFHL Dam or Weir
- CLD Pump Station
- CLD Local Agency Levee
- CLD Other Levee
- NFHL Levee
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- NFHL Dike
- NFHL Retaining Wall
- Highway
- Major River
- Major Water Body
- 100-yr Floodplain
- 500-yr Floodplain
- County

Figure D-72
Summary of Available Flood Infrastructure Information, San Bernardino County

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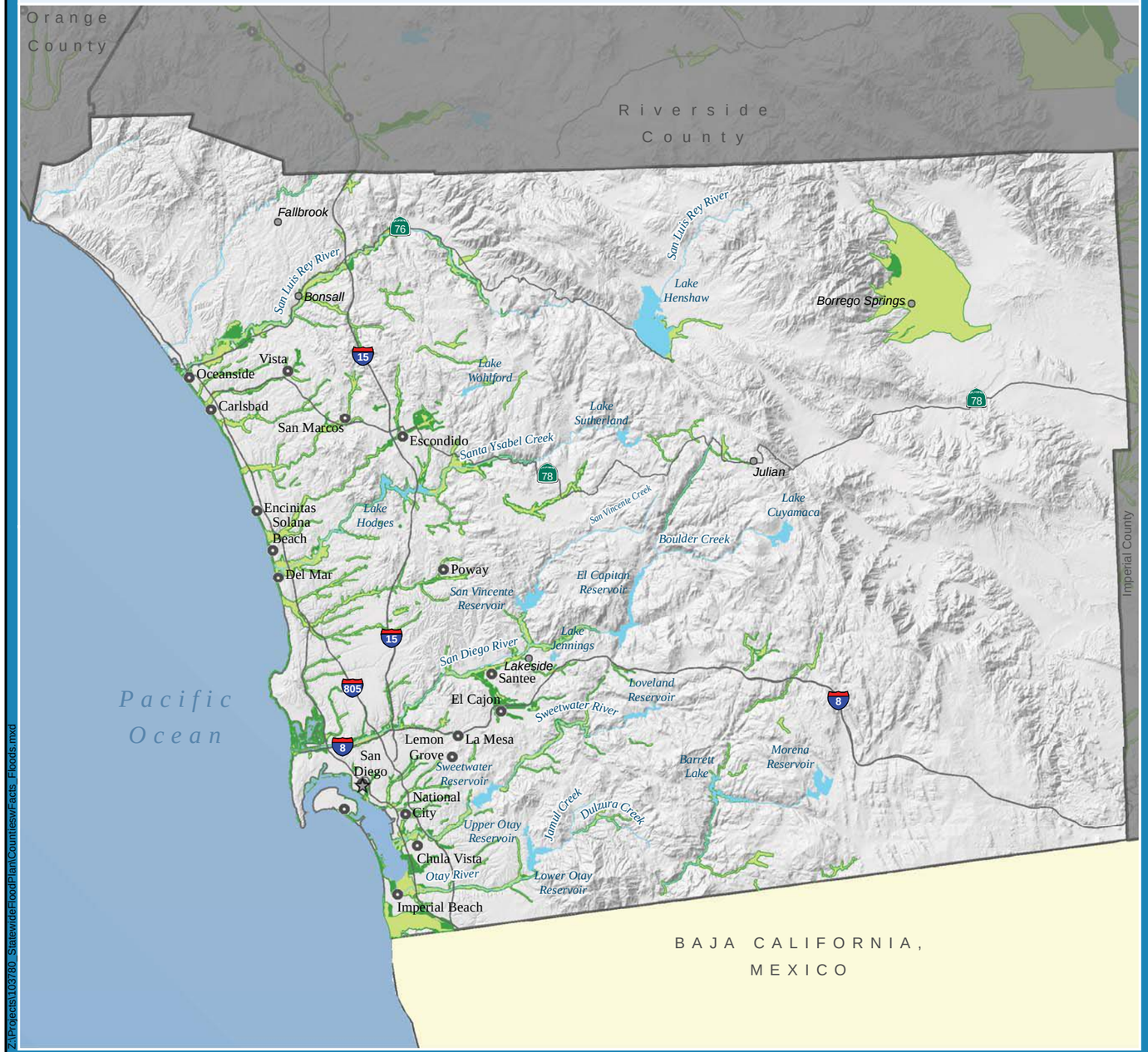
FloodSAFE CALIFORNIA

DISCLAIMER: *1) Information displayed on the map does not represent all existing flood infrastructure in the county. Only infrastructure available as "Statewide GIS Data" or submitted in a GIS format by one of the interviewed agencies is shown. 2) The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.*

San Diego County

100-year and 500-year Floodplains



N

0 4.25 8.5 17
Miles

City
Populated Place
Highway
Major River
100-yr Floodplain
500-yr Floodplain
Major Water Body
County

Selected Flood Events by Event Year

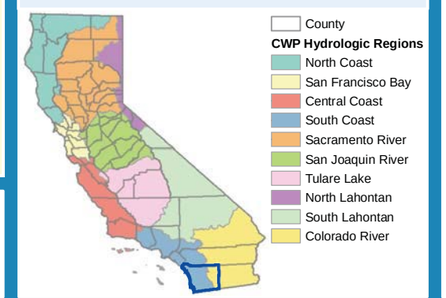
1861-1862 Winter, The Great Flood
1916 January, The Hatfield Flood, Sweetwater and Lower Otay Dams
1927 February, San Diego River
1937 February, San Luis Rey River
1965 November-December, Whitewater River, Spring Valley Creek in southeast San Diego, Sweetwater River.
1969 January-February, Winter '69 Storms
1976 September, Tropical Storm Kathleen
1978 January-March
1979 January, Cities of La Mesa, Lemon Grove, National City, San Marcos, and San Diego
1980 January-March, San Diego River
1982-1983 December-January, Winter Storms
1995 January-March, Severe Winter Storms
1998 February 6, El Niño Floods
2003 December, Borrego Springs
2004 September-October
2004-2005 December-January, Regional
2008 December
2011 March, Coastal Flooding

Types of Flooding

Likely:
Slow Rise
Flash
Debris Flow
Alluvial Fan
Coastal
Stormwater

Present:
Tsunami
Engineered Structure Failure

Hydrologic Regions



Flood Hazard Exposure

County Statistics

Total Acreage:	2.7 million
Total Population:	2.8 million
Total Structures:	821,400
Total Value of Structures and Contents:	$252.6 billion
Total Agricultural Acreage:	92,386
Total Value of Crops:	$359.3 million

Summary of Exposure to Flood Hazard Reported by County

	100-yr Event	500-yr Event
Exposed Area (acres):	83,991	98,636
Percent of Area Exposed:	3	4
Population Exposed:	75,704	182,429
Percent of Population Exposed:	3	6
Structures Exposed:	23,905	50,037
Total Depriciated Replacement Value of Exposed Structures and Contents:	$8.5 billion	$17.0 billion
Exposed Crops (acres):	7,605	8,407
Value of Exposed Crops:	$27.6 million	$29.7 million
Department of Defense Facilities Exposed:	9	9
Essential Facilities Exposed:	46	78
High Potential Loss Facilities Exposed:	23	40
Lifeline Utilities Exposed:	5	12
Transportation Facilities Exposed:	221	310
Transportation Segments Exposed (miles):	98	143
Native American Tribal Land Exposed (acres):	138	141
Total Sensitive Plant Species Exposed:	122	122
Total Sensitive Animal Species Exposed:	89	89

Figure D-73
Summary of Available Flood Types, Flood History, and Flood Hazard Exposure, San Diego County

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STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

FloodSAFE CALIFORNIA

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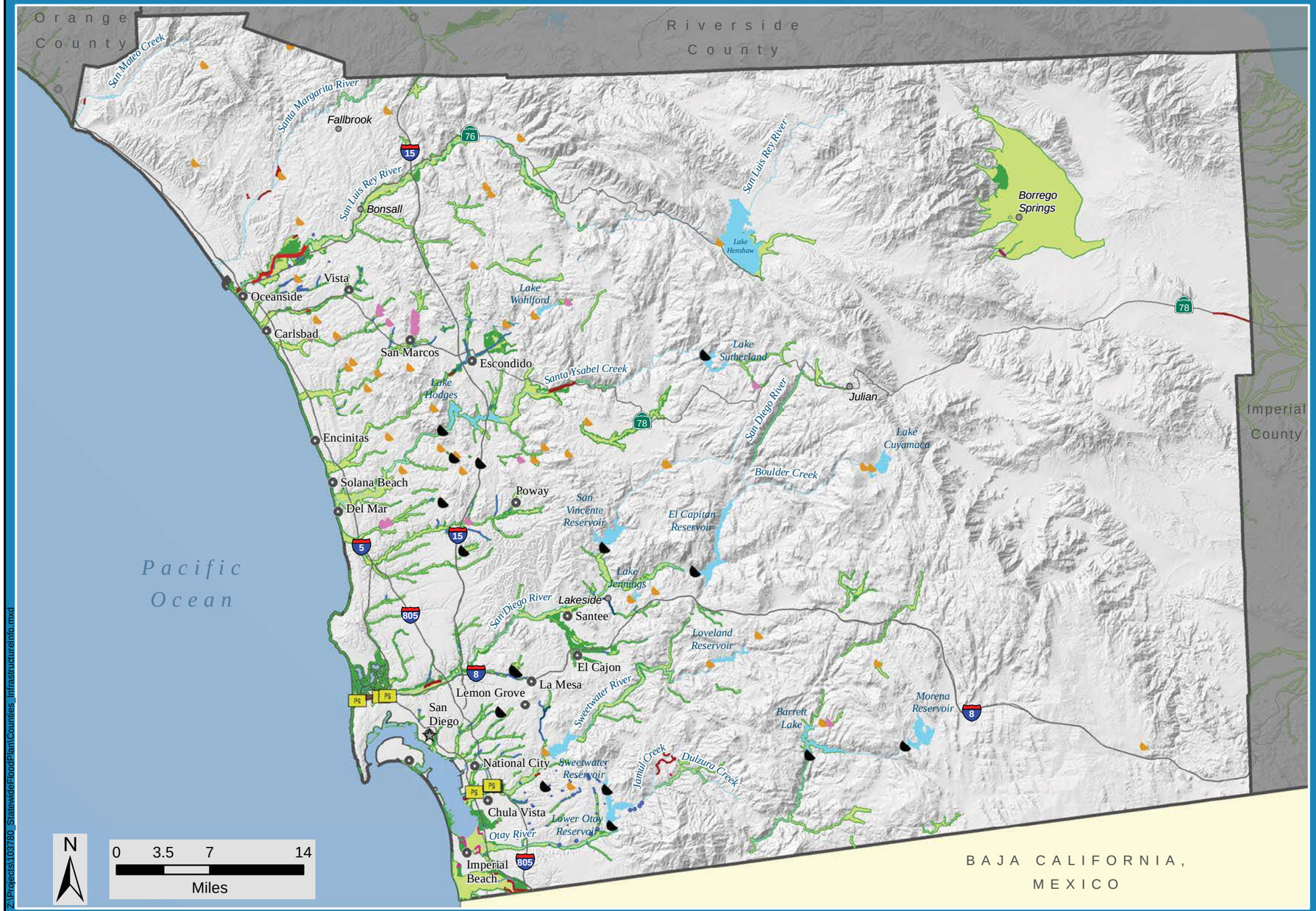
DISCLAIMER: *The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.*

Summary of Available Flood Infrastructure Information



San Diego County

Flood Infrastructure GIS Data Received from Agencies Contacted:

- Levee
- Flood Control Channel
- Basin/Detention Basin

Non-GIS, PDF/Hard Copy Flood Infrastructure Data Received from Agencies Contacted (Not Shown On Map):

Channel

Agencies Contacted as Part of SFMP:

San Diego County Flood Control District
City of Chula Vista
City of Coronado
City of El Cajon
City of Imperial Beach
City of Oceanside
City of San Diego
City of San Diego Storm Water Division
City of Vista

Planned Projects:

Number of Local Projects:	65
Estimated Cost of Local Projects:	$458.8 million
Number of USACE Projects:	5
Estimated Cost of USACE Projects:	$182.9 million

Statewide GIS Data Sources:

Cities derived from CAL FIRE incorporated city limit polygons, 2010. **Populated Places** from GNIS, 2011. **Counties** from CalAtlas, 2009. **Dams** modified from DWR, Bullletin 17-00, 2000. **CLD** layers are from California Levee Database, v2.2 r2, 2010. **NFHL** layers are from the National Flood Hazard Layer, FEMA, August 2011. **Highways** from TeleAtlas, 2004. **Rivers** and **Lakes** modified from DFG, N/A. **Floodplains** compiled for SFMP, 2011.

All other Flood Infrastructure GIS data, noted above, received from Agencies Contacted.

San Diego County

Statewide GIS Data:

- City
- Populated Place
- DWR Local Agency Dam
- DWR Other Dam
- NFHL Dam or Weir
- CLD Pump Station
- CLD Local Agency Levee
- CLD Other Levee
- NFHL Levee
- NFHL Flood Event Structure
- NFHL Channel
- NFHL Control Structure
- NFHL Dike
- NFHL Retaining Wall
- Highway
- Major River
- Major Water Body
- 100-yr Floodplain
- 500-yr Floodplain
- County

Figure D-74

Summary of Available Flood Infrastructure Information, San Diego County

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STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

FloodSAFE CALIFORNIA

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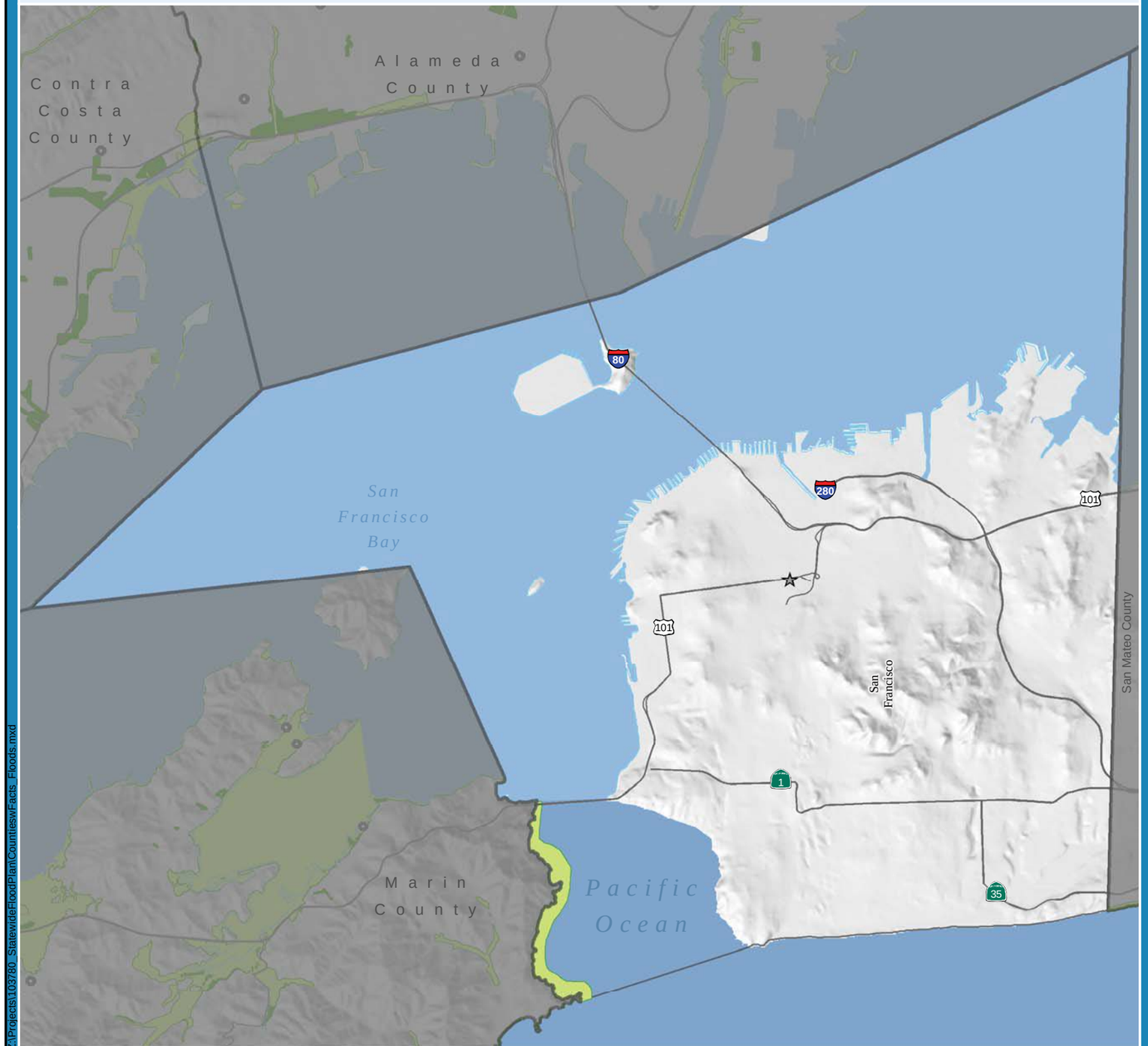
DISCLAIMER: *1) Information displayed on the map does not represent all existing flood infrastructure in the county. Only infrastructure available as "Statewide GIS Data" or submitted in a GIS format by one of the interviewed agencies is shown. 2) The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.*

San Francisco County

100-year and 500-year Floodplains



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N 0 0.75 1.5 3 Miles

City · Populated Place · Highway · Major River · 100-yr Floodplain · 500-yr Floodplain · Major Water Body · County

Selected Flood Events by Event Year

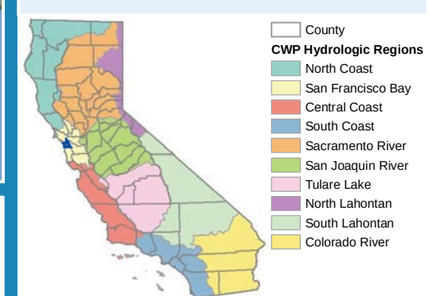
1861-1862 Winter, The Great Flood, Bay Area
1955-1956 December-January, 1955 Christmas Flood, Bay Area
1958 February-April
1995 January-March, 1995 Christmas Flood
1996-1997 December-January, January 1997 Flood
2004 February
2011 March, Tsunami

Types of Flooding

Likely:
Slow Rise
Flash
Coastal
Stormwater
Debris Flow

Present:
Tsunami
Engineered Structure Failure

Hydrologic Regions



Flood Hazard Exposure

County Statistics

Total Acreage:	68,670
Total Population:	776,637
Total Structures:	180,200
Total Value of Structures and Contents:	$59.3 billion
Total Agricultural Acreage:	0
Total Value of Crops:	$0

Summary of Exposure to Flood Hazard Reported by County

	100-yr Event	500-yr Event
Exposed Area (acres):	409	409
Percent of Area Exposed:	1	1
Population Exposed:	0	0
Percent of Population Exposed:	0	0
Structures Exposed:	0	0
Total Depreciated Replacement Value of Exposed Structures and Contents:	$45,500	$45,600
Exposed Crops:	0	0
Value of Exposed Crops:	$0	$0
Department of Defense Facilities Exposed:	0	0
Essential Facilities Exposed:	0	0
High Potential Loss Facilities Exposed:	0	0
Lifeline Utilities Exposed:	0	0
Transportation Facilities Exposed:	0	0
Transportation Segments Exposed (miles):	0	0
Native American Tribal Land Exposed (acres):	0	0
Total Sensitive Plant Species Exposed:	6	6
Total Sensitive Animal Species Exposed:	9	9

Figure D-75
Summary of Available Flood Types, Flood History, and Flood Hazard Exposure, San Francisco County

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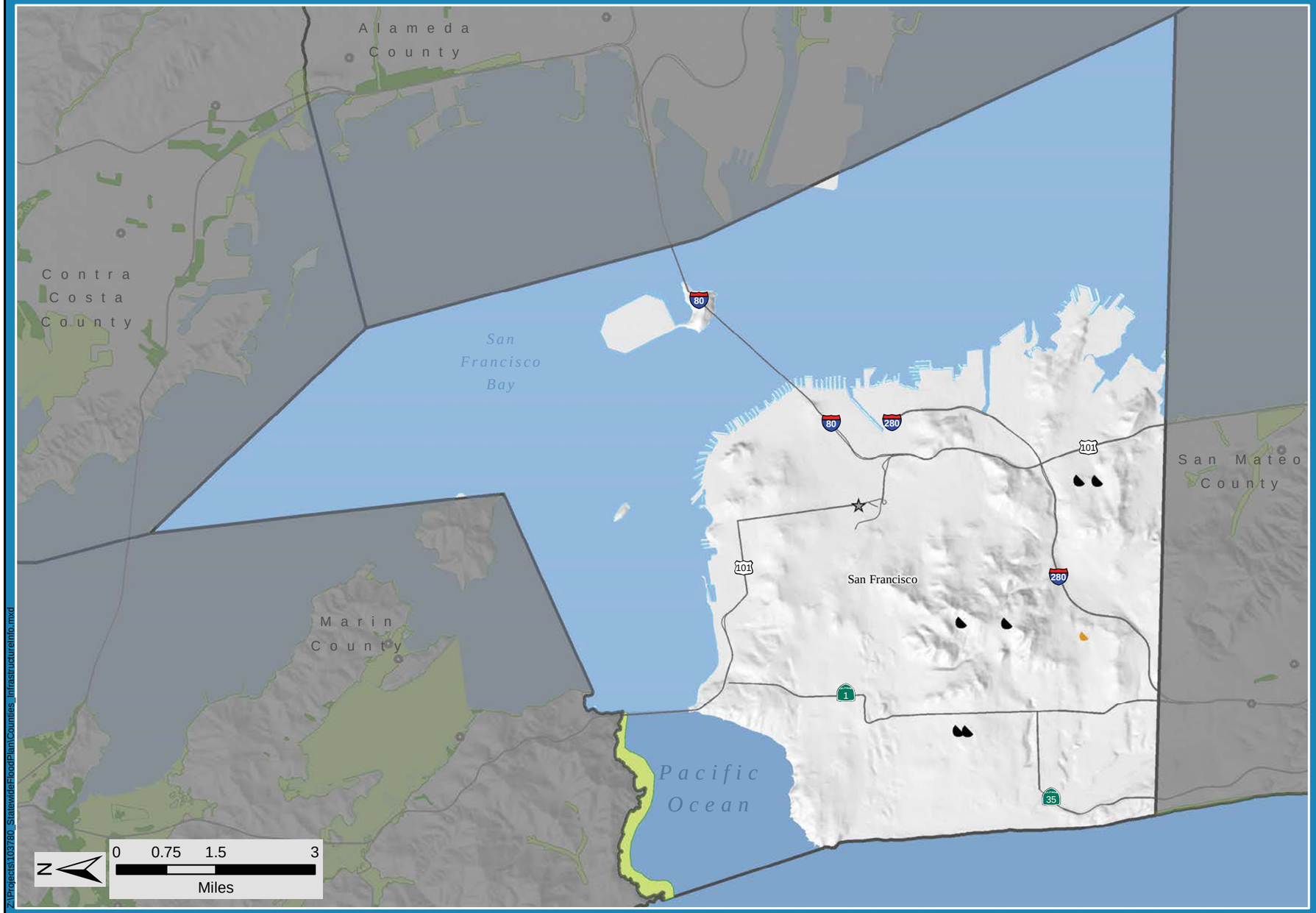
STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

DISCLAIMER: *The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.*

Summary of Available Flood Infrastructure Information



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Statewide GIS Data:

- City
- Populated Place
- DWR Local Agency Dam
- DWR Other Dam
- NFHL Dam or Weir
- CLD Pump Station
- CLD Local Agency Levee
- CLD Other Levee
- NFHL Levee
- NFHL Flood Event Structure
- NFHL Channel
- NFHL Control Structure
- NFHL Dike
- NFHL Retaining Wall
- Highway
- Major River
- Major Water Body
- 100-yr Floodplain
- 500-yr Floodplain
- County

San Francisco County

Flood Infrastructure GIS Data Received from Agencies Contacted:

No Flood Infrastructure GIS Data Received

Non-GIS, PDF/Hard Copy Flood Infrastructure Data Received from Agencies Contacted (Not Shown On Map):

No PDF/Hard Copy Data Received

Agencies Contacted as Part of SFMP:

San Francisco City/County
San Francisco Department of Public Works

Planned Projects:

Number of Local Projects:	6
Estimated Cost of Local Projects:	$110.6 million
Number of USACE Projects:	0
Estimated Cost of USACE Projects:	none

Statewide GIS Data Sources:

Cities derived from CAL FIRE incorporated city limit polygons, 2010. **Populated Places** from GNIS, 2011. **Counties** from CalAtlas, 2009. **Dams** modified from DWR, Bullletin 17-00, 2000. **CLD** layers are from California Levee Database, v2.2 r2, 2010. **NFHL** layers are from the National Flood Hazard Layer, FEMA, August 2011. **Highways** from TeleAtlas, 2004. **Rivers** and **Lakes** modified from DFG, N/A. **Floodplains** compiled for SFMP, 2011.
All other Flood Infrastructure GIS data, noted above, received from Agencies Contacted.

San Francisco County

Figure D-76
Summary of Available Flood Infrastructure Information, San Francisco County

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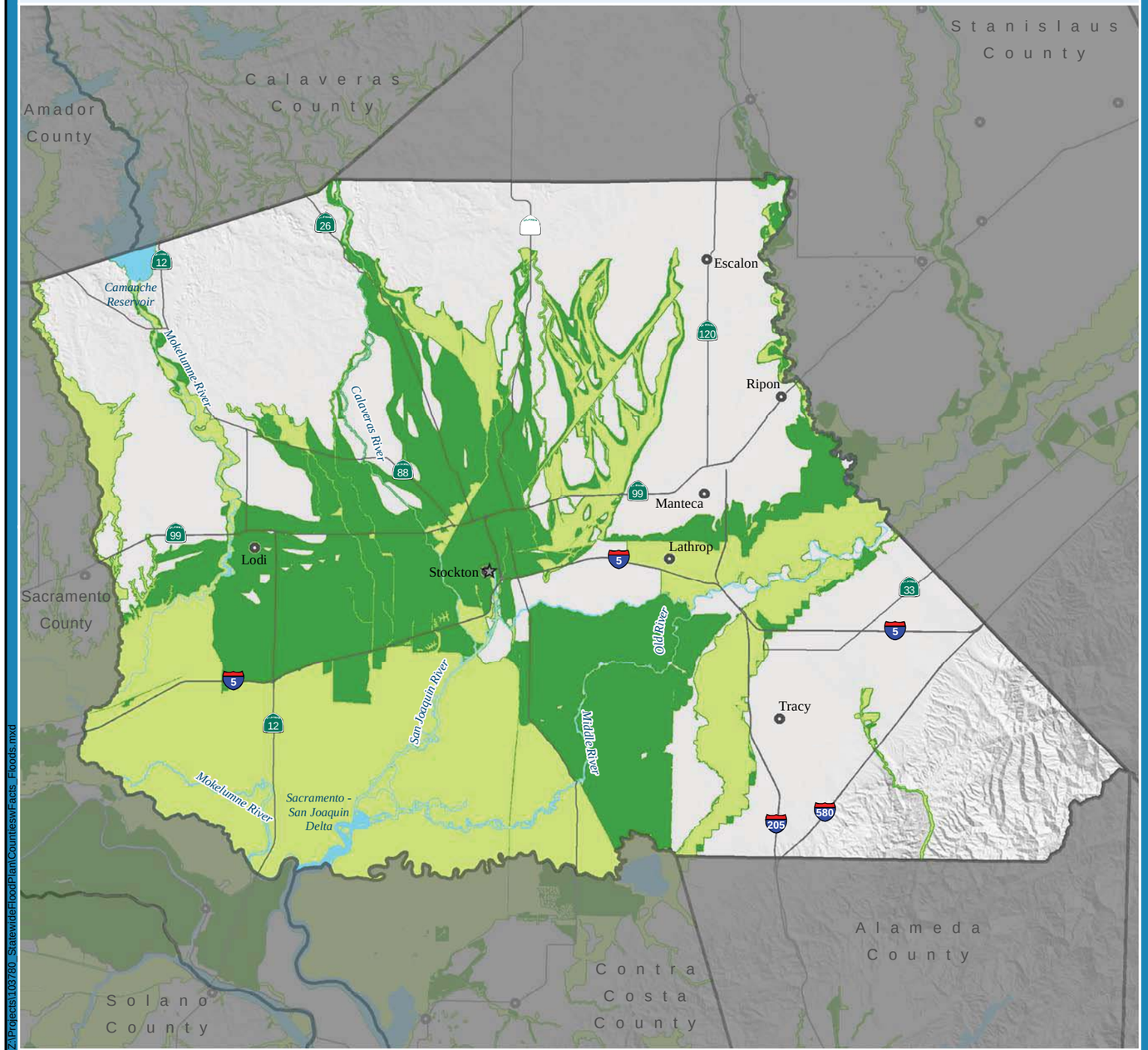
STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

FloodSAFE CALIFORNIA

DISCLAIMER: *1) Information displayed on the map does not represent all existing flood infrastructure in the county. Only infrastructure available as "Statewide GIS Data" or submitted in a GIS format by one of the interviewed agencies is shown. 2) The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.*

San Joaquin County

100-year and 500-year Floodplains



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N

0 2.75 5.5 11
Miles

City
Populated Place
Highway
Major River
100-yr Floodplain
500-yr Floodplain
Major Water Body
County

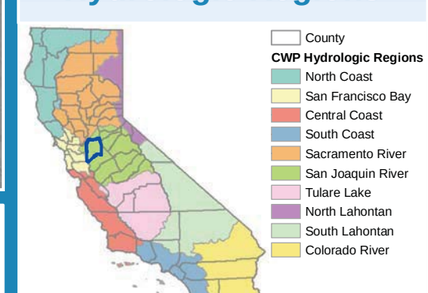
Selected Flood Events by Event Year

1861-1862 Winter, The Great Flood, Stockton, Merced River - Snelling, Stanislaus River - Knights Ferry
1907 March, Tributaries to lower San Joaquin River, Great Ione Flood
1909 San Joaquin River
1950 November-December, San Joaquin Valley
1955-1956 December-January, 1955 Christmas Flood, San Joaquin River
1958 April-July, Countywide
1962-1963 December-February
1964-1965 December-January, Countywide
1980 January-February, Delta Levee Break, Sacramento-San Joaquin Delta
1983 December
1986 February-March, St. Valentine's Day Storm
1995 January-April, 1995 Christmas Flood, San Joaquin Valley
1997 January, San Joaquin Valley
2004 June, Lower Jones Tract
2006 March 29-April 1, May 10, Spring Storms

Types of Flooding

Likely:	Present:
Slow Rise	Alluvial Fan
Stormwater	Engineered Structure Failure
Flash	Debris Flow

Hydrologic Regions



Flood Hazard Exposure

County Statistics

Total Acreage:	912,596
Total Population:	563,610
Total Structures:	181,300
Total Value of Structures and Contents:	$47.6 billion
Total Agricultural Acreage:	565,975
Total Value of Crops:	$1.5 billion

Summary of Exposure to Flood Hazard Reported by County

	100-yr Event	500-yr Event
Exposed Area (acres):	242,854	435,189
Percent of Area Exposed:	27	48
Population Exposed:	42,392	371,248
Percent of Population Exposed:	8	66
Structures Exposed:	15,987	119,373
Total Depreciated Replacement Value of Exposed Structures and Contents:	$3.5 billion	$27.9 billion
Exposed Crops (acres):	183,857	326,714
Value of Exposed Crops:	$566.5 million	$947.9 million
Department of Defense Facilities Exposed:	2	2
Essential Facilities Exposed:	18	188
High Potential Loss Facilities Exposed:	29	71
Lifeline Utilities Exposed:	1	17
Transportation Facilities Exposed:	187	416
Transportation Segments Exposed (miles):	129	380
Native American Tribal Land Exposed (acres):	0	0
Total Sensitive Plant Species Exposed:	28	28
Total Sensitive Animal Species Exposed:	40	40

Figure D-77
Summary of Available Flood Types, Flood History, and Flood Hazard Exposure, San Joaquin County

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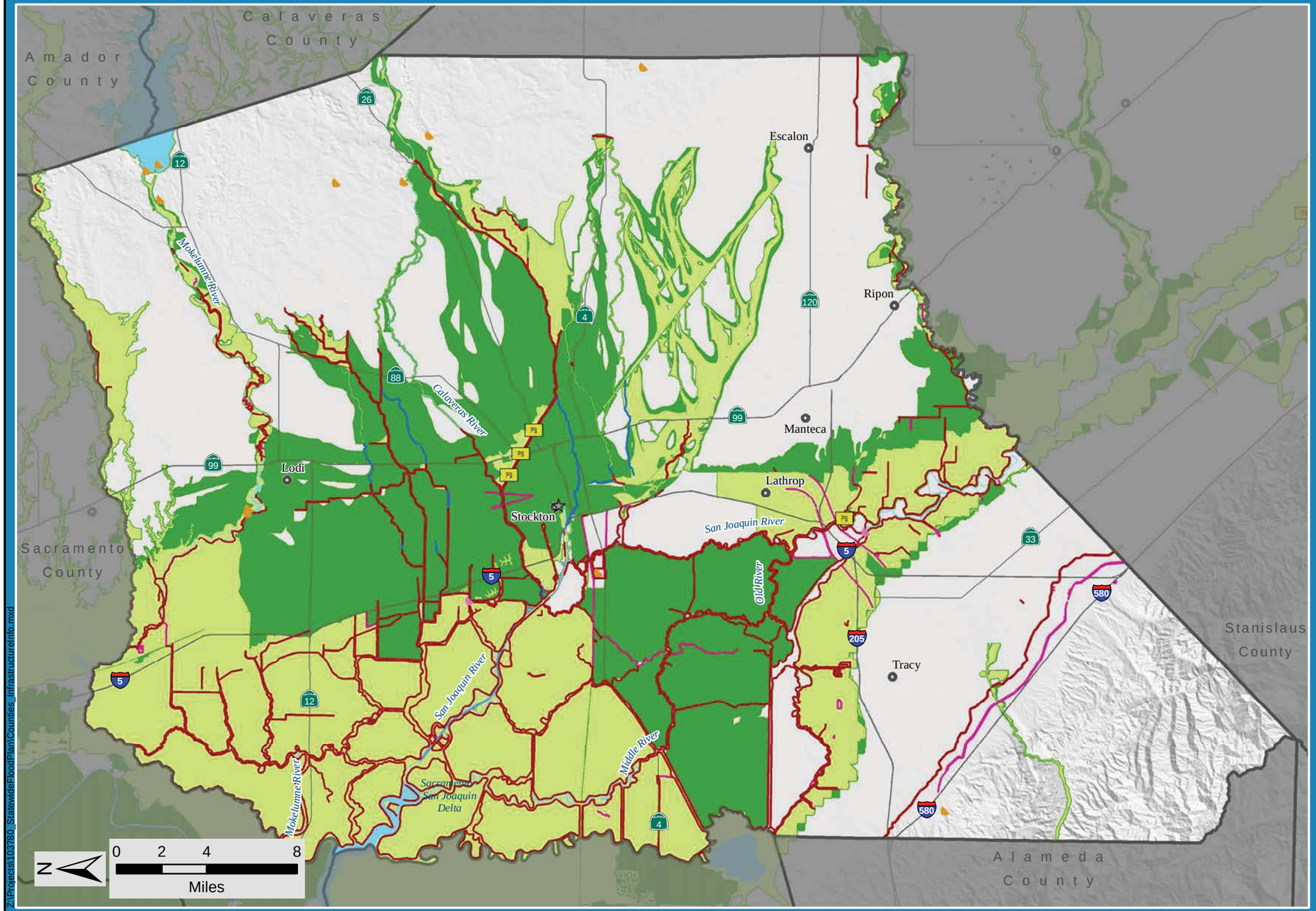
STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

FloodSAFE CALIFORNIA

DISCLAIMER: *The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.*

Summary of Available Flood Infrastructure Information



San Joaquin County

Flood Infrastructure GIS Data Received from Agencies Contacted:

No Flood Infrastructure GIS Data Received

Non-GIS, PDF/Hard Copy Flood Infrastructure Data Received from Agencies Contacted (Not Shown On Map):

Levee
Channel
Dam
Pump Station
Reservoir

Agencies Contacted as Part of SFMP:

San Joaquin County Flood Control and Water Conservation District
San Joaquin Area Flood Control Agency
Stockton-East Water District

Planned Projects:

Number of Local Projects:	9
Estimated Cost of Local Projects:	$491.6 million
Number of USACE Projects:	3
Estimated Cost of USACE Projects:	$235.5 million

Statewide GIS Data Sources:

Cities derived from CAL FIRE incorporated city limit polygons, 2010. **Populated Places** from GNIS, 2011. **Counties** from CalAtlas, 2009. **Dams** modified from DWR, Bullletin 17-00, 2000. **CLD** layers are from California Levee Database, v2.2 r2, 2010. **NFHL** layers are from the National Flood Hazard Layer, FEMA, August 2011. **Highways** from TeleAtlas, 2004. **Rivers** and **Lakes** modified from DFG, N/A. **Floodplains** compiled for SFMP, 2011.
All other Flood Infrastructure GIS data, noted above, received from Agencies Contacted.

San Joaquin County

Statewide GIS Data:

- City
- Populated Place
- DWR Local Agency Dam
- DWR Other Dam
- NFHL Dam or Weir
- CLD Pump Station
- CLD Local Agency Levee
- CLD Other Levee
- NFHL Levee
- NFHL Flood Event Structure
- NFHL Channel
- NFHL Control Structure
- NFHL Dike
- NFHL Retaining Wall
- Highway
- Major River
- Major Water Body
- 100-yr Floodplain
- 500-yr Floodplain
- County

Figure D-78
Summary of Available Flood Infrastructure Information, San Joaquin County

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STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

FloodSAFE CALIFORNIA

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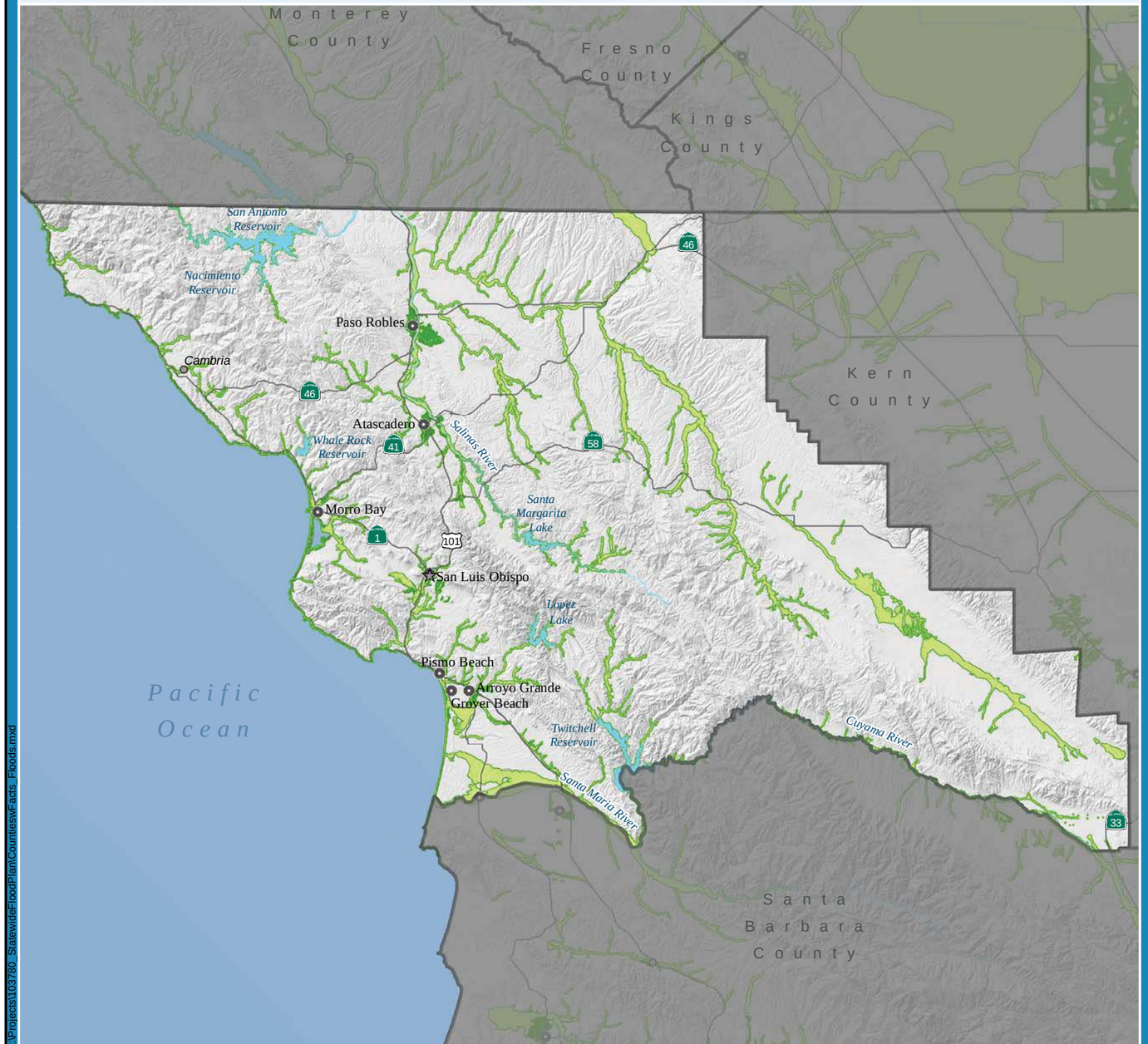
DISCLAIMER: *1) Information displayed on the map does not represent all existing flood infrastructure in the county. Only infrastructure available as "Statewide GIS Data" or submitted in a GIS format by one of the interviewed agencies is shown. 2) The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.*

San Luis Obispo County

100-year and 500-year Floodplains



N

0 5 10 20
Miles

City
Populated Place
Highway
Major River
100-yr Floodplain
500-yr Floodplain
Major Water Body
County

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Selected Flood Events by Event Year

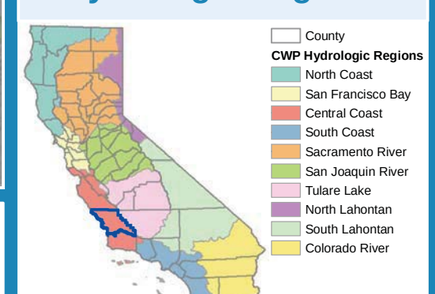
1861-1862 Winter, The Great Flood
1938 February-March, Regional
1955-1956 December-January, Christmas Flood
1969 January-February, Winter '69 Storms, San Luis Obispo Creek in downtown City of San Luis Obispo
1973 January-February, Coastal Flooding, San Luis Obispo and Stenner Creeks in downtown City of San Luis Obispo
1982-1983 November-March, Winter Storms
1995 January-March, Severe Winter Storms, All Coastal and many inland streams.
1998 February, El Nino Floods
2011 March

Types of Flooding

Likely:
Slow Rise
Flash
Debris Flow
Coastal
Stormwater
Alluvial Fan

Present:
Tsunami
Engineered Structure Failure

Hydrologic Regions



Flood Hazard Exposure

County Statistics

Total Acreage:	2.1 million
Total Population:	246,652
Total Structures:	103,000
Total Value of Structures and Contents:	$25.8 billion
Total Agricultural Acreage:	201,428
Total Value of Crops:	$255.2 million

Summary of Exposure to Flood Hazard Reported by County

	100-yr Event	500-yr Event
Exposed Area (acres):	100,617	108,303
Percent of Area Exposed:	5	5
Population Exposed:	10,994	44,453
Percent of Population Exposed:	4	18
Structures Exposed:	5,850	19,552
Total Depreciated Replacement Value of Exposed Structures and Contents:	$1.4 billion	$4.5 billion
Exposed Crops (acres):	20,144	21,137
Value of Exposed Crops:	$62.0 million	$64.5 million
Department of Defense Facilities Exposed:	1	1
Essential Facilities Exposed:	2	29
High Potential Loss Facilities Exposed:	4	7
Lifeline Utilities Exposed:	6	10
Transportation Facilities Exposed:	127	173
Transportation Segments Exposed (miles):	65	86
Native American Tribal Land Exposed (acres):	0	0
Total Sensitive Plant Species Exposed:	104	104
Total Sensitive Animal Species Exposed:	65	65

Figure D-79
Summary of Available Flood Types, Flood History, and Flood Hazard Exposure, San Luis Obispo County

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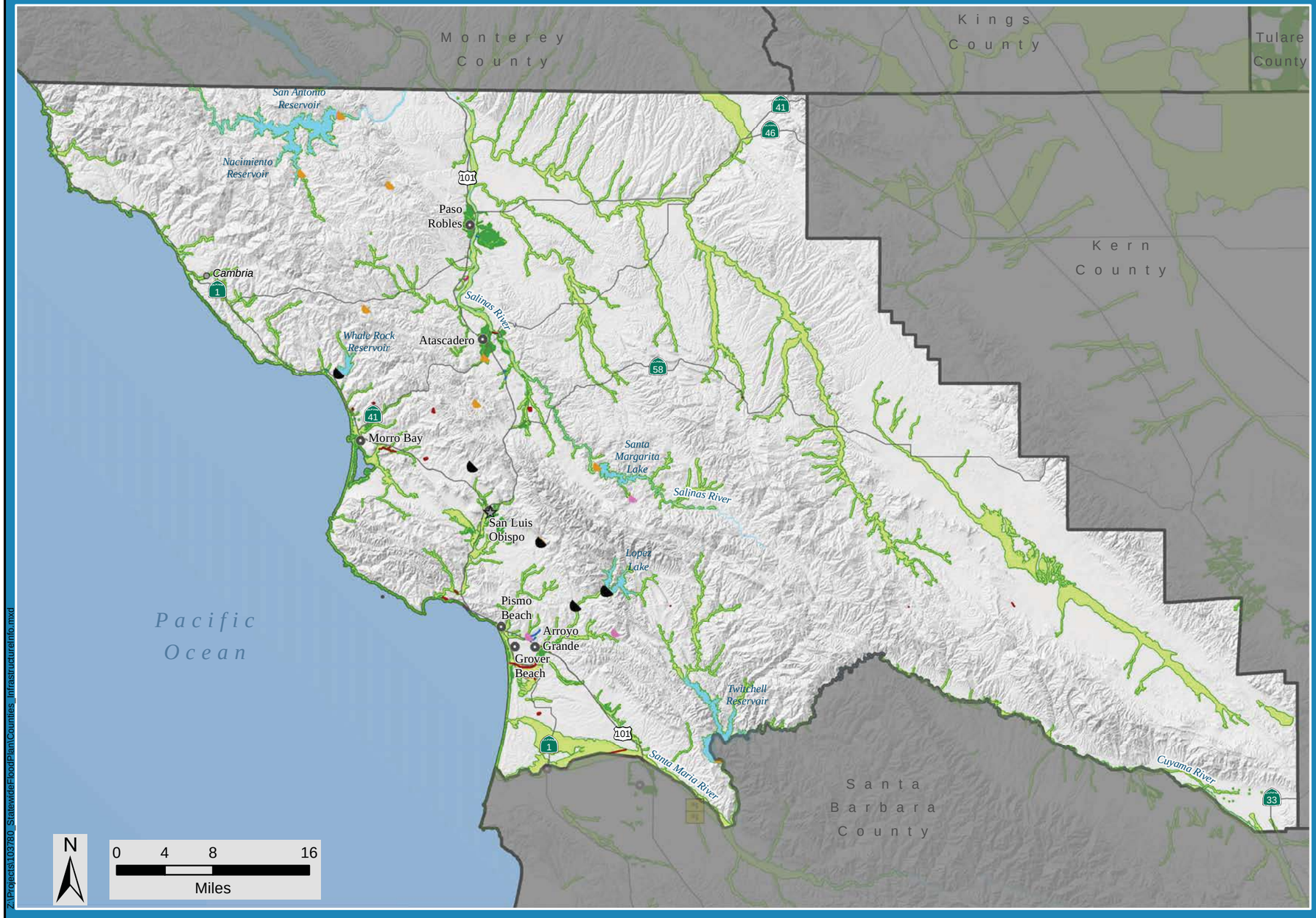
STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM
FloodSAFE CALIFORNIA

DISCLAIMER: *The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.*

Summary of Available Flood Infrastructure Information



San Luis Obispo County

Flood Infrastructure GIS Data Received from Agencies Contacted:

Dam

Non-GIS, PDF/Hard Copy Flood Infrastructure Data Received from Agencies Contacted (Not Shown On Map):

Levee
Channel
Dam

Agencies Contacted as Part of SFMP:

San Luis Obispo County Flood Control and Water Conservation District

Planned Projects:

Number of Local Projects:	5
Estimated Cost of Local Projects:	$39.5 million
Number of USACE Projects:	0
Estimated Cost of USACE Projects:	none

Statewide GIS Data Sources:

Cities derived from CAL FIRE incorporated city limit polygons, 2010. **Populated Places** from GNIS, 2011. **Counties** from CalAtlas, 2009. **Dams** modified from DWR, Bullletin 17-00, 2000. **CLD** layers are from California Levee Database, v2.2 r2, 2010. **NFHL** layers are from the National Flood Hazard Layer, FEMA, August 2011. **Highways** from TeleAtlas, 2004. **Rivers** and **Lakes** modified from DFG, N/A. **Floodplains** compiled for SFMP, 2011.
All other Flood Infrastructure GIS data, noted above, received from Agencies Contacted.

San Luis Obispo County

Statewide GIS Data:

City
Populated Place
DWR Local Agency Dam
DWR Other Dam
NFHL Dam or Weir
CLD Pump Station
CLD Local Agency Levee
CLD Other Levee
NFHL Levee
NFHL Flood Event Structure
NFHL Channel
NFHL Control Structure
NFHL Dike
NFHL Retaining Wall
Highway
Major River
Major Water Body
100-yr Floodplain
500-yr Floodplain
County

Figure D-80
Summary of Available Flood Infrastructure Information, San Luis Obispo County

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STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

FloodSAFE CALIFORNIA

DISCLAIMER: *1) Information displayed on the map does not represent all existing flood infrastructure in the county. Only infrastructure available as "Statewide GIS Data" or submitted in a GIS format by one of the interviewed agencies is shown. 2) The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.*

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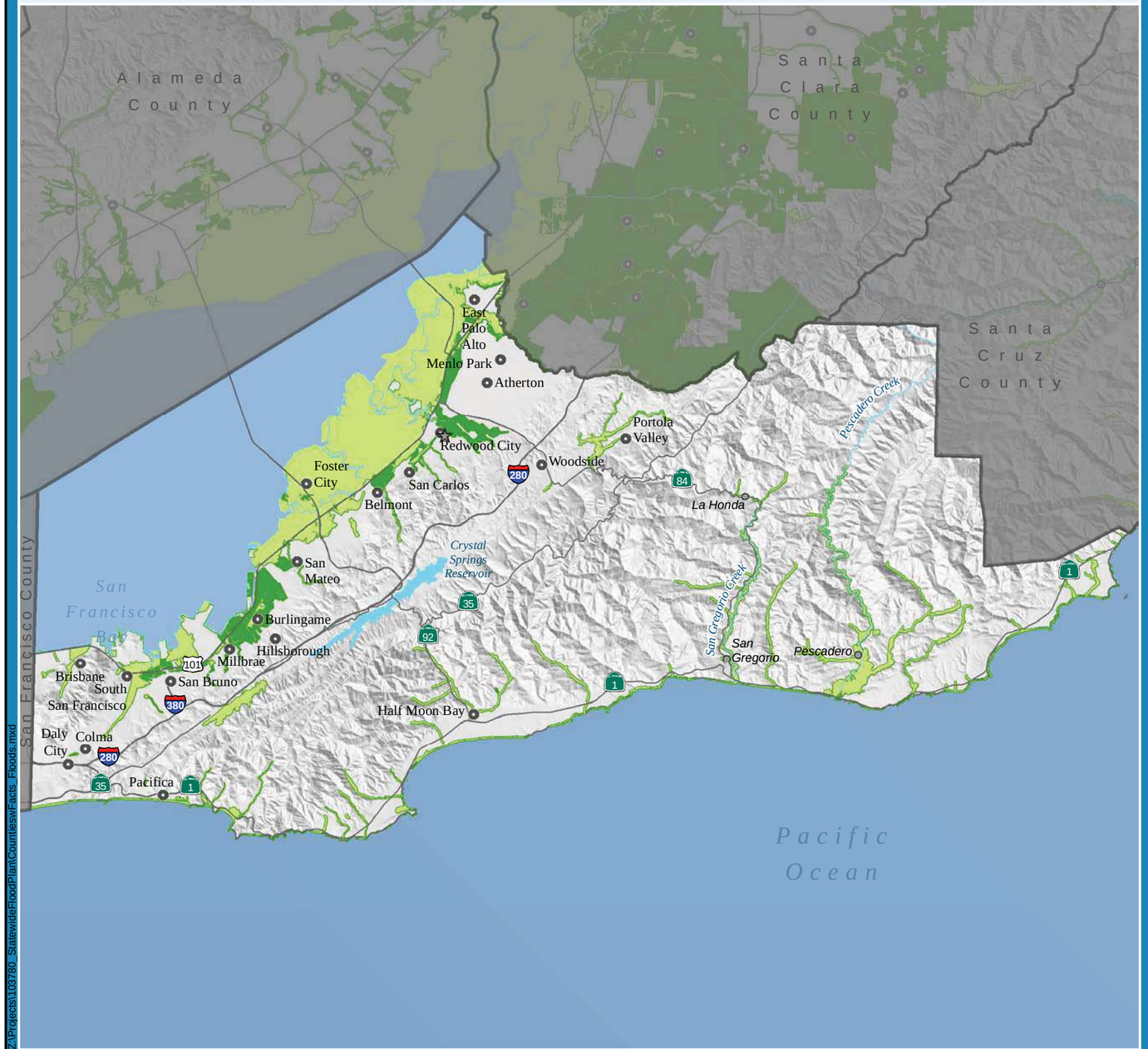
San Mateo County

100-year and 500-year Floodplains



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N 0 2 4 8 Miles

City · Populated Place · Highway · Major River · 100-yr Floodplain · 500-yr Floodplain · Major Water Body · County

Selected Flood Events by Event Year

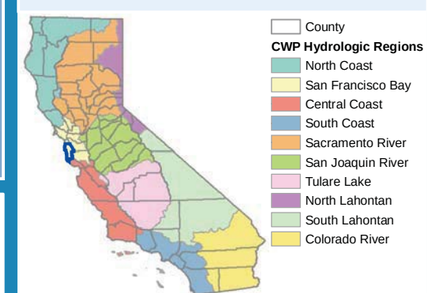
1861-1862 Winter, The Great Flood
1955-1956 December-January, 1955 Christmas Flood, Pescadero Creek, San Francisquito Creek
1958 December, San Franciscito Creek
1962 October, Countywide
1972 October-November, Countywide
1973 January-February, Coastal Flooding, Colma Creek, City of Pacifica
1981-1982 December-April,
1982-1983 November - March, Winter Storms, Countywide
1986 February, St. Valentine's Day Storm, Countywide
1988 February, San Francisquito Creek
1995 January-March, 1995 Christmas Flood
2006 February 3 - April 1, May 10, Spring Storms

Types of Flooding

Likely:
Slow Rise
Flash
Debris Flow
Coastal
Stormwater

Present:
Tsunami
Engineered Structure Failure

Hydrologic Regions



Flood Hazard Exposure

County Statistics

Total Acreage:	353,452
Total Population:	706,815
Total Structures:	218,000
Total Value of Structures and Contents:	$75.0 billion
Total Agricultural Acreage:	7,259
Total Value of Crops:	$23.1 million

Summary of Exposure to Flood Hazard Reported by County

	100-yr Event	500-yr Event
Exposed Area (acres):	88,006	92,328
Percent of Area Exposed:	25	26
Population Exposed:	100,138	149,675
Percent of Population Exposed:	14	21
Structures Exposed:	30,285	44,665
Total Depreciated Replacement Value of Exposed Structures and Contents:	$13.8 billion	$19.2 billion
Exposed Crops (acres):	643	643
Value of Exposed Crops:	$3.0 million	$3.0 million
Department of Defense Facilities Exposed:	0	0
Essential Facilities Exposed:	31	58
High Potential Loss Facilities Exposed:	54	56
Lifeline Utilities Exposed:	9	9
Transportation Facilities Exposed:	82	105
Transportation Segments Exposed (miles):	34	56
Native American Tribal Land Exposed (acres):	0	0
Total Sensitive Plant Species Exposed:	43	46
Total Sensitive Animal Species Exposed:	39	40

Figure D-81
Summary of Available Flood Types, Flood History, and Flood Hazard Exposure, San Mateo County

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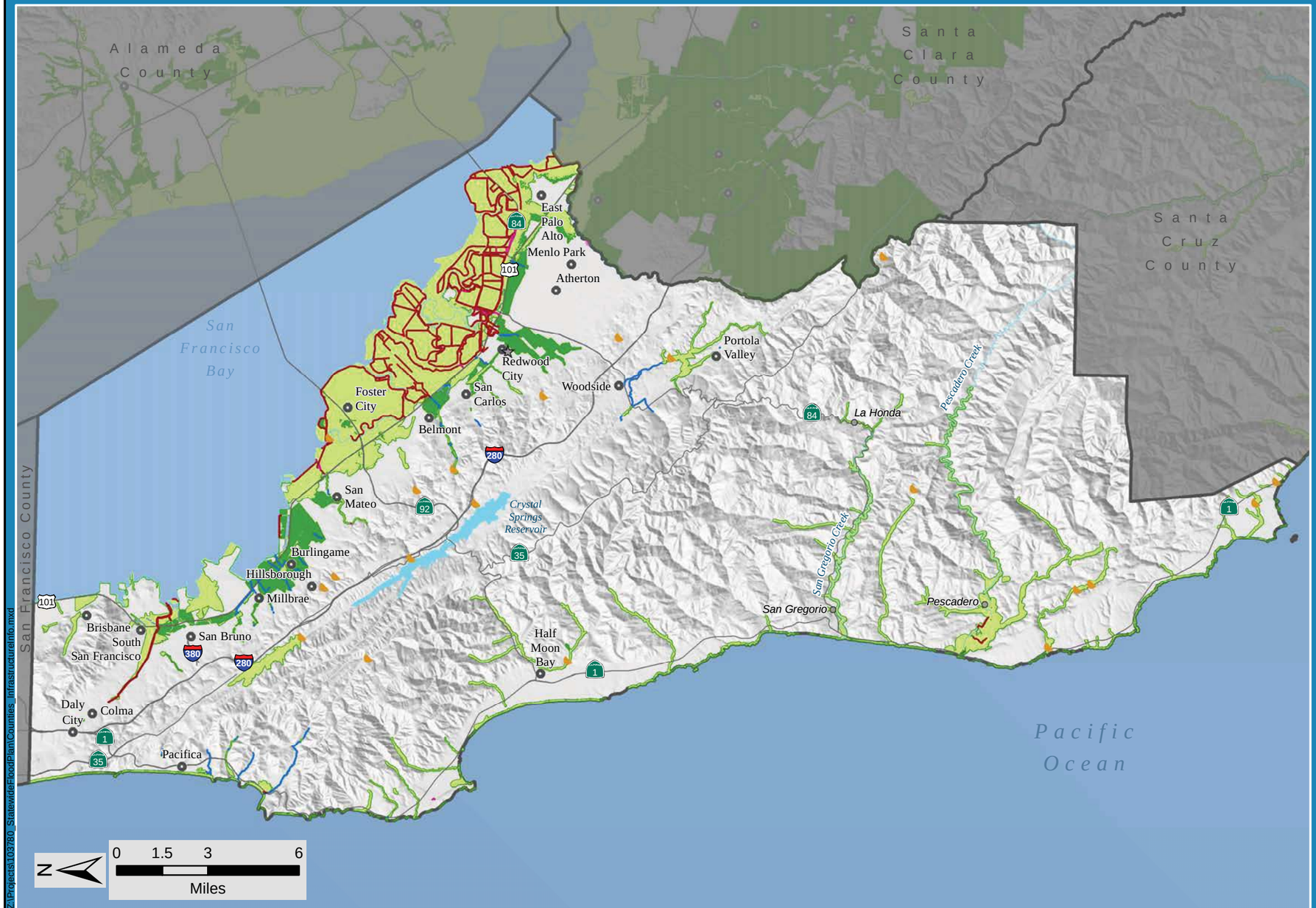
STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM
FloodSAFE CALIFORNIA

DISCLAIMER: *The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.*

Summary of Available Flood Infrastructure Information



San Mateo County

Flood Infrastructure GIS Data Received from Agencies Contacted:

No Flood Infrastructure GIS Data Received

Non-GIS, PDF/Hard Copy Flood Infrastructure Data Received from Agencies Contacted (Not Shown On Map):

Levee
Channel
Pump Station
Flood Wall

Agencies Contacted as Part of SFMP:

San Mateo County
San Francisquito Creek Joint Powers Authority

Planned Projects:

Number of Local Projects:	4
Estimated Cost of Local Projects:	$26 million
Number of USACE Projects:	1
Estimated Cost of USACE Projects:	$53 million

Statewide GIS Data Sources:

Cities derived from CAL FIRE incorporated city limit polygons, 2010. **Populated Places** from GNIS, 2011. **Counties** from CalAtlas, 2009. **Dams** modified from DWR, Bullletin 17-00, 2000. **CLD** layers are from California Levee Database, v2.2 r2, 2010. **NFHL** layers are from the National Flood Hazard Layer, FEMA, August 2011. **Highways** from TeleAtlas, 2004. **Rivers** and **Lakes** modified from DFG, N/A. **Floodplains** compiled for SFMP, 2011.
All other Flood Infrastructure GIS data, noted above, received from Agencies Contacted.

San Mateo County

Statewide GIS Data:

- City
- Populated Place
- DWR Local Agency Dam
- DWR Other Dam
- NFHL Dam or Weir
- CLD Pump Station
- CLD Local Agency Levee
- CLD Other Levee
- NFHL Levee
- NFHL Flood Event Structure
- NFHL Channel
- NFHL Control Structure
- NFHL Dike
- NFHL Retaining Wall
- Highway
- Major River
- Major Water Body
- 100-yr Floodplain
- 500-yr Floodplain
- County

Figure D-82
Summary of Available Flood Infrastructure Information, San Mateo County

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STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

FloodSAFE CALIFORNIA

DISCLAIMER: *1) Information displayed on the map does not represent all existing flood infrastructure in the county. Only infrastructure available as "Statewide GIS Data" or submitted in a GIS format by one of the interviewed agencies is shown. 2) The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.*

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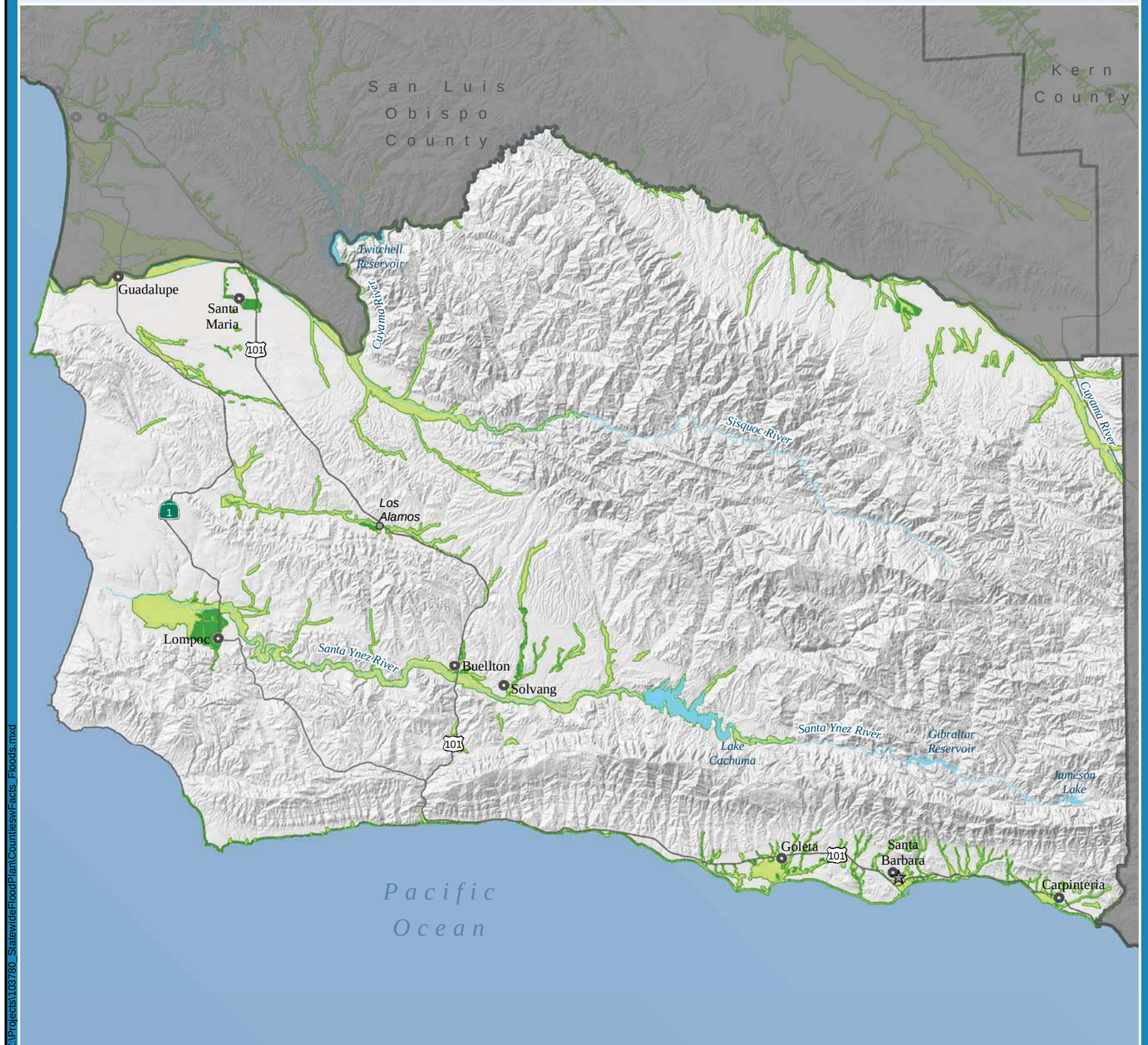
Santa Barbara County

100-year and 500-year Floodplains



N

0 3.25 6.5 13
Miles

City
Populated Place
Highway
Major River
100-yr Floodplain
500-yr Floodplain
Major Water Body
County

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Selected Flood Events by Event Year

1861-1862 Winter, The Great Flood
1938 February-March, Regional
1964 March, Montecito Streams
1969 January-February, Winter '69 Storms, Santa Ynez River
1970 January
1973 January-February, Coastal Flooding
1978 January-February, Countywide
1980 February 12-22
1982 January, Countywide
1982-1983 November-March, Winter Storms
1995 January-March, Severe Winter Storms, Most major channels in Goleta, Santa Barbara, Montecito,and Carpinteria
1998 February, El Niño Floods, Santa Maria River
2005 January

Types of Flooding

Likely:
Slow Rise
Flash
Alluvial Fan
Coastal
Stormwater
Debris Flow

Present:
Engineered Structure Failure
Tsunami

Hydrologic Regions

Flood Hazard Exposure

County Statistics

Total Acreage:	1.8 million
Total Population:	398,960
Total Structures:	128,000
Total Value of Structures and Contents:	$33.0 billion
Total Agricultural Acreage:	109,900
Total Value of Agricultural Land:	$577.4 million

Summary of Exposure to Flood Hazard Reported by County

	100-yr Event	500-yr Event
Exposed Area (acres):	51,772	56,823
Percent of Area Exposed:	3	3
Population Exposed:	26,228	60,317
Percent of Population Exposed:	7	15
Exposed Structures:	7,955	18,429
Value of Exposed Structures and Contents:	$2.7 billion	$5.2 billion
Exposed Agricultural Land (acres):	15,508	16,519
Value of Exposed Agricultural Land:	$52.1 million	$54.2 million
Department of Defense Facilities:	1	1
Essential Facilities:	17	32
High Potential Loss Facilities:	1	1
Lifeline Utilities:	6	8
Transportation Facilities:	125	152
Transportation Segments Exposed (miles):	51	67
Native American Tribal Land Exposed (acres):	0	0
Total Sensitive Plant Species Exposed:	55	55
Total Sensitive Animal Species Exposed:	54	54

Figure D-83
Summary of Available Flood Types, Flood History, and Flood Hazard Exposure, Santa Barbara County

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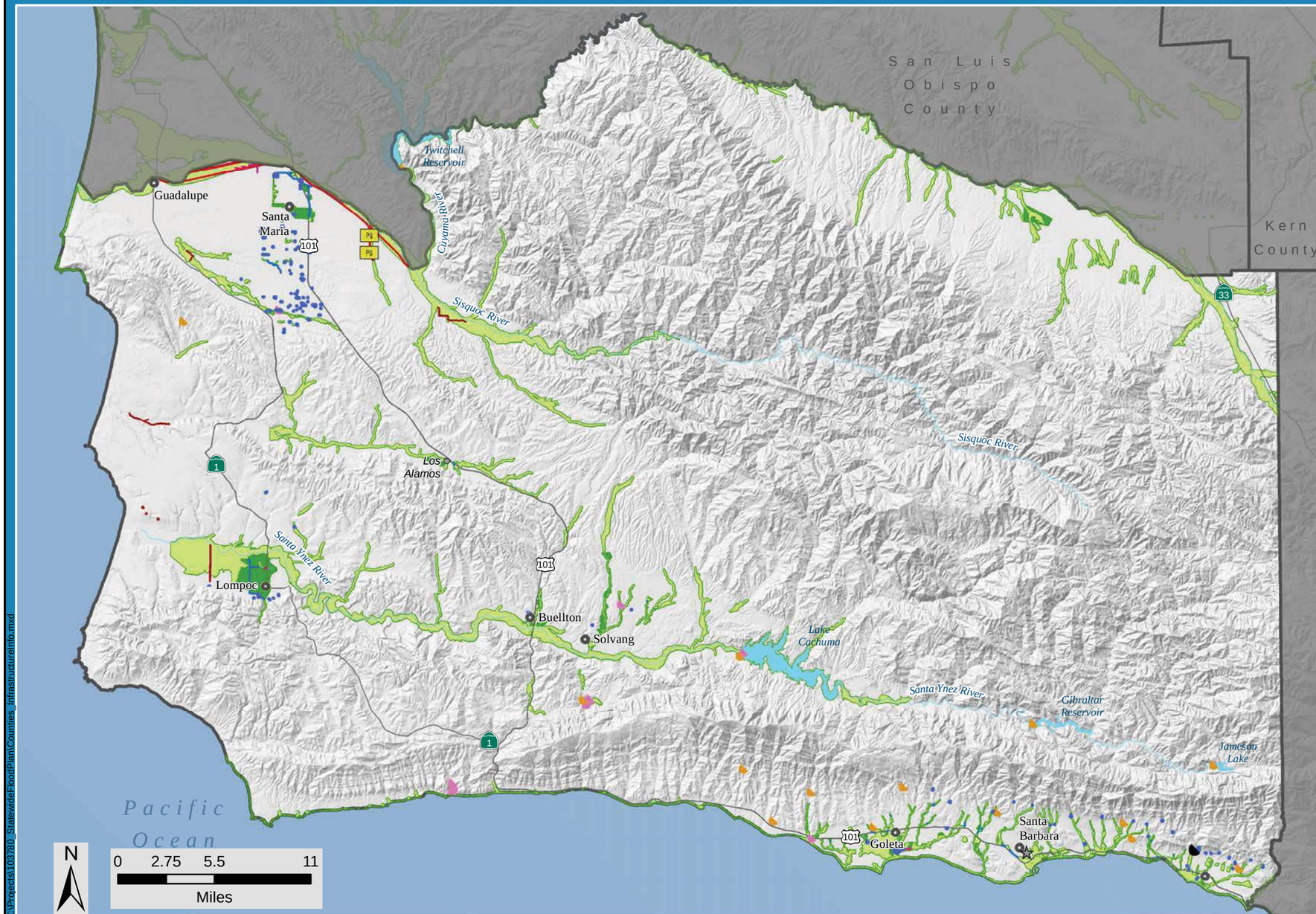
DISCLAIMER: *The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.*

Summary of Available Flood Infrastructure Information

Santa Barbara County



Flood Infrastructure GIS Data Received from Agencies Contacted:

- Santa Maria River Levee
- Flood Control/Detention/Debris Basin

Non-GIS, PDF/Hard Copy Flood Infrastructure Data Received from Agencies Contacted (Not Shown On Map):

Channel
Floodwall

Agencies Contacted as Part of SFMP:

Santa Barbara Flood Control and Water Conservation District

Planned Projects:

Number of Local Projects:	3
Estimated Cost of Local Projects:	n/a
Number of USACE Projects:	6
Estimated Cost of USACE Projects:	$296.3 million

Statewide GIS Data Sources:

Cities derived from CAL FIRE incorporated city limit polygons, 2010. **Populated Places** from GNIS, 2011. **Counties** from CalAtlas, 2009. **Dams** modified from DWR, Bullletin 17-00, 2000. **CLD** layers are from California Levee Database, v2.2 r2, 2010. **NFHL** layers are from the National Flood Hazard Layer, FEMA, August 2011. **Highways** from TeleAtlas, 2004. **Rivers** and **Lakes** modified from DFG, N/A. **Floodplains** compiled for SFMP, 2011.

All other Flood Infrastructure GIS data, noted above, received from Agencies Contacted.

Santa Barbara County

Statewide GIS Data:

- City
- Populated Place
- DWR Local Agency Dam
- DWR Other Dam
- NFHL Dam or Weir
- CLD Pump Station
- CLD Local Agency Levee
- CLD Other Levee
- NFHL Levee
- NFHL Flood Event Structure
- NFHL Channel
- NFHL Control Structure
- NFHL Dike
- NFHL Retaining Wall
- Highway
- Major River
- Major Water Body
- 100-yr Floodplain
- 500-yr Floodplain
- County

Figure D-84
Summary of Available Flood Infrastructure Information, Santa Barbara County

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STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

FloodSAFE CALIFORNIA

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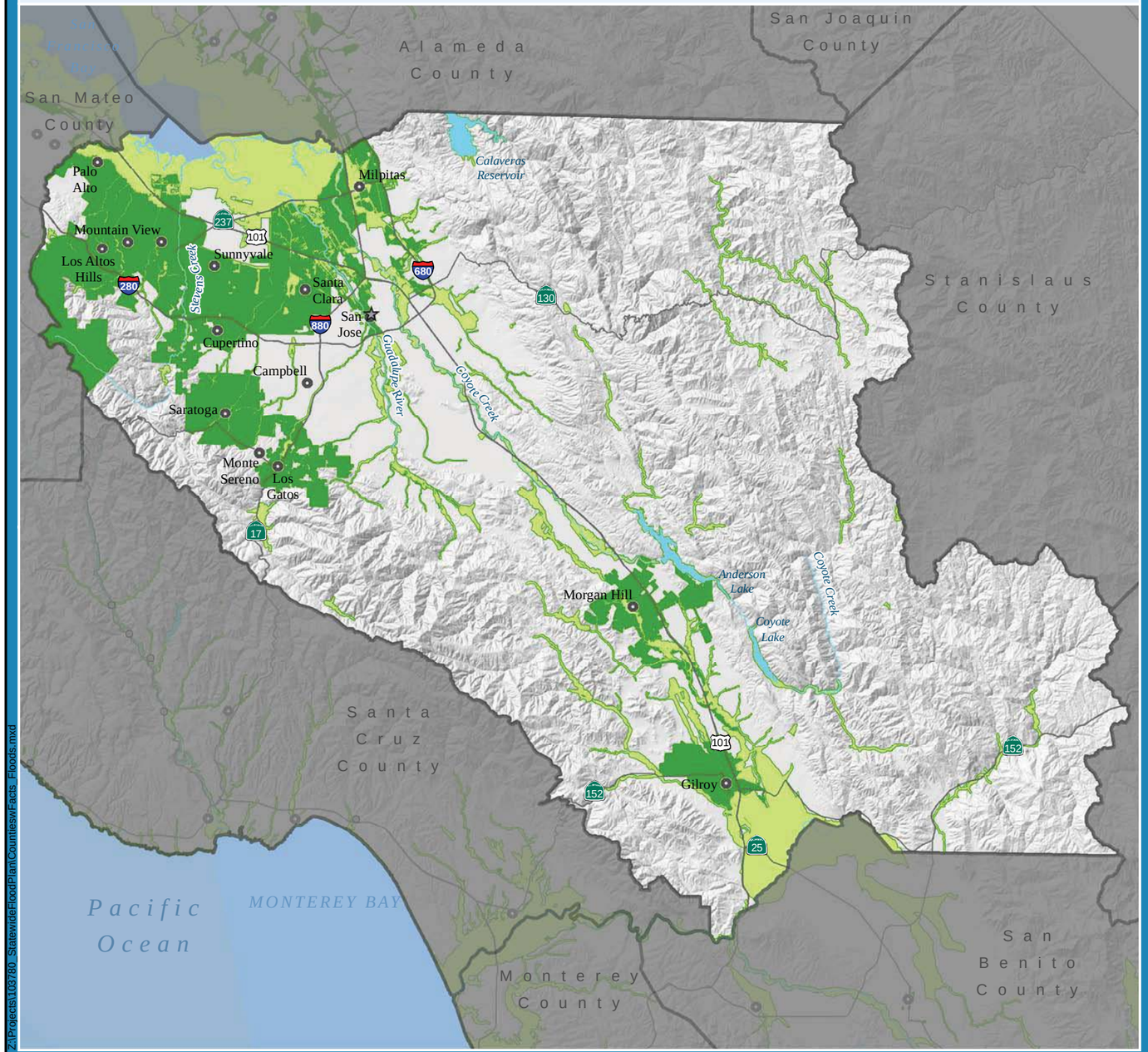
DISCLAIMER: *1) Information displayed on the map does not represent all existing flood infrastructure in the county. Only infrastructure available as "Statewide GIS Data" or submitted in a GIS format by one of the interviewed agencies is shown. 2) The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.*

100-year and 500-year Floodplains



N

0 2.5 5 10
Miles

City
Populated Place
Highway
Major River
100-yr Floodplain
500-yr Floodplain
Major Water Body
County

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Selected Flood Events by Event Year

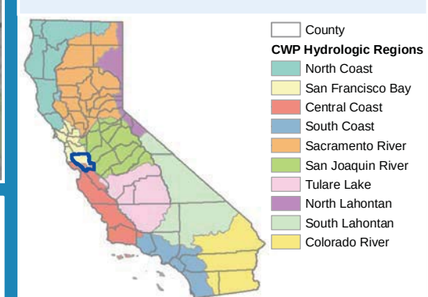
1861-1862 Winter, The Great Flood, Guadalupe River
1955-1956 December-January, 1955 Christmas Flood, Coyote Creek, Stevens, Matadero, San Franciscito, Guadalupe River
1958 Februry-April, Penitencia, Guadalupe, San Tomas Aquinas, Stevens, Permanente, Matadero, San Francisquito
1962 October, Countywide
1968-1969 December-January, Winter '69 Storms, Salinas River, San Lorenzo River, Guadalupe River, Pajaro River
1982-1983 November-March, Winter Storms, Coyote Creek, Guadalupe River, Penitencia Creek, Calabazas Creek, Los Gatos Creek
1986 February 12-20, St. Valentine's Day Storm, Guadalupe River
1987 Coyote Creek
1988 February, Coyote Creek, San Francisquito Creek
1995 January-March, 1995 Christmas Flood, Guadalupe River, Los Gatos Creek, Llagas Creek, Upper Penitencia Creek, Coyote Creek, Pacheco Creek
1998 January-March, Calabazas Creek, Guadalupe River, Coyote Creek, Upper Penitencia Creek, Saratoga Creek, San Francisquito Creek, Matadero Creek
2000 Coyote Creek
2002 Guadalupe River
2005 December, Coyote Creek

Types of Flooding

Likely:
Slow Rise
Flash
Debris Flow
Stormwater

Present:
Engineered Structure Failure

Hydrologic Regions



Flood Hazard Exposure

County Statistics

Total Acreage:	835,231
Total Population:	1.7 million
Total Structures:	488,100
Total Value of Structures and Contents:	$185.7 billion
Total Agricultural Acreage:	71,313
Total Value of Crops:	$127.1 million

Summary of Exposure to Flood Hazard Reported by County

	100-yr Event	500-yr Event
Exposed Area (acres):	60,869	145,236
Percent of Area Exposed:	7	17
Population Exposed:	132,577	664,061
Percent of Population Exposed:	8	39
Structures Exposed:	37,069	201,571
Total Depreciated Replacement Value of Exposed Structures and Contents:	$15.2 billion	$84.3 billion
Exposed Crops (acres):	20,072	32,232
Value of Exposed Crops:	$50.5 million	$68.4 million
Department of Defense Facilities Exposed:	1	1
Essential Facilities Exposed:	49	287
High Potential Loss Facilities Exposed:	42	139
Lifeline Utilities Exposed:	9	14
Transportation Facilities Exposed:	210	536
Transportation Segments Exposed (miles):	134	394
Native American Tribal Land Exposed (acres):	0	0
Total Sensitive Plant Species Exposed:	38	40
Total Sensitive Animal Species Exposed:	40	42

Santa Clara County

Figure D-85
Summary of Available Flood Types, Flood History, and Flood Hazard Exposure, Santa Clara County

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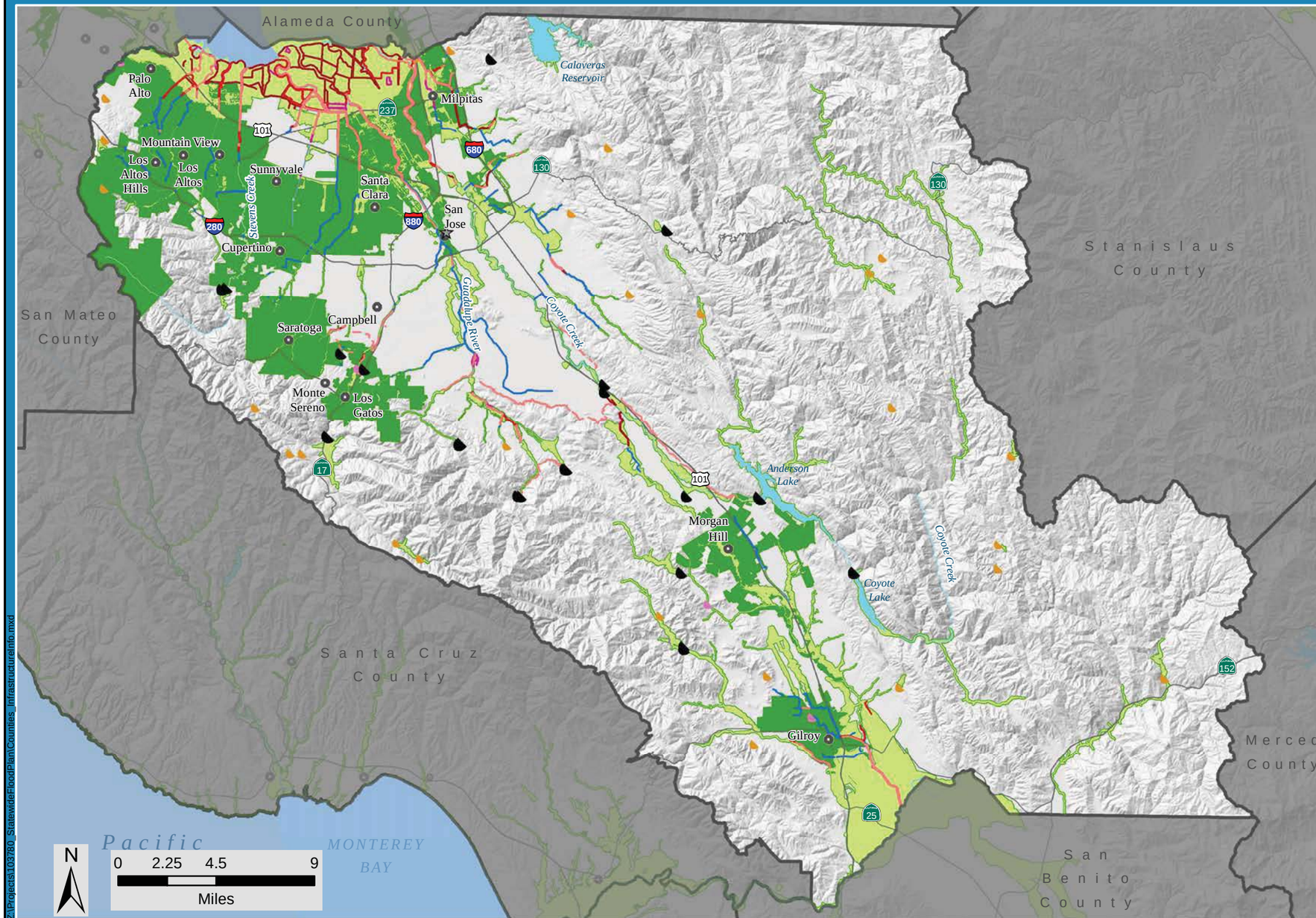
STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

FloodSAFE CALIFORNIA

DISCLAIMER: *The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.*

Summary of Available Flood Infrastructure Information



Santa Clara County

Flood Infrastructure GIS Data Received from Agencies Contacted:

- Dam
- Levee or Maintenance Road

Non-GIS, PDF/Hard Copy Flood Infrastructure Data Received from Agencies Contacted (Not Shown On Map):

No PDF/Hard Copy Data Received

Agencies Contacted as Part of SFMP:

Santa Clara Valley Water District
San Francisquito Creek Joint Powers Authority

Planned Projects:

Number of Local Projects:	23
Estimated Cost of Local Projects:	$362.9 million
Number of USACE Projects:	6
Estimated Cost of USACE Projects:	$1 billion

Statewide GIS Data Sources:

Cities derived from CAL FIRE incorporated city limit polygons, 2010. **Populated Places** from GNIS, 2011. **Counties** from CalAtlas, 2009. **Dams** modified from DWR, Bullletin 17-00, 2000. **CLD** layers are from California Levee Database, v2.2 r2, 2010. **NFHL** layers are from the National Flood Hazard Layer, FEMA, August 2011. **Highways** from TeleAtlas, 2004. **Rivers** and **Lakes** modified from DFG, N/A. **Floodplains** compiled for SFMP, 2011.
All other Flood Infrastructure GIS data, noted above, received from Agencies Contacted.

Santa Clara County

Statewide GIS Data:

- City
- Populated Place
- DWR Local Agency Dam
- DWR Other Dam
- NFHL Dam or Weir
- CLD Pump Station
- CLD Local Agency Levee
- CLD Other Levee
- NFHL Levee
- NFHL Flood Event Structure
- NFHL Channel
- NFHL Control Structure
- NFHL Dike
- NFHL Retaining Wall
- Highway
- Major River
- Major Water Body
- 100-yr Floodplain
- 500-yr Floodplain
- County

Figure D-86
Summary of Available Flood Infrastructure Information, Santa Clara County

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STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

FloodSAFE CALIFORNIA

DISCLAIMER: *1) Information displayed on the map does not represent all existing flood infrastructure in the county. Only infrastructure available as "Statewide GIS Data" or submitted in a GIS format by one of the interviewed agencies is shown. 2) The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.*

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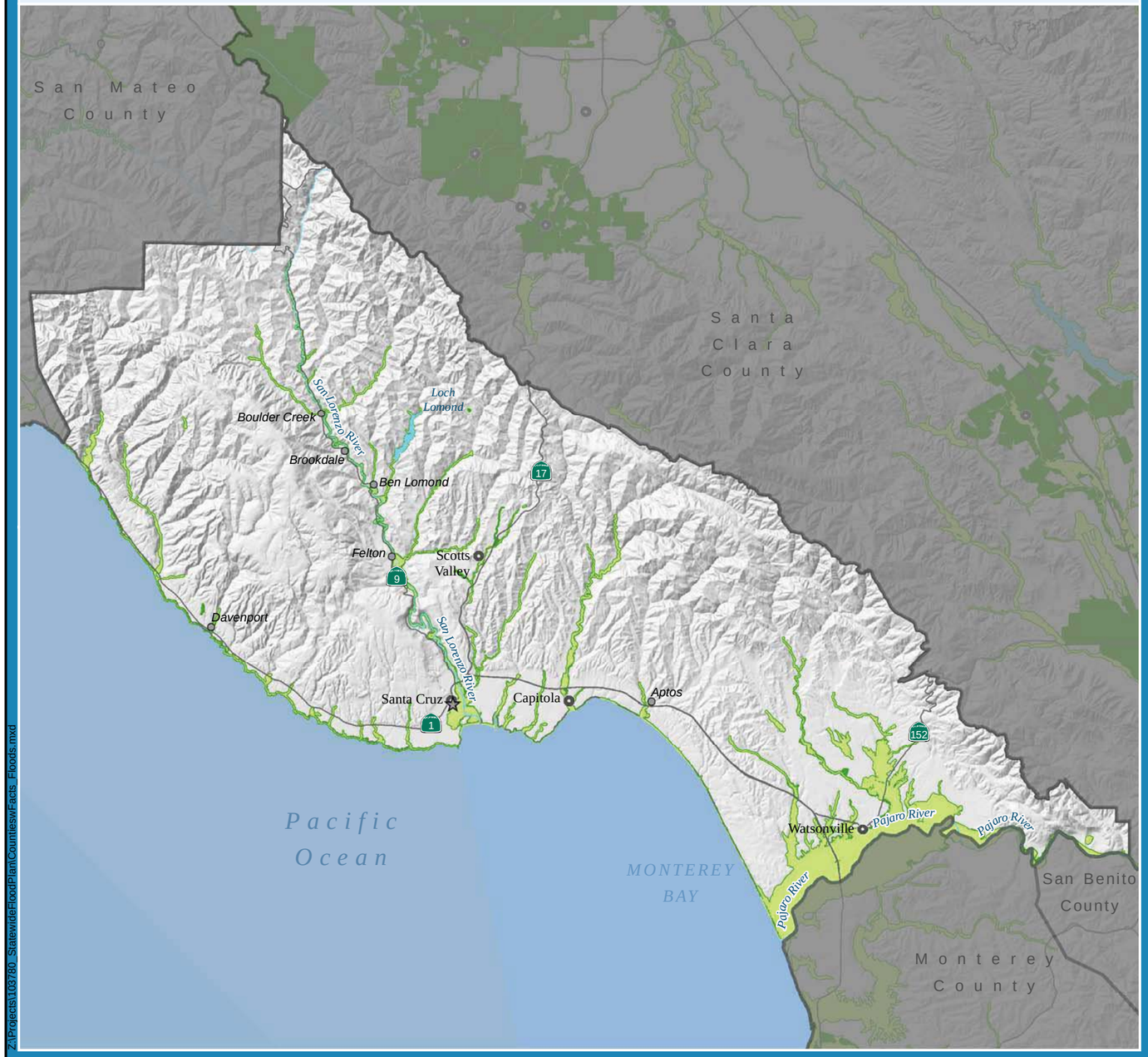
Santa Cruz County

100-year and 500-year Floodplains



N

0 2 4 8
Miles

City
Populated Place
Highway
Major River
100-yr Floodplain
500-yr Floodplain
Major Water Body
County

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Selected Flood Events by Event Year

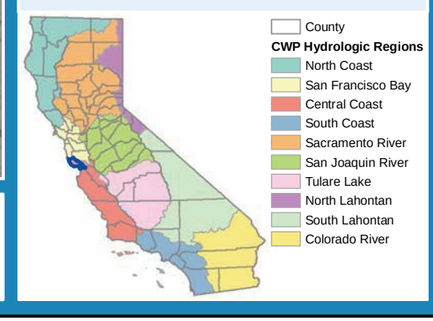
1938 February-March, Countywide
1952 November, Tsunami
1955-1956 December-January, 1955 Christmas Flood, San Lorenzo River, Pescadero, Pajaro
1958 March-April, San Lorenzo River, Pescadero, Pajaro
1963 January-February, Pajaro, Corralitos, Soquel, Aptos
1969 January-February, Winter '69 Storms, Pajaro River, Salinas River, San Lorenzo River
1970 January
1978 January-February, Countywide
1982 January, Winter Storms, San Lorenzo River
1982-1983 November-March, Winter Storms
1986 February, Pajaro River
1995 January-March, Severe Winter Storms, Pajaro River
1998 February
2006 March 29 - April 1, May 10, Spring Storms
2011 March 11, Tsunami

Types of Flooding

Likely:
Slow Rise
Flash
Coastal
Stormwater
Debris Flow

Present:
Engineered Structure Failure
Tsunami

Hydrologic Regions



Flood Hazard Exposure

County Statistics

Total Acreage:	285,713
Total Population:	255,435
Total Structures:	96,800
Total Value of Structures and Contents:	$28.4 billion
Total Agricultural Acreage:	22,547
Total Value of Crops:	$263.5 million

Summary of Exposure to Flood Hazard Reported by County

	100-yr Event	500-yr Event
Exposed Area (acres):	12,517	13,242
Percent of Area Exposed:	4	5
Population Exposed:	27,135	30,072
Percent of Population Exposed:	11	12
Structures Exposed:	8,882	9,961
Total Depreciated Replacement Value of Exposed Structures and Contents:	$3.0 billion	$3.3 billion
Exposed Crops (acres):	5,331	5,513
Value of Exposed Crops:	$58.4 million	$60.8 million
Department of Defense Facilities Exposed:	0	0
Essential Facilities Exposed:	14	20
High Potential Loss Facilities Exposed:	8	8
Lifeline Utilities Exposed:	5	6
Transportation Facilities Exposed:	45	54
Transportation Segments Exposed (miles):	31	34
Native American Tribal Land Exposed (acres):	0	0
Total Sensitive Plant Species Exposed:	36	37
Total Sensitive Animal Species Exposed:	32	32

Figure D-87
Summary of Available Flood Types, Flood History, and Flood Hazard Exposure, Santa Cruz County

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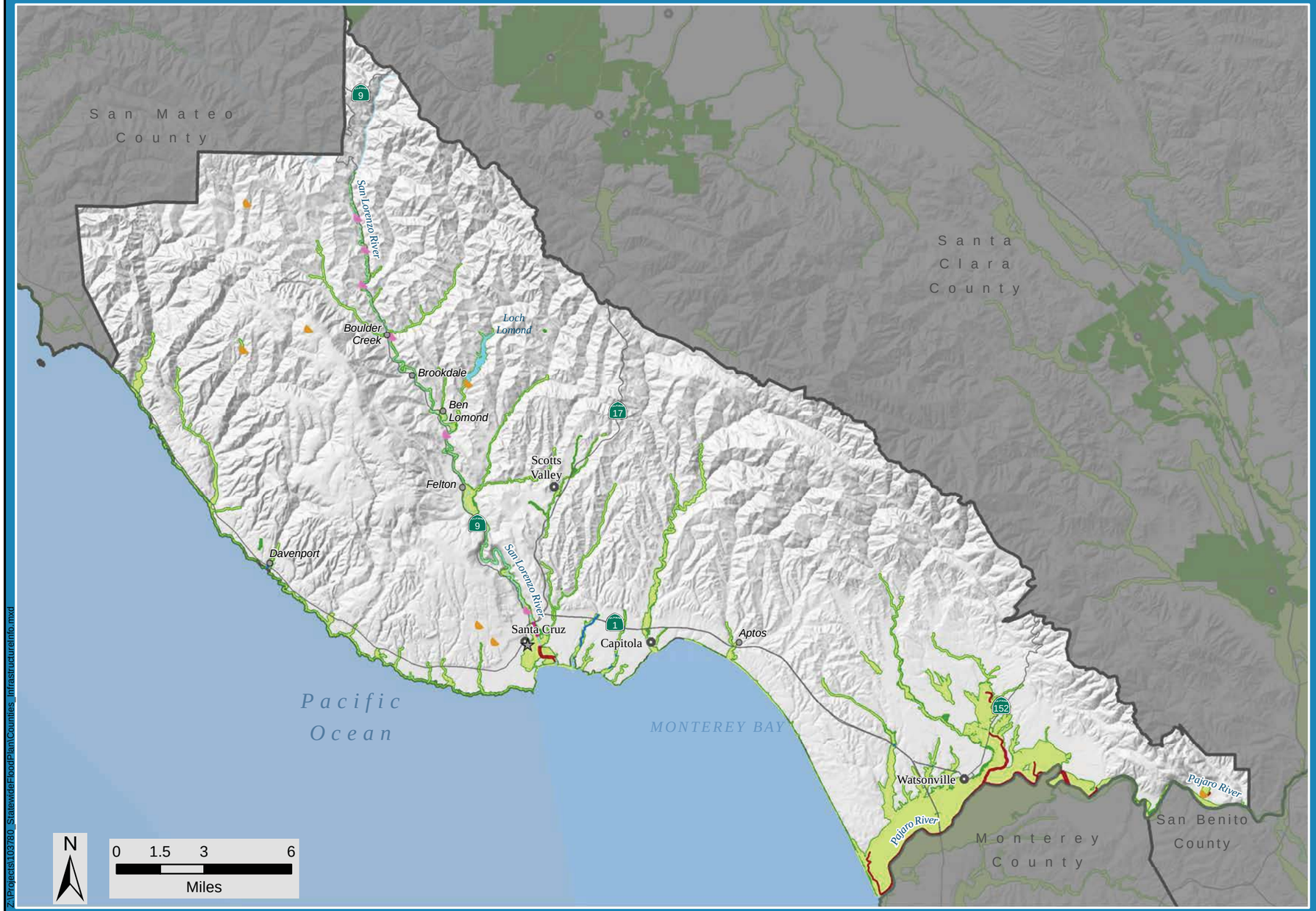
STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

DISCLAIMER: *The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.*

Summary of Available Flood Infrastructure Information



Santa Cruz County

Flood Infrastructure GIS Data Received from Agencies Contacted:

No Flood Infrastructure GIS Data Received

Non-GIS, PDF/Hard Copy Flood Infrastructure Data Received from Agencies Contacted (Not Shown On Map):

Levee
Channel

Agencies Contacted as Part of SFMP:

Santa Cruz County Flood Control and Water Conservation District

Planned Projects:

Number of Local Projects:	16
Estimated Cost of Local Projects:	$187.5 million
Number of USACE Projects:	2
Estimated Cost of USACE Projects:	$245.6 million

Statewide GIS Data Sources:

Cities derived from CAL FIRE incorporated city limit polygons, 2010. **Populated Places** from GNIS, 2011. **Counties** from CalAtlas, 2009. **Dams** modified from DWR, Bullletin 17-00, 2000. **CLD** layers are from California Levee Database, v2.2 r2, 2010. **NFHL** layers are from the National Flood Hazard Layer, FEMA, August 2011. **Highways** from TeleAtlas, 2004. **Rivers** and **Lakes** modified from DFG, N/A. **Floodplains** compiled for SFMP, 2011.
All other Flood Infrastructure GIS data, noted above, received from Agencies Contacted.

Santa Cruz County

Figure D-88
Summary of Available Flood Infrastructure Information, Santa Cruz County

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STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

FloodSAFE CALIFORNIA

Statewide GIS Data:

- City
- Populated Place
- DWR Local Agency Dam
- DWR Other Dam
- NFHL Dam or Weir
- CLD Pump Station
- CLD Local Agency Levee
- CLD Other Levee
- NFHL Levee
- NFHL Flood Event Structure
- NFHL Channel
- NFHL Control Structure
- NFHL Dike
- NFHL Retaining Wall
- Highway
- Major River
- Major Water Body
- 100-yr Floodplain
- 500-yr Floodplain
- County

DISCLAIMER: *1) Information displayed on the map does not represent all existing flood infrastructure in the county. Only infrastructure available as "Statewide GIS Data" or submitted in a GIS format by one of the interviewed agencies is shown. 2) The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.*

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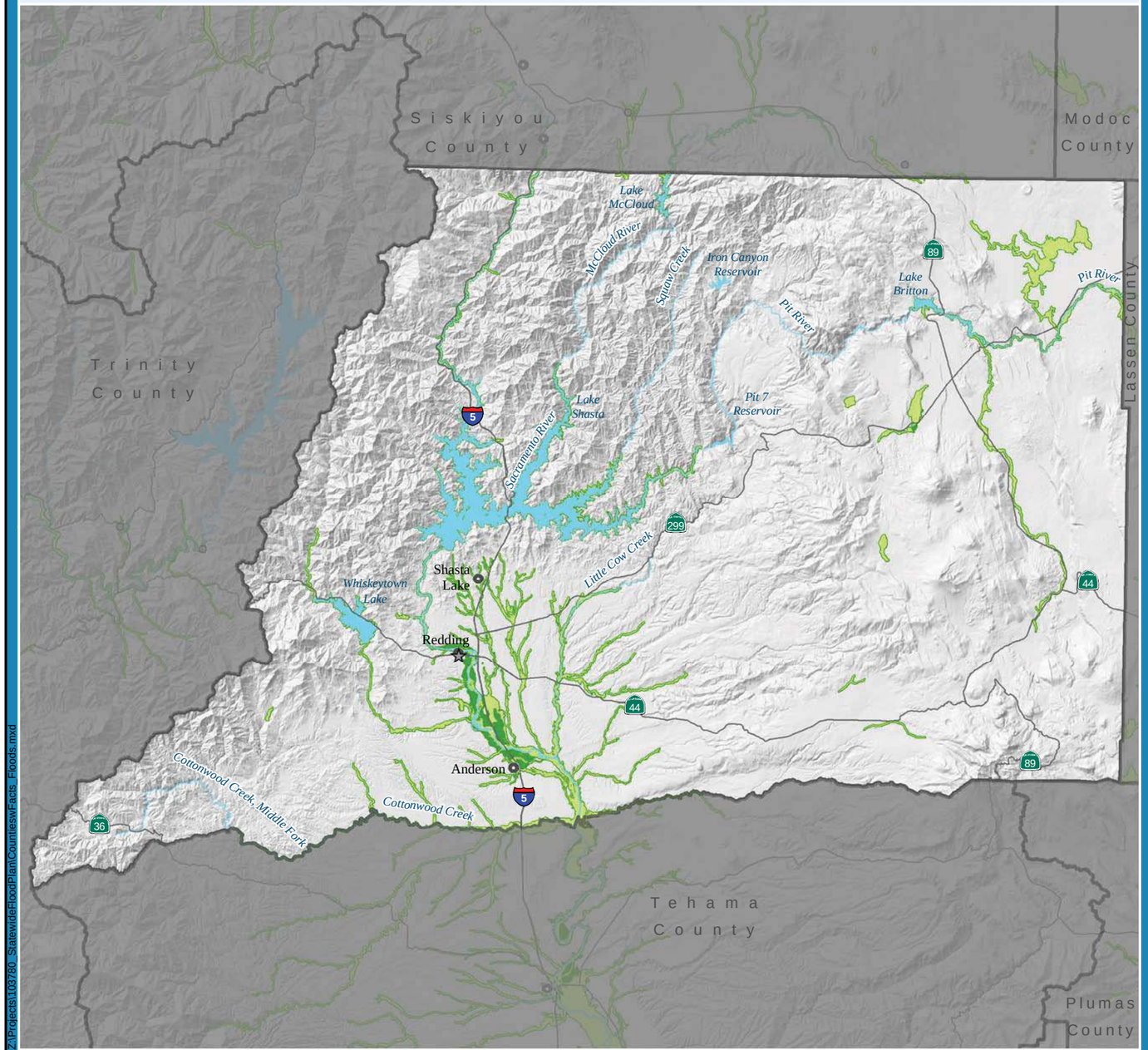
Shasta County

100-year and 500-year Floodplains



N

0 4.5 9 18
Miles

City
Populated Place
Highway
Major River
100-yr Floodplain
500-yr Floodplain
Major Water Body
County

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DISCLAIMER: *The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.*

Selected Flood Events by Event Year

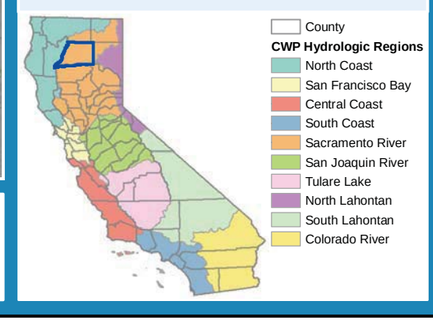
1861-1862 Winter, The Great Flood
1937-1938 December-March, Countywide
1955-1956 December-January, Christmas Flood
1964-1965 December-January, Northern California Christmas 1964 Disaster
1968-1969 December-January, Winter '69 Storms
1969-1970 December-March, Regional
1977 September
1982-1983 December-March, Winter Storms
1986 February, St. Valentine's Day Storm
1995 January-March, Severe Winter Storms, Sacramento River Basin
2006 March 29-April 1, May 10

Types of Flooding

Likely:
Slow Rise
Flash
Stormwater
Debris Flow

Present:
Alluvial Fan
Engineered Structure Failure

Hydrologic Regions



Flood Hazard Exposure

County Statistics

Total Acreage:	2.5 million
Total Population:	163,241
Total Structures:	69,900
Total Value of Structures and Contents:	$15.0 billion
Total Agricultural Acreage:	60,152
Total Value of Crops:	$51.2 million

Summary of Exposure to Flood Hazard Reported by County

	100-yr Event	500-yr Event
Exposed Area (acres):	75,246	82,408
Percent of Area Exposed:	3	3
Population Exposed:	9,847	22,710
Percent of Population Exposed:	6	14
Structures Exposed:	4,378	9,864
Total Depreciated Replacement Value of Exposed Structures and Contents:	$848.6 million	$1.9 billion
Exposed Crops (acres):	8,833	10,819
Value of Exposed Crops:	$3.9 million	$6.7 million
Department of Defense Facilities Exposed:	0	0
Essential Facilities Exposed:	6	13
High Potential Loss Facilities Exposed:	7	7
Lifeline Utilities Exposed:	2	3
Transportation Facilities Exposed:	87	103
Transportation Segments Exposed (miles):	46	56
Native American Tribal Land Exposed (acres):	0	0
Total Sensitive Plant Species Exposed:	25	25
Total Sensitive Animal Species Exposed:	59	59

Figure D-89
Summary of Available Flood Types, Flood History, and Flood Hazard Exposure, Shasta County

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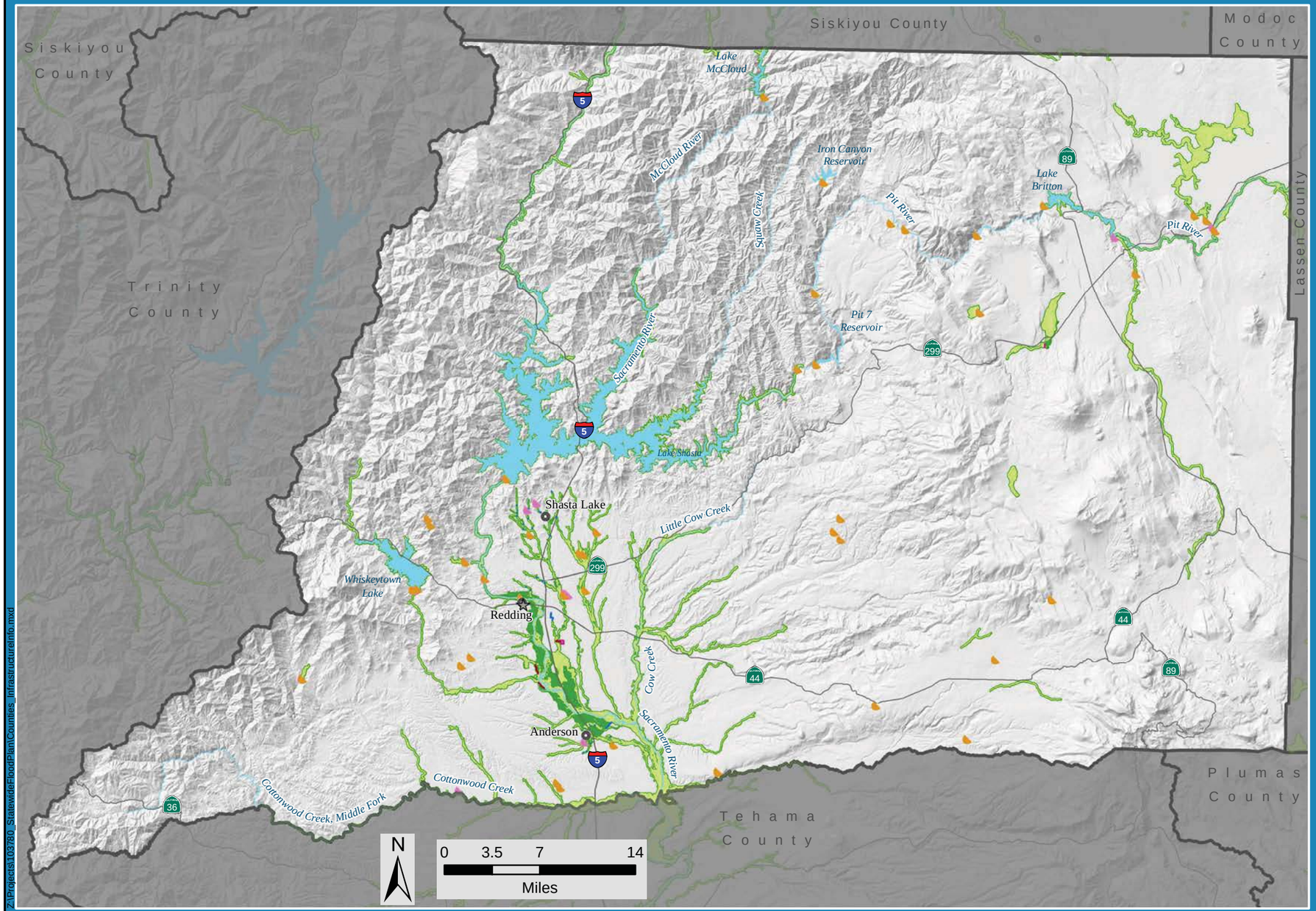
STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

Summary of Available Flood Infrastructure Information



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Statewide GIS Data:

- City
- Populated Place
- DWR Local Agency Dam
- DWR Other Dam
- NFHL Dam or Weir
- CLD Pump Station
- CLD Local Agency Levee
- CLD Other Levee
- NFHL Levee
- NFHL Flood Event Structure
- NFHL Channel
- NFHL Control Structure
- NFHL Dike
- NFHL Retaining Wall
- Highway
- Major River
- Major Water Body
- 100-yr Floodplain
- 500-yr Floodplain
- County

Shasta County

Flood Infrastructure GIS Data Received from Agencies Contacted:

No Flood Infrastructure GIS Data Received

Non-GIS, PDF/Hard Copy Flood Infrastructure Data Received from Agencies Contacted (Not Shown On Map):

Levee
Channel
Dam

Agencies Contacted as Part of SFMP:

Shasta County Water Agency

Planned Projects:

Number of Local Projects:	3
Estimated Cost of Local Projects:	$12.8 million
Number of USACE Projects:	0
Estimated Cost of USACE Projects:	none

Statewide GIS Data Sources:

Cities derived from CAL FIRE incorporated city limit polygons, 2010. **Populated Places** from GNIS, 2011. **Counties** from CalAtlas, 2009. **Dams** modified from DWR, Bullletin 17-00, 2000. **CLD** layers are from California Levee Database, v2.2 r2, 2010. **NFHL** layers are from the National Flood Hazard Layer, FEMA, August 2011. **Highways** from TeleAtlas, 2004. **Rivers** and **Lakes** modified from DFG, N/A. **Floodplains** compiled for SFMP, 2011.

All other Flood Infrastructure GIS data, noted above, received from Agencies Contacted.

Shasta County

Figure D-90

Summary of Available Flood Infrastructure Information, Shasta County

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US Army Corps of Engineers

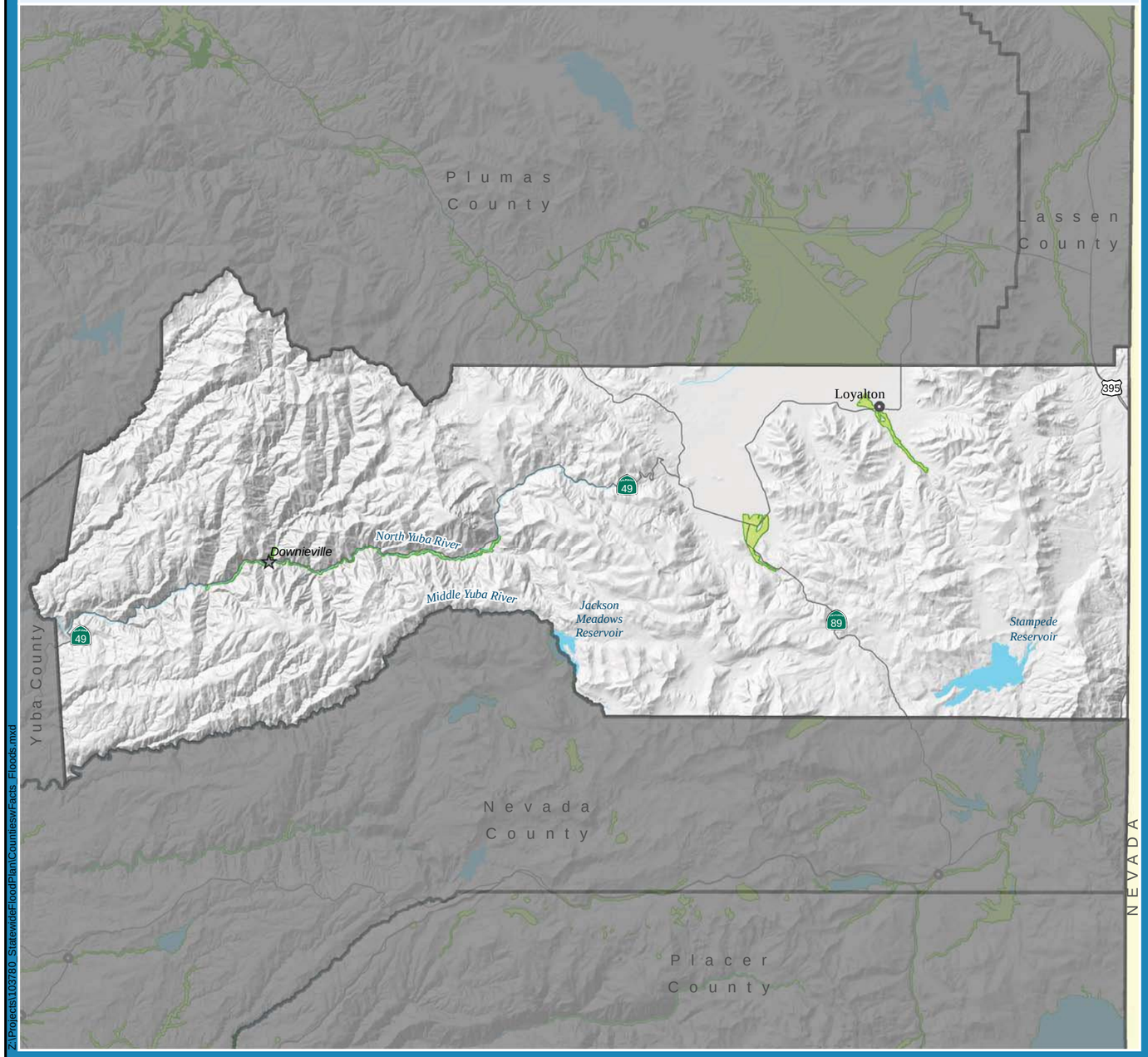
STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

FloodSAFE CALIFORNIA

DISCLAIMER: *1) Information displayed on the map does not represent all existing flood infrastructure in the county. Only infrastructure available as "Statewide GIS Data" or submitted in a GIS format by one of the interviewed agencies is shown. 2) The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.*

Sierra County

100-year and 500-year Floodplains



N

0 2.75 5.5 11
Miles

City
Populated Place
Highway
Major River
100-yr Floodplain
500-yr Floodplain
Major Water Body
County

DISCLAIMER: *The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.*

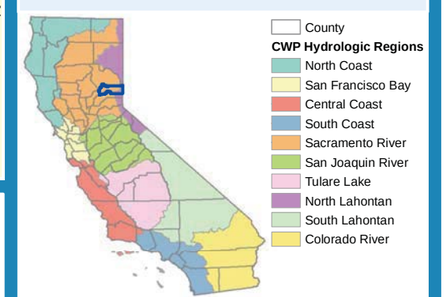
Selected Flood Events by Event Year

1861-1862 Winter, The Great Flood
1942 January-February
1963 January-February
1964-1965 December-January, Northern California Christmas 1964 Disaster
1968-1969 December-January, Winter '69 Storms
1986 February, St. Valentine's Day Storm
1995 January-March, Severe Winter Storms, Sacramento River Basin
1996-1997 December-January
2006 March 29-April 1, May 10
2008 January 5-14, Winter Storms

Types of Flooding

Likely:	Present:
Slow Rise	Debris Flow
Flash	Alluvial Fan
Stormwater	Engineered Structure Failure

Hydrologic Regions



Flood Hazard Exposure

County Statistics

Total Acreage:	615,317
Total Population:	3,556
Total Structures:	2,600
Total Value of Structures and Contents:	$359.7 million
Total Agricultural Acreage:	19,257
Total Value of Crops:	$1.1 million

Summary of Exposure to Flood Hazard Reported by County	100-yr Event	500-yr Event
Exposed Area (acres):	2,002	2,002
Percent of Area Exposed:	0	0
Population Exposed:	373	373
Percent of Population Exposed:	10	10
Structures Exposed:	286	286
Total Depreciated Replacement Value of Exposed Structures and Contents:	$34.4 million	$34.4 million
Exposed Crops (acres):	926	926
Value of Exposed Crops:	$21,641	$21,641
Department of Defense Facilities Exposed:	0	0
Essential FacilitiesExposed:	4	4
High Potential Loss Facilities Exposed:	0	0
Lifeline Utilities Exposed:	0	0
Transportation Facilities Exposed:	3	3
Transportation Segments Exposed (miles):	7	7
Native American Tribal Land Exposed (acres):	0	0
Total Sensitive Plant Species Exposed:	7	7
Total Sensitive Animal Species Exposed:	7	7

Figure D-91
Summary of Available Flood Types, Flood History, and Flood Hazard Exposure, Sierra County

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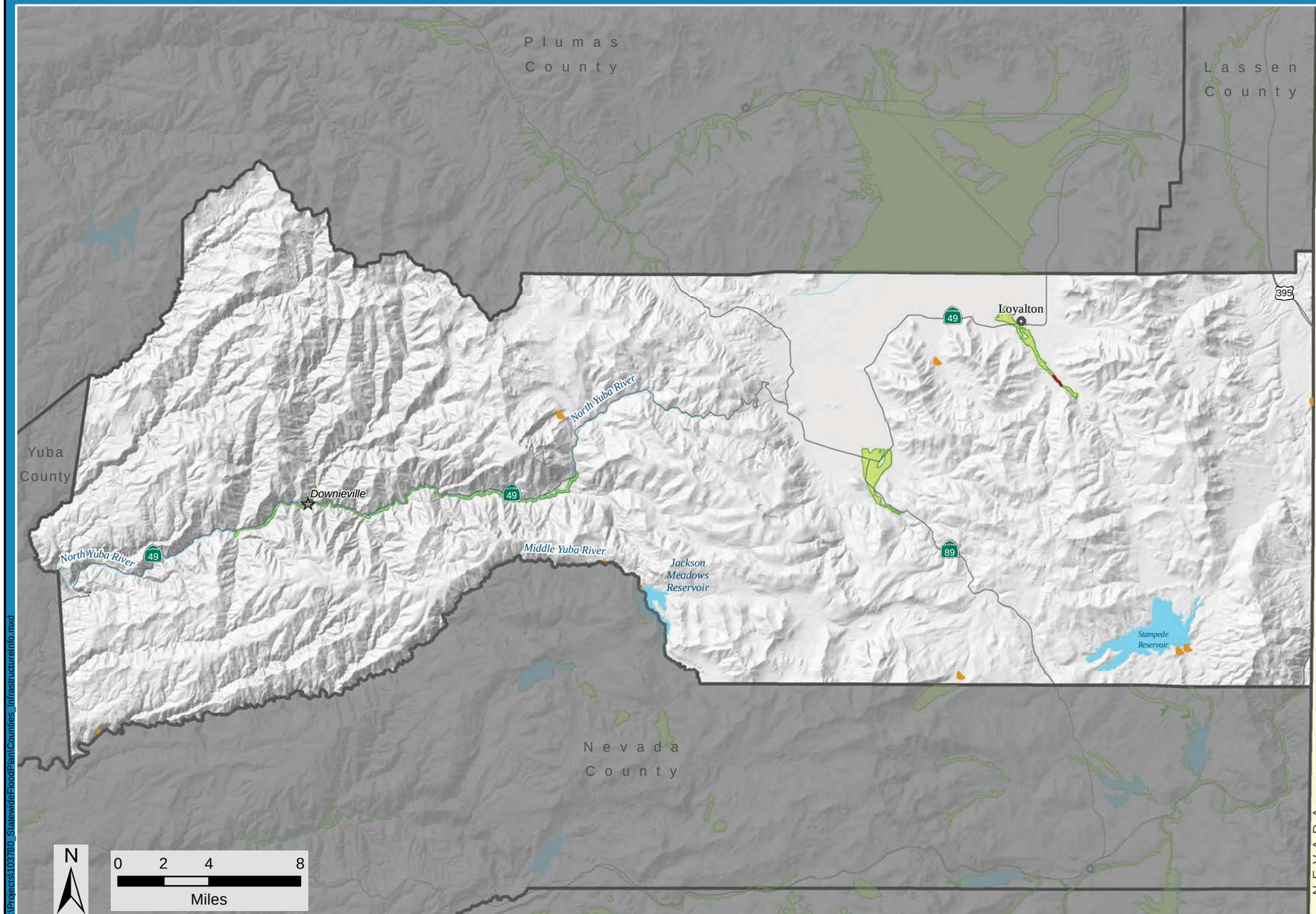
STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

Summary of Available Flood Infrastructure Information

Sierra County



Statewide GIS Data:

- City
- Populated Place
- DWR Local Agency Dam
- DWR Other Dam
- NFHL Dam or Weir
- CLD Pump Station
- CLD Local Agency Levee
- CLD Other Levee
- NFHL Levee
- NFHL Flood Event Structure
- NFHL Channel
- NFHL Control Structure
- NFHL Dike
- NFHL Retaining Wall
- Highway
- Major River
- Major Water Body
- 100-yr Floodplain
- 500-yr Floodplain
- County

Flood Infrastructure GIS Data Received from Agencies Contacted:

No Flood Infrastructure GIS Data Received

Non-GIS, PDF/Hard Copy Flood Infrastructure Data Received from Agencies Contacted (Not Shown On Map):

No PDF/Hard Copy Data Received

Agencies Contacted as Part of SFMP:

Sierra County

Planned Projects:

Number of Local Projects:	0
Estimated Cost of Local Projects:	none
Number of USACE Projects:	0
Estimated Cost of USACE Projects:	none

Statewide GIS Data Sources:

Cities derived from CAL FIRE incorporated city limit polygons, 2010. **Populated Places** from GNIS, 2011. **Counties** from CalAtlas, 2009. **Dams** modified from DWR, Bullletin 17-00, 2000. **CLD** layers are from California Levee Database, v2.2 r2, 2010. **NFHL** layers are from the National Flood Hazard Layer, FEMA, August 2011. **Highways** from TeleAtlas, 2004. **Rivers** and **Lakes** modified from DFG, N/A. **Floodplains** compiled for SFMP, 2011.

All other Flood Infrastructure GIS data, noted above, received from Agencies Contacted.

Sierra County

Figure D-92

Summary of Available Flood Infrastructure Information, Sierra County

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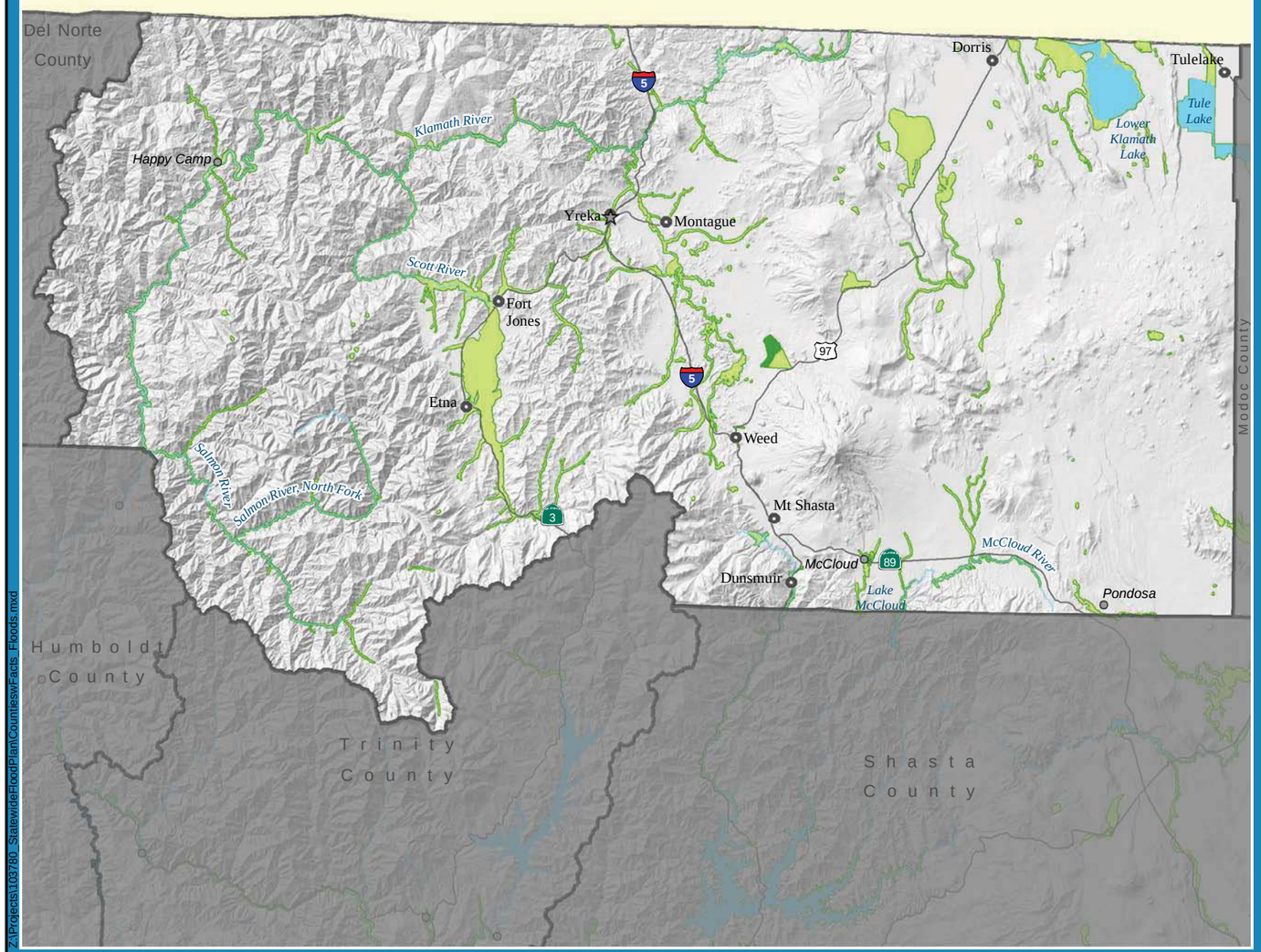
STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

FloodSAFE CALIFORNIA

DISCLAIMER: *1) Information displayed on the map does not represent all existing flood infrastructure in the county. Only infrastructure available as "Statewide GIS Data" or submitted in a GIS format by one of the interviewed agencies is shown. 2) The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.*

Siskiyou County

100-year and 500-year Floodplains



N

0 5 10 20

Miles

City

Populated Place

Highway

Major River

100-yr Floodplain

500-yr Floodplain

Major Water Body

County

Selected Flood Events by Event Year

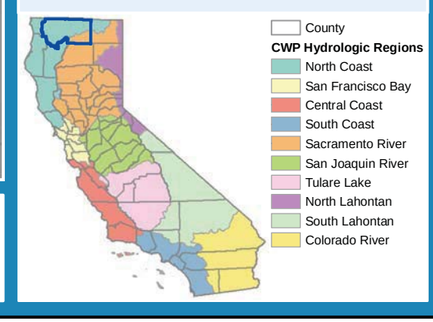
1861-1862 Winter, The Great Flood
1928 March
1955-1956 December-January, 1955 Christmas Flood, Klamath River
1962 October
1966 January, Countywide
1969-1970 December-March
1974 January-April,
1986 February, Klamath River
1993 January, Late Winter Storms
1995 January-March, Severe Winter Storms
1996-1997 December-January
2005-2006 December-January, New Year's Eve Flood of 2006

Types of Flooding

Likely:
Slow Rise
Flash
Stormwater
Debris Flow

Present:
Alluvial Fan
Engineered Structure Failure

Hydrologic Regions



Flood Hazard Exposure

County Statistics

Total Acreage:	4.1 million
Total Population:	44,307
Total Structures:	28,100
Total Value of Structures and Contents:	$3.4 billion
Total Agricultural Acreage:	177,899
Total Value of Crops:	$174.9 million

Summary of Exposure to Flood Hazard Reported by County	100-yr Event	500-yr Event
Exposed Area (acres):	135,198	138,319
Percent of Area Exposed:	3	3
Population Exposed:	3,877	5,797
Percent of Population Exposed:	9	13
Exposed Structures:	2,803	4,050
Total Depreciated Replacement Value of Exposed Structures and Contents:	$280.2 million	$428.8 million
Exposed Crops (acres):	36,828	37,134
Value of Exposed Crops:	$27.3 million	$27.4 million
Department of Defense Facilities Exposed:	0	0
Essential Facilities Exposed:	12	16
High Potential Loss Facilities Exposed:	7	7
Lifeline Utilities Exposed:	1	1
Transportation Facilities Exposed:	123	124
Transportation Segments Exposed (miles):	103	109
Native American Tribal Land Exposed (acres):	0	0
Total Sensitive Plant Species Exposed:	55	55
Total Sensitive Animal Species Exposed:	53	53

Figure D-93
Summary of Available Flood Types, Flood History, and Flood Hazard Exposure, Siskiyou County

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STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

FloodSAFE CALIFORNIA

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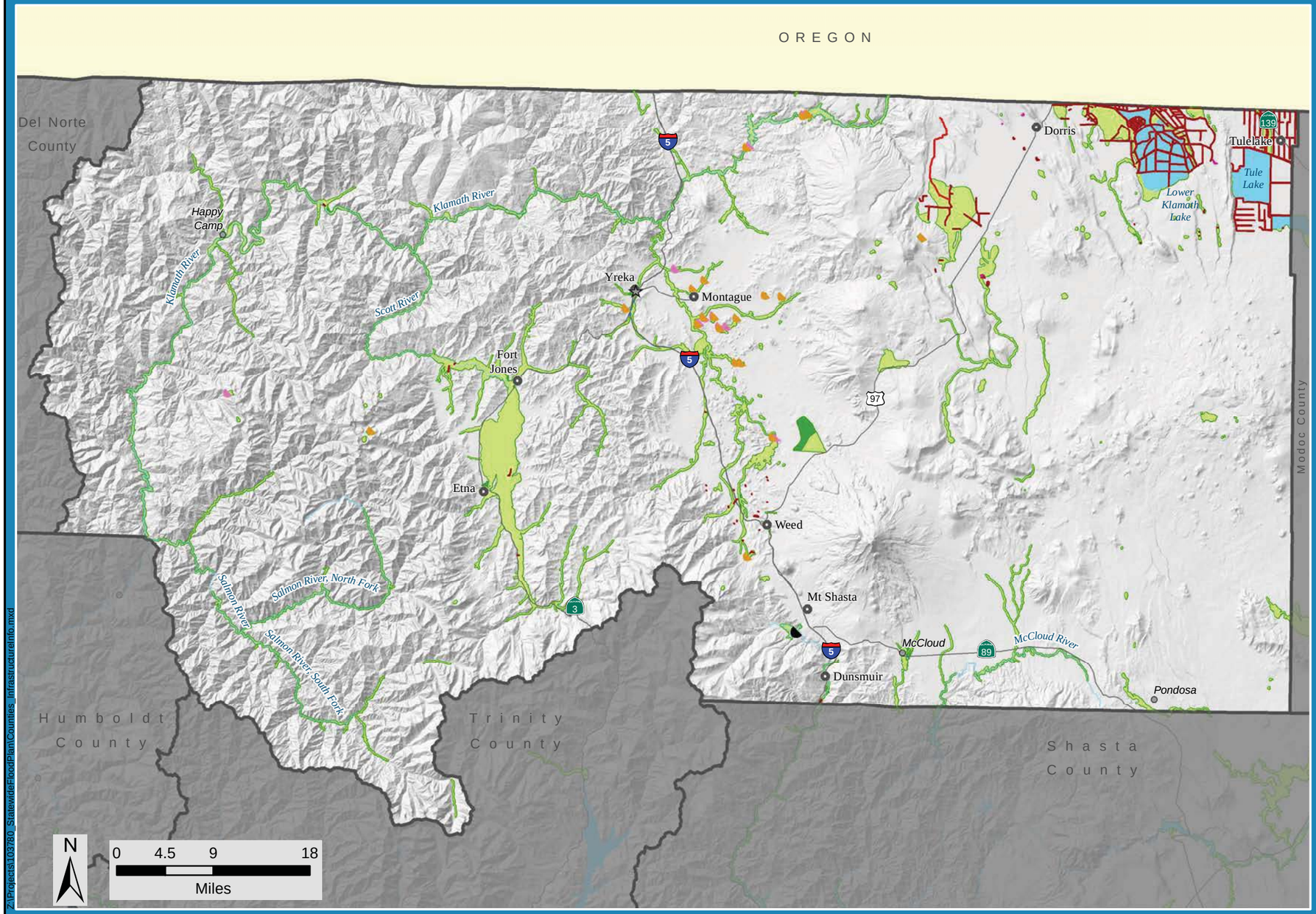
DISCLAIMER: *The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.*

Summary of Available Flood Infrastructure Information



Statewide GIS Data:

- City
- Populated Place
- DWR Local Agency Dam
- DWR Other Dam
- NFHL Dam or Weir
- CLD Pump Station
- CLD Local Agency Levee
- CLD Other Levee
- NFHL Levee
- NFHL Flood Event Structure
- NFHL Channel
- NFHL Control Structure
- NFHL Dike
- NFHL Retaining Wall
- Highway
- Major River
- Major Water Body
- 100-yr Floodplain
- 500-yr Floodplain
- County

Siskiyou County

Flood Infrastructure GIS Data Received from Agencies Contacted:

No Flood Infrastructure GIS Data Received

Non-GIS, PDF/Hard Copy Flood Infrastructure Data Received from Agencies Contacted (Not Shown On Map):

Dam

Agencies Contacted as Part of SFMP:

Siskiyou County
Town of McCloud

Planned Projects:

Number of Local Projects:	0
Estimated Cost of Local Projects:	none
Number of USACE Projects:	0
Estimated Cost of USACE Projects:	none

Statewide GIS Data Sources:

Cities derived from CAL FIRE incorporated city limit polygons, 2010. **Populated Places** from GNIS, 2011. **Counties** from CalAtlas, 2009. **Dams** modified from DWR, Bullletin 17-00, 2000. **CLD** layers are from California Levee Database, v2.2 r2, 2010. **NFHL** layers are from the National Flood Hazard Layer, FEMA, August 2011. **Highways** from TeleAtlas, 2004. **Rivers** and **Lakes** modified from DFG, N/A. **Floodplains** compiled for SFMP, 2011.

All other Flood Infrastructure GIS data, noted above, received from Agencies Contacted.

Siskiyou County

Figure D-94

Summary of Available Flood Infrastructure Information, Siskiyou County

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STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

FloodSAFE CALIFORNIA

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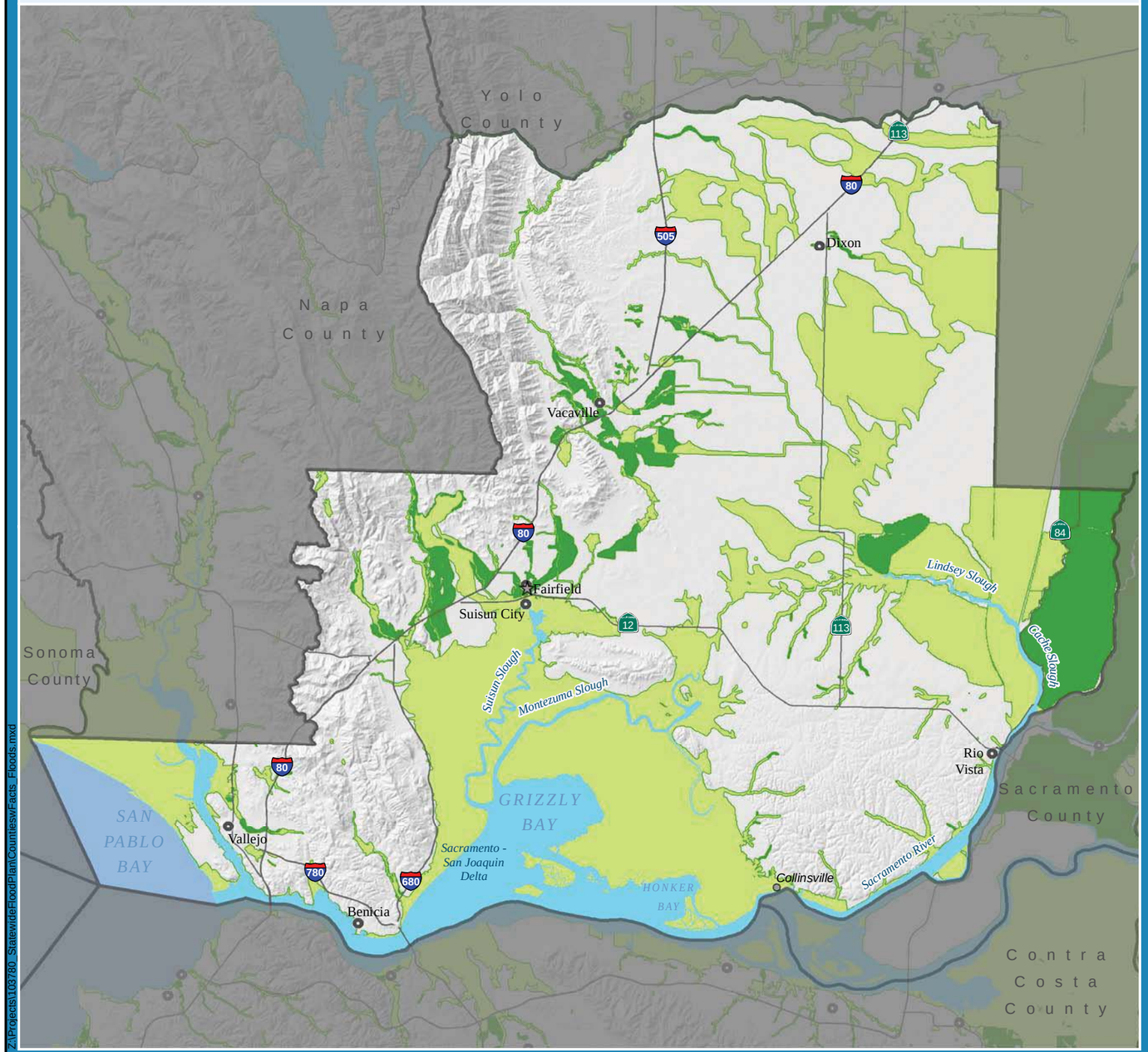
DISCLAIMER: *1) Information displayed on the map does not represent all existing flood infrastructure in the county. Only infrastructure available as "Statewide GIS Data" or submitted in a GIS format by one of the interviewed agencies is shown. 2) The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.*

100-year and 500-year Floodplains



N

0 2.25 4.5 9

Miles

City

Populated Place

Highway

Major River

100-yr Floodplain

500-yr Floodplain

Major Water Body

County

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Selected Flood Events by Event Year

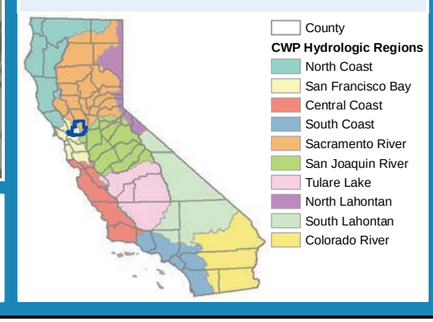
1861-1862 Winter, The Great Flood
1955-1956 December-January, 1955 Christmas Flood, Bay Area
1958 February-April, Bay Area
1962 October, Regional
1963 January-February, Northern and Central California (Sonoma to San Francisco)
1973 January-April, Coastal Flooding
1981-1982 November-April, Regional
1982-1983 December-March, Winter Storms, Countywide
1986 February, St. Valentine's Day Storm, The Floods of February 1986, San Pablo Bay
1995 January-March, Severe Winter Storms
2002 December, The Mills Lane Flood
2006 February-May, Spring Storm

Types of Flooding

Likely:
Slow Rise
Flash
Debris Flow
Stormwater

Present:
Alluvial Fan
Engineered Structure Failure
Coastal

Hydrologic Regions



Flood Hazard Exposure

County Statistics

Total Acreage:	582,369
Total Population:	395,264
Total Structures:	127,300
Total Value of Structures and Contents:	$40.1 billion
Total Agricultural Acreage:	199,038
Total Value of Crops:	$315.7 million

Summary of Exposure to Flood Hazard Reported by County

	100-yr Event	500-yr Event
Exposed Area (acres):	199,186	224,388
Percent of Area Exposed:	34	39
Population Exposed:	22,482	71,932
Percent of Population Exposed:	6	18
Structures Exposed:	7,156	23,094
Total Depreciated Replacement Value of Exposed Structures and Contents:	$2.5 billion	$7.6 billion
Exposed Crops (acres):	53,418	71,989
Value of Exposed Crops:	$95.4 million	$133.9 million
Department of Defense Facilities Exposed:	2	2
Essential Facilities Exposed:	7	35
High Potential Loss Facilities Exposed:	2	4
Lifeline Utilities Exposed:	4	4
Transportation Facilities Exposed:	71	100
Transportation Segments Exposed (miles):	67	86
Native American Tribal Land Exposed (acres):	0	0
Total Sensitive Plant Species Exposed:	43	43
Total Sensitive Animal Species Exposed:	46	46

Solano County

Figure D-95
Summary of Available Flood Types, Flood History, and Flood Hazard Exposure, Solano County

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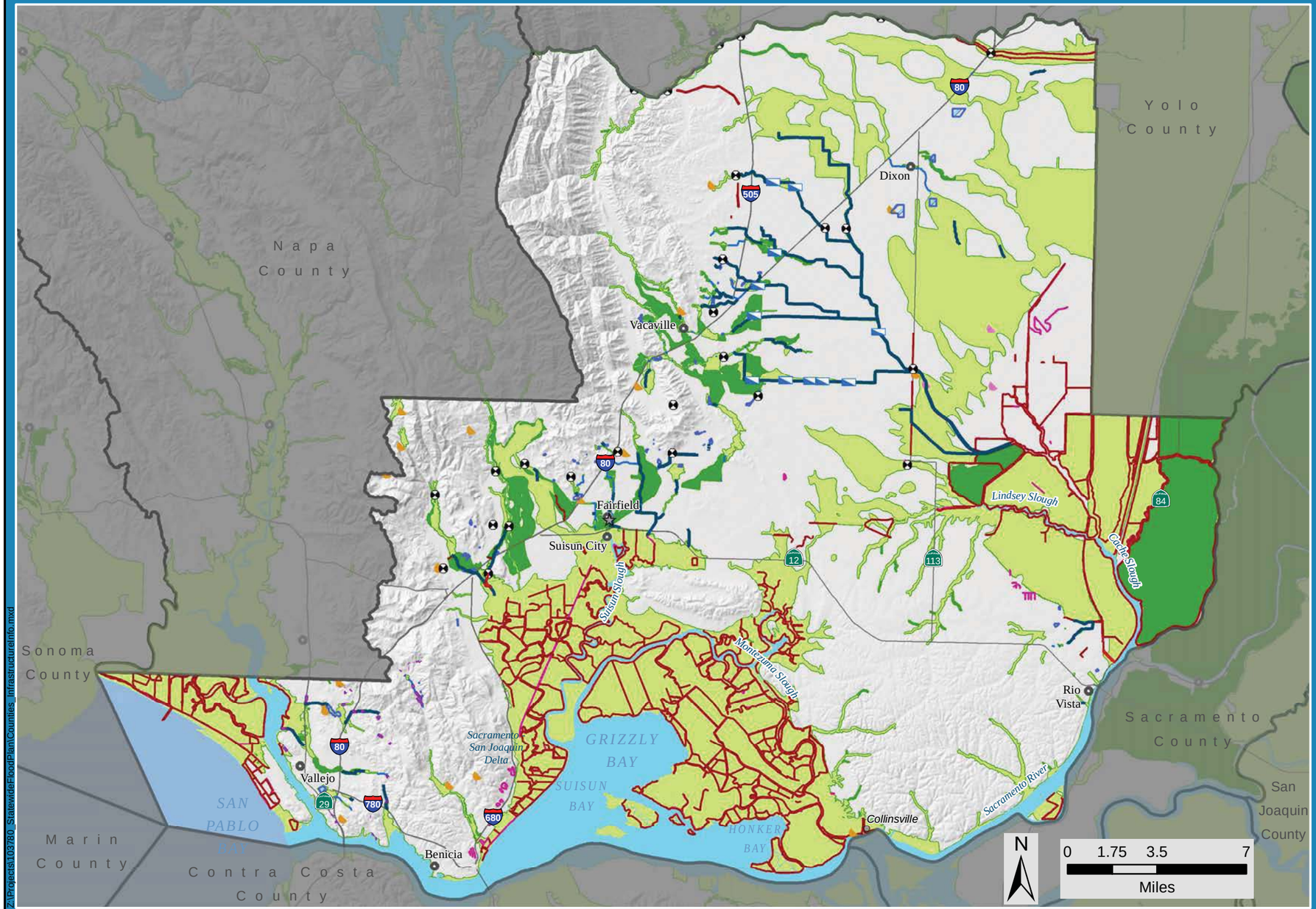
STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

DISCLAIMER: *The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.*

Summary of Available Flood Infrastructure Information

Solano County



Flood Infrastructure GIS Data Received from Agencies Contacted:

- Grade Control Point
- Telemetry Stations for Flood Control
- Mellin Levee
- Storm Drain
- Stream, Channelized for Flood Control
- Ulatis Flood Control Channel
- Stormwater Detention Basin

Non-GIS, PDF/Hard Copy Flood Infrastructure Data Received from Agencies Contacted (Not Shown On Map):

No PDF/Hard Copy Data Received

Agencies Contacted as Part of SFMP:

Solano County Water Authority
Reclamation District 2068

Planned Projects:

Number of Local Projects:	4
Estimated Cost of Local Projects:	$20.4 million
Number of USACE Projects:	3
Estimated Cost of USACE Projects:	$211.8 million

Statewide GIS Data Sources:

Cities derived from CAL FIRE incorporated city limit polygons, 2010. **Populated Places** from GNIS, 2011. **Counties** from CalAtlas, 2009. **Dams** modified from DWR, Bullletin 17-00, 2000. **CLD** layers are from California Levee Database, v2.2 r2, 2010. **NFHL** layers are from the National Flood Hazard Layer, FEMA, August 2011. **Highways** from TeleAtlas, 2004. **Rivers** and **Lakes** modified from DFG, N/A. **Floodplains** compiled for SFMP, 2011.

All other Flood Infrastructure GIS data, noted above, received from Agencies Contacted.

Solano County

Statewide GIS Data:

- City
- Populated Place
- DWR Local Agency Dam
- DWR Other Dam
- NFHL Dam or Weir
- CLD Pump Station
- CLD Local Agency Levee
- CLD Other Levee
- NFHL Levee
- NFHL Flood Event Structure
- NFHL Channel
- NFHL Control Structure
- NFHL Dike
- NFHL Retaining Wall
- Highway
- Major River
- Major Water Body
- 100-yr Floodplain
- 500-yr Floodplain
- County

Figure D-96
Summary of Available Flood Infrastructure Information, Solano County

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STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

FloodSAFE CALIFORNIA

DISCLAIMER: *1) Information displayed on the map does not represent all existing flood infrastructure in the county. Only infrastructure available as "Statewide GIS Data" or submitted in a GIS format by one of the interviewed agencies is shown. 2) The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.*

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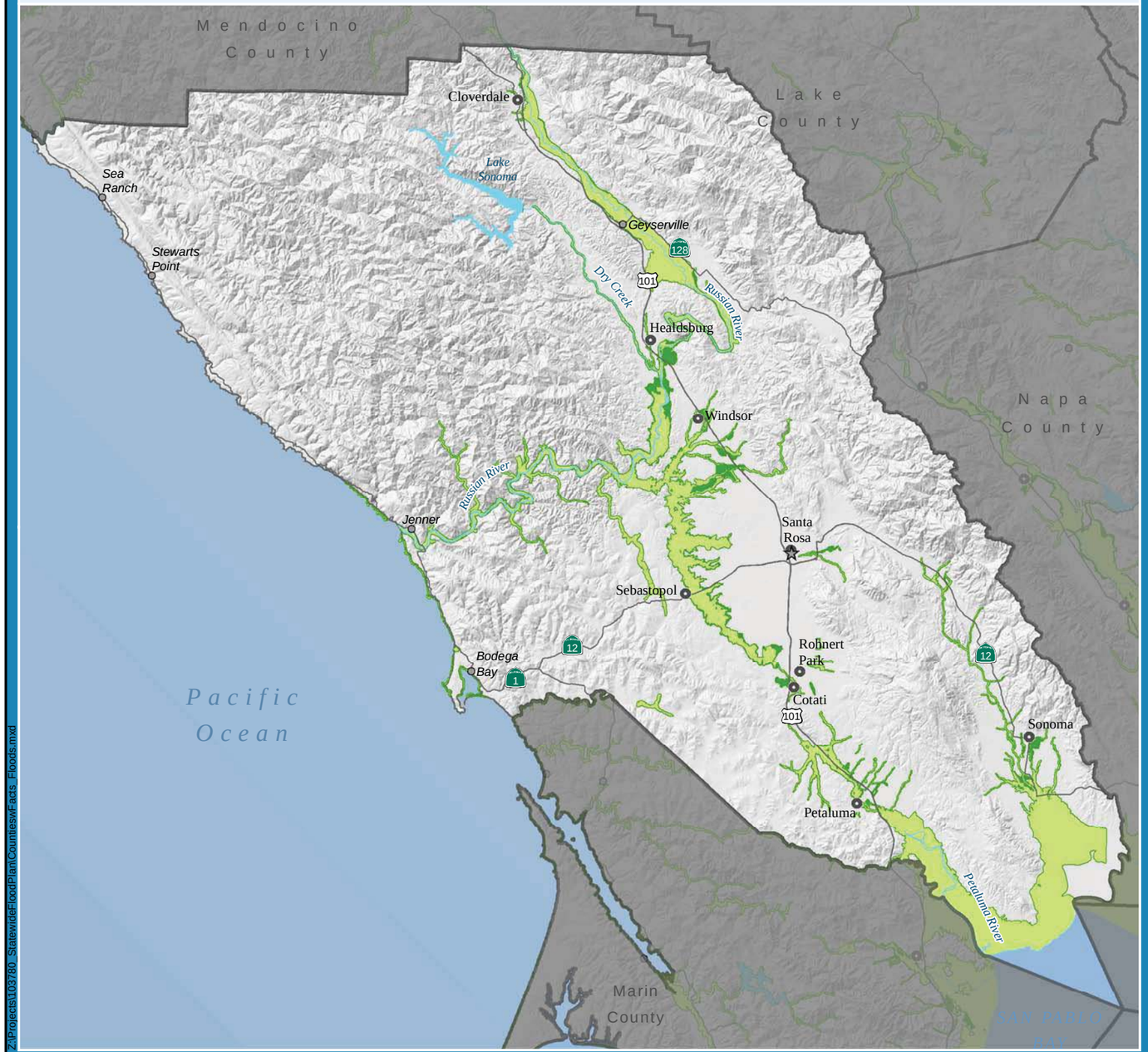
100-year and 500-year Floodplains



N

0 3 6 12
Miles

City
Populated Place
Highway
Major River
100-yr Floodplain
500-yr Floodplain
Major Water Body
County

Selected Flood Events by Event Year

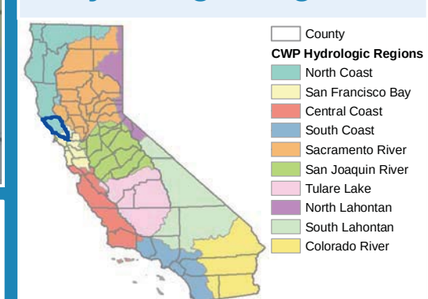
1861-1862 Winter, The Great Flood
1955-1956 December-January, 1955 Christmas Flood, Petaluma, Russian River
1958 February-April, Russian River
1963 January-February, Russian River
1964-1965 December-January, Northern California Christmas 1964 Disaster
1968-1969 December-February, Winter '69 Storms, Elk River, Gualala River
1974 March - April
1982 January-March, Petaluma River, San Francisco Bay Area
1982-1983 December-April, Winter Storms, Petaluma River, Countywide
1986 February, St. Valentine's Day Storm, Russian River Flood, Petaluma River, Russian River, Nathanson Creek, San Pablo Bay
1995 January-March, 1995 Christmas Flood, Petaluma River
2006 March 29 - April 1, May 10, Spring Storms

Types of Flooding

Likely:
Slow Rise
Flash
Debris Flow
Coastal
Stormwater

Present:
Tsunami
Engineered Structure Failure
Alluvial Fan

Hydrologic Regions



Flood Hazard Exposure

County Statistics

Total Acreage:	1.0 million
Total Population:	458,520
Total Structures:	183,400
Total Value of Structures and Contents:	$55.7 billion
Total Agricultural Acreage:	93,700
Total Value of Crops:	$28.8 million

Summary of Exposure to Flood Hazard Reported by County

	100-yr Event	500-yr Event
Exposed Area (acres):	58,498	63,726
Percent of Area Exposed:	6	6
Population Exposed:	15,037	22,425
Percent of Population Exposed:	3	5
Structures Exposed:	7,928	11,580
Total Depreciated Replacement Value of Exposed Structures and Contents:	$2.1 billion	$3.3 billion
Exposed Crops (acres):	22,310	24,515
Value of Exposed Crops:	$8.2 million	$8.4 million
Department of Defense Facilities Exposed:	1	1
Essential Facilities Exposed:	8	14
High Potential Loss Facilities Exposed:	3	6
Lifeline Utilities Exposed:	1	3
Transportation Facilities Exposed:	114	130
Transportation Segments Exposed (miles):	64	73
Native American Tribal Land Exposed (acres):	9	9
Total Sensitive Plant Species Exposed:	62	62
Total Sensitive Animal Species Exposed:	38	38

Sonoma County

Figure D-97
Summary of Available Flood Types, Flood History, and Flood Hazard Exposure, Sonoma County

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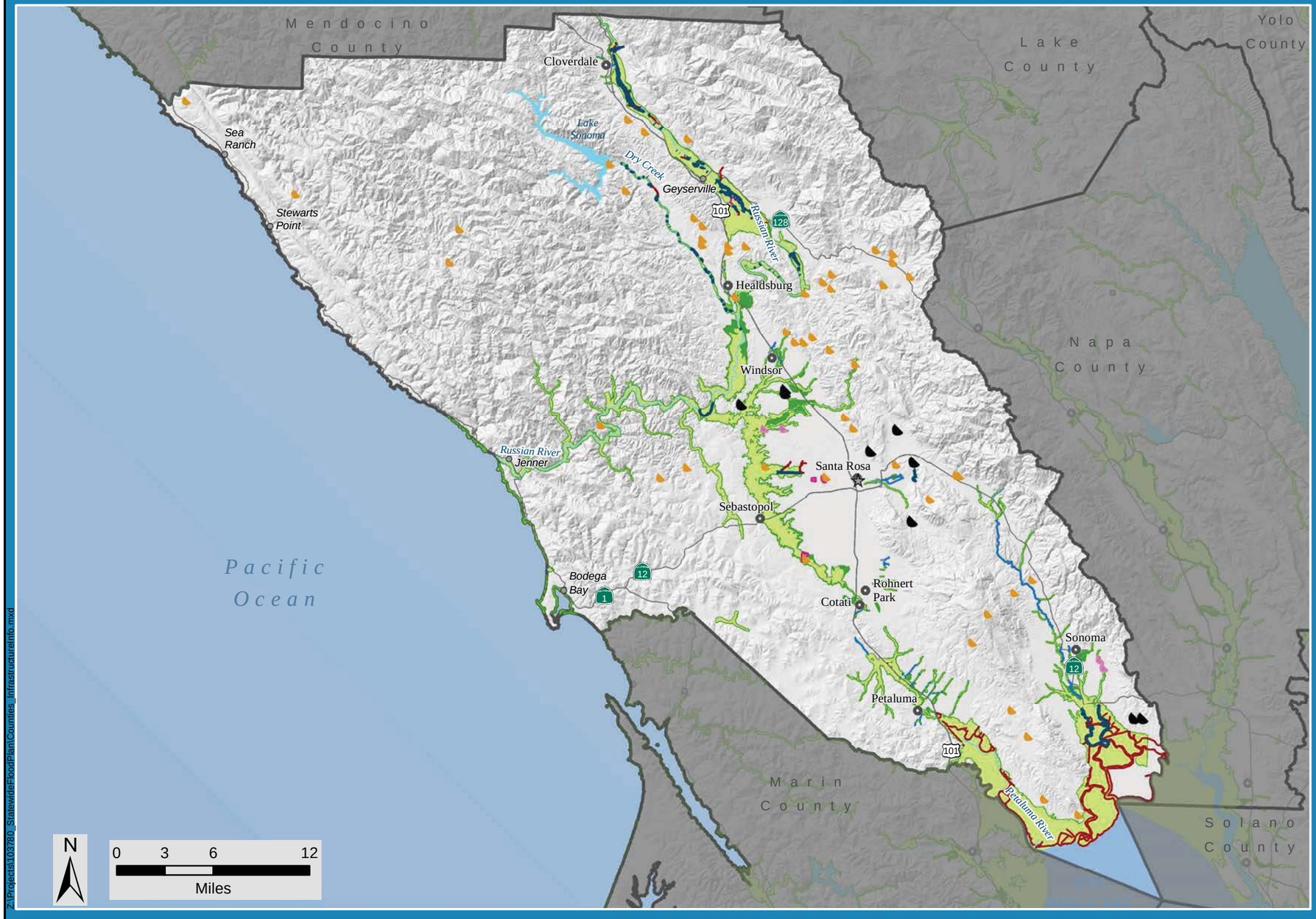
STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

DISCLAIMER: *The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.*

Summary of Available Flood Infrastructure Information

Sonoma County



Flood Infrastructure GIS Data Received from Agencies Contacted:

Channel Improvement

Non-GIS, PDF/Hard Copy Flood Infrastructure Data Received from Agencies Contacted (Not Shown On Map):

No PDF/Hard Copy Data Received

Agencies Contacted as Part of SFMP:

Sonoma County Water Agency

Planned Projects:

Number of Local Projects:	9
Estimated Cost of Local Projects:	$83.8 million
Number of USACE Projects:	1
Estimated Cost of USACE Projects:	$46.1 million

Statewide GIS Data Sources:

Cities derived from CAL FIRE incorporated city limit polygons, 2010. **Populated Places** from GNIS, 2011. **Counties** from CalAtlas, 2009. **Dams** modified from DWR, Bullletin 17-00, 2000. **CLD** layers are from California Levee Database, v2.2 r2, 2010. **NFHL** layers are from the National Flood Hazard Layer, FEMA, August 2011. **Highways** from TeleAtlas, 2004. **Rivers** and **Lakes** modified from DFG, N/A. **Floodplains** compiled for SFMP, 2011.

All other Flood Infrastructure GIS data, noted above, received from Agencies Contacted.

Sonoma County

Statewide GIS Data:

City
Populated Place
DWR Local Agency Dam
DWR Other Dam
NFHL Dam or Weir
CLD Pump Station
CLD Local Agency Levee
CLD Other Levee
NFHL Levee
NFHL Flood Event Structure
NFHL Channel
NFHL Control Structure
NFHL Dike
NFHL Retaining Wall
Highway
Major River
Major Water Body
100-yr Floodplain
500-yr Floodplain
County

Figure D-98

Summary of Available Flood Infrastructure Information, Sonoma County

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STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

FloodSAFE CALIFORNIA

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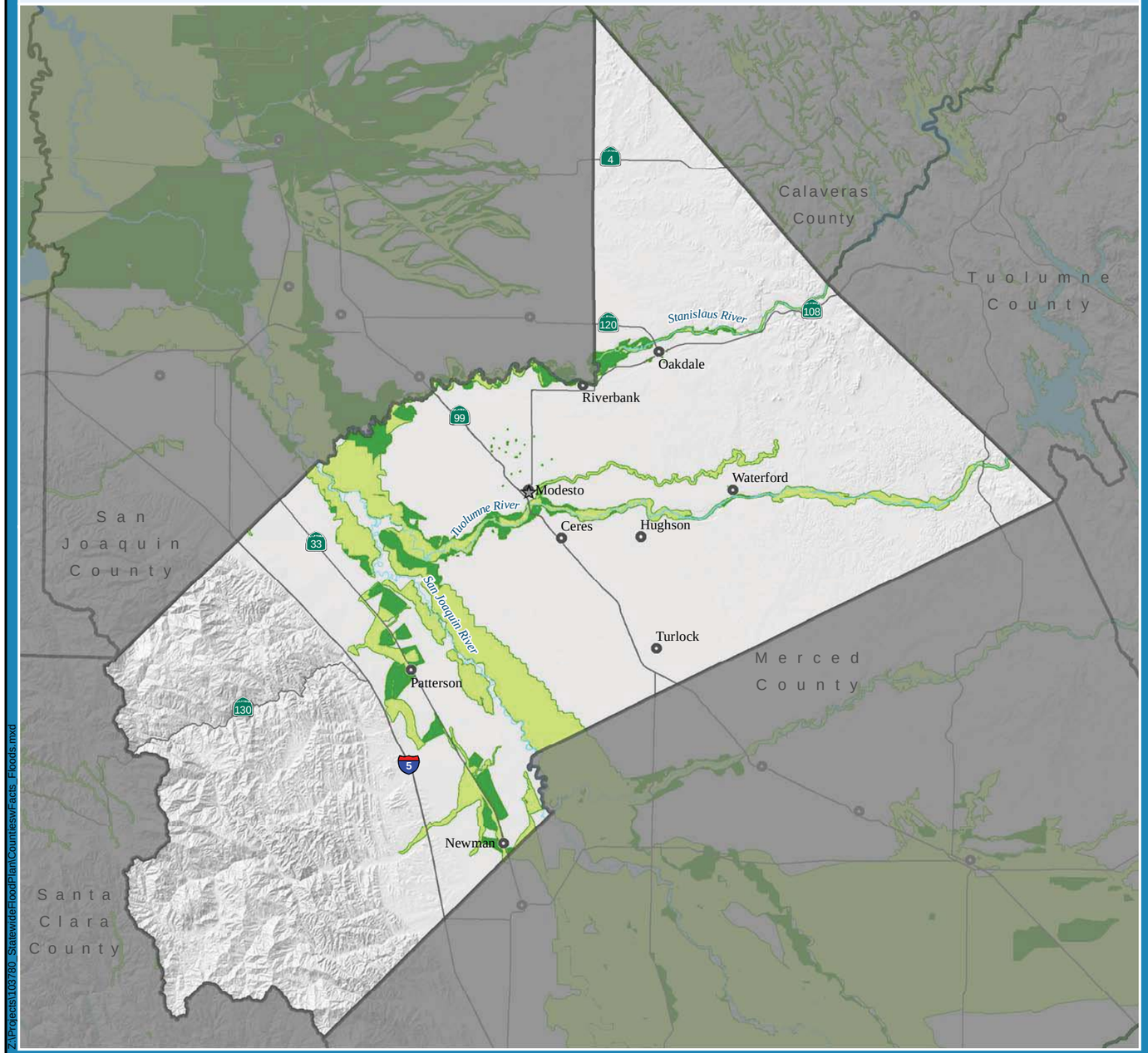
DISCLAIMER: *1) Information displayed on the map does not represent all existing flood infrastructure in the county. Only infrastructure available as "Statewide GIS Data" or submitted in a GIS format by one of the interviewed agencies is shown. 2) The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.*

100-year and 500-year Floodplains



N

0 3.25 6.5 13

Miles

City

Populated Place

Highway

Major River

100-yr Floodplain

500-yr Floodplain

Major Water Body

County

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Selected Flood Events by Event Year

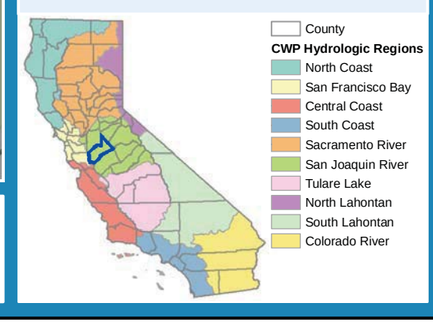
1861-1862 Winter, The Great Flood
1868 March
1909 San Joaquin River
1955-1956 December - January, 1955 Christmas Flood, Stanislaus River
1958 April-July
1962-1963 December-February
1964-1965 December-January, Northern California Christmas 1964 Disaster
1968-1969 December-February, Winter '69 Storms, Klamath River Basin
1980 January-February, Countywide
1995 January-April, 1995 Christmas Flood
1997 January, Countywide
2006 March 29 - April 1, May 10, Spring Storms

Types of Flooding

Likely:
Slow Rise
Stormwater
Flash

Present:
Engineered Structure Failure

Hydrologic Regions



Flood Hazard Exposure

County Statistics

Total Acreage:	970,172
Total Population:	447,034
Total Structures:	151,500
Total Value of Structures and Contents:	$38.8 billion
Total Agricultural Acreage:	376,858
Total Value of Crops:	$857.3 million

Summary of Exposure to Flood Hazard Reported by County

	100-yr Event	500-yr Event
Exposed Area (acres):	61,984	81,320
Percent of Area Exposed:	6	8
Population Exposed:	14,544	36,621
Percent of Population Exposed:	3	8
Structures Exposed:	3,879	10,434
Total Depreciated Replacement Value of Exposed Structures and Contents:	$802.2 million	$2.2 billion
Exposed Crops (acres):	40,331	54,493
Value of Exposed Crops	$54.4 million	$91.8 million
Department of Defense Facilities Exposed:	0	0
Essential Facilities Exposed:	6	23
High Potential Loss Facilities Exposed:	1	1
Lifeline Utilities Exposed:	1	1
Transportation Facilities Exposed:	37	51
Transportation Segments Exposed (miles):	29	40
Native American Tribal Land Exposed (acres):	0	0
Total Sensitive Plant Species Exposed:	19	19
Total Sensitive Animal Species Exposed:	34	34

Stanislaus County

Figure D-99
Summary of Available Flood Types, Flood History, and Flood Hazard Exposure, Stanislaus County

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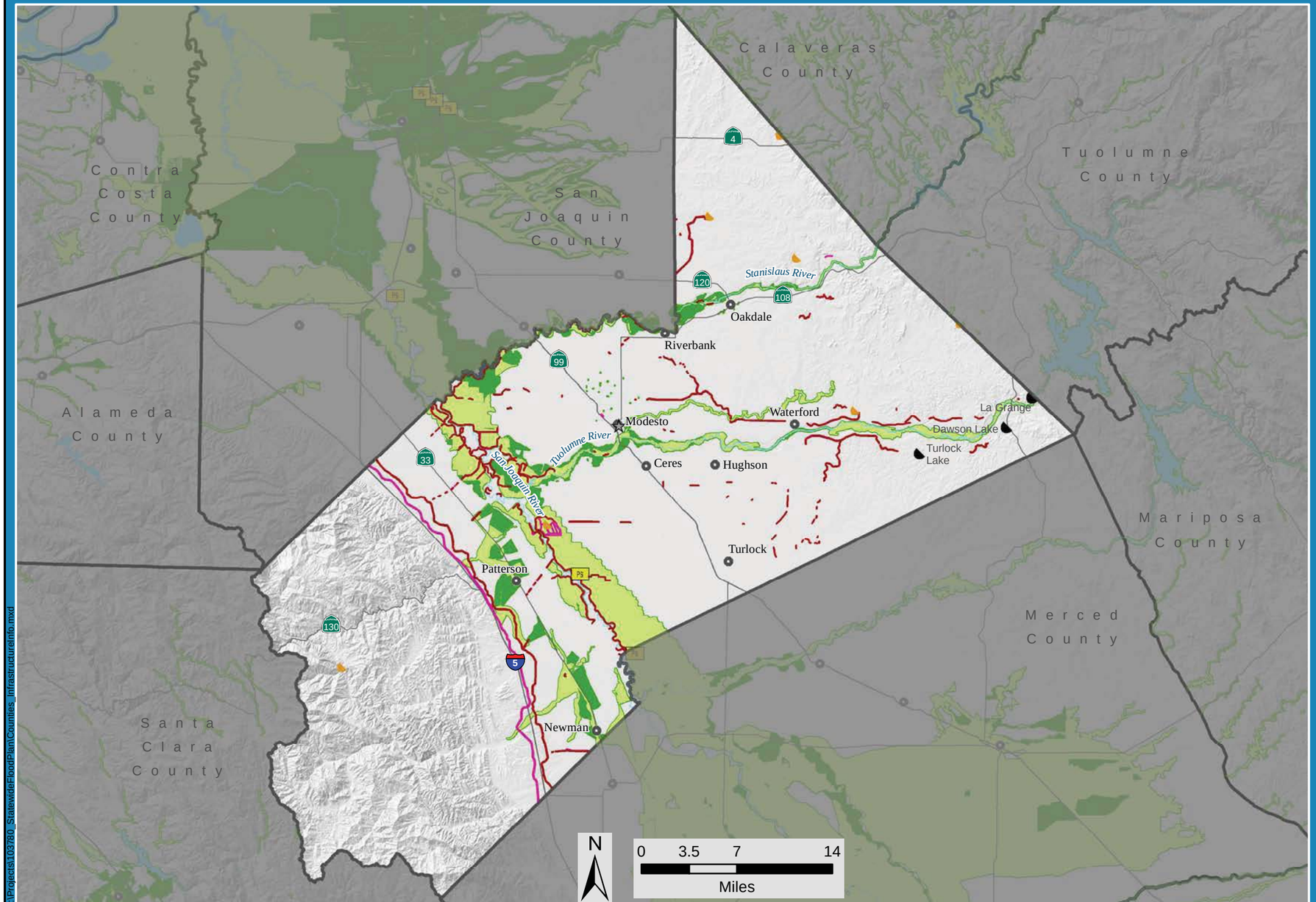
STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

DISCLAIMER: *The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.*

Summary of Available Flood Infrastructure Information



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Statewide GIS Data:

- City
- Populated Place
- DWR Local Agency Dam
- DWR Other Dam
- NFHL Dam or Weir
- CLD Pump Station
- CLD Local Agency Levee
- CLD Other Levee
- NFHL Levee
- NFHL Flood Event Structure
- NFHL Channel
- NFHL Control Structure
- NFHL Dike
- NFHL Retaining Wall
- Highway
- Major River
- Major Water Body
- 100-yr Floodplain
- 500-yr Floodplain
- County

Stanislaus County

Flood Infrastructure GIS Data Received from Agencies Contacted:

No Flood Infrastructure GIS Data Received

Non-GIS, PDF/Hard Copy Flood Infrastructure Data Received from Agencies Contacted (Not Shown On Map):

Canal
Channel

Agencies Contacted as Part of SFMP:

Stanislaus County Public Works
Turlock Irrigation District

Planned Projects:

Number of Local Projects:	6
Estimated Cost of Local Projects:	$30.2 million
Number of USACE Projects:	1
Estimated Cost of USACE Projects:	$3.7 million

Statewide GIS Data Sources:

Cities derived from CAL FIRE incorporated city limit polygons, 2010. **Populated Places** from GNIS, 2011. **Counties** from CalAtlas, 2009. **Dams** modified from DWR, Bullletin 17-00, 2000. **CLD** layers are from California Levee Database, v2.2 r2, 2010. **NFHL** layers are from the National Flood Hazard Layer, FEMA, August 2011. **Highways** from TeleAtlas, 2004. **Rivers** and **Lakes** modified from DFG, N/A. **Floodplains** compiled for SFMP, 2011.
All other Flood Infrastructure GIS data, noted above, received from Agencies Contacted.

Stanislaus County

Figure D-100
Summary of Available Flood Infrastructure Information, Stanislaus County

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US Army Corps of Engineers

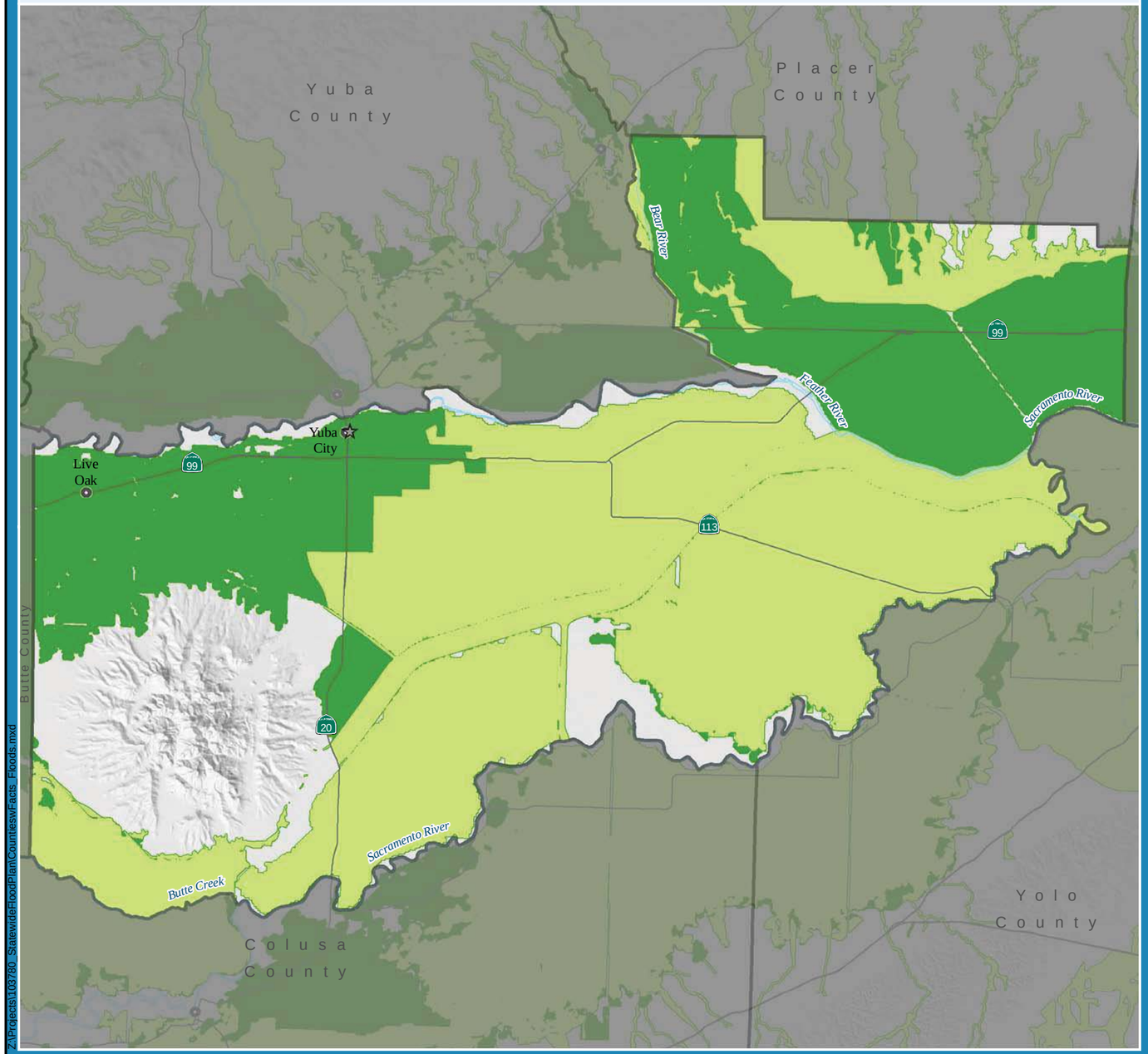
STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

FloodSAFE CALIFORNIA

DISCLAIMER: *1) Information displayed on the map does not represent all existing flood infrastructure in the county. Only infrastructure available as "Statewide GIS Data" or submitted in a GIS format by one of the interviewed agencies is shown. 2) The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.*

Sutter County

100-year and 500-year Floodplains



Z 0 2 4 8 Miles

City · Populated Place · Highway · Major River · 100-yr Floodplain · 500-yr Floodplain · Major Water Body · County

Selected Flood Events by Event Year

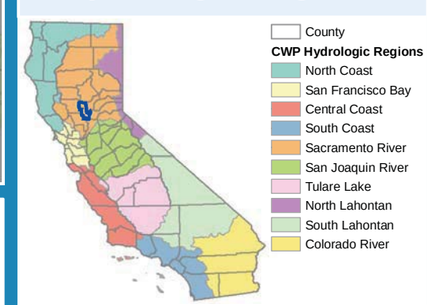
1861-1862 Winter, The Great Flood
1950-1951 November-January
1955-1956 1955 Christmas Flood
1958 February-April
1962 October
1962-1963 December-February
1964-1965 December-January, Northern California Christmas 1964 Disaster
1971 June-August
1973 January-April
1982-1983 December-March, Winter Storms
1986 February, Yuba River - Linda
1995 January-March, Severe Winter Storms Sacramento River Basin
1996-1997 December-January
2006 February 3
2008 January 5-14, Winter Storms

Types of Flooding

Likely:
Slow Rise
Flash
Stormwater

Present:
Debris Flow
Engineered Structure Failure

Hydrologic Regions



Flood Hazard Exposure

County Statistics

Total Acreage:	389,310
Total Population:	78,927
Total Structures:	28,500
Total Value of Structures and Contents:	$7.3 billion
Total Agricultural Acreage:	282,471
Total Value of Crops:	$394.2 million

Summary of Exposure to Flood Hazard Reported by County

	100-yr Event	500-yr Event
Exposed Area (acres):	194,962	308,438
Percent of Area Exposed:	50	79
Population Exposed:	6,173	74,432
Percent of Population Exposed:	8	94
Structures Exposed:	2,132	26,158
Total Depreciated Replacement Value of Exposed Structures and Contents:	$405.7 million	$5.1 billion
Exposed Crops (acres):	164,273	256,273
Value of Exposed Crops:	$218.8 million	$343.2 million
Department of Defense Facilities Exposed:	0	0
Essential Facilities Exposed:	8	56
High Potential Loss Facilities Exposed:	1	2
Lifeline Utilities Exposed:	3	7
Transportation Facilities Exposed:	51	98
Transportation Segments Exposed (miles):	57	127
Native American Tribal Land Exposed (acres):	0	0
Total Sensitive Plant Species Exposed:	6	9
Total Sensitive Animal Species Exposed:	18	21

Figure D-101
Summary of Available Flood Types, Flood History, and Flood Hazard Exposure, Sutter County

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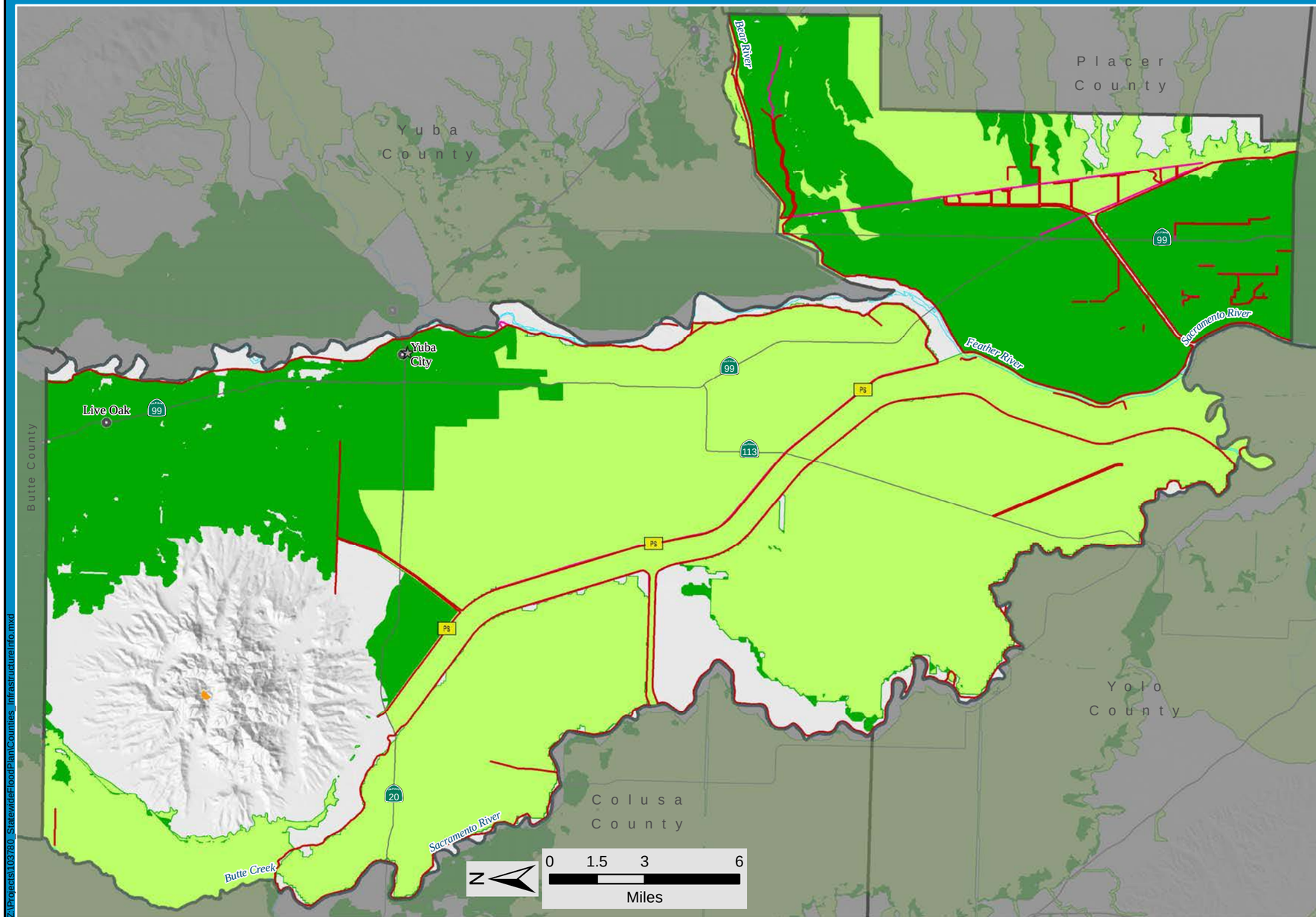
DISCLAIMER: *The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.*

Summary of Available Flood Infrastructure Information

Sutter County



Statewide GIS Data:

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- NFHL Channel
- NFHL Control Structure
- NFHL Dike
- NFHL Retaining Wall
- Highway
- Major River
- Major Water Body
- 100-yr Floodplain
- 500-yr Floodplain
- County

Flood Infrastructure GIS Data Received from Agencies Contacted:

No Flood Infrastructure GIS Data Received

Non-GIS, PDF/Hard Copy Flood Infrastructure Data Received from Agencies Contacted (Not Shown On Map):

Levees
Channel
Pump Station
Detention Basin

Agencies Contacted as Part of SFMP:

Sutter County
Sutter Butte Flood Control Agency

Planned Projects:

Number of Local Projects:	9
Estimated Cost of Local Projects:	$197.8 million
Number of USACE Projects:	0
Estimated Cost of USACE Projects:	none

Statewide GIS Data Sources:

Cities derived from CAL FIRE incorporated city limit polygons, 2010. **Populated Places** from GNIS, 2011. **Counties** from CalAtlas, 2009. **Dams** modified from DWR, Bullletin 17-00, 2000. **CLD** layers are from California Levee Database, v2.2 r2, 2010. **NFHL** layers are from the National Flood Hazard Layer, FEMA, August 2011. **Highways** from TeleAtlas, 2004. **Rivers** and **Lakes** modified from DFG, N/A. **Floodplains** compiled for SFMP, 2011.
All other Flood Infrastructure GIS data, noted above, received from Agencies Contacted.

Sutter County

Figure D-102
Summary of Available Flood Infrastructure Information, Sutter County

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STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

FloodSAFE CALIFORNIA

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