
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

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STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

FloodSAFE CALIFORNIA

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Statewide GIS Data Legend

Statewide GIS Data:

- City
- Populated Place
- DWR Local Agency Dam
- DWR Other Dam
- NFHL Dam or Weir
- CLD Pump Station (PS)
- 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

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STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

FloodSAFE CALIFORNIA

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

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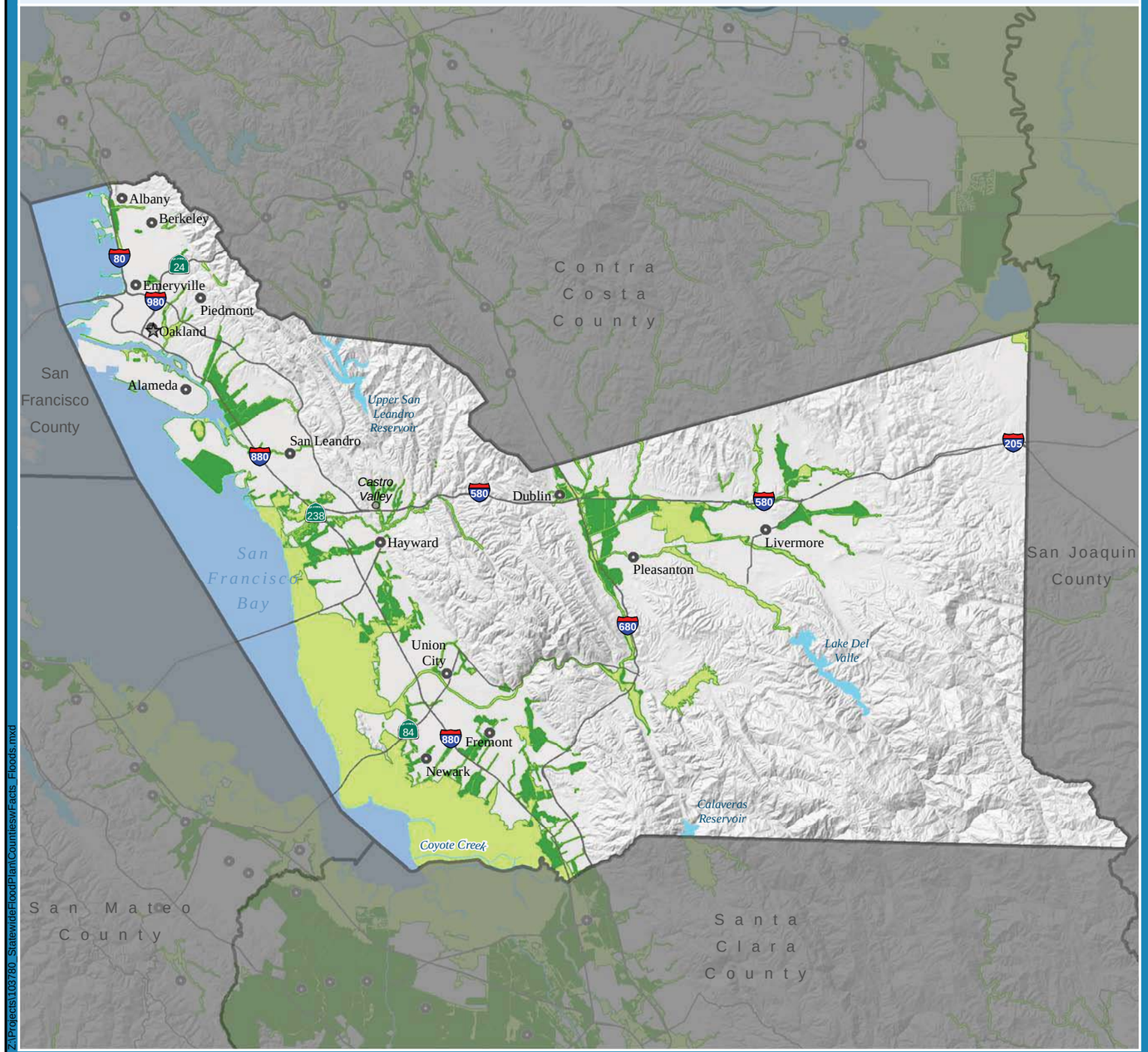
100-year and 500-year Floodplains



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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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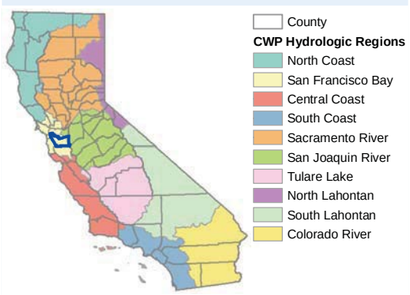
Selected Flood Events by Event Year

1861-1862 Winter, The Great Flood
1950 January-March, Unincorporated Areas of Alameda County
1955-1956 December-January, 1955 Christmas Flood, Alameda Creek, Bay Area
1958 February-April, Bay Area
1962-1963 December-February
1968-1969 December-February, Winter '69 Storms, Bay Area
1973 January-February, Central Coast Ranges (including Bay Area) to Transverse and Peninsula Ranges
1981-1982 December-April, Bay Area
1986 February-March, St. Valentine's Day Storm
1995-1996 December-March, 1995 Christmas Flood
1996-1997 January
1998 January-March, El Niño Floods
2005-2006 December-January, New Year's Eve Flood of 2006
2006 February 3 - April 1, May 10, Spring Storms
2008 January 5-14, Winter Storms

Types of Flooding

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

Hydrologic Regions



Flood Hazard Exposure

County Statistics

Total Acreage:	525,337
Total Population:	1.4 million
Total Structures:	427,100
Total Value of Structures and Contents:	$140.0 billion
Total Agricultural Acreage:	10,613
Total Value of Crops:	$3.4 million

Summary of Exposure to Flood Hazard Reported by County

	100-yr Event	500-yr Event
Exposed Area (acres):	45,821	60,199
Percent of Area Exposed:	9	11
Population Exposed:	32,985	126,622
Percent of Population Exposed:	2	9
Structures Exposed:	10,132	36,503
Total Depreciated Replacement Value of Exposed Structures and Contents:	$5.6 billion	$16.7 billion
Exposed Crops (acres):	1,037	1,394
Value of Exposed Crops:	$290,806	$447,000
Department of Defense Facilities Exposed:	3	3
Essential Facilities Exposed:	8	45
High Potential Loss Facilities Exposed:	6	42
Lifeline Utilities Exposed:	6	7
Transportation Facilities Exposed:	43	113
Transportation Segments Exposed (miles):	48	100
Native American Tribal Land Exposed (acres):	0	0
Total Sensitive Plant Species Exposed:	29	29
Total Sensitive Animal Species Exposed:	45	45

Alameda County

Figure D-1
Summary of Available Flood Types, Flood History,and Flood Hazard Exposure, Alameda County

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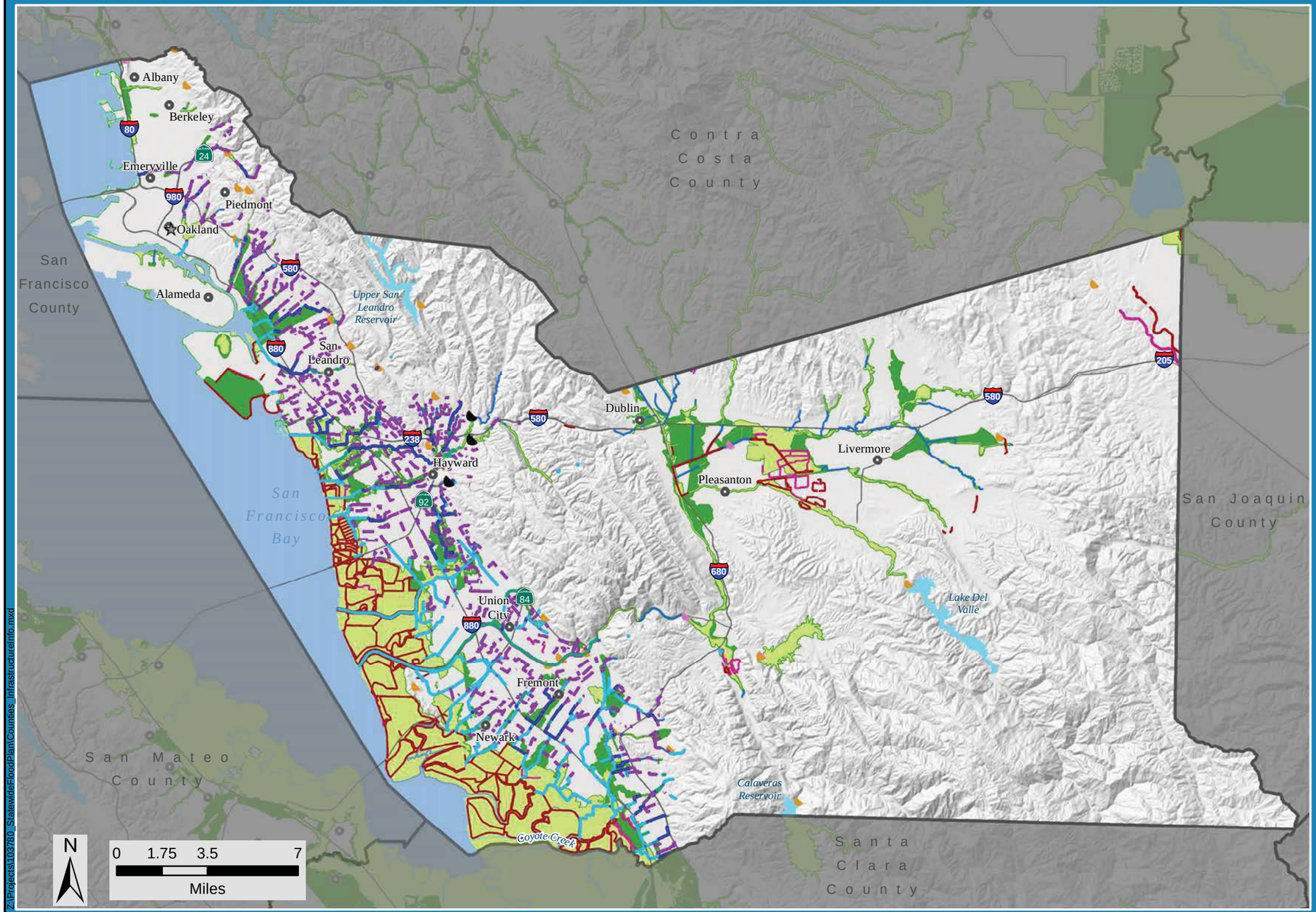
STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

FloodSAFE CALIFORNIA

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

Summary of Available Flood Infrastructure Information



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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

Alameda County

Flood Infrastructure GIS Data Received from Agencies Contacted:

Flood Control Facility
- Closed Conduit
- Concrete Channel
- Earth Channel
- Improved Creek
- Spillway

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

Levee
Channel
Pump Station
Detention Basin

Agencies Contacted as Part of SFMP:

Alameda County Flood Control and Water Conservation District
Alameda County – Zone 7

Planned Projects:

Number of Local Projects:	20
Estimated Cost of Local Projects:	$613.3 million
Number of USACE Projects:	3
Estimated Cost of USACE Projects:	$38.2 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.

Figure D-2
Summary of Available Flood Infrastructure Information, Alameda County

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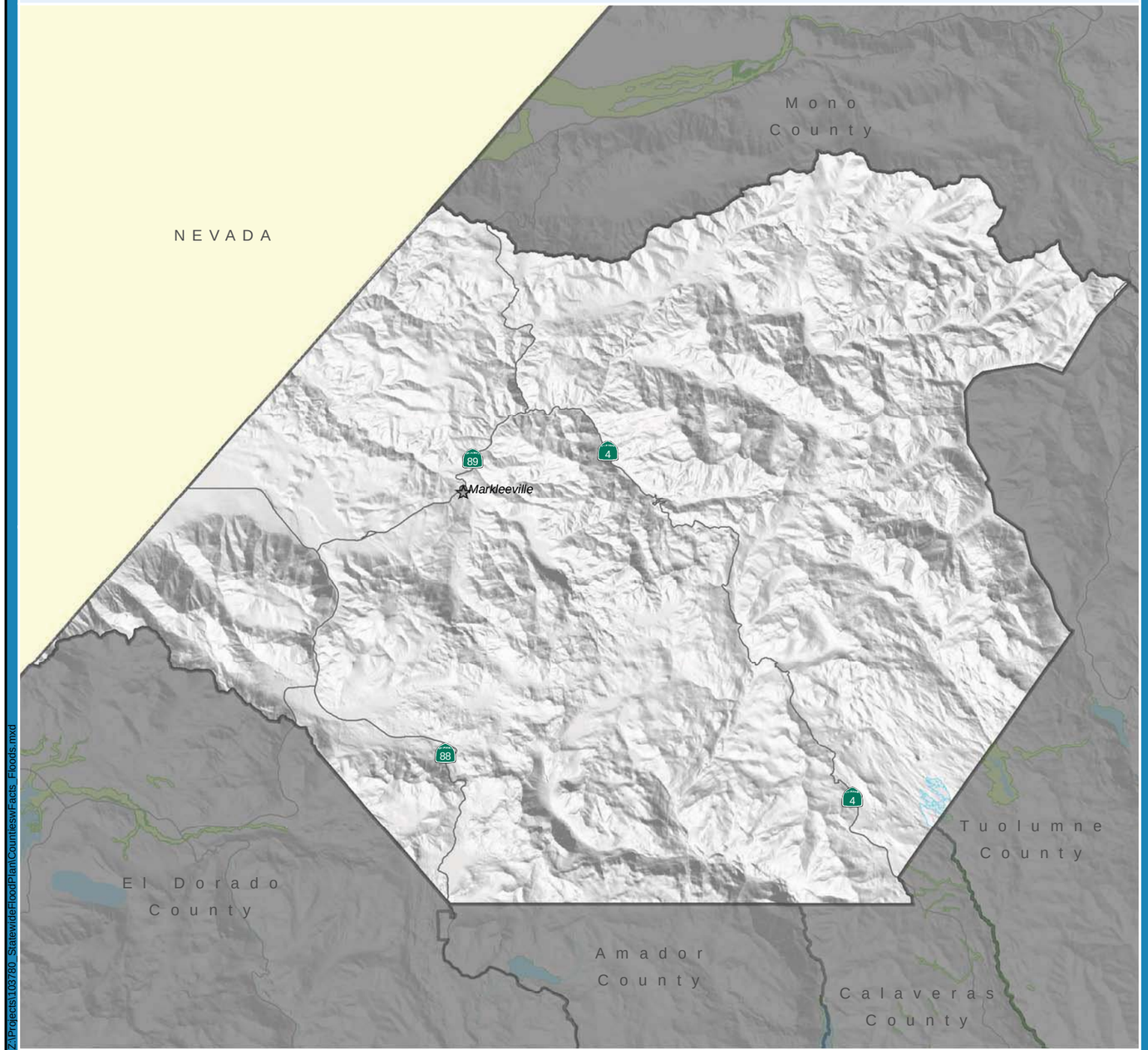
STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM
FloodSAFE CALIFORNIA

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.*

100-year and 500-year Floodplains



Selected Flood Events by Event Year

1852 December, Carson River Watershed
1861-1862 Winter, The Great Flood
1937 December-March, Carson River Basin
1950 November-December, Carson River Basin
1955-1956 December-January, 1955 Christmas Flood, Carson River Basin
1968-1969 December-February, Winter '69 Storms
1986 February-March, Carson River Basin Northern and Central California (including Bay Area)
1993 February
1995 January-February, Severe Winter Storms
1997 January 1 - 2, West Fork Carson River near Woodfords East Fork Carson River near Ebbetts Pass Countywide
2006 March 29-April 1, May 10

Types of Flooding

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

Hydrologic Regions

Flood Hazard Exposure

County Statistics

Total Acreage:	474,266
Total Population:	1,210
Total Structures:	1,400
Total Value of Structures and Contents:	$243.5 million
Total Agricultural Acreage:	4,212
Total Value of Crops:	$134,900

Summary of Exposure to Flood Hazard Reported by County	100-yr Event	500-yr Event
Exposed Area (acres):	0	0
Percent of Area Exposed:	0	0
Population Exposed:	0	0
Percent of Population Exposed:	0	0
Structures Exposed:	0	0
Total Depreciation Replacement Value of Exposed Structures and Contents:	$0	$0
Exposed Crops (acres):	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:	0	0
Total Sensitive Animal Species Exposed:	0	0

Alpine County

Figure D-3
Summary of Available Flood Types, Flood History, and Flood Hazard Exposure, Alpine County

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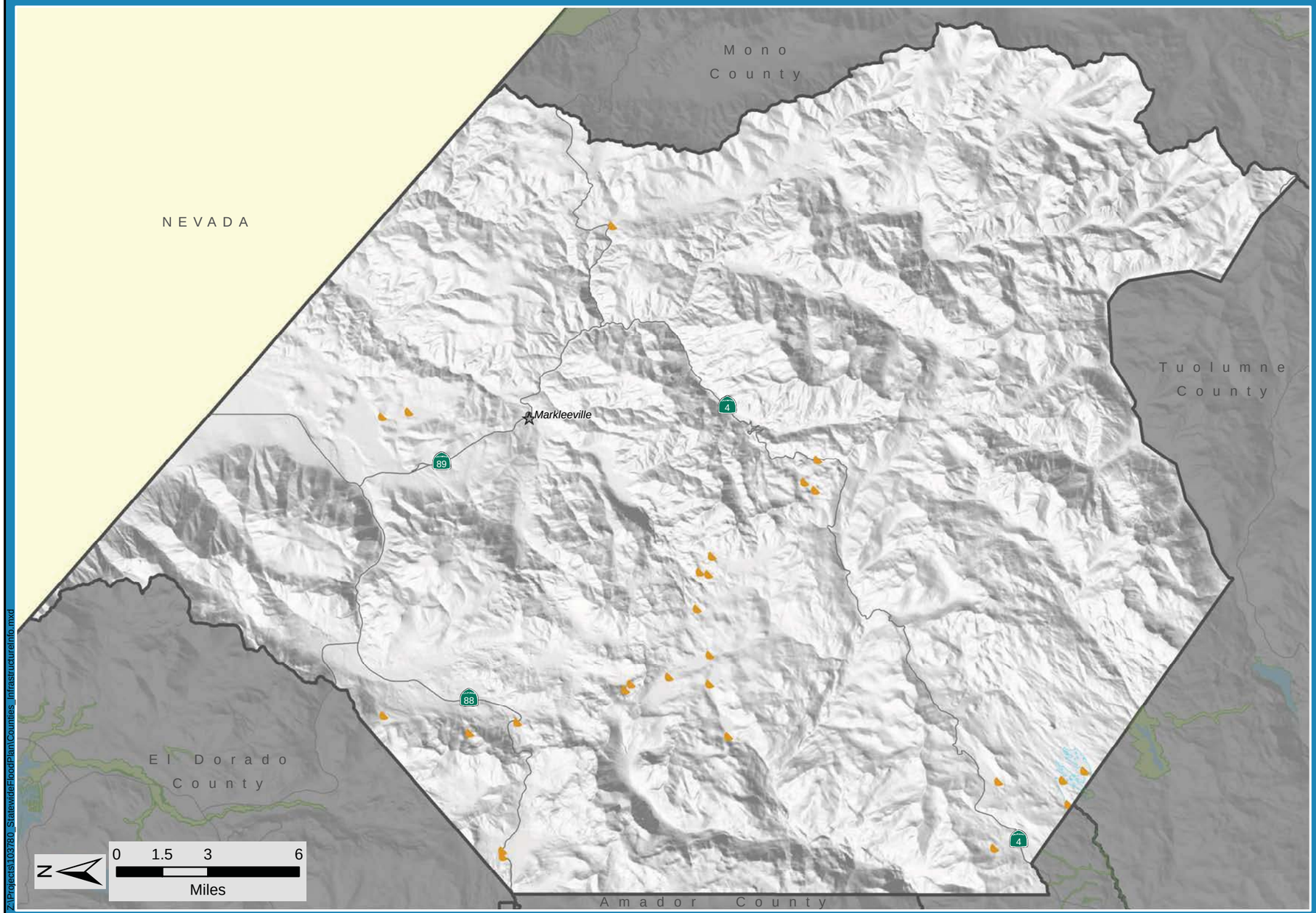
STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

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

Summary of Available Flood Infrastructure Information



Alpine 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:

Alpine County

Planned Projects:

Number of Local Projects:	1
Estimated Cost of Local Projects:	$220,700
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.

Alpine 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-4

Summary of Available Flood Infrastructure Information, Alpine County

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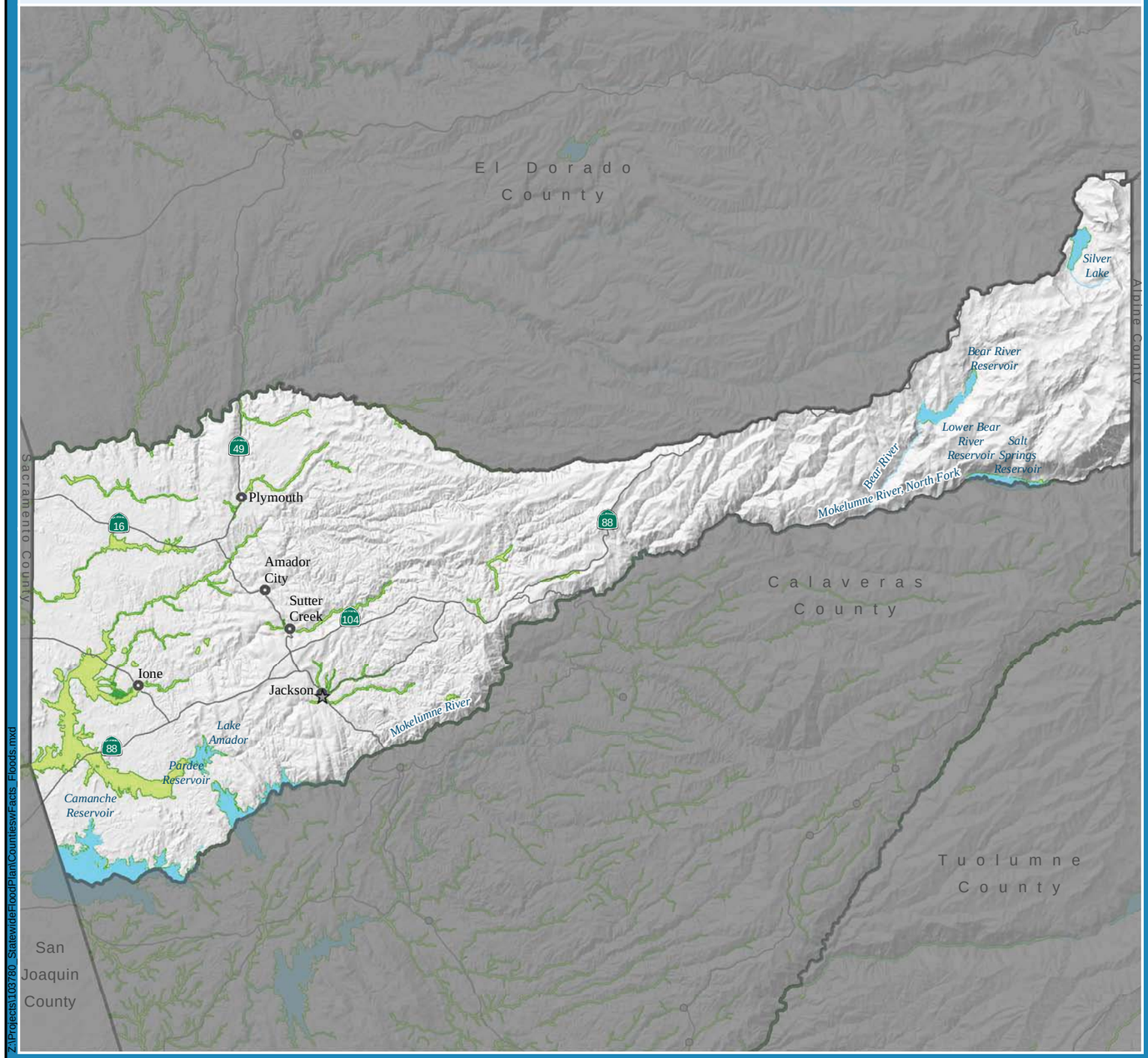
STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

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.*

100-year and 500-year Floodplains



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

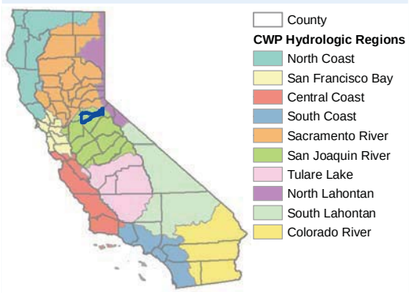
Selected Flood Events by Event Year

1861-1862 Winter, The Great Flood, Mokelumne River, Middle Fork, Sacramento River
1907 March, The Great Ione Flood, Jackson Creek, Stockton
1955-1956 December-January, Christmas Flood
1962-1963 December-February
1964-1965 December-January, Northern California Christmas 1964 Disaster
1986 February-March, SSt. Valentine's Day Storm
1996 December
1997 January, Sutter Creek in cities of Ione and Sutter Creek Jackson Creek in Jackson
1998 February, El Niño Floods, JVID Creek, Sutter Creek, Cities of Amador and Ione
2005-2006 December - January, New Year's Eve Flood of 2006
2006 March-May, Spring Storms, Cities of Plymouth, Ione, and Jackson

Types of Flooding

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

Hydrologic Regions



Flood Hazard Exposure

County Statistics

Total Acreage:	387,826
Total Population:	35,100
Total Structures:	16,700
Total Value of Structures and Contents:	$3.8 billion
Total Agricultural Acreage:	8,822
Total Value of Crops:	$5.6 million

Summary of Exposure to Flood Hazard Reported by County	100-yr Event	500-yr Event
Exposed Area (acres):	16,917	17,105
Percent of Area Exposed:	4	4
Population Exposed:	1,470	1,709
Percent of Population Exposed:	4	5
Exposed Structures:	718	837
Total Depreciated Replacement Value of Exposed Structures and Contents:	$160.8 million	$185.6 million
Exposed Crops (acres):	3,378	3,472
Value of Exposed Crops:	$4.6 million	$4.7 million
Department of Defense Facilities Exposed:	0	0
Essential Facilities Exposed:	4	4
High Potential Loss Facilities Exposed:	6	6
Lifeline Utilities Exposed:	0	0
Transportation Facilities Exposed:	16	16
Transportation Segments Exposed (miles):	9	9
Native American Tribal Exposed Land (acres):	0	0
Total Sensitive Plant Species Exposed:	5	5
Total Sensitive Animal Species Exposed:	12	12

Amador County

Figure D-5
Summary of Available Flood Types, Flood History, and Flood Hazard Exposure, Amador County

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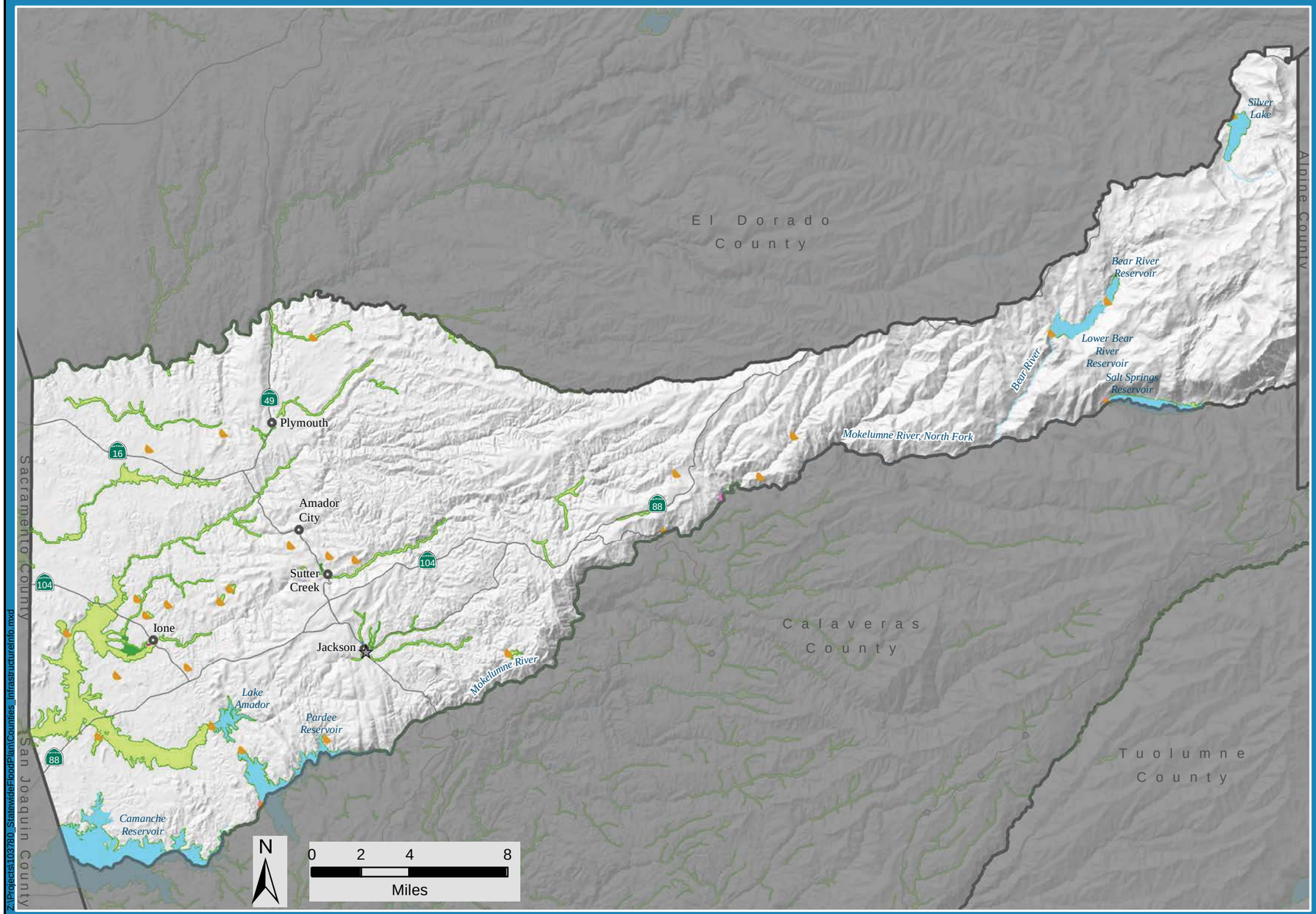
STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM
FloodSAFE CALIFORNIA

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

Amador 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:

Amador County

Planned Projects:

Number of Local Projects:	5
Estimated Cost of Local Projects:	$85.1 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.

Figure D-6

Summary of Available Flood Infrastructure Information, Amador County

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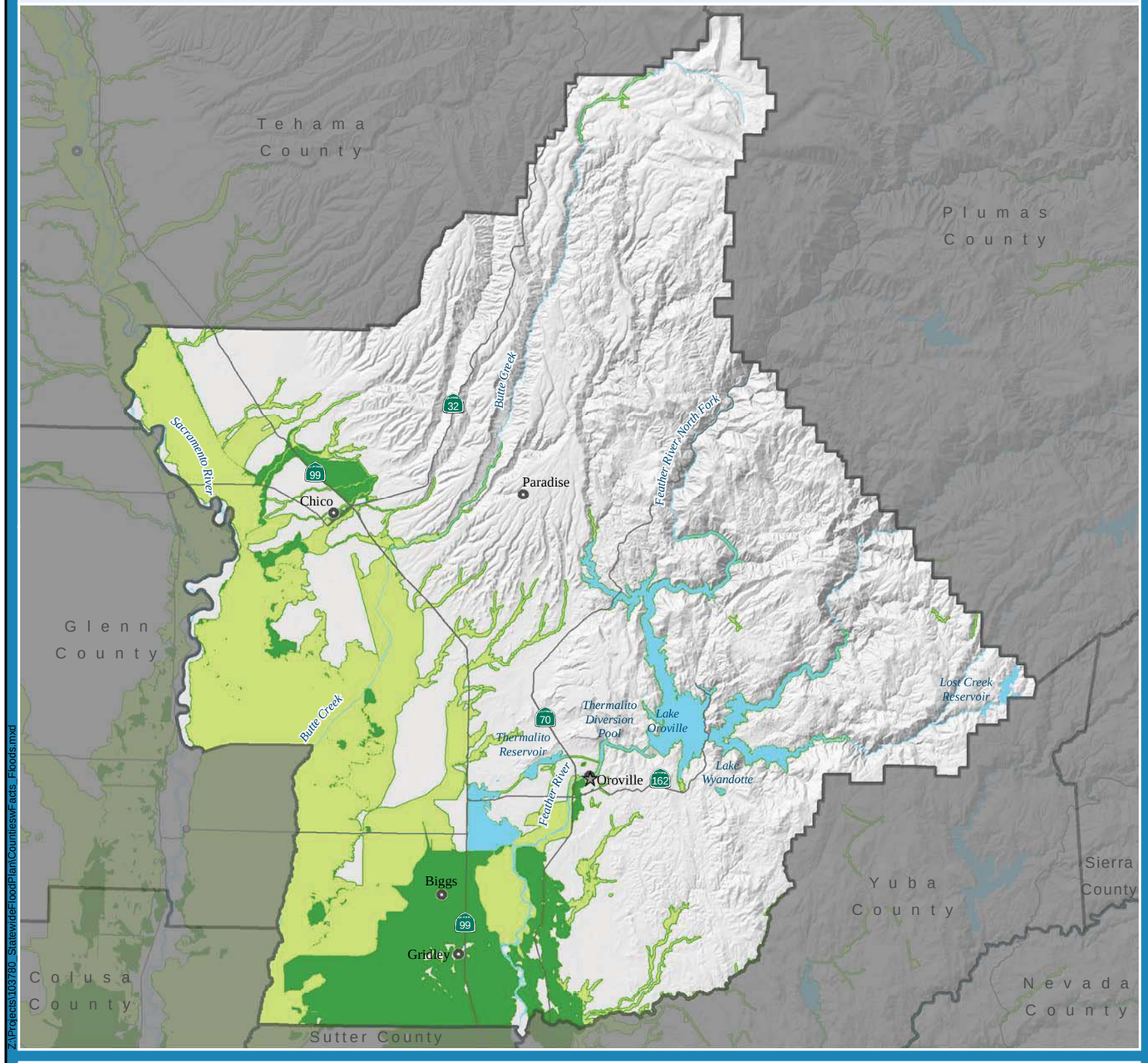
STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

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



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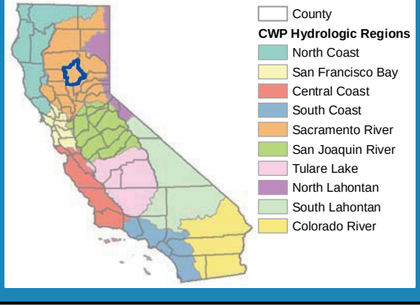
Selected Flood Events by Event Year

1861-1862 Winter, The Great Flood
1937-1938 December-March
1955-1956 December-January, 1955 Chirstmas Flood
1962 October
1969-1970 December-March
1974 January-April, Little Chico Creek
1982-1983 December-March, Keefer Slough, Ruddy Creek
1986 February, Butte Creek, Wyman Ravine, Ruddy Creek
1995 January-March, Rock Creek Keefer Slough Areas
1996-1997 December-January, Butte Creek (State Maintenance Area 5), Palermo, Butte Creek Canyon, Chico
2005 January, Palermo, Rock Creek Keefer Slough Areas
2006 May 10
2008 January 5-14, Winter Storms
2008 October 3-4, Pulga, Las Plumas, Big Bend

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:	1.1 million
Total Population:	203,166
Total Structures:	83,700
Total Value of Structures and Contents:	$16.8 billion
Total Agricultural Acreage:	223,923
Total Value of Crops:	$340.7 million

Summary of Exposure to Flood Hazard Reported by County

	100-yr Event	500-yr Event
Exposed Area (acres):	198,831	271,287
Percent of Area Exposed:	19	25
Population Exposed:	13,698	51,968
Percent of Population Exposed:	7	26
Structures Exposed:	5,316	19,446
Total Depreciated Replacement Value of Exposed Structures and Contents:	$1.1 billion	$3.7 billion
Exposed Crops (acres):	119,038	161,405
Value of Exposed Crops:	$146.9 million	$228.6 million
Department of Defense Facilities Exposed:	0	0
Essential Facilities Exposed:	3	35
High Potential Loss Facilities Exposed:	2	5
Lifeline Utilities Exposed:	2	4
Transportation Facilities Exposed:	174	250
Transportation Segments Exposed (miles):	45	92
Native American Tribal Land Exposed (acres):	0	0
Total Sensitive Plant Species Exposed:	33	37
Total Sensitive Animal Species Exposed:	35	35

Butte County

Figure D-7

Summary of Available Flood Types, Flood History, and Flood Hazard Exposure, Butte County

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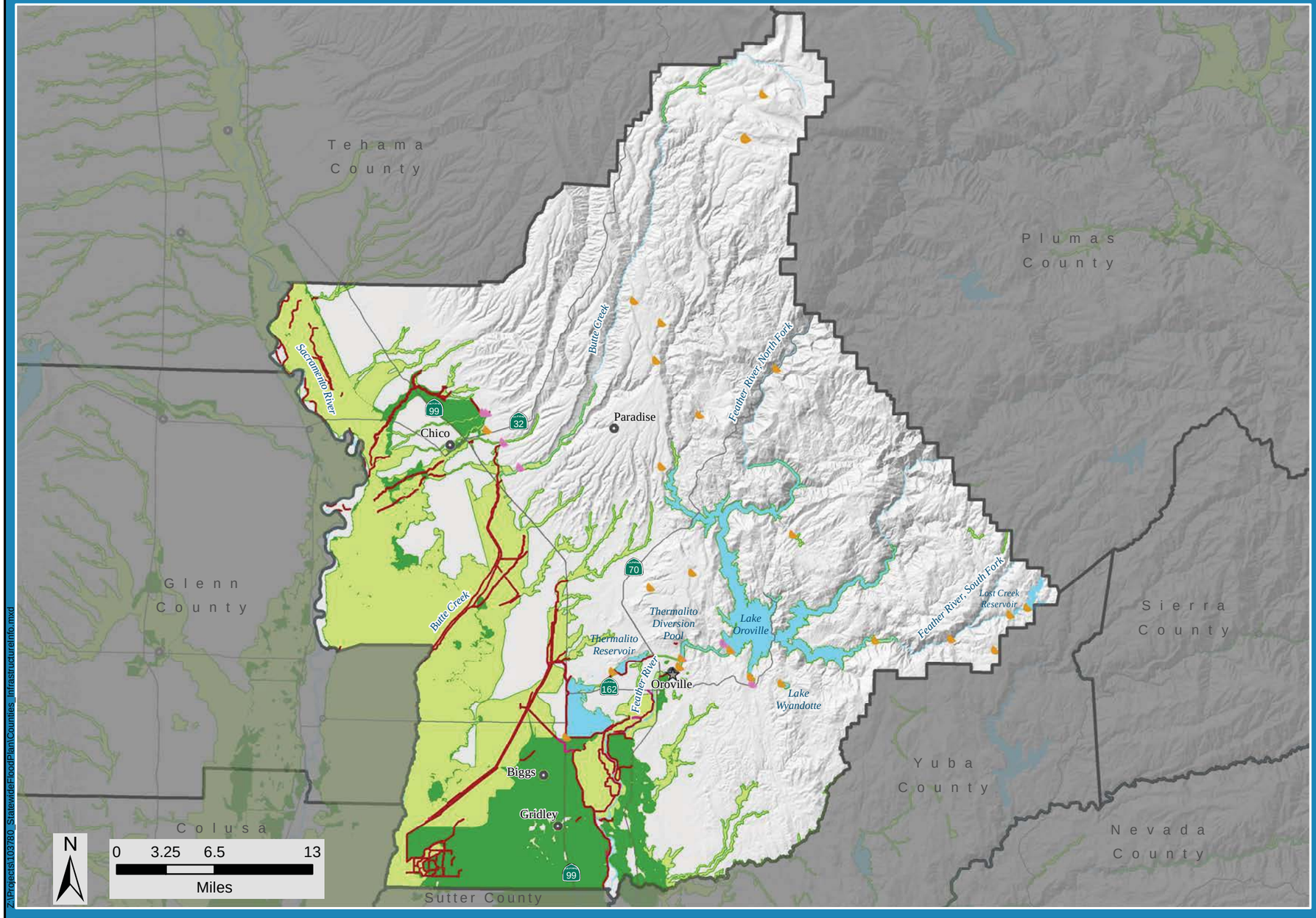
STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

FloodSAFE CALIFORNIA

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

Summary of Available Flood Infrastructure Information



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Butte 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:

Butte County Public Works
City of Chico
M & T Ranch

Planned Projects:

Number of Local Projects:	2
Estimated Cost of Local Projects:	$177.5 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.

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-8
Summary of Available Flood Infrastructure Information, Butte County

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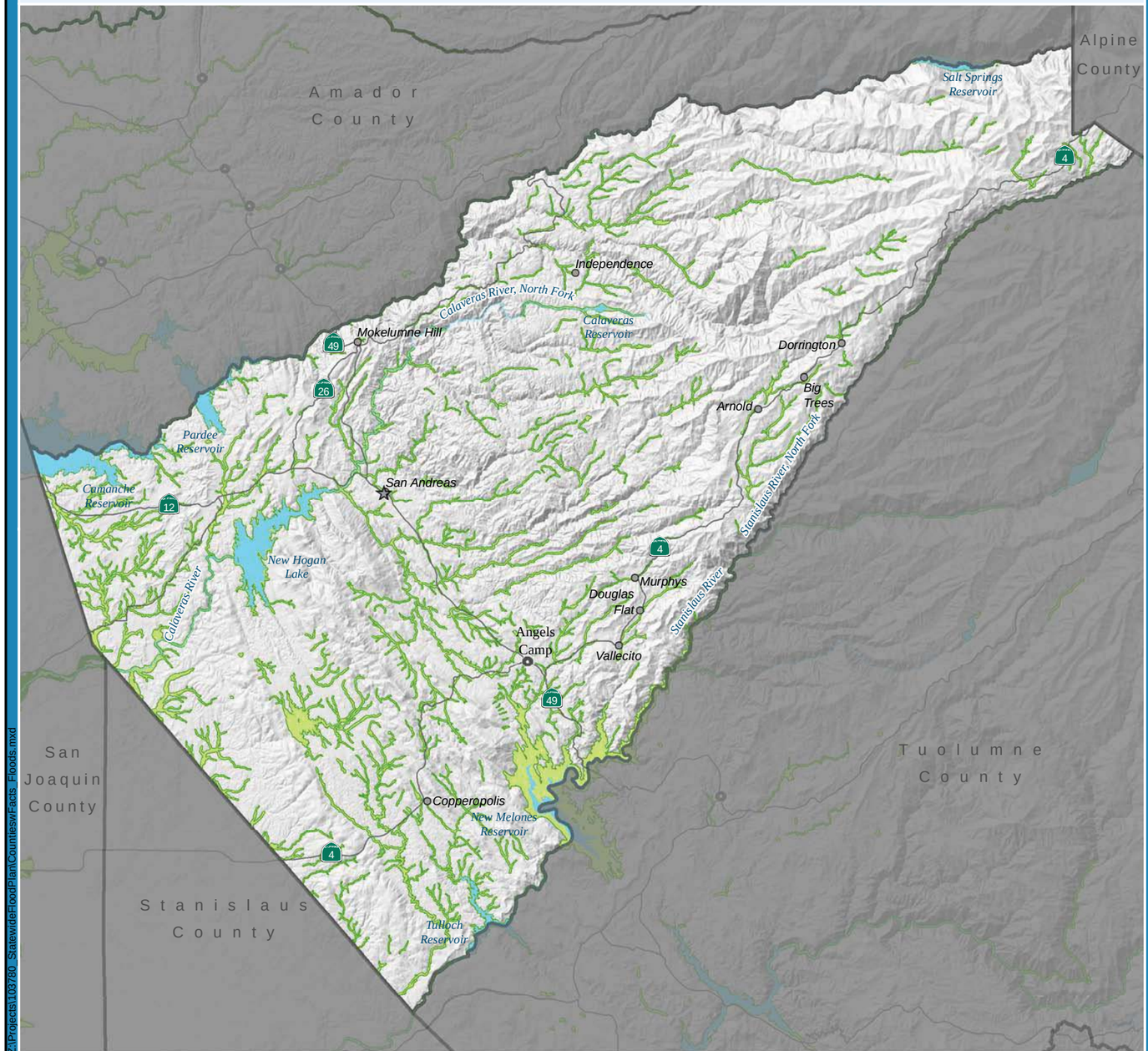
STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

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.*

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

Selected Flood Events by Event Year

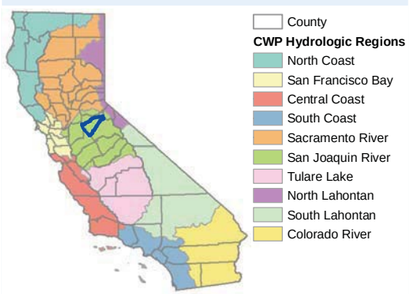
1861-1862 Winter, The Great Flood
1955-1956 December-January, 1955 Christmas Flood, Coyote Creek
1958 February-April, Coyote Creek
1962-1963 December-February, Coyote Creek
1968-1969 December-February, Winter '69 Storms, Countywide
1986 February-March, St. Valentine's Day Storm
1995 January-April, 1995 Christmas Flood
1997 January 3, Highway 4 in Calaveras County
1998 El Niño Floods
1999 February 9, 1999 Flash Flood, Cosgrove Creek near Valley Springs
2006 March 29-April 1, May 10, 2006 Spring Storms, Countywide

Types of Flooding

Likely:
Slow Rise
Stormwater
Flash

Present:
Engineered Structure Failure
Debris Flow

Hydrologic Regions



Flood Hazard Exposure

County Statistics

Total Acreage:	662,841
Total Population:	40,552
Total Structures:	25,500
Total Value of Structures and Contents:	$5.6 billion
Total Agricultural Acreage:	3,252
Total Value of Crops:	$3.5 million

Summary of Exposure to Flood Hazard Reported by County

	100-yr Event	500-yr Event
Exposed Area (acres):	34,562	34,562
Percent of Area Exposed:	5	5
Population Exposed:	1,609	1,609
Percent of Population Exposed:	4	4
Structures Exposed:	975	975
Total Depreciated Replacement Value of Exposed Structures and Contents:	$220.6 million	$220.6 million
Exposed Crops (acres):	313	313
Value of Exposed Crops:	$843,033	$843,033
Department of Defense Facilities Exposed:	0	0
Essential Facilities Exposed:	2	2
High Potential Loss Facilities Exposed:	11	11
Lifeline Utilities Exposed:	0	0
Transportation Facilities Exposed:	14	14
Transportation Segments Exposed (miles):	11	11
Native American Tribal Land Exposed (acres):	3	3
Total Sensitive Plant Species Exposed:	18	18
Total Sensitive Animal Species Exposed:	25	25

Calaveras County

Figure D-9
Summary of Available Flood Types, Flood History, and Flood Hazard Exposure, Calaveras County

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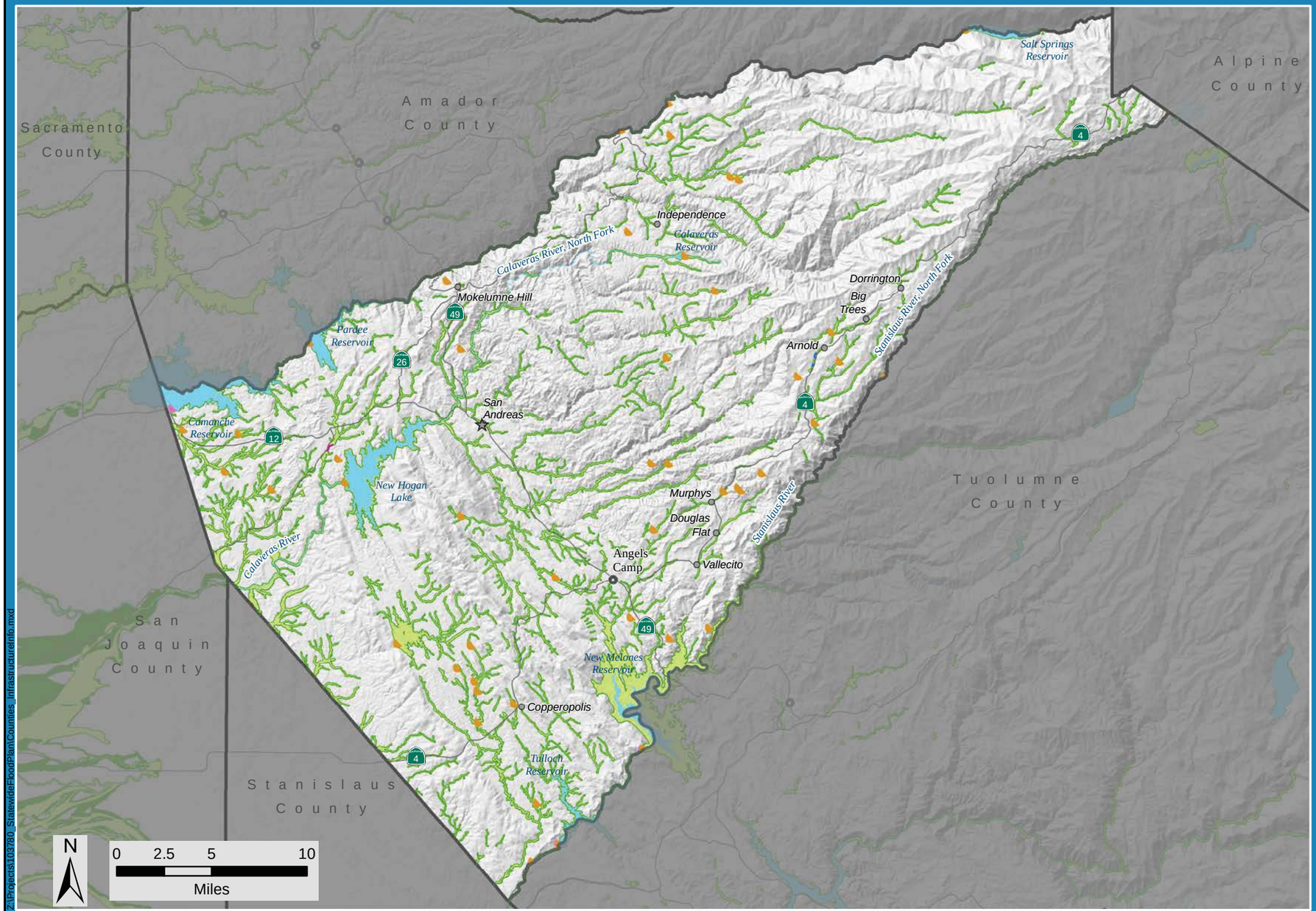
STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

Summary of Available Flood Infrastructure Information



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Calaveras 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:

Calaveras County
Calaveras County Water District

Planned Projects:

Number of Local Projects:	6
Estimated Cost of Local Projects:	$28.7 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.

Calaveras 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-10
Summary of Available Flood Infrastructure Information, Calaveras County

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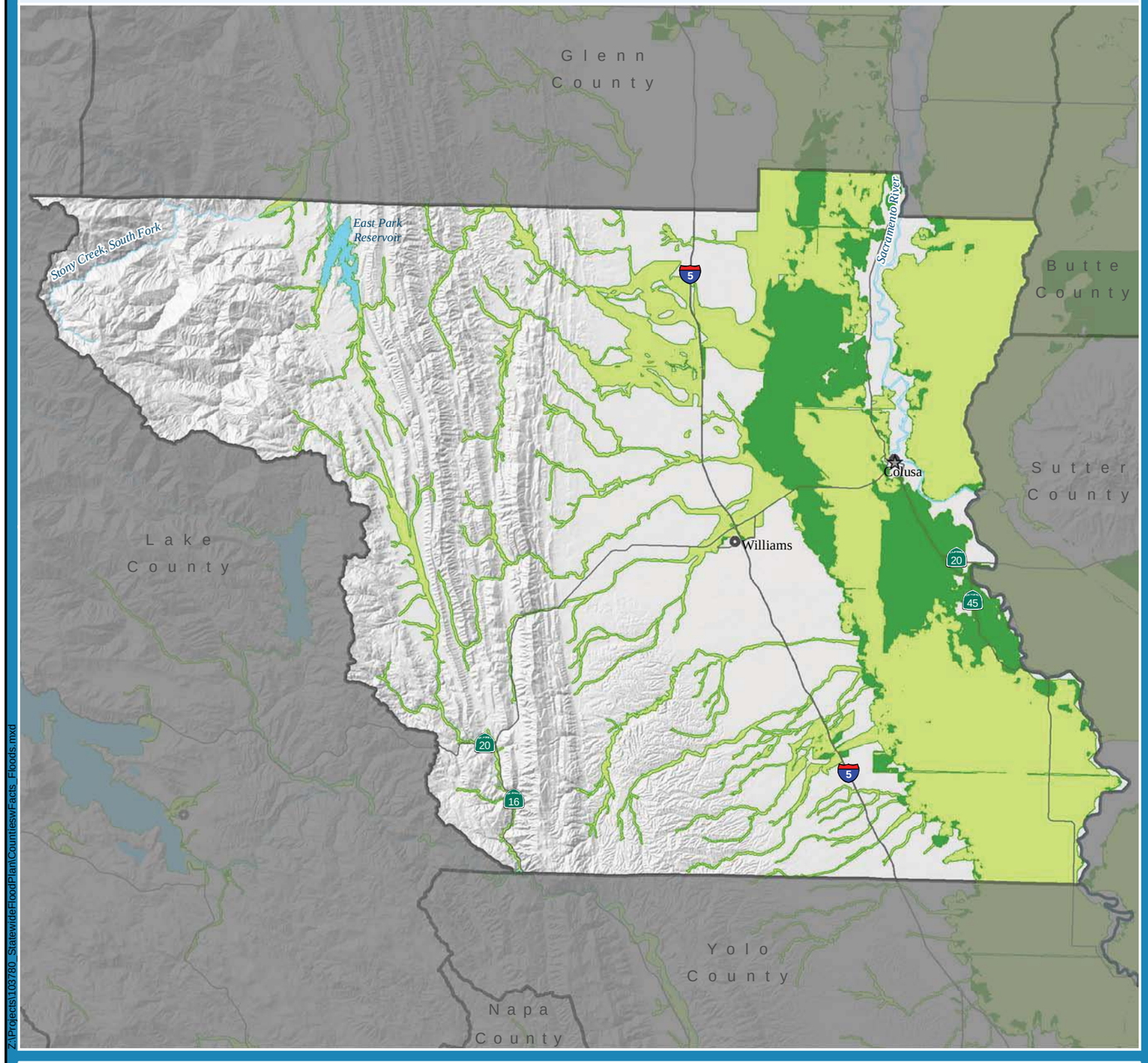
STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM
FloodSAFE CALIFORNIA

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.*

Colusa 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

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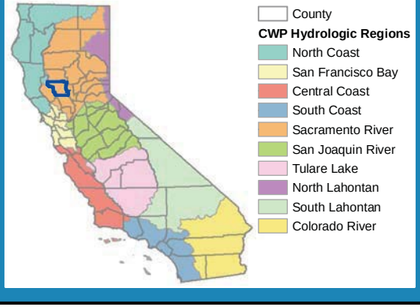
Selected Flood Events by Event Year

1861-1862 Winter, The Great Flood
1907 January-March, Sacramento River at Colusa
1915 February 4, Grimes Picnic Ground, Sacramento River near Grimes
1942 Colusa Basin Drain
1955-1956 December-January 1955 Christmas Flood
1963 January-February
1964-1965 December-January, Northern California Christmas 1964 Disaster
1969-1970 Winter 69' Storms
1973 January-April
1978 March, Colusa Basin Drain
1979-1980 Colusa Basin Drain
1982-1983 December-March, Winter Storms
1984 Colusa Basin Drain
1986 February, St. Valentines Day Storm
1995 January-March, Severe Winter Storms
1996-1997 December-January, Colusa Basin Drain, Ladoga, Indian Creek
2006 March 29-April 1, May 10
2008 January 5-14, 2008 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:	740,383
Total Population:	18,804
Total Structures:	9,000
Total Value of Structures and Contents:	$1.3 billion
Total Agricultural Acreage:	293,219
Total Value of Crops:	$335.6 million

Summary of Exposure to Flood Hazard Reported by County	100-yr Event	500-yr Event
Exposed Area (acres):	175,332	229,213
Percent of Area Exposed:	24	31
Population Exposed:	5,800	8,320
Percent of Population Exposed:	31	44
Structures Exposed:	2,334	3,463
Total Depreciated Replacement Value of Exposed Structures and Contents:	$334.0 million	$513.8 million
Exposed Crops (acres):	121,018	159,064
Value of Exposed Crops:	$78.1 million	$99.9 million
Department of Defense Facilities Exposed:	0	0
Essential Facilities Exposed:	11	14
High Potential Loss Facilities Exposed:	9	9
Lifeline Utilities Exposed:	0	0
Transportation Facilities Exposed:	80	96
Transportation Segments Exposed (miles):	30	49
Native American Tribal Land Exposed (acres):	407	487
Total Sensitive Plant Species Exposed:	30	31
Total Sensitive Animal Species Exposed:	29	30

Figure D-11
Summary of Available Flood Types, Flood History, and Flood Hazard Exposure, Colusa County

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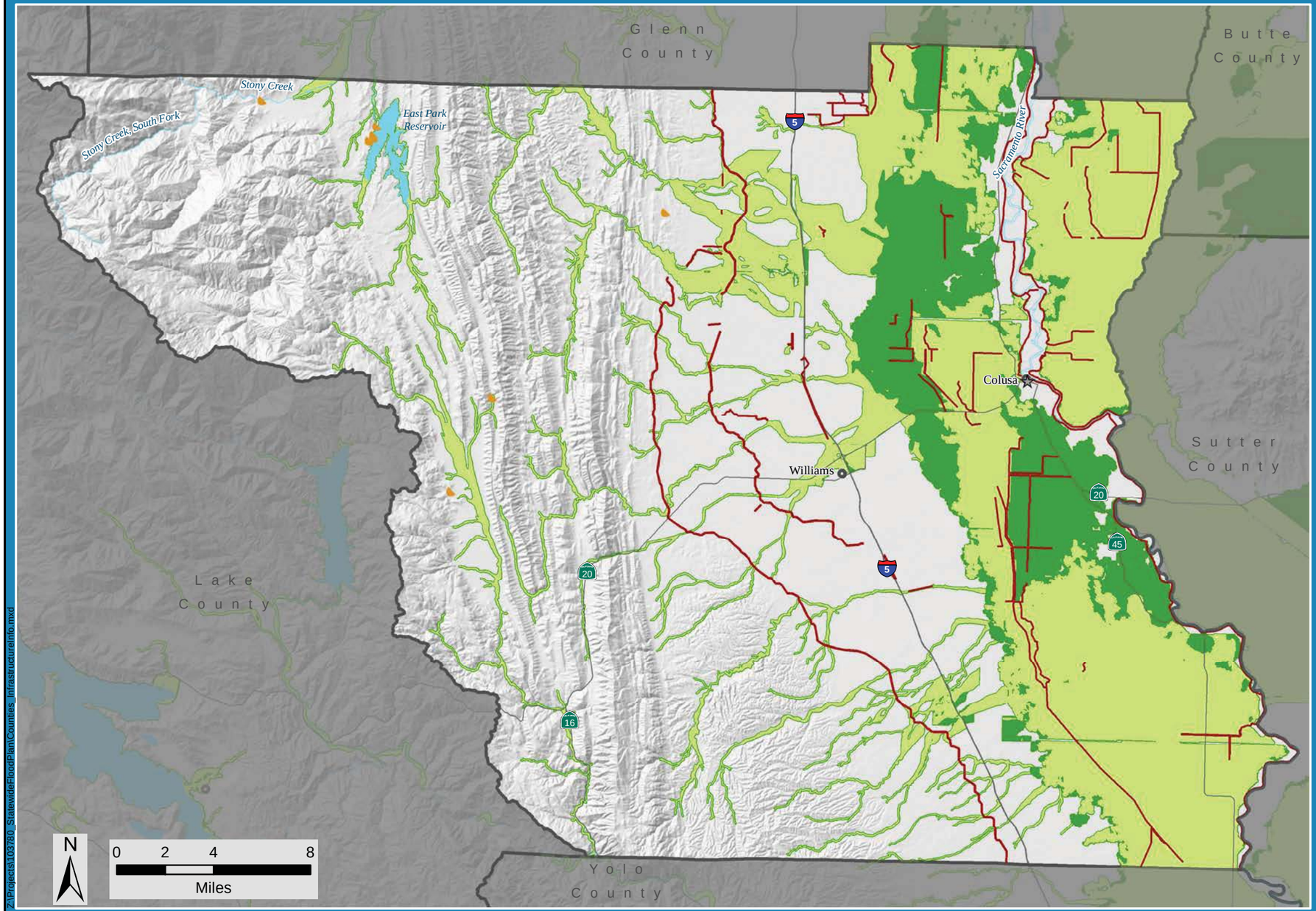
STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

FloodSAFE CALIFORNIA

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

Summary of Available Flood Infrastructure Information



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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

Colusa 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:

Colusa County Public Works
Colusa Basin Drainage District
Reclamation District 108

Planned Projects:

Number of Local Projects:	6
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.

Colusa County

Figure D-12
Summary of Available Flood Infrastructure Information, Colusa County

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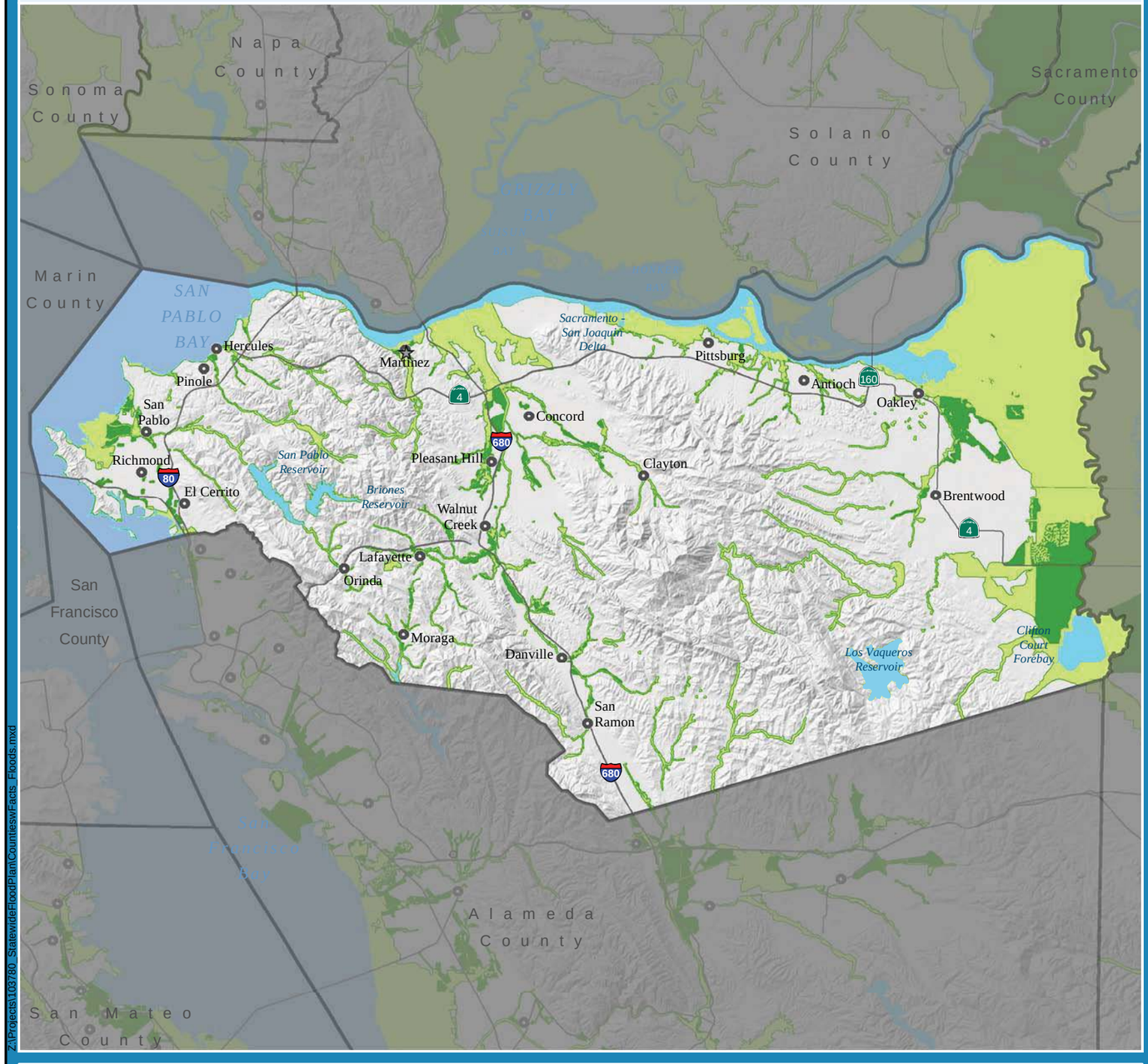
US Army Corps of Engineers

STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

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

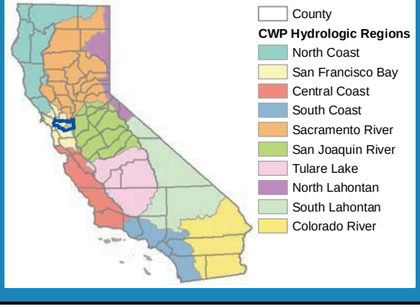
Selected Flood Events by Event Year

1861-1862 Winter, The Great Flood
1955-1956 December-January, Christmas Flood
1962-1963 December-February
1968-1969 December-February, Winter '69 Storms, Countywide
1970 April
1980 January-February, Delta Levee Break, Sacramento-San Joaquin Delta
1982-1983 November-March, Winter Storms Countywide
1986 February-March, St. Valentine's Day Storm San Pablo Bay
1990 May
1995 January-April, 1995 Christmas Flood
1998 January-March, El Niño Floods, Pittsburg, Walnut Creek
2005-2006 December 17- January 12, New Year's Eve Flood of 2006, Bay Area, Walnut Creek, Richmond, San Pablo, Martinez, Orinda
2006 February 3-April 1, Spring Storms

Types of Flooding

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

Hydrologic Regions



Flood Hazard Exposure

County Statistics

Total Acreage:	514,018
Total Population:	949,049
Total Structures:	320,100
Total Value of Structures and Contents:	$110.0 billion
Total Agricultural Acreage:	48,440
Total Value of Crops:	$131.5 million

Summary of Exposure to Flood Hazard Reported by County	100-yr Event	500-yr Event
Exposed Area (acres):	112,987	125,291
Percent of Area Exposed:	22	24
Population Exposed:	39,525	66,806
Percent of Population Exposed:	4	7
Exposed Structures:	15,252	25,291
Total Depreciated Replacement Value of Exposed Structures and Contents:	$4.9 billion	$8.7 billion
Exposed Crops (acres):	23,151	28,478
Value of Exposed Crops:	$48.4 million	$62.0 million
Department of Defense Facilities Exposed:	1	1
Essential Facilities Exposed:	20	38
High Potential Loss Facilities Exposed:	64	65
Lifeline Utilities Exposed:	12	14
Transportation Facilities Exposed:	110	135
Transportation Segments Exposed (miles):	60	82
Native American Tribal Land Exposed (acres):	0	0
Total Sensitive Plant Species Exposed:	49	49
Total Sensitive Animal Species Exposed:	63	64

Contra Costa County

Figure D-13
Summary of Available Flood Types, Flood History, and Flood Hazard Exposure, Contra Costa County

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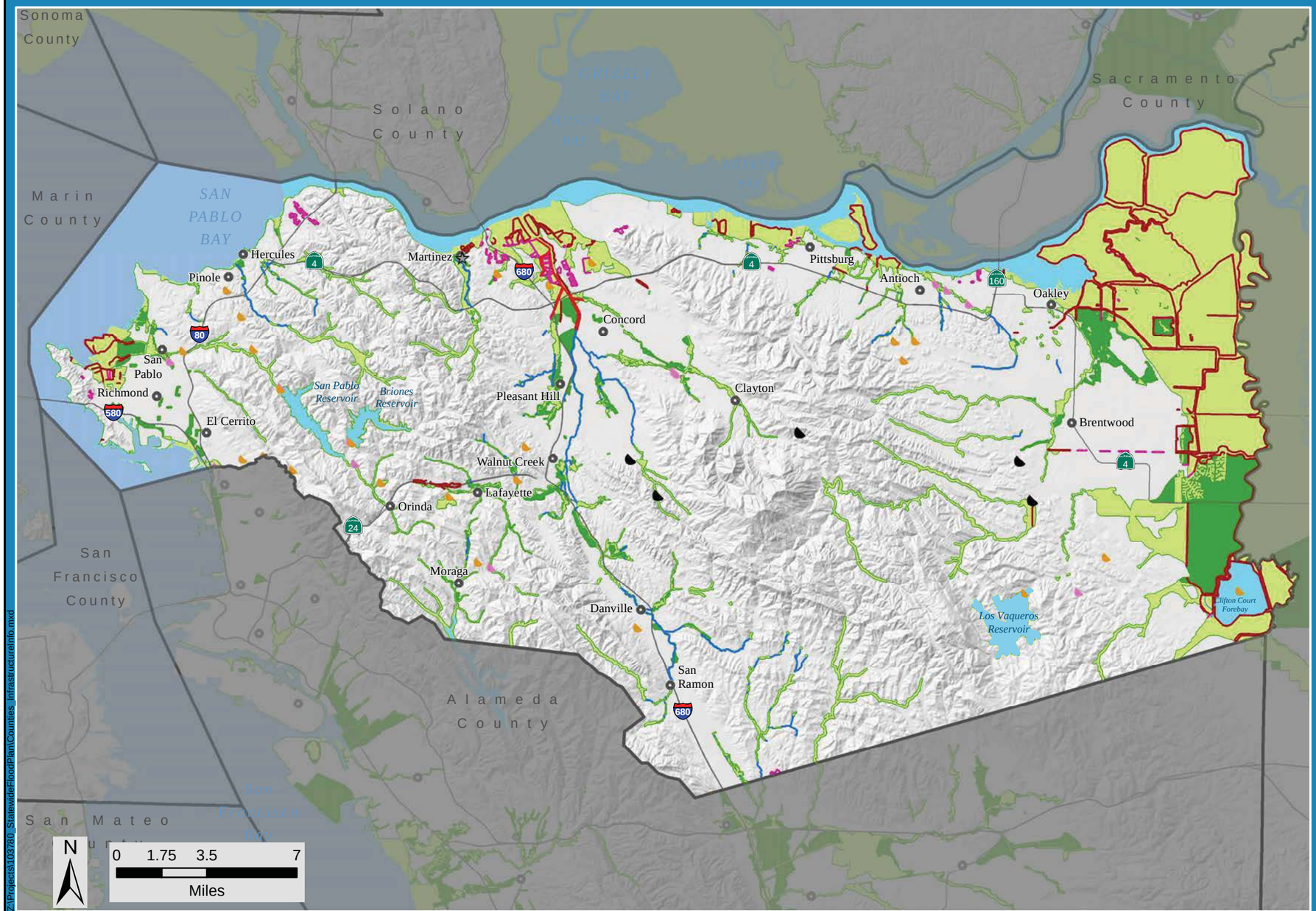
STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

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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Contra Costa 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:

Contra Costa Flood Control and Water Conservation District
Bethel Island Municipal Improvement District

Planned Projects:

Number of Local Projects:	51
Estimated Cost of Local Projects:	$148.2 million
Number of USACE Projects:	5
Estimated Cost of USACE Projects:	$212.8 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.

Contra Costa 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-14

Summary of Available Flood Infrastructure Information, Contra Costa County

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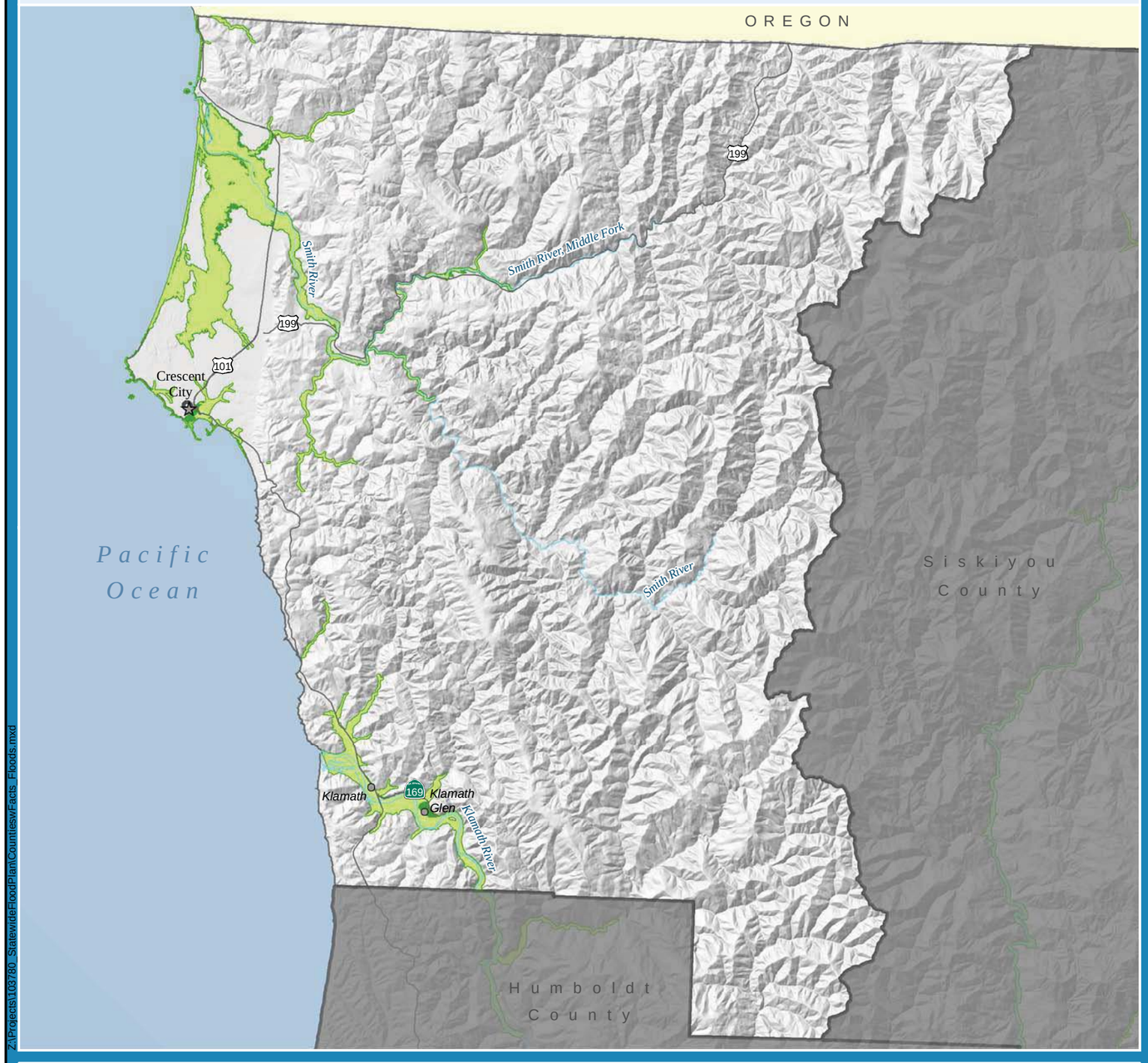
STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

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.*

100-year and 500-year Floodplains



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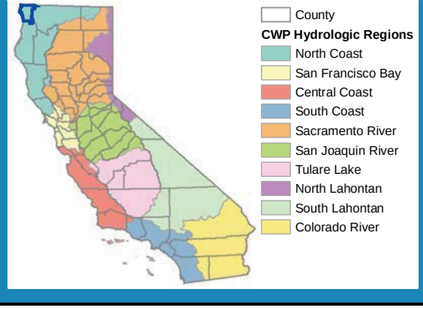
Selected Flood Events by Event Year

1861-1862 Winter, The Great Flood
1953 January, Smith River, Klamath Basin
1955-1956 December-January, 1955 Christmas Flood, Smith River, Klamath River
1958 February-April, Smith River
1964 April 01
1964-1965 December-January, Northern California Christmas 1964 Disaster, Smith River, Klamath River
1966 January, Smith River
1968-1969 Winter Storms
1970 December, Countywide
1978 January
1982-1983 December-January
1986 February, Countywide
1993 February, Late Winter Storms
1995 January-March, Severe Winter Storms
1998 February 9, El Niño Floods
2005-2006 December-January, New Year's Eve Flood of 2006
2006 May 10, Spring Storms
2008 January 5-14, Winter Storms
2011 March 11, Tsunami

Types of Flooding

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

Hydrologic Regions



Flood Hazard Exposure

County Statistics

Total Acreage:	648,967
Total Population:	27,471
Total Structures:	11,200
Total Value of Structures and Contents:	$1.8 billion
Total Agricultural Acreage:	10,744
Total Value of Crops:	n/a

Summary of Exposure to Flood Hazard Reported by County

	100-yr Event	500-yr Event
Exposed Area (acres):	19,320	20,174
Percent of Area Exposed:	3	3
Population Exposed:	1,652	2,553
Percent of Population Exposed:	6	9
Exposed Structures:	855	1,404
Total Depreciated Replacement Value of Exposed Structures and Contents	$131.1 million	$234.7 million
Exposed Crops (acres):	5,422	5,697
Value of Exposed Crops:	n/a	n/a
Department of Defense Facilities Exposed:	0	0
Essential Facilities Exposed:	1	3
High Potential Loss Facilities Exposed:	0	0
Lifeline Utilities Exposed:	2	3
Transportation Facilities Exposed:	18	18
Transportation Segments Exposed (miles):	11	12
Native American Tribal Land Exposed (acres):	3,595	3,774
Total Sensitive Plant Species Exposed:	49	49
Total Sensitive Animal Species Exposed:	32	32

Del Norte County

Figure D-15
Summary of Available Flood Types, Flood History, and Flood Hazard Exposure, Del Norte County

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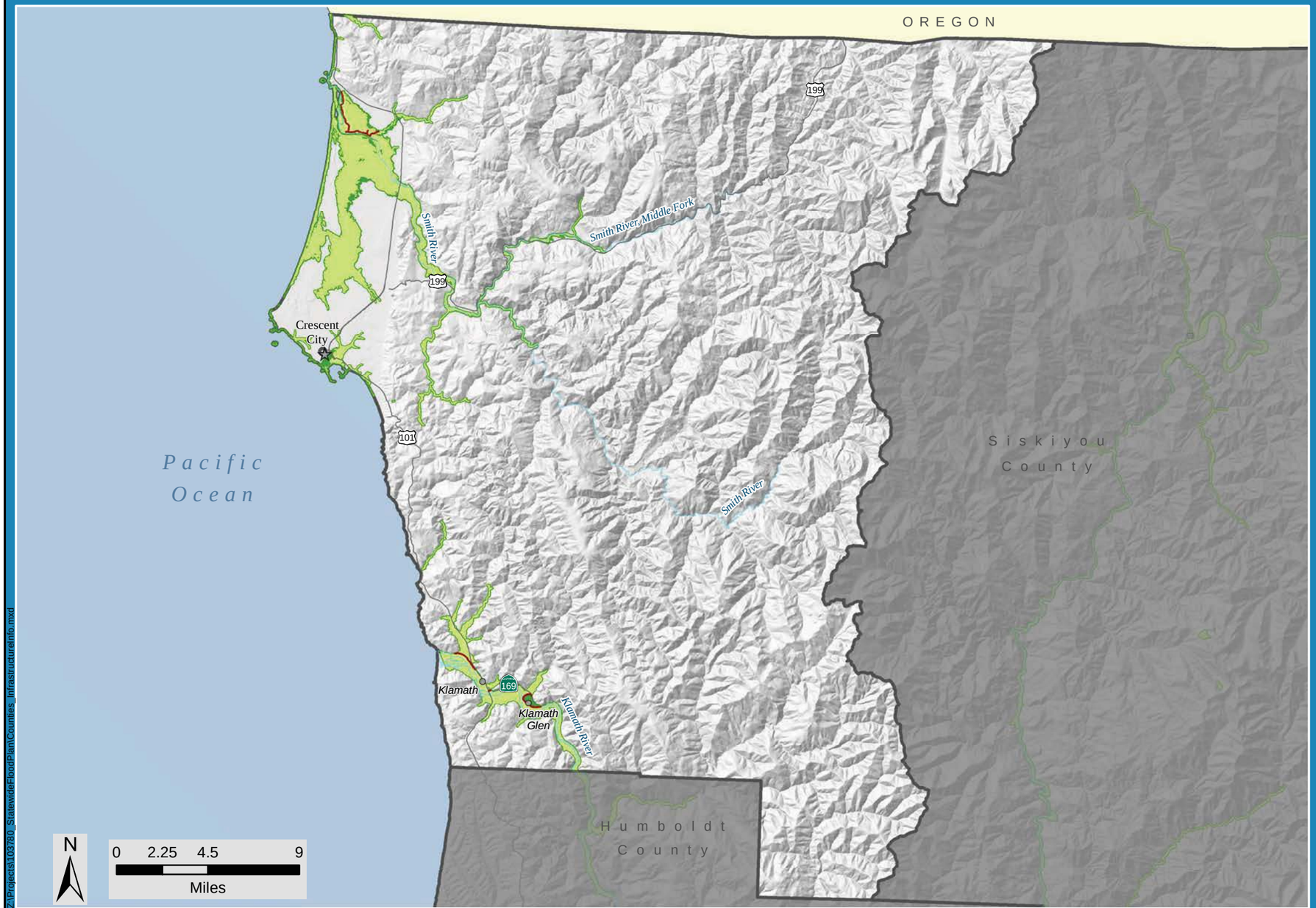
US Army Corps of Engineers.

STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM
FloodSAFE CALIFORNIA

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

Summary of Available Flood Infrastructure Information



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Del Norte 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):

Channel
Dam
Levee
Relief Well

Agencies Contacted as Part of SFMP:

Del Norte County Flood Control District
Caltrans Region 1
5 Counties Program (Del Norte, Humboldt, Mendocino, Siskiyou, and Trinity Counties)
Crescent City
Crescent City Harbor
Smith River Rancheria

Planned Projects:

Number of Local Projects:	5
Estimated Cost of Local Projects:	n/a
Number of USACE Projects:	1
Estimated Cost of USACE Projects:	n/a

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.

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-16
Summary of Available Flood Infrastructure Information, Del Norte County

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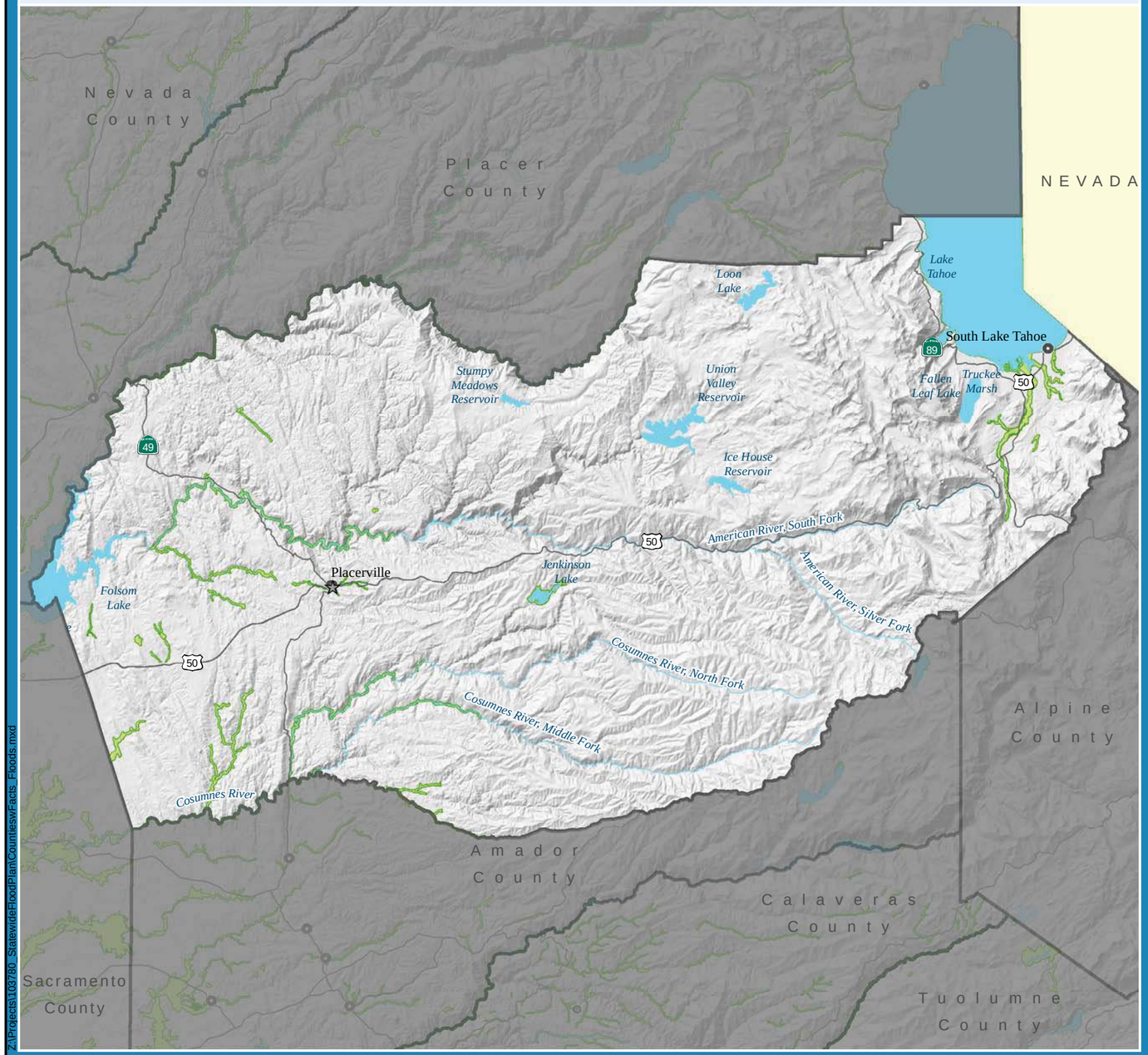
STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

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.*

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

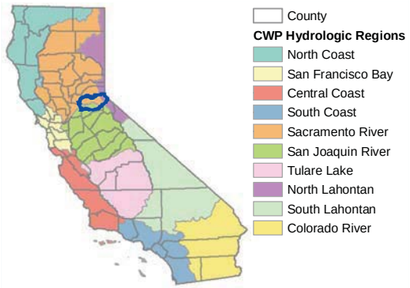
Selected Flood Events by Event Year

1861-1862 Winter, The Great Flood
1955-1956 December-January, Christmas Flood
1962-1963 December-February
1964-1965 December-January, Northern California Christmas 1964 Disaster
1968-1969 December-January, Elk River, Gualala River
1970 January-March, Northern California Flooding
1986 February-March, St. Valentine's Day Storm
1995 January-March, Severe Winter Storms, Sacramento River Basin
1996-19977 December-January, The Pineapple Express Storm
2005-2006 December-January, New Year's Eve Flood of 2006, South Lake Tahoe, Trout Creek
2006 March 29 - April 1, May 10, Spring Storms
2008 January 5-14, Winter Storms

Types of Flooding

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

Hydrologic Regions



Flood Hazard Exposure

County Statistics

Total Acreage:	1.1 million
Total Population:	156,255
Total Structures:	75,300
Total Value of Structures and Contents:	$20.5 billion
Total Agricultural Acreage:	47,228
Total Value of Crops:	$76.0 million

Summary of Exposure to Flood Hazard Reported by County	100-yr Event	500-yr Event
Exposed Area (acres):	43,461	43,788
Percent of Area Exposed:	4	4
Population Exposed:	2,525	2,735
Percent of Population Exposed:	2	2
Structures Exposed:	1,623	1,776
Total Depreciated Replacement Value of Exposed Structures and Contents:	$476.2 million	$520.3 million
Exposed Crops (acres):	508	508
Value of Exposed Crops:	$122,889	$122,889
Department of Defense Facilities Exposed:	0	0
Essential Facilities Exposed:	0	0
High Potential Loss Facilities Exposed:	3	3
Lifeline Utilities Exposed:	2	2
Transportation Facilities Exposed:	13	16
Transportation Segments Exposed (miles):	6	6
Native American Tribal Land Exposed (acres):	0	0
Total Sensitive Plant Species Exposed:	20	20
Total Sensitive Animal Species Exposed:	25	25

El Dorado County

Figure D-17
Summary of Available Flood Types, Flood History, and Flood Hazard Exposure, El Dorado County

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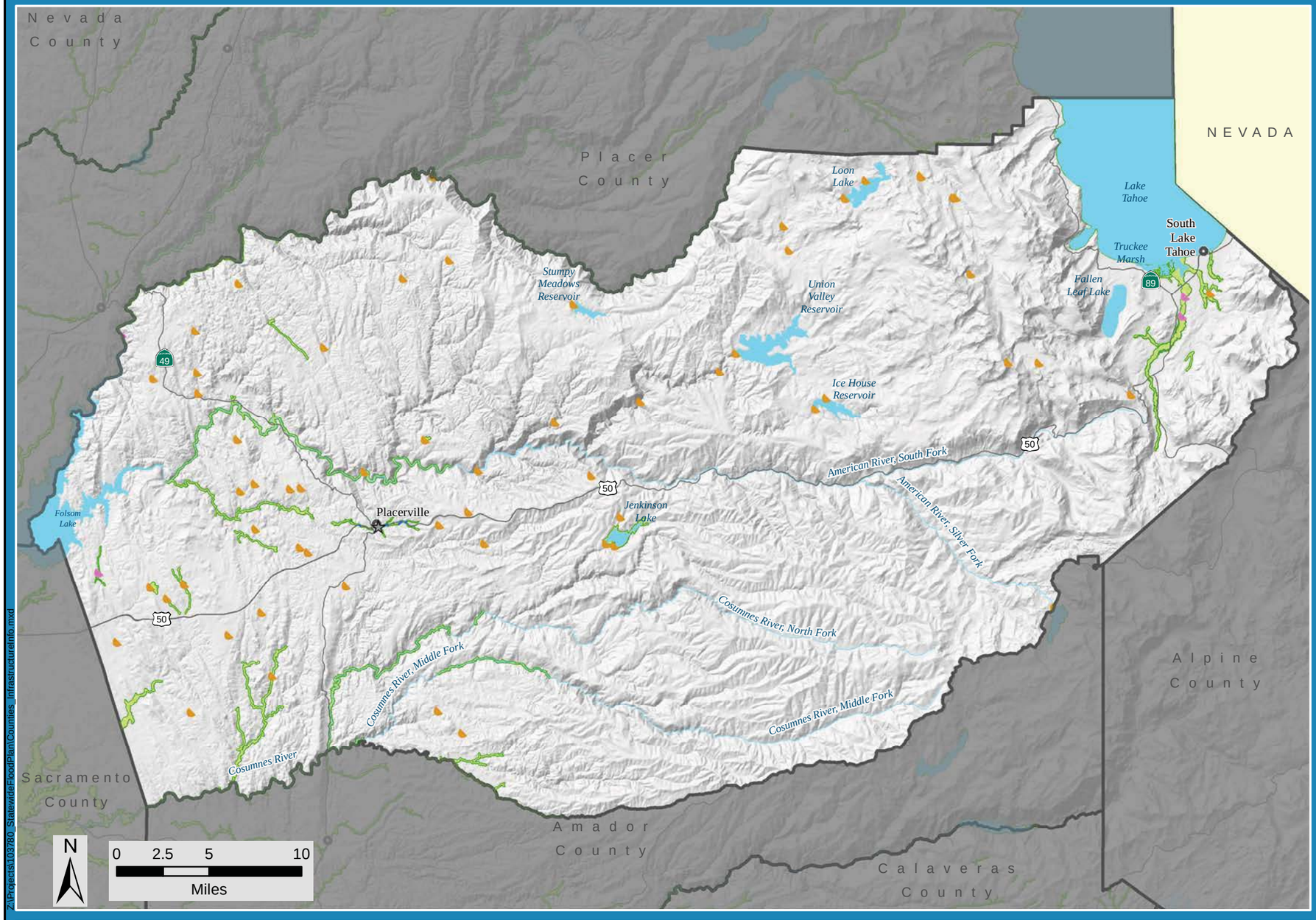
Summary of Available Flood Infrastructure Information



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El Dorado 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:

El Dorado County

Planned Projects:

Number of Local Projects:	4
Estimated Cost of Local Projects:	$47.8 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.

El Dorado 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-18

Summary of Available Flood Infrastructure Information, El Dorado County

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STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

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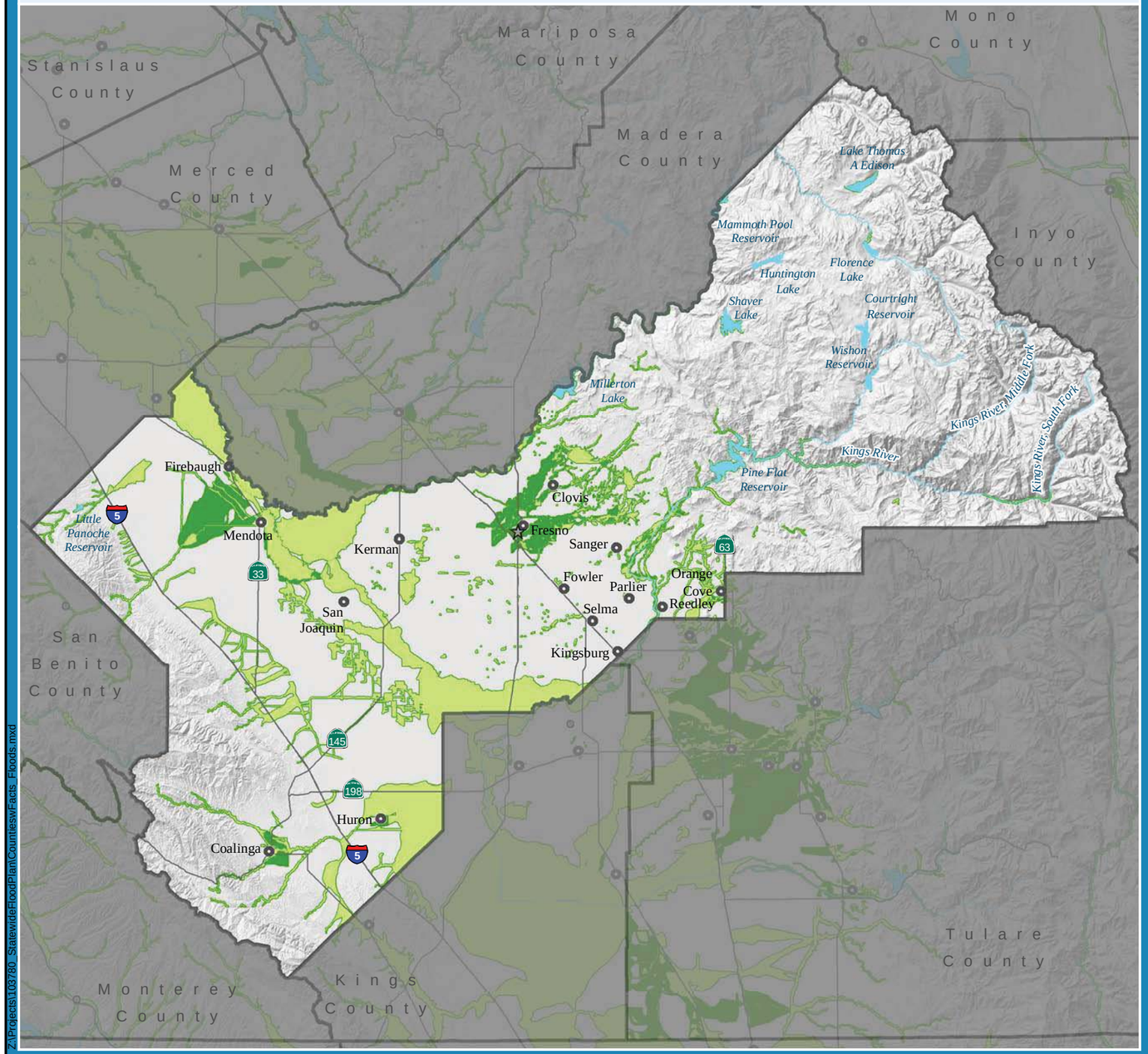
DISCLAIMER: *1) Information displayed on the map does not represent all existing flood infrastructure in the county. Only infrastructure available as "Statewide GIS Data" or submitted in a GIS format by one of the interviewed agencies is shown. 2) The DWR did not develop all the displayed floodplain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

100-year and 500-year Floodplains



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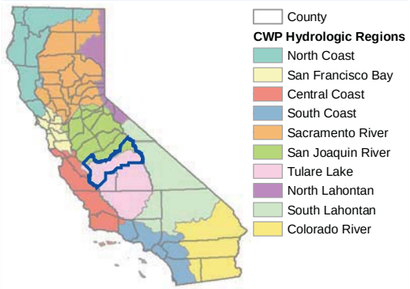
Selected Flood Events by Event Year

1861-1862 Winter, The Great Flood
1958 March-April
1962-1963 December-February
1964-1965 December-January, Mokelumne River Flood, San Joaquin Basin
1968-1969 December-February, Winter '69 Storms, San Joaquin River
1980 January-February, Delta Levee Break
1986 February-March, St. Valentine's Day Storm
1995 January-March, Western Fresno County
1997 January
1998 January-June, El Niño Floods, Valley Region
2005-2006 December 17-January 12, New Year's Eve Flood of 2006, Cities of Fresno and Clovis
2006 April 5, San Joaquin and Kings Rivers
2006 July, Huntington Lake

Types of Flooding

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

Hydrologic Regions



Flood Hazard Exposure

County Statistics

Total Acreage:	3.8 million
Total Population:	798,799
Total Structures:	250,400
Total Value of Structures and Contents:	$60.7 billion
Total Agricultural Acreage:	1.3 million
Total Value of Crops:	$3.0 billion

Summary of Exposure to Flood Hazard Reported by County	100-yr Event	500-yr Event
Exposed Area (acres):	327,940	396,652
Percent of Area Exposed:	9	10
Population Exposed:	30,132	223,383
Percent of Population Exposed:	4	28
Structures Exposed:	9,108	63,404
Total Depreciated Replacement Value of Exposed Structures and Contents:	$1.8 billion	$13.3 billion
Exposed Crops (acres):	230,877	269,841
Value of Exposed Crops:	$546.0 million	$641.7 million
Department of Defense Facilities Exposed:	2	2
Essential Facilities Exposed:	27	107
High Potential Loss Facilities Exposed:	21	36
Lifeline Utilities Exposed:	2	7
Transportation Facilities Exposed:	199	312
Transportation Segments Exposed (miles):	126	220
Native American Tribal Land Exposed (acres):	0	0
Total Sensitive Plant Species Exposed:	44	44
Total Sensitive Animal Species Exposed:	67	67

Fresno County

Figure D-19
Summary of Available Flood Types, Flood History and Flood Hazard Exposure, Fresno County.

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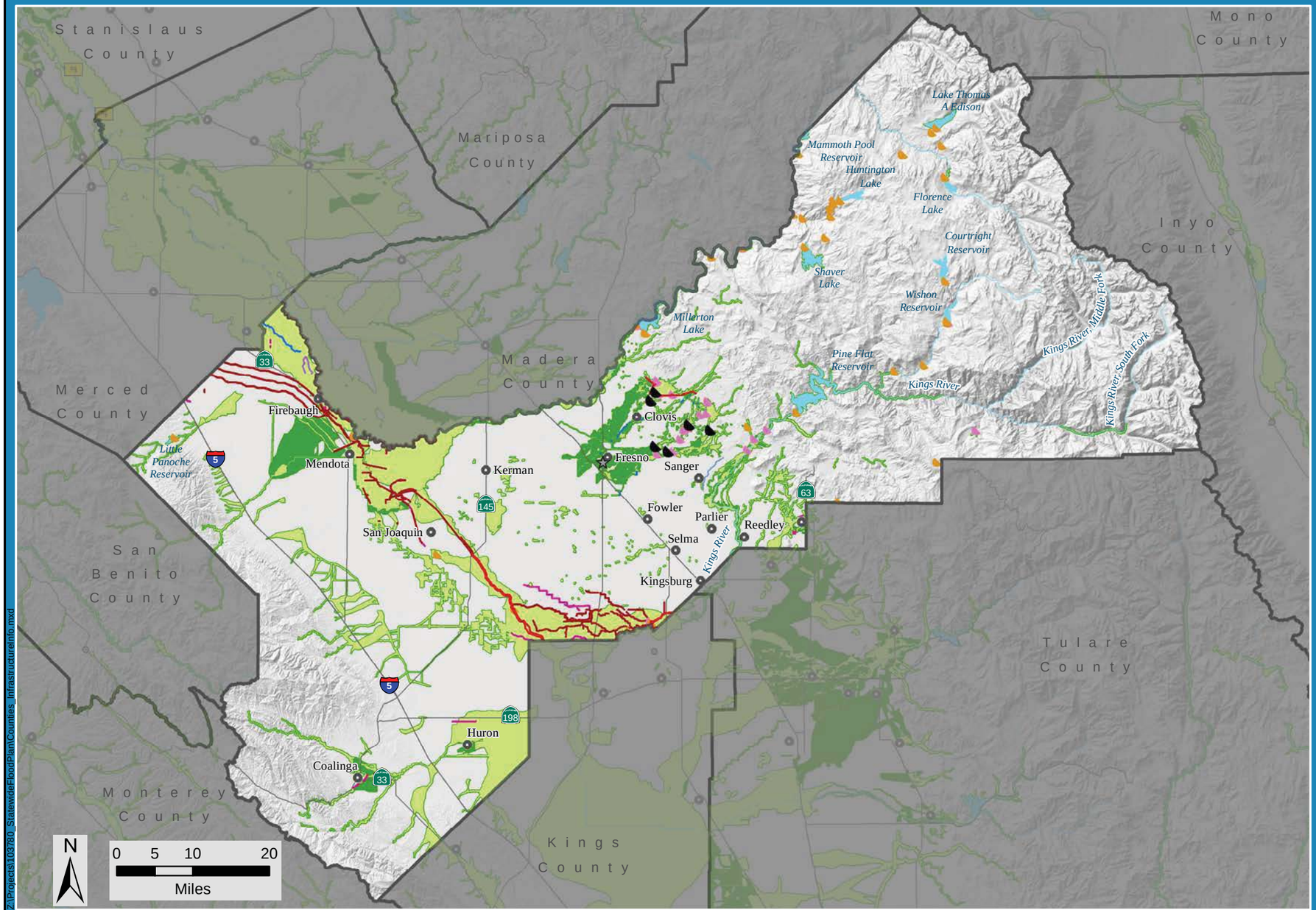
STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

FloodSAFE CALIFORNIA

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

Summary of Available Flood Infrastructure Information



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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

Fresno 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:

Fresno County Public Works
Fresno Irrigation District
Fresno Metropolitan Flood Control District
Kings River Conservation District

Planned Projects:

Number of Local Projects:	10
Estimated Cost of Local Projects:	$81.9 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.

Figure D-20
Summary of Available Flood Infrastructure Information, Fresno County

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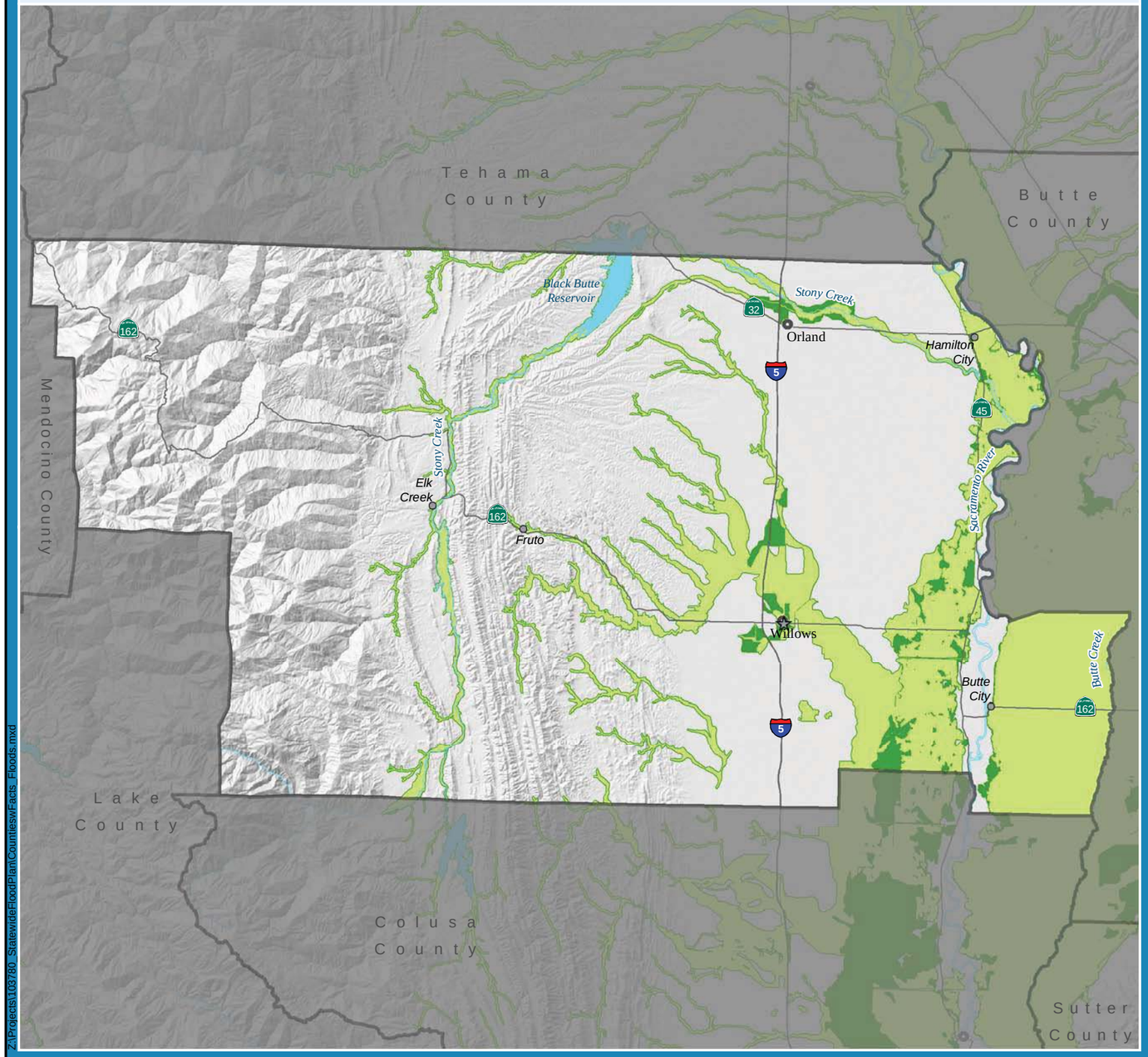
STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

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.*

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

1861-1862 Winter, The Great Flood
1955-1956 December-January, 1955 Christmas Flood
1963 February
1964-1965 December-January, Northern California Christmas 1964 Disaster
1970 December
1973 January-April
1974 January
1982-1983 December-April, Winter Storms, Hamilton City
1986 February, St. Valentine's Day Storm
1995 January-March, Severe Winter Storms, Sacramento River Basin, Hamilton City/Willows
1996-1997 December-January
1998 Northeast Willows, farmland along Willow, Wilson, and Walker Creek
2005-2006 December-January, New Year's Eve Flood of 2006
2008 January 5-14, Winter Storms

Types of Flooding

Likely:	Present:
Slow Rise	Flash
Stormwater	Engineered Structure Failure

Hydrologic Regions

County
CWP Hydrologic Regions
North Coast
San Francisco Bay
Central Coast
South Coast
Sacramento River
San Joaquin River
Tulare Lake
North Lahontan
South Lahontan
Colorado River

Flood Hazard Exposure

County Statistics

Total Acreage:	849,133
Total Population:	26,448
Total Structures:	11,300
Total Value of Structures and Contents:	$1.7 billion
Total Agricultural Acreage:	244,663
Total Value of Crops:	$324.9 million

Summary of Exposure to Flood Hazard Reported by County	100-yr Event	500-yr Event
Exposed Area (acres):	123,291	133,835
Percent of Area Exposed:	15	16
Population Exposed:	4,678	9,451
Percent of Population Exposed:	18	36
Structures Exposed:	1,833	3,850
Total Depreciated Replacement Value of Exposed Structures and Contents:	$246.0 million	$503.3 million
Exposed Crops (acres):	80,945	88,250
Value of Exposed Crops:	$86.5 million	$93.2 million
Department of Defense Facilities Exposed:	1	1
Essential Facilities Exposed:	8	14
High Potential Loss Facilities Exposed:	1	1
Lifeline Utilities Exposed:	1	1
Transportation Facilities Exposed:	98	110
Transportation Segments Exposed (miles):	41	52
Native American Tribal Land Exposed (acres):	100	100
Total Sensitive Plant Species Exposed:	17	17
Total Sensitive Animal Species Exposed:	20	23

Glenn County

Figure D-21
Summary of Available Flood Types, Flood History, and Flood Hazard Exposure, Glenn County

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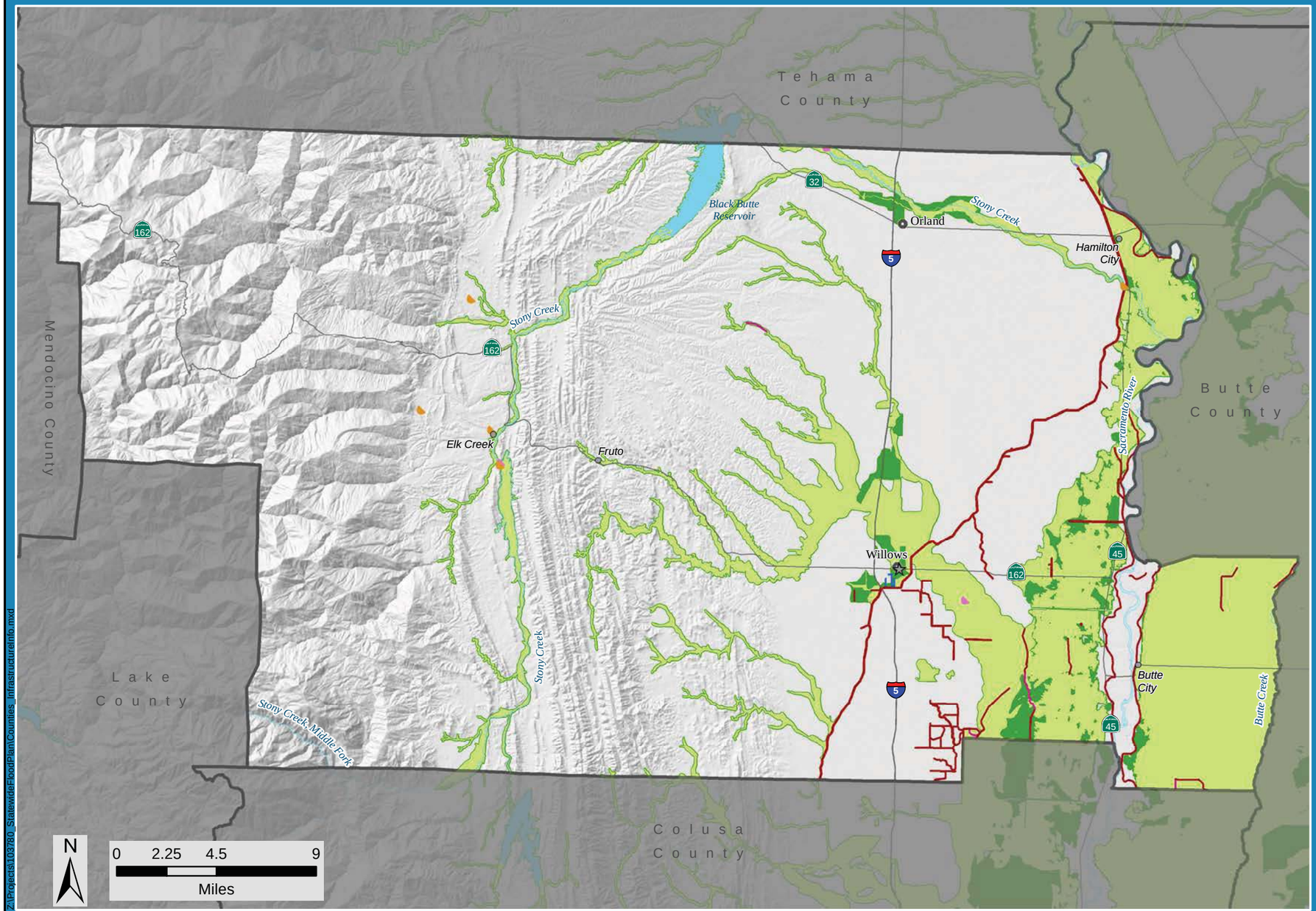
STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

FloodSAFE CALIFORNIA

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

Summary of Available Flood Infrastructure Information



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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

Glenn 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:

Glenn County Public Works
City of Orland
City of Willows
Glenn Colusa Irrigation District

Planned Projects:

Number of Local Projects:	6
Estimated Cost of Local Projects:	n/a
Number of USACE Projects:	1
Estimated Cost of USACE Projects:	$23.4 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.

Glenn County

Figure D-22
Summary of Available Flood Infrastructure Information, Glenn County

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STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

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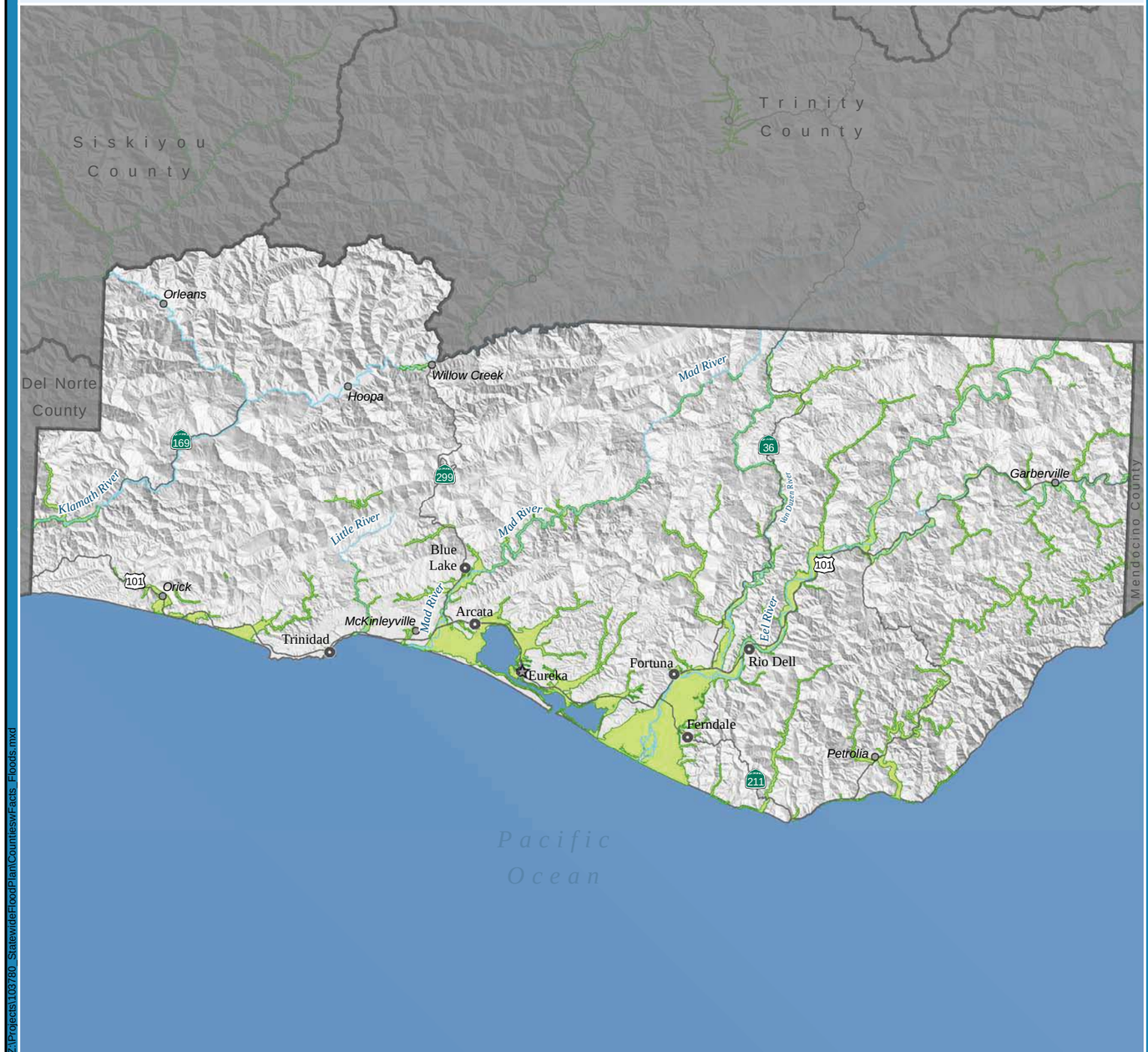
DISCLAIMER: *1) Information displayed on the map does not represent all existing flood infrastructure in the county. Only infrastructure available as "Statewide GIS Data" or submitted in a GIS format by one of the interviewed agencies is shown. 2) The DWR did not develop all the displayed floodplain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

100-year and 500-year Floodplains



N 0 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

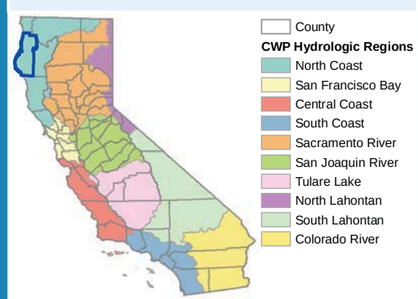
1861-1862 Winter, The Great Flood
1953 January, Klamath Basin, Mad River, Eel River
1955-1956 December-January, 1955 Christmas Flood, Eel River, Mad River, Trinity River, Redwood Creek, Van Duzen River
1958 February-April, Humboldt Bay
1963 January-February, Eel River
1964-1965 December-January, Northern California Christmas 1964 Disaster
1968-1969 December-January, Winter '69 Storms, Elk River, Gualala River, Northern CA Coastal
1969-1970 December-March, Northern California Flooding, Eel River
1975 March, Redwood Creek
1982 January, Winter Storms, Sonoma Countywide
1982-1983 December-April, Winter Storms
1986 February, St. Valentine's Day Storm
1992 February
1995 January-March, Severe Winter Storms
1998 February 09, El Niño Floods
2002 December, Eureka
2005-2006 December-January, New Year's Eve Flood of 2006

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:	2.3 million
Total Population:	126,477
Total Structures:	58,000
Total Value of Structures and Contents:	$8.8 billion
Total Agricultural Acreage:	45,940
Total Value of Crops:	$5.2 million

Summary of Exposure to Flood Hazard Reported by County	100-yr Event	500-yr Event
Exposed Area (acres):	95,713	97,400
Percent of Area Exposed:	4	4
Population Exposed:	9,952	11,392
Percent of Population Exposed:	8	9
Exposed Structures:	5,007	5,714
Total Depreciated Replacement Value of Exposed Structures and Contents:	$707.2 million	$799.1 million
Exposed Crops (acres):	33,192	33,843
Value of Exposed Crops:	$3.2 million	$3.2 million
Department of Defense Facilities Exposed:	0	0
Essential Facilities Exposed:	10	10
High Potential Loss Facilities Exposed:	9	9
Lifeline Utilities Exposed:	4	5
Transportation Facilities Exposed:	119	122
Transportation Segments Exposed (miles):	101	106
Native American Tribal Land Exposed (acres):	1,433	1,433
Total Sensitive Plant Species Exposed:	46	46
Total Sensitive Animal Species Exposed:	43	43

Humboldt County

Figure D-23
Summary of Available Flood Types, Flood History, and Flood Hazard Exposure, Humboldt County

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STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

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

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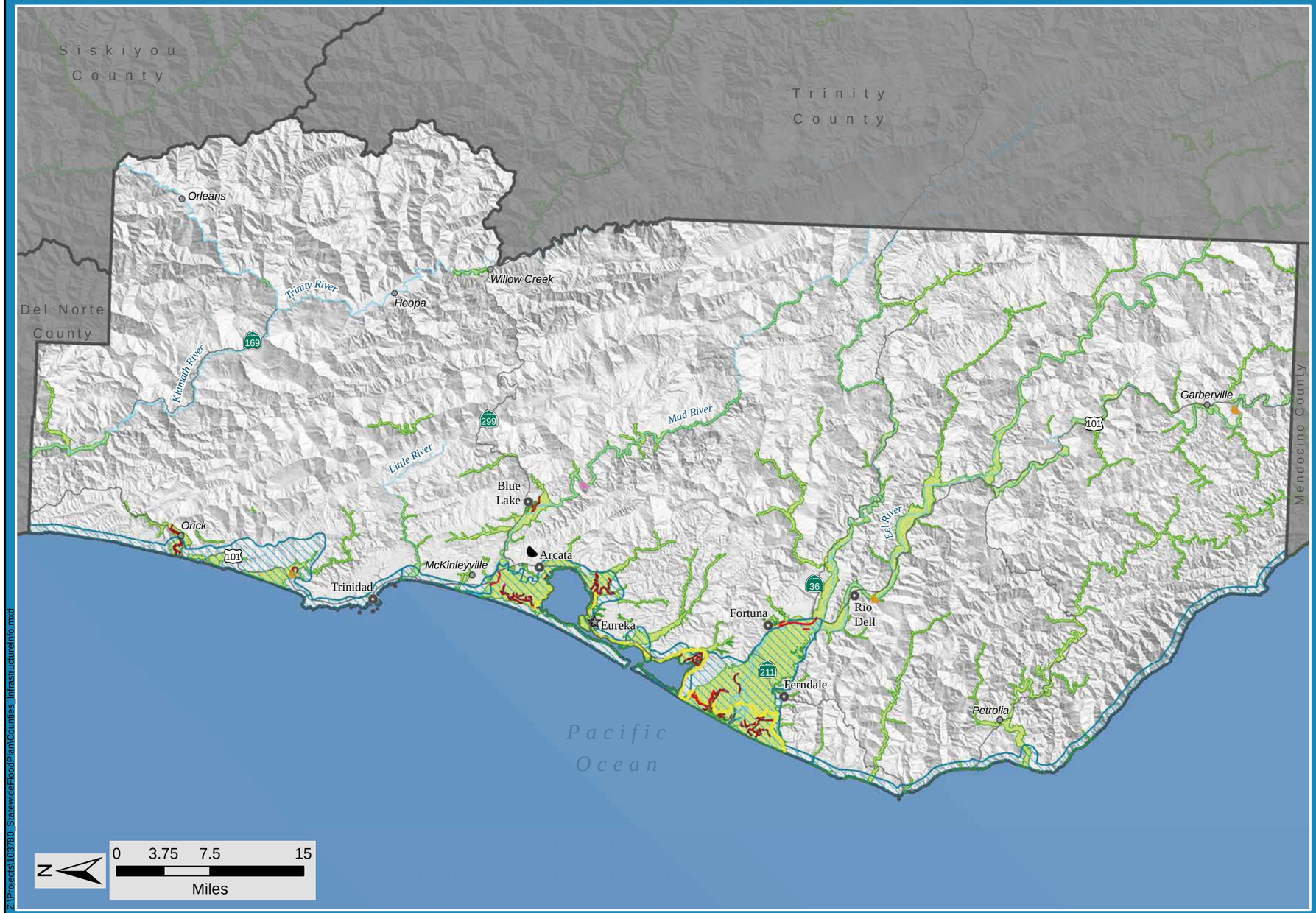
Summary of Available Flood Infrastructure Information



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Humboldt County

Flood Infrastructure GIS Data Received from Agencies Contacted:

- Tsunami Run-up Line
- Coastal Zone

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

Dam
Levee
Channel

Agencies Contacted as Part of SFMP:

Humboldt Bay Municipal Water District
Humboldt County Flood Control District
Humboldt County Public Works
Humboldt County
City of Arcata
City of Eureka
Yurok Indian Tribe
Trinidad Rancheria
Blue Lake Rancheria
Hoopa Valley Tribe Office of Emergency Services
Caltrans Region 1

Planned Projects:

Number of Local Projects:	10
Estimated Cost of Local Projects:	$22.8 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.

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-24

Summary of Available Flood Infrastructure Information, Humboldt County

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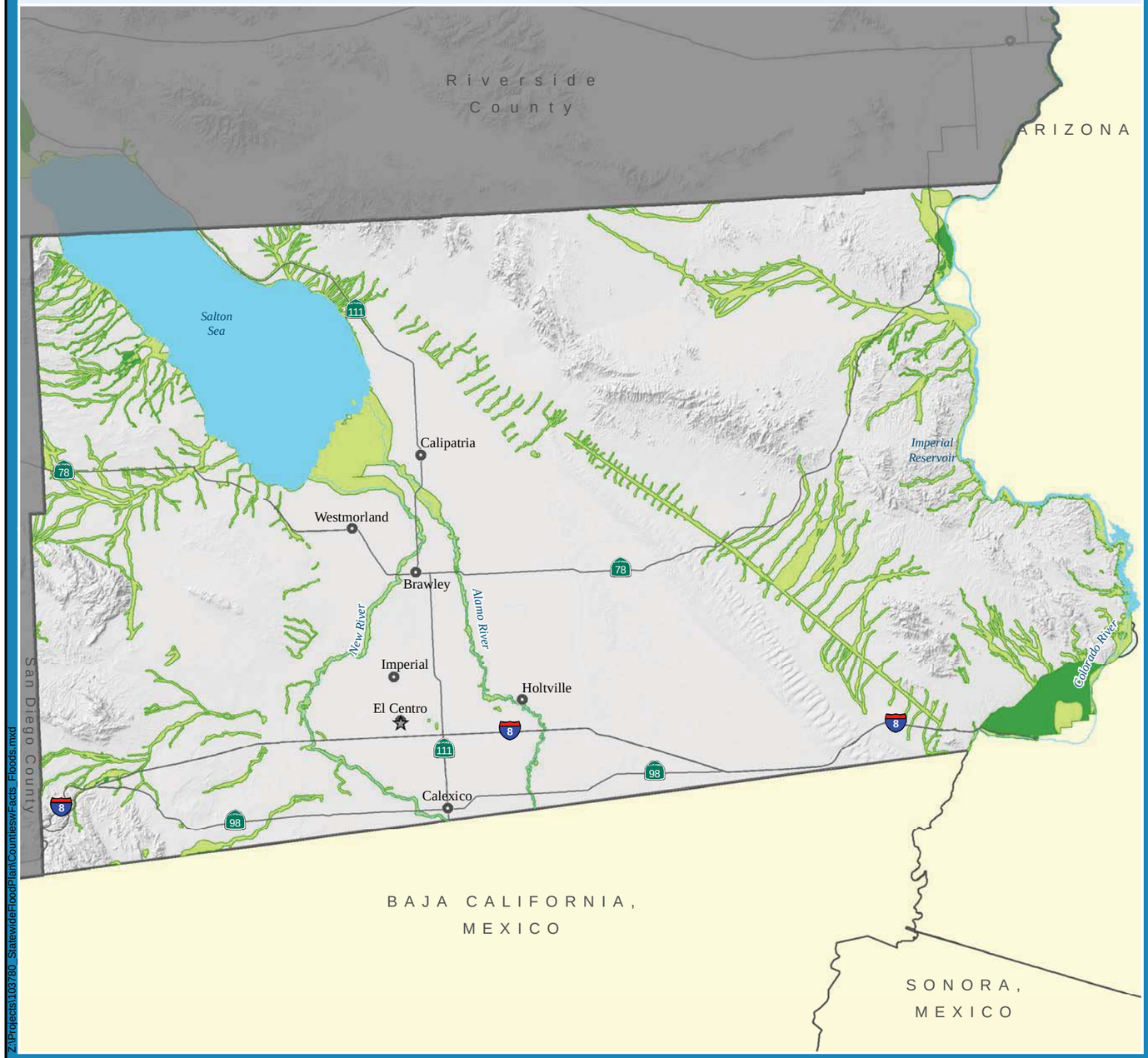
STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

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.*

Imperial County

100-year and 500-year Floodplains



N

0 4.75 9.5 19

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

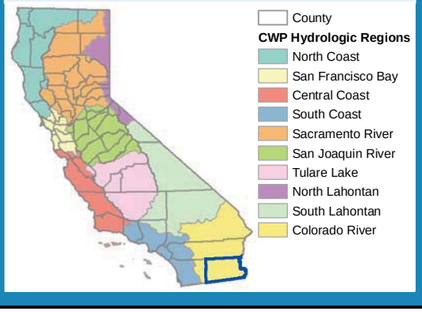
1916 January, Imperial Valley
1921 June, Imperial Valley
1939 August-September, Countywide
1951 August, Imperial Valley
1976 September, Tropical Storm Kathleen, Ocotillo, Imperial Valley
1977 August-September, Tropical Storm Doreen, Imperial Valley
1993 January-February, Great Flood of 1993
1995 January-March, Severe Winter Storms, Desert Shores, Bombay Beach, Salton Sea Beach
1998 September, Cities of Imperial, Niland
2000 August, Imperial Valley
2001 August, Glamis
2004 December, Bombay Beach, Niland
2005 August, Central Imperial County
2012 July

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:	2.9 million
Total Population:	142,359
Total Structures:	44,100
Total Value of Structures and Contents:	$6.9 billion
Total Agricultural Acreage:	518,912
Total Value of Crops:	$1.0 billion

Summary of Exposure to Flood Hazard Reported by County	100-yr Event	500-yr Event
Exposed Area (acres):	349,600	373,508
Percent of Area Exposed:	12	13
Population Exposed:	1,423	4,778
Percent of Population Exposed:	1	3
Structures Exposed:	1,123	2,775
Total Depreciated Replacement Value of Exposed Structures and Contents:	$102.9 million	$221.9 million
Exposed Crops (acres):	32,048	49,639
Value of Exposed Crops:	$76.9 million	$160.6 million
Department of Defense Facilities Exposed:	3	3
Essential Facilities Exposed:	0	6
High Potential Loss Facilities Exposed:	10	10
Lifeline Utilities Exposed:	5	5
Transportation Facilities Exposed:	79	105
Transportation Segments Exposed (miles):	110	122
Native American Tribal Land Exposed (acres):	8,111	28,294
Total Sensitive Plant Species Exposed:	35	36
Total Sensitive Animal Species Exposed:	64	64

Figure D-25
Summary of Available Flood Types, Flood History, and Flood Hazard Exposure, Imperial County

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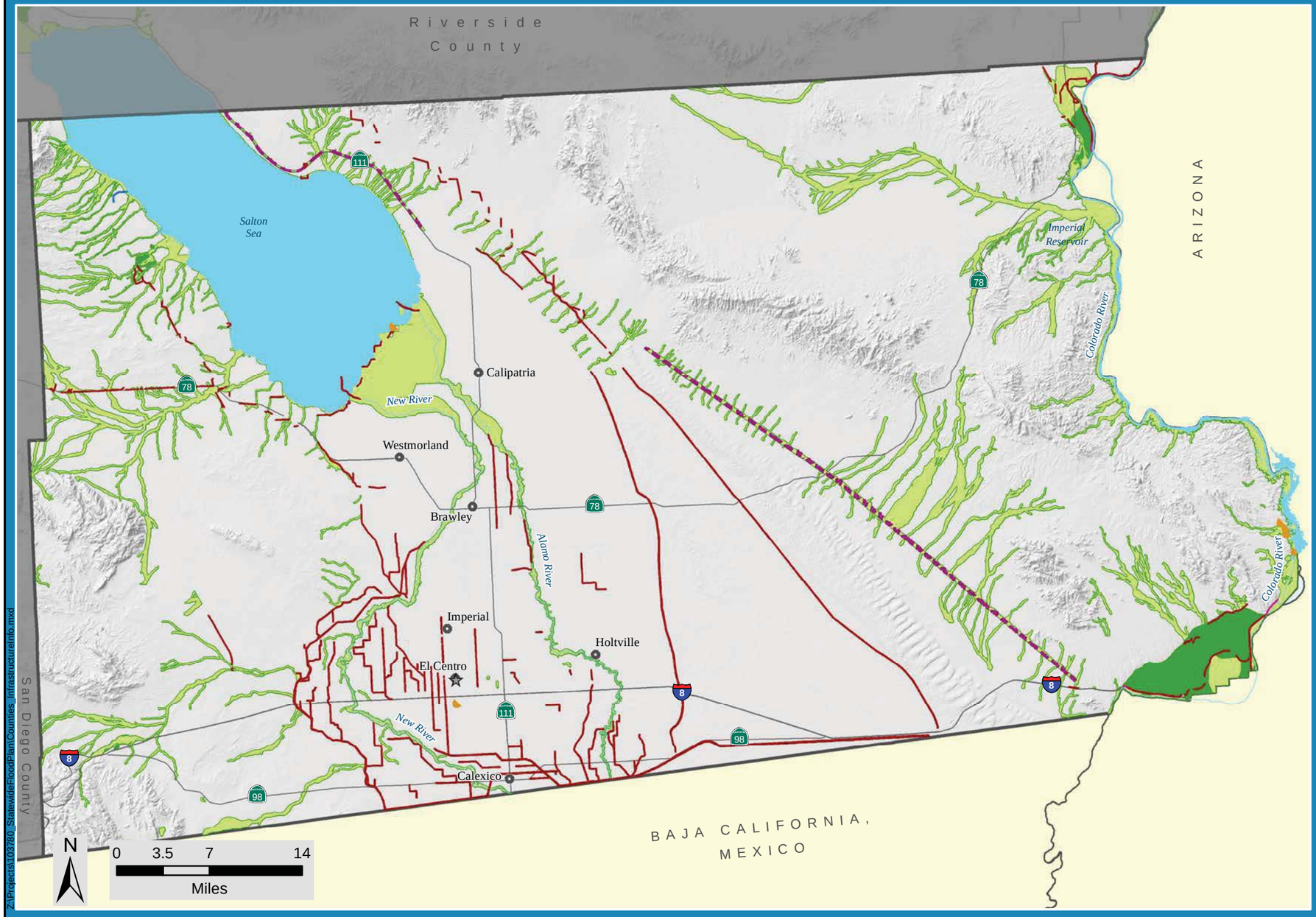
DISCLAIMER: *The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.*

Summary of Available Flood Infrastructure Information



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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

Imperial 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:

Imperial County
Imperial Irrigation District

Planned Projects:

Number of Local Projects:	4
Estimated Cost of Local Projects:	$12 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.

Figure D-26

Summary of Available Flood Infrastructure Information, Imperial County

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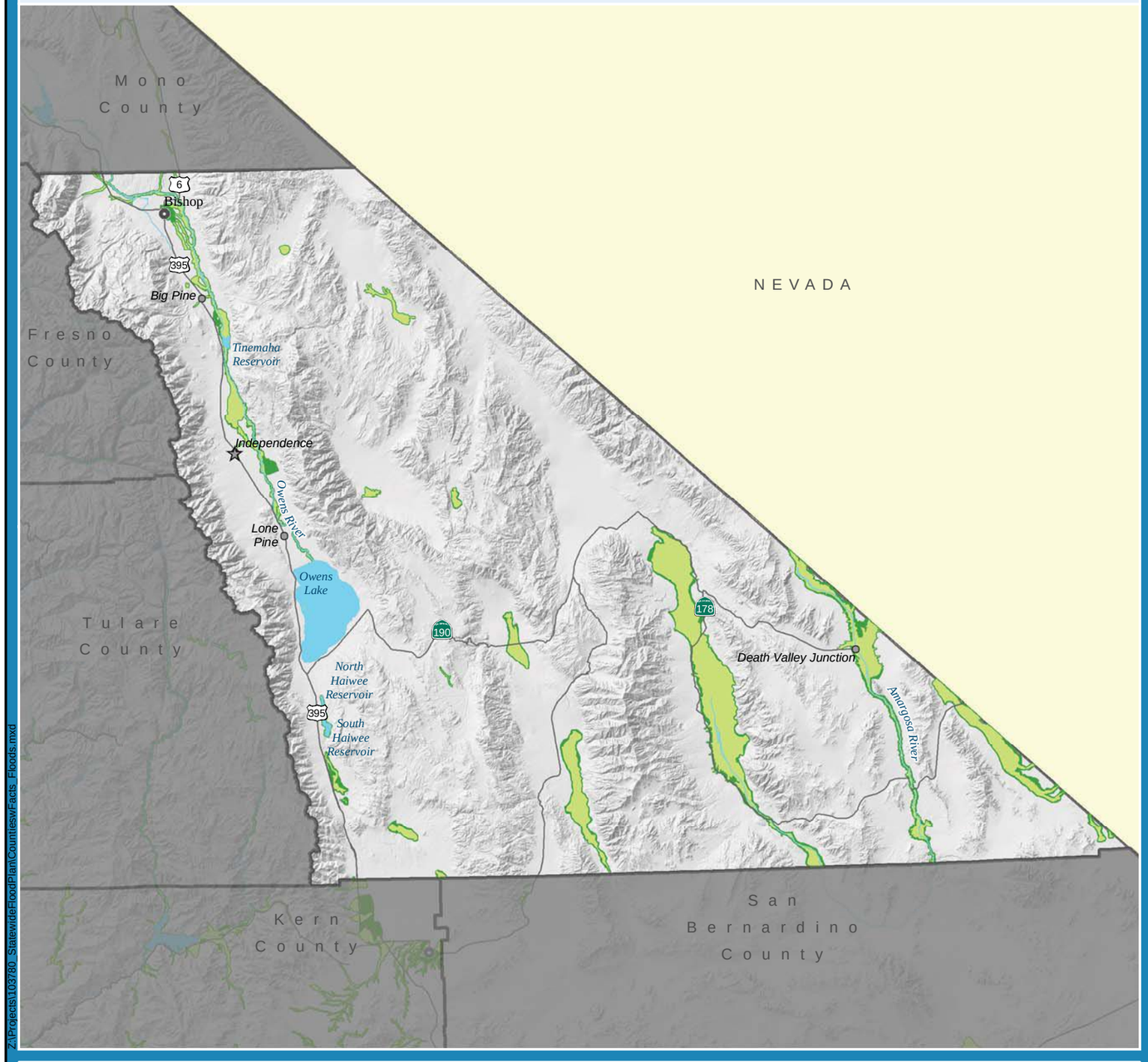
DISCLAIMER: *1) Information displayed on the map does not represent all existing flood infrastructure in the county. Only infrastructure available as "Statewide GIS Data" or submitted in a GIS format by one of the interviewed agencies is shown. 2) The DWR did not develop all the displayed floodplain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

100-year and 500-year Floodplains



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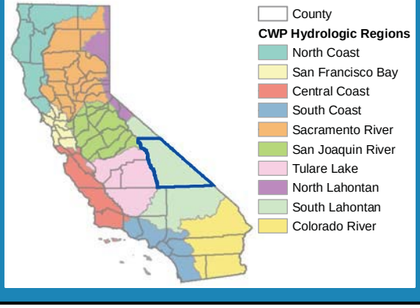
Selected Flood Events by Event Year

1861-1862 December-January, Great Flood
1966-1967 December-January
1969 January-February, Winter '69 Storms
1975 April
1989 June-August, Southern Inyo County
1995 February, Severe Winter Storms
2004 August
2008 Summer, Town of Independence

Types of Flooding

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

Hydrologic Regions



Flood Hazard Exposure

County Statistics

Total Acreage:	6.5 million
Total Population:	17,944
Total Structures:	10,300
Total Value of Structures and Contents:	$1.6 billion
Total Agricultural Acreage:	11,210
Total Value of Crops:	$1.2 million

Summary of Exposure to Flood Hazard Reported by County	100-yr Event	500-yr Event
Exposed Area (acres):	319,193	368,801
Percent of Area Exposed:	5	6
Population Exposed:	205	495
Percent of Population Exposed:	1	3
Structures Exposed:	200	415
Total Depreciated Replacement Value of Exposed Structures and Contents:	$16.6 million	$47.0 million
Exposed Crops (acres):	165	407
Value of Exposed Crops:	$12,882	$14,266
Department of Defense Facilities Exposed:	1	1
Essential Facilities Exposed:	0	1
High Potential Loss Facilities Exposed:	3	3
Lifeline Utilities Exposed:	0	0
Transportation Facilities Exposed:	8	9
Transportation Segments Exposed (miles):	30	39
Native American Tribal Land Exposed (acres):	3	10
Total Sensitive Plant Species Exposed:	53	55
Total Sensitive Animal Species Exposed:	59	59

Inyo County

Figure D-27
Summary of Available Flood Types, Flood History, and Flood Hazard Exposure, Inyo County

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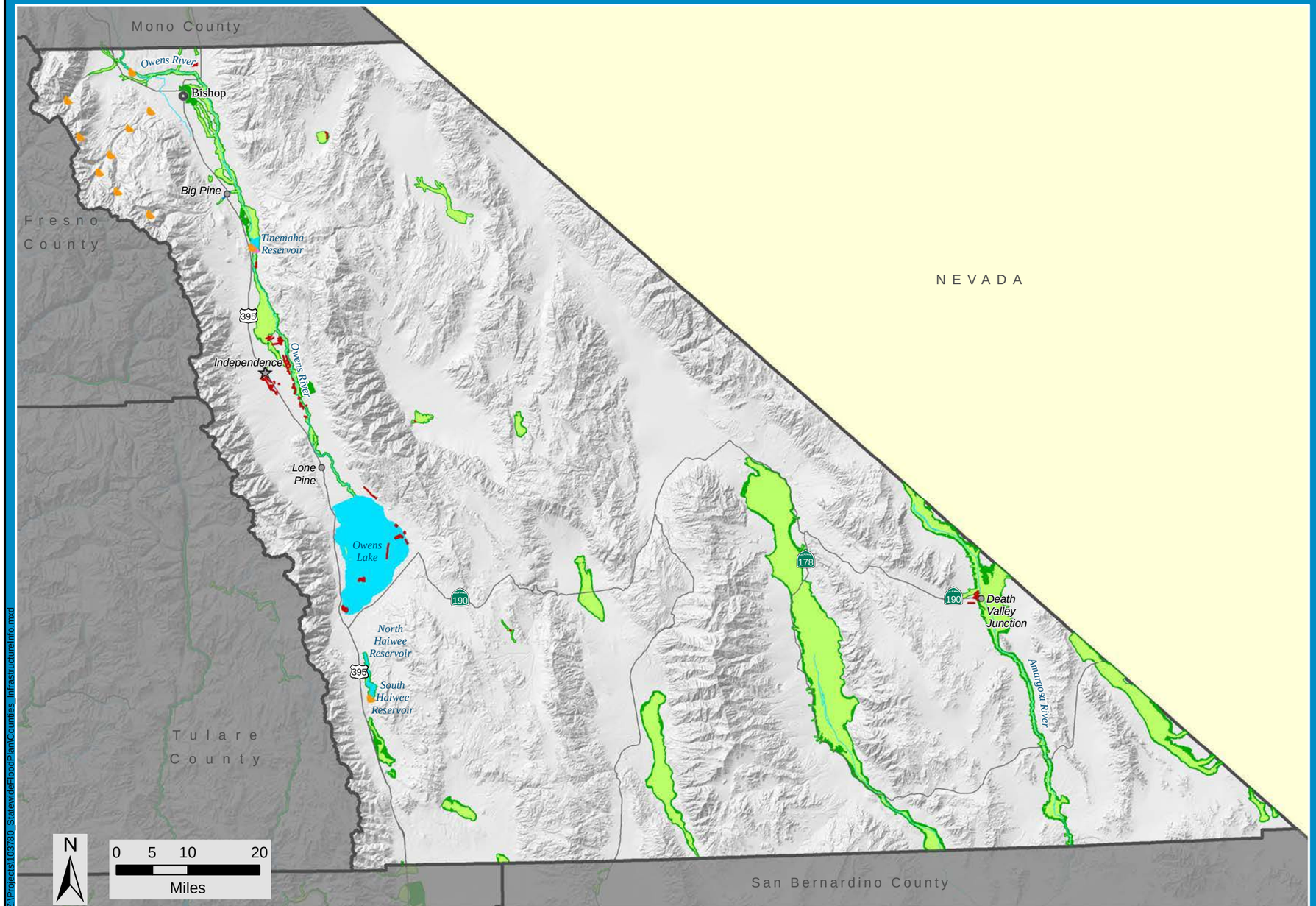
DISCLAIMER: *The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.*

Summary of Available Flood Infrastructure Information



Inyo 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:

Inyo County

Planned Projects:

Number of Local Projects:	4
Estimated Cost of Local Projects:	$1.3 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.

Inyo 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-28

Summary of Available Flood Infrastructure Information, Inyo County

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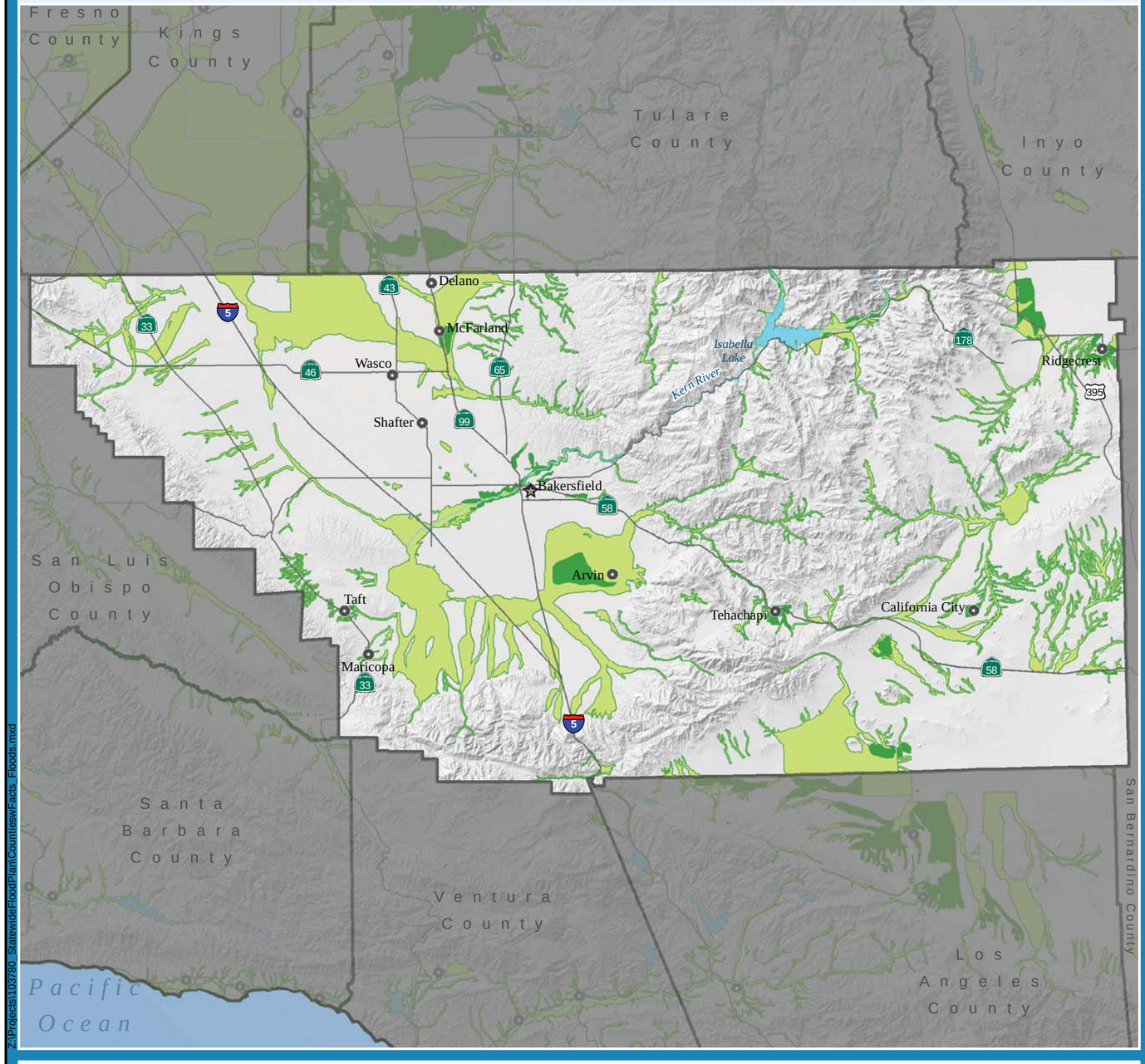
DISCLAIMER: *1) Information displayed on the map does not represent all existing flood infrastructure in the county. Only infrastructure available as "Statewide GIS Data" or submitted in a GIS format by one of the interviewed agencies is shown. 2) The DWR did not develop all the displayed floodplain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

100-year and 500-year Floodplains



N

0 5 10 20

Miles

City | Highway | 100-yr Floodplain | Major Water Body

Populated Place | Major River | 500-yr Floodplain | County

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Selected Flood Events by Event Year

1861-1862 Winter, The Great Flood, Kern River
1867-1868 December-January, The Great Kern River Flood, Kern River
1937 February, Kern River near Fruitvale and Fairhaven
1950 November-December, Kern River, Bakersfield
1955-1956 December-January, 1955 Christmas Flood, Kern River
1966 December 2-7, Upper Kern River, Caliente Creek, Kelso Creek
1969-1970 December-January, Winter '69 Storms, San Joaquin Valley and Kelso Creek
1978 January-March, Kern River - Bakersfield, Poso Creek - MacFarland, Kelso Creek, Caliente Creek - Lamont
1983 January-March, Caliente Creek - Lamont and Arvin, Kelso Creek - Weldon
1995 January-March, Severe Winter Storms, Caliente Creek - Lamont, Kelso Creek - Weldon
1997 September, Indian Wells Valley and Ridgecrest
1998 January-June, Caliente Creek -Lamont, Poso Creek - McFarland, City of Taft
2005 January-February, Cuddy, Rosamond, and Caliente Creek

Types of Flooding

Likely:
Slow Rise
Flash
Debris Flow
Alluvial Fan
Stormwater

Present:
Engineered Structure Failure

Hydrologic Regions

County
CWP Hydrologic Regions
North Coast
San Francisco Bay
Central Coast
South Coast
Sacramento River
San Joaquin River
Tulare Lake
North Lahontan
South Lahontan
Colorado River

Flood Hazard Exposure

County Statistics

Total Acreage:	5.2 million
Total Population:	661,591
Total Structures:	235,344
Total Value of Structures and Contents:	$46.7 billion
Total Agricultural Acreage:	984,344
Total Value of Crops:	$2.3 billion

Summary of Exposure to Flood Hazard Reported by County	100-yr Event	500-yr Event
Exposed Area (acres):	557,295	607,722
Percent of Area Exposed:	11	12
Population Exposed:	46,227	100,102
Percent of Population Exposed:	7	15
Structures Exposed:	15,701	37,503
Total Depreciated Replacement Value of Exposed Structures and Contents:	$2.5 billion	$6.9 billion
Exposed Crops (acres):	240,411	257,120
Value of Exposed Crops:	$503.8 million	$537.4 million
Department of Defense Facilities Exposed:	5	5
Essential Facilities Exposed:	18	55
High Potential Loss Facilities Exposed:	16	19
Lifeline Utilities Exposed:	4	6
Transportation Facilities Exposed:	122	155
Transportation Segments Exposed (miles):	244	302
Native American Tribal Land Exposed (acres):	0	0
Total Sensitive Plant Species Exposed:	55	56
Total Sensitive Animal Species Exposed:	74	74

Kern County

Figure D-29
Summary of Available Flood Types, Flood History, and Flood Hazard Exposure, Kern County

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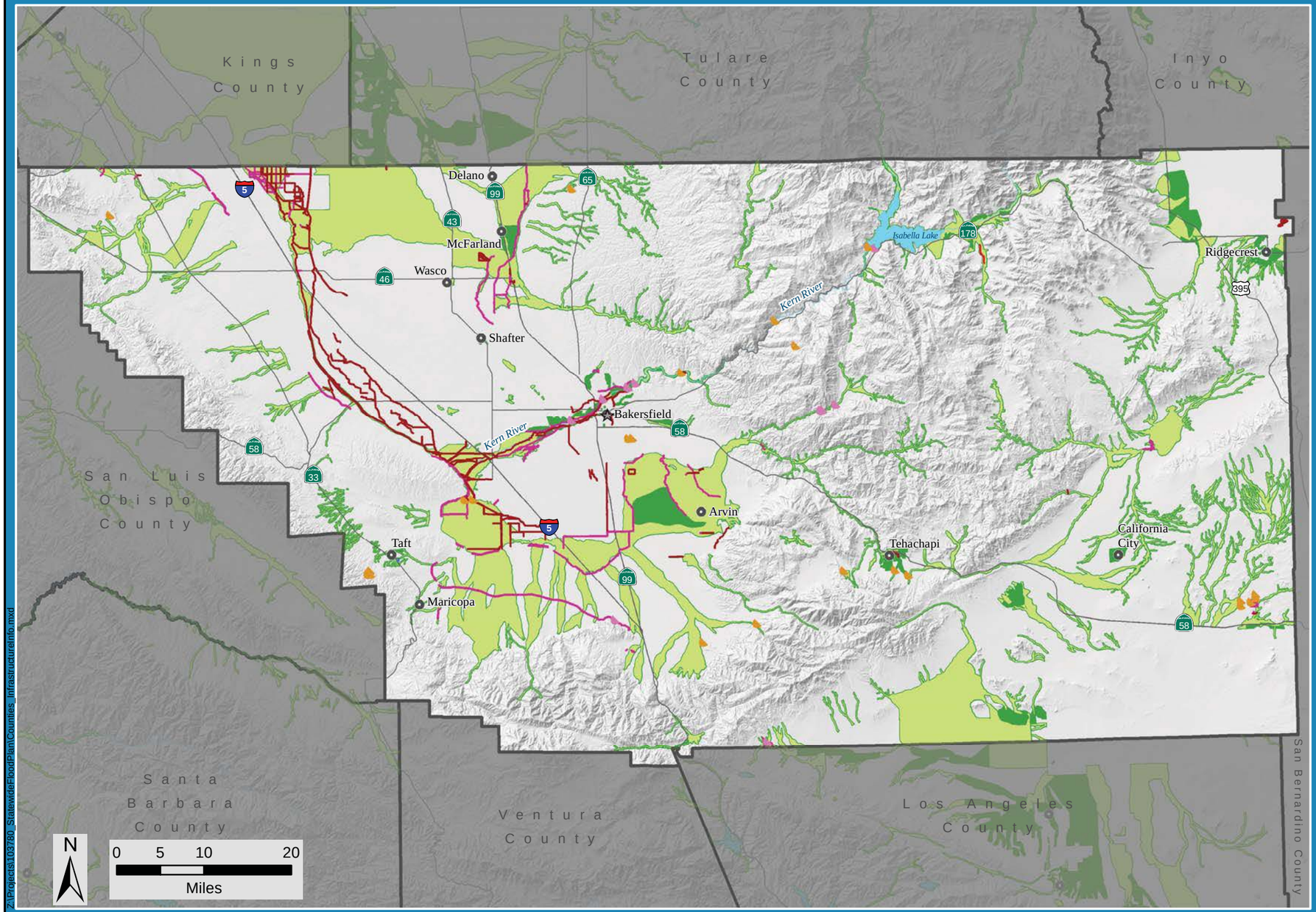
DISCLAIMER: *The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.*

Summary of Available Flood Infrastructure Information



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Kern County

Flood Infrastructure GIS Data Received from Agencies Contacted:

Levee

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:

Kern County Water Authority
Kern County
City of Bakersfield
Semitropic Water Storage District
Kern Delta Water District
North Kern Water Storage District
Eastern Kern County Resource Conservation District

Planned Projects:

Number of Local Projects:	14
Estimated Cost of Local Projects:	$111.6 million
Number of USACE Projects:	2
Estimated Cost of USACE Projects:	$504 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.

Kern 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-30
Summary of Available Flood Infrastructure Information, Kern County

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Kings County

100-year and 500-year Floodplains

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N

0 2.5 5 10

Miles

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

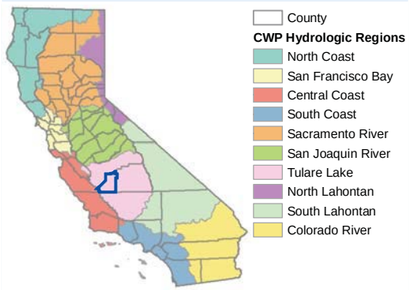
Selected Flood Events by Event Year

1867-1862 The Great Kern River Flood
1955-1956 1955 Christmas Flood
1966-1967 December-January, Kings River
1969-1970 December-January, Winter '69 Storms
1982-1983 December-March
1986 March-May
1991-1992 December-January
1995 January-March, Severe Winter Storms
1997 January
1998 El Niño Floods
2006 May 10
2008 January 5-14, Winter Storms

Types of Flooding

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

Hydrologic Regions



Flood Hazard Exposure

County Statistics

Total Acreage:	890,801
Total Population:	129,475
Total Structures:	36,700
Total Value of Structures and Contents:	$8.0 billion
Total Agricultural Acreage:	568,709
Total Value of Crops:	$1.1 billion

Summary of Exposure to Flood Hazard Reported by County	100-yr Event	500-yr Event
Exposed Area (acres):	343,579	344,861
Percent of Area Exposed:	39	39
Population Exposed:	9,155	21,366
Percent of Population Exposed:	7	17
Structures Exposed:	1,034	2,682
Total Depreciated Replacement Value of Exposed Structures and Contents:	$325.8 million	$636.3 million
Exposed Crops (acres)	275,436	276,129
Value of Exposed Crops:	$477.0 million	$478.2 million
Department of Defense Facilities Exposed:	1	1
Essential Facilities Exposed:	0	3
High Potential Loss Facilities Exposed:	5	5
Lifeline Utilities Exposed:	2	2
Transportation Facilities Exposed:	54	55
Transportation Segments Exposed (miles):	73	77
Native American Tribal Land Exposed (acres):	105	105
Total Sensitive Plant Species Exposed:	8	8
Total Sensitive Animal Species Exposed:	23	23

Figure D-31
Summary of Available Flood Types, Flood History, and Flood Hazard Exposure, Kings County

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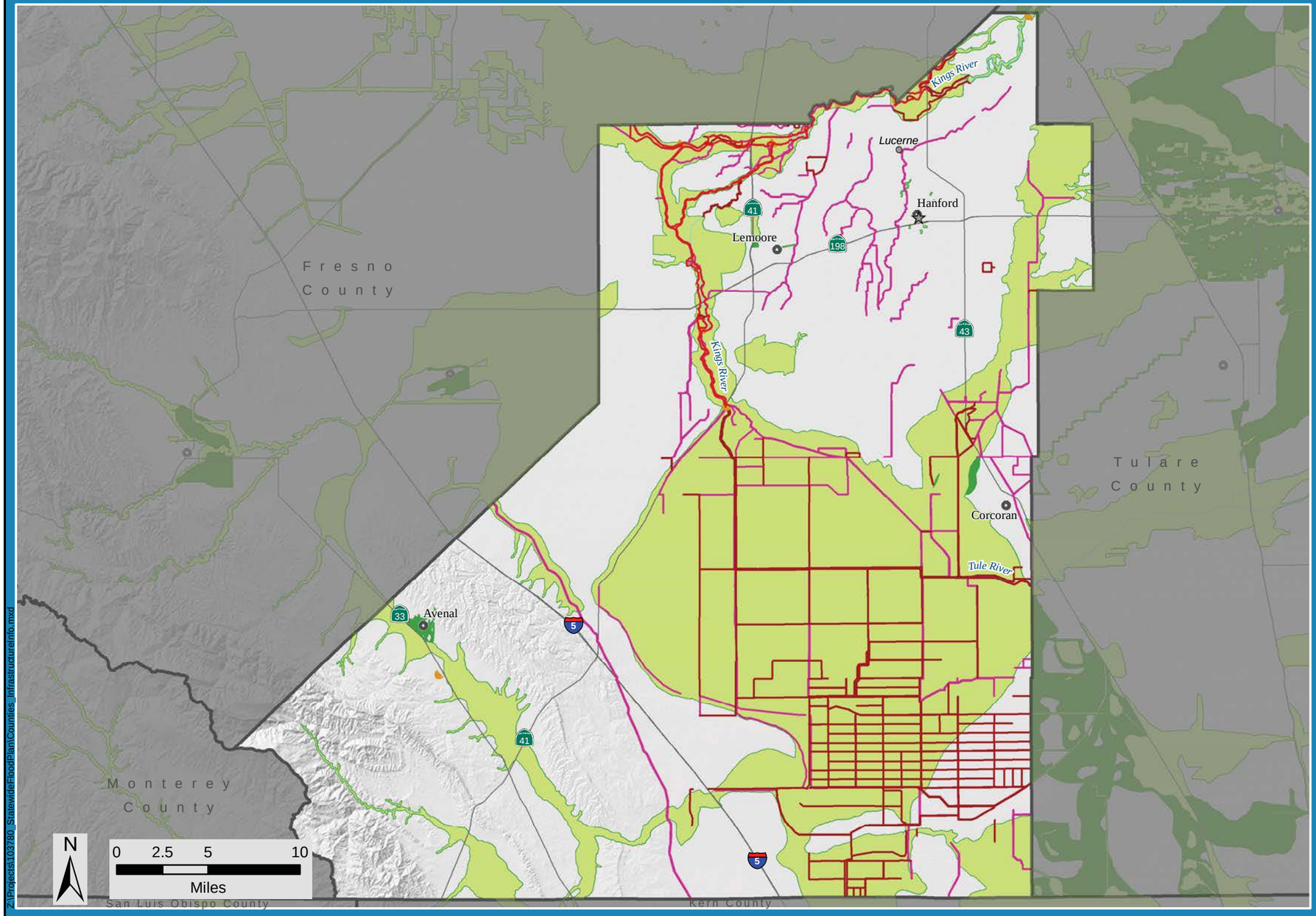
DISCLAIMER: *The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.*

Summary of Available Flood Infrastructure Information



Kings 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:

Kings County
Kings River Conservation District

Planned Projects:

Number of Local Projects:	6
Estimated Cost of Local Projects:	$77.0 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.

Kings 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-32
Summary of Available Flood Infrastructure Information, Kings County

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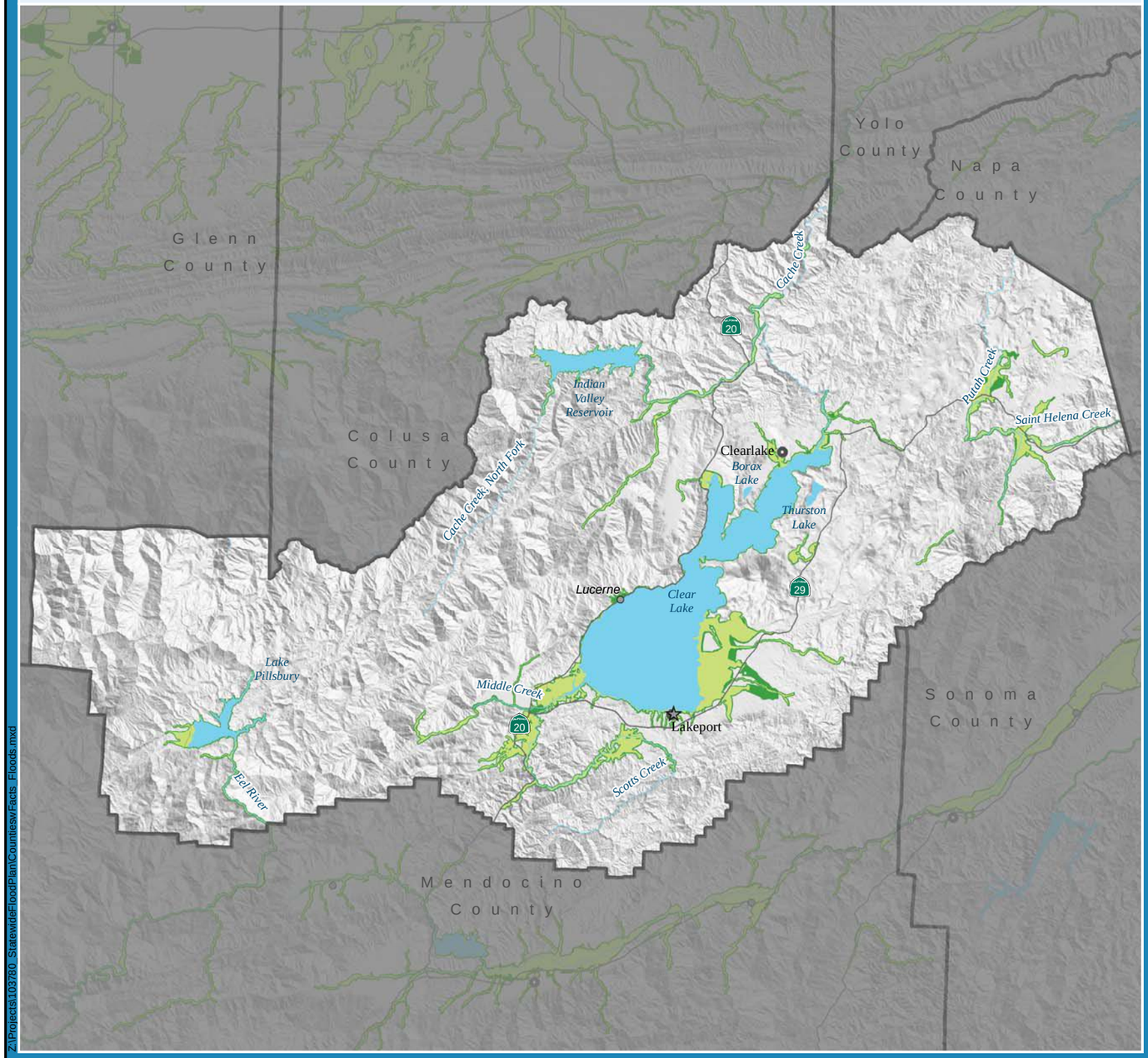
STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

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.*

100-year and 500-year Floodplains



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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

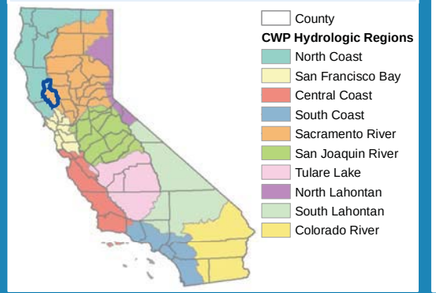
1861-1862 Winter, The Great Flood
1937-1938 December-March
1955-1956 December-January, Christmas Flood
1958 February-April
1962-1963 December-February
1964-1965 December-January, Northern California Christmas 1964 Disaster
1969-1970 December-March, Winter Storms
1974 January, Russian River
1980 February
1982-1983 December-April, Winter Storms
1986 February, St. Valentines Day Storm, Russian River
1993 February, Late Winter Storms
1995 January-March, Severe Winter Storms, Sacramento River Basin, Clear Lake
1996-1997 December-January
1998 February 9, El Niño Floods, Clear Lake, Clearlake Oaks, Lakeport
1999 January
2005-2006 December-January, New Year's Eve Flood of 2006
2006 March 29 - April 1, May 10, Spring Storms

Types of Flooding

Likely:
Slow Rise
Stormwater

Present:
Debris Flow
Engineered Structure Failure
Flash

Hydrologic Regions



Flood Hazard Exposure

County Statistics

Total Acreage:	850,838
Total Population:	58,308
Total Structures:	35,800
Total Value of Structures and Contents:	$5.6 billion
Total Agricultural Acreage:	28,454
Total Value of Crops:	$84.1 million

Summary of Exposure to Flood Hazard Reported by County	100-yr Event	500-yr Event
Exposed Area (acres):	69,700	72,269
Percent of Area Exposed:	8	8
Population Exposed:	9,698	11,982
Percent of Population Exposed:	17	21
Structures Exposed:	6,438	7,803
Total Depreciated Replacement Value of Exposed Structures and Contents:	$919.3 million	$1.1 billion
Exposed Crops (acres):	7,215	8,470
Value of Exposed Crops:	$22.0 million	$28.1 million
Department of Defense Facilities Exposed:	0	0
Essential Facilities Exposed:	11	12
High Potential Loss Facilities Exposed:	1	1
Lifeline Utilities Exposed:	1	1
Transportation Facilities Exposed:	36	39
Transportation Segments Exposed (miles):	23	26
Native American Tribal Land Exposed (acres):	59	65
Total Sensitive Plant Species Exposed:	35	35
Total Sensitive Animal Species Exposed:	24	24

Lake County

Figure D-33
Summary of Available Flood Types, Flood History, and Flood Hazard Exposure, Lake County

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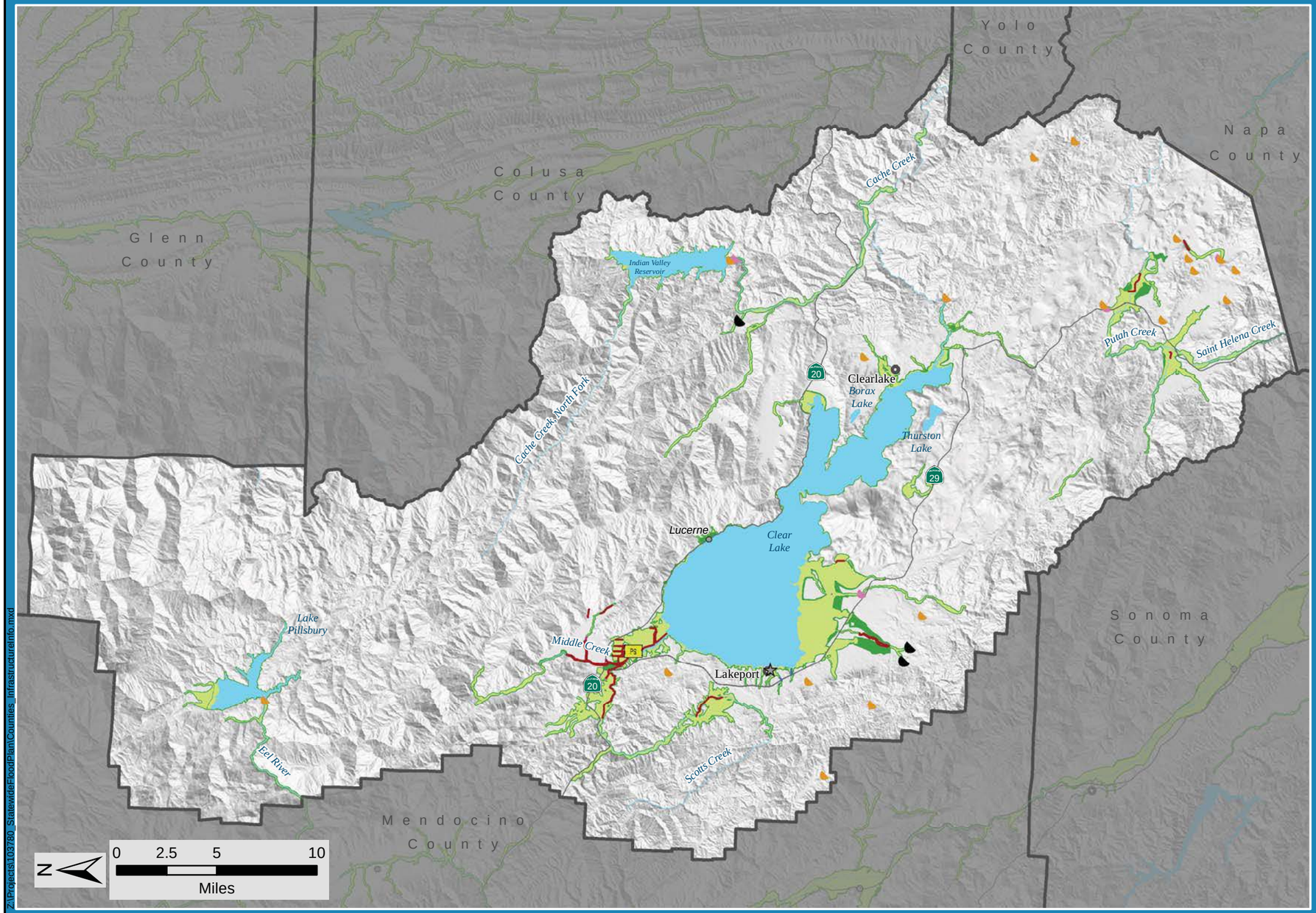
STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM
FloodSAFE CALIFORNIA

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

Summary of Available Flood Infrastructure Information



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Lake 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:

Lake County Flood Control and Water Conservation District

Planned Projects:

Number of Local Projects:	3
Estimated Cost of Local Projects:	$48 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.

Lake 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-34

Summary of Available Flood Infrastructure Information, Lake County

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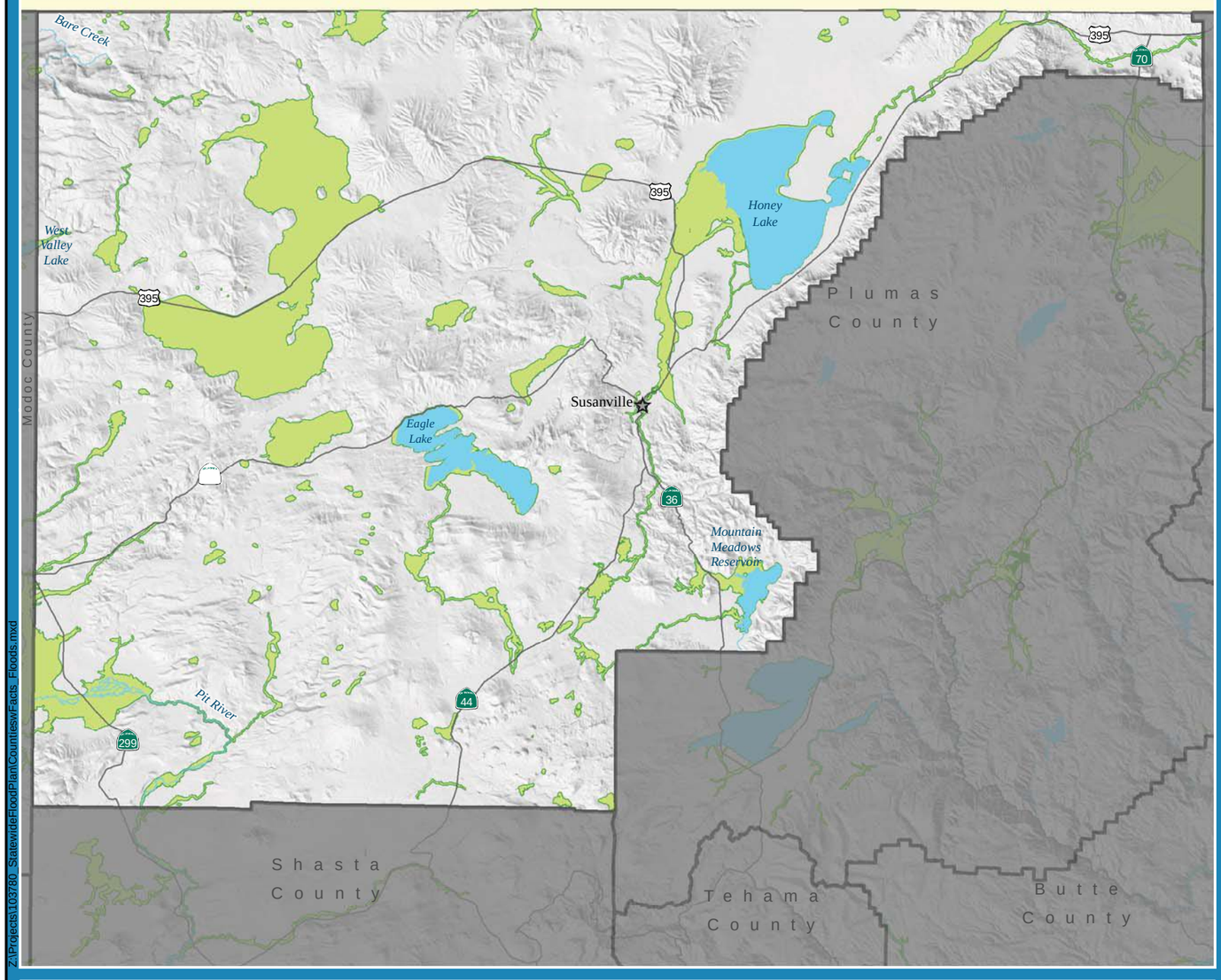
DISCLAIMER: *1) Information displayed on the map does not represent all existing flood infrastructure in the county. Only infrastructure available as "Statewide GIS Data" or submitted in a GIS format by one of the interviewed agencies is shown. 2) The DWR did not develop all the displayed floodplain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

100-year and 500-year Floodplains



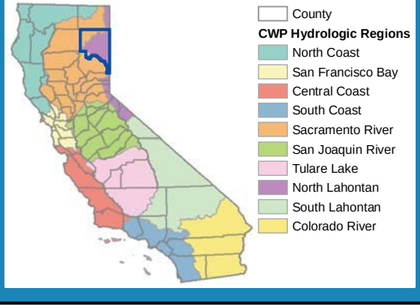
Selected Flood Events by Event Year

1861-1862 Winter, The Great Flood
1955-1956 December-January, 1955 Christmas Flood, Susan River
1958 February-April, Susan River
1962 October
1963 January-February, Susan River
1964-1965 December-January, Northern California Christmas 1964 Disaster, Susan River
1968-1969 December-January
1970 January-March, Northern California Flooding, Susan River
1980 January 13, Susan River
1981 November-December, Susan River
1986 February, St. Valentine's Day Storm
1993 January-February, Late Winter Storms
1995 January-March, Severe Winter Storms, Sacramento River Basin
1997 January, The Pineapple Express Storm
2006 March 29-April 1, May 10

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:	3.0 million
Total Population:	33,828
Total Structures:	13,700
Total Value of Structures and Contents:	$2.2 billion
Total Agricultural Acreage:	121,369
Total Value of Crops:	$64.9 million

Summary of Exposure to Flood Hazard Reported by County	100-yr Event	500-yr Event
Exposed Area (acres):	355,793	355,971
Percent of Area Exposed:	12	12
Population Exposed:	1,725	1,909
Percent of Population Exposed:	5	6
Structures Exposed:	1,089	1,199
Total Depreciated Replacement Value of Exposed Structures and Contents:	$145.0 million	$158.9 million
Exposed Crops (acres):	54,529	54,556
Value of Exposed Crops:	$11.7 million	$11.7 million
Department of Defense Facilities Exposed:	1	1
Essential Facilities Exposed:	8	8
High Potential Loss Facilities Exposed:	15	15
Lifeline Utilities Exposed:	1	1
Transportation Facilities Exposed:	63	65
Transportation Segments Exposed (miles):	75	76
Native American Tribal Land Exposed (acres):	9	9
Total Sensitive Plant Species Exposed:	62	62
Total Sensitive Animal Species Exposed:	39	39

Lassen County

Figure D-35
Summary of Available Flood Types, Flood History, and Flood Hazard Exposure, Lassen County

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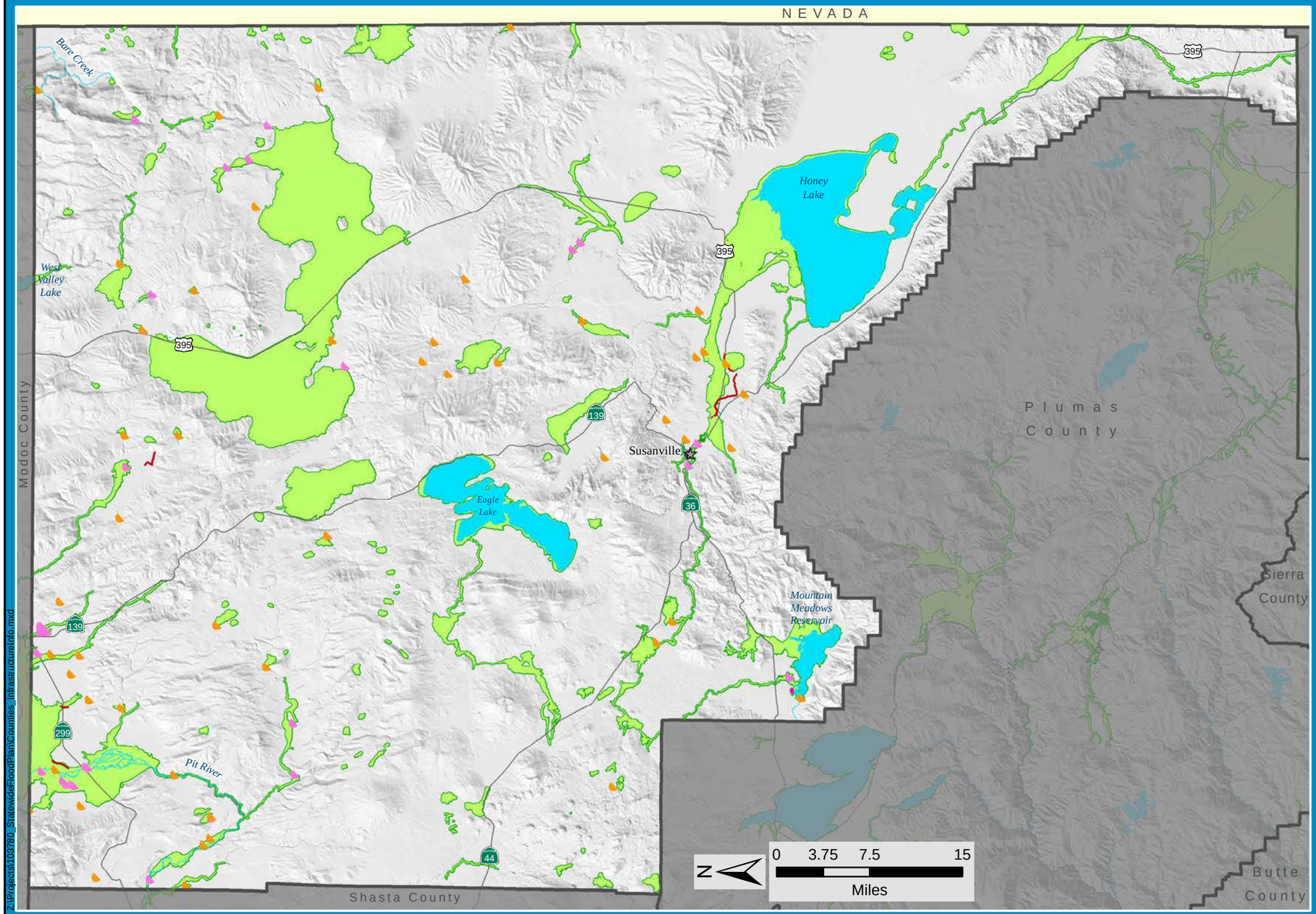
STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

FloodSAFE CALIFORNIA

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

Summary of Available Flood Infrastructure Information



Lassen 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:

Lassen County
City of Susanville
Susanville Rancheria

Planned Projects:

Number of Local Projects:	15
Estimated Cost of Local Projects:	$8.4 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.

Lassen 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-36

Summary of Available Flood Infrastructure Information, Lassen 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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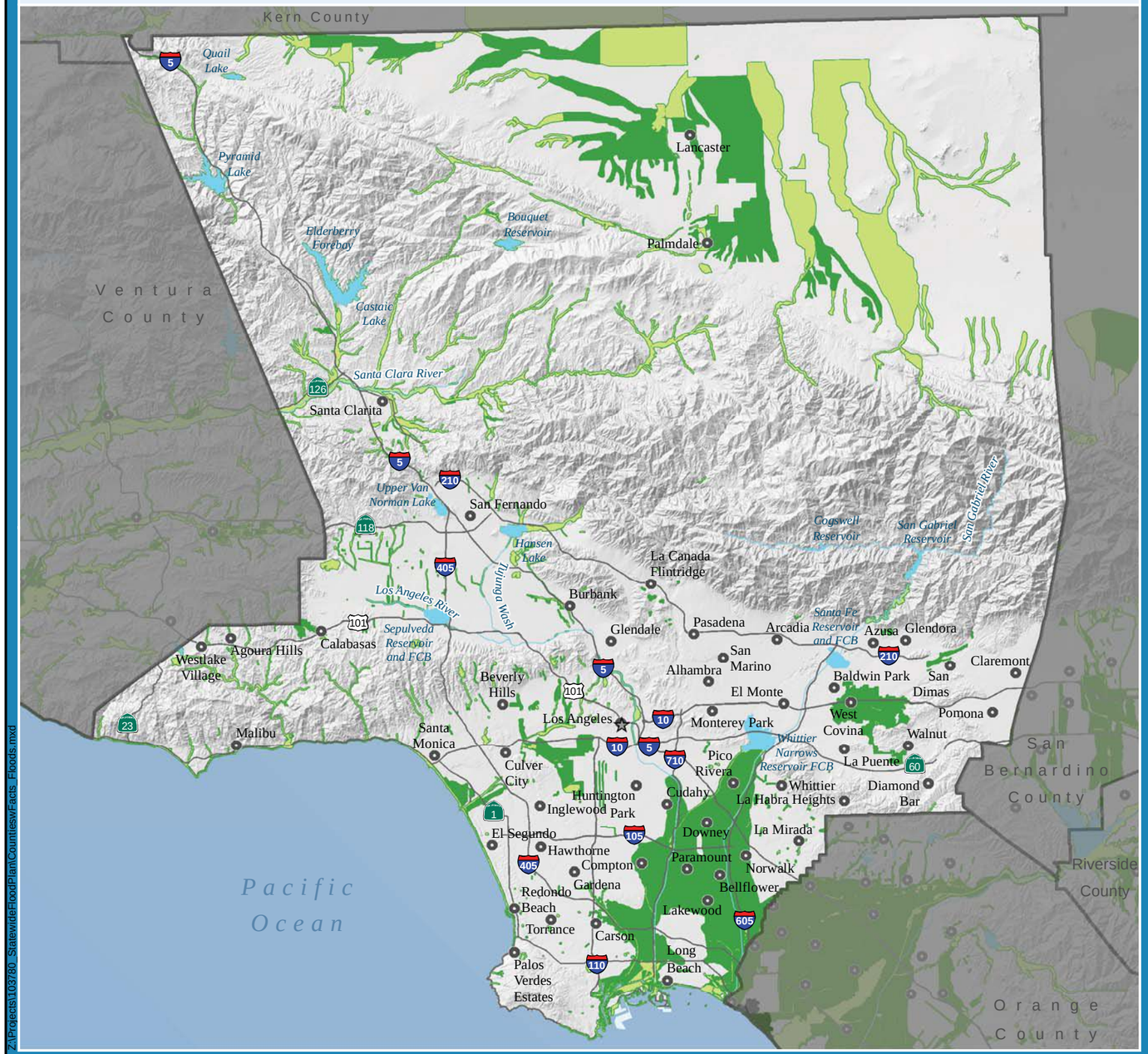
100-year and 500-year Floodplains



N

0 4 8 16

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

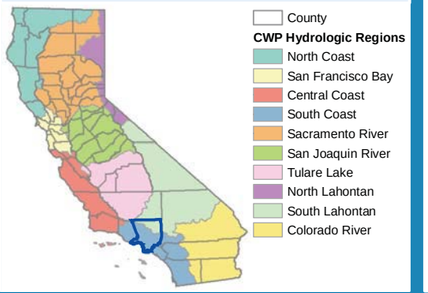
1861-1862 Winter, The Great Flood, Arroyo Seco
1914 February, San Gabriel and Los Angeles Rivers, Arroyo Seco
1916 January, Arroyo Seco
1925 Los Angeles River
1938 March, Great Flood, San Gabriel River Los Angeles River, Big and Little Rock Creeks
1958 February-April
1963 December, Baldwin Hills Dam Failure, Streets and Channels of Los Angeles downstream of dam
1969 January 18-26, February 20-26, Winter '69 Storms, Countywide, most severe in the foothills
1978 February 5-10, March 1-6
1983 March 1-4, El Niño, Countywide
1993 January-February, Countywide
1995 January-March, Severe Winter Storms, Los Angeles Basin
1998 February 6, El Niño Floods, Countywide
2004-2005 December-January
2009 November 12-13, La Crescenta
2010 January-February, San Gabriel Mountians and Foothills (Altadena to Ventura County Line)

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:	2.6 million
Total Population:	9.5 million
Total Structures:	2.4 million
Total Value of Structures and Contents:	$614.1 billion
Total Agricultural Acreage:	209,607
Total Value of Crops:	$299.0 million

Summary of Exposure to Flood Hazard Reported by County	100-yr Event	500-yr Event
Exposed Area (acres):	112,898	268,665
Percent of Area Exposed:	4	10
Population Exposed:	79,112	1.4 million
Percent of Population Exposed:	1	14
Structures Exposed:	23,239	355,712
Total Depreciated Replacement Value of Exposed Structures and Contents:	$6.3 billion	$74.7 billion
Exposed Crops (acres)	23,449	51,486
Value of Exposed Crops:	$27.1 million	$64.7 million
Department of Defense Facilities Exposed:	3	3
Essential Facilities Exposed:	17	509
High Potential Loss Facilities Exposed:	50	391
Lifeline Utilities Exposed:	10	36
Transportation Facilities Exposed:	203	714
Transportation Segments Exposed (miles):	122	584
Native American Tribal Land Exposed (acres):	0	0
Total Sensitive Plant Species Exposed:	78	85
Total Sensitive Animal Species Exposed:	93	94

Figure D-37
Summary of Available Flood Types, Flood History, and Flood Hazard Exposure, Los Angeles County

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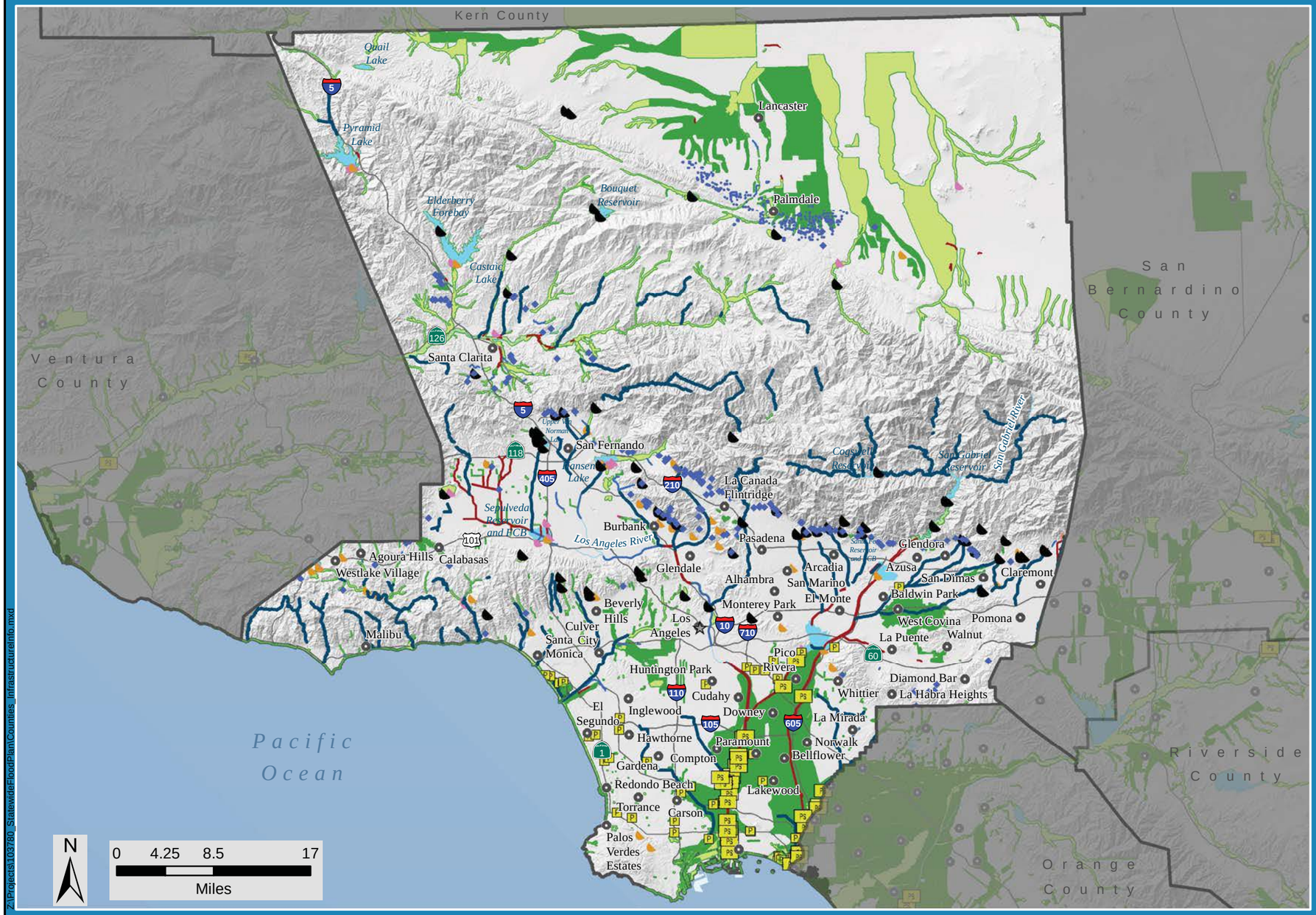
STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

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

Summary of Available Flood Infrastructure Information



Los Angeles County

Flood Infrastructure GIS Data Received from Agencies Contacted:

- Pump Plant
- Major Dam
- Debris Basin
- Major Channel
- Palmdale Maintained Basin

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

Levee
Channel
Dam
Debris Basin
Detention Basin

Agencies Contacted as Part of SFMP:

Los Angeles County Department of Public Works
City of Lancaster
City of Los Angeles
City of Palmdale

Planned Projects:

Number of Local Projects:	90
Estimated Cost of Local Projects:	$2.5 billion
Number of USACE Projects:	3
Estimated Cost of USACE Projects:	$46 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.
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- 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-38
Summary of Available Flood Infrastructure Information, Los Angeles County

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DEPARTMENT OF WATER RESOURCES STATE OF CALIFORNIA
STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM
FloodSAFE CALIFORNIA

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