

Attachment D

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

Attachment D
Summary of Exposure and Infrastructure Inventory by County

Mar 22, 2013



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County	#	County	#	County	#	County	#
Alameda County	D-1 D-2	Lake County	D-33 D-44	Riverside County	D-65 D-66	Sonoma County	D-97 D-98
Alpine County	D-3 D-4	Lassen County	D-35 D-36	Sacramento County	D-67 D-68	Stanislaus County	D-99 D-100
Amador County	D-5 D-6	Los Angeles County	D-37 D-38	San Benito County	D-69 D-70	Sutter	D-101 D-102
Butte County	D-7 D-8	Madera County	D-39 D-40	San Bernardino County	D-71 D-72	Tehama County	D-103 D-104
Calaveras County	D-9 D-10	Marin County	D-41 D-42	San Diego County	D-73 D-74	Trinity County	D-105 D-106
Colusa County	D-11 D-12	Mariposa County	D-43 D-44	San Francisco County	D-75 D-76	Tulare County	D-107 D-108
Contra Costa County	D-13 D-14	Mendocino County	D-45 D-46	San Joaquin County	D-77 D-78	Tuolumne County	D-109 D-110
Del Norte County	D-15 D-16	Merced County	D-47 D-48	San Luis Obispo County	D-79 D-80	Ventura County	D-111 D-112
El Dorado County	D-17 D-18	Modoc County	D-49 D-50	San Mateo County	D-81 D-82	Yolo County	D-113 D-114
Fresno County	D-19 D-20	Mono County	D-51 D-52	Santa Barbara County	D-83 D-84	Yuba County	D-115 D-116
Glenn County	D-21 D-22	Monterey County	D-53 D-54	Santa Clara County	D-85 D-86		
Humboldt County	D-23 D-24	Napa County	D-55 D-56	Santa Cruz County	D-87 D-88		
Imperial County	D-25 D-26	Nevada County	D-57 D-58	Shasta County	D-89 D-90		
Inyo County	D-27 D-28	Orange County	D-59 D-60	Sierra County	D-91 D-92		
Kern County	D-29 D-30	Placer County	D-61 D-62	Siskiyou County	D-93 D-94		
Kings County	D-31 D-32	Plumas County	D-63 D-64	Solano County	D-95 D-96		

Statewide GIS Data Legend

Statewide GIS Data:

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

Attachment D - Table of Contents

Table of Contents

Attachment D Summary of Exposure and Infrastructure Inventory by County

Mar 22, 2013



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 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.

County Maps:

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

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

Attachment D Summary of Exposure and Infrastructure Inventory by County

Mar 22, 2013



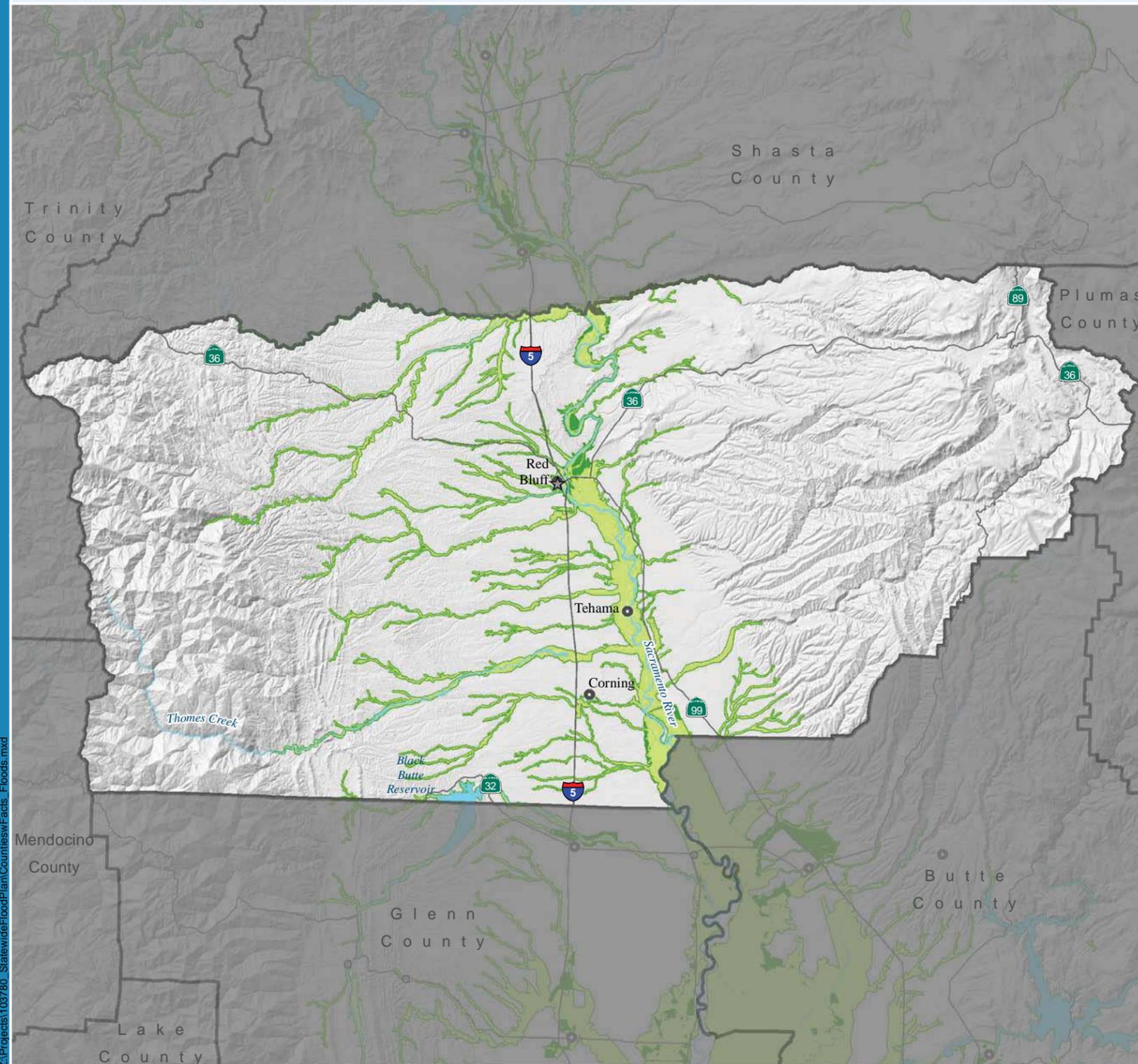
US Army Corps
of Engineers®



STATEWIDE FLOOD
MANAGEMENT
PLANNING PROGRAM



100-year and 500-year Floodplains



- 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** 1955 Christmas Flood
- 1962-1963** December-February
- 1964-1965** December-January, Northern California Christmas 1964 Disaster, Sacramento River Basin
- 1969-1970** December-March, Winter '69 Storms, Sacramento River Basin
- 1982-1983** December-March, Winter Storms, Sacramento River Basin
- 1986** February, St. Valentine's Day Storm
- 1995** January-March, Severe Winter Storms, Sacramento River Basin
- 1996-1997** December-January

Flood Hazard Exposure

County Statistics

Total Acreage:	1.9 million
Total Population:	56,050
Total Structures:	25,500
Total Value of Structures and Contents:	\$4.1 billion
Total Agricultural Acreage:	112,353
Total Value of Crops:	\$166.9 million

Summary of Exposure to Flood Hazard Reported by County

	100-yr Event	500-yr Event
Exposed Area (acres):	86,788	90,325
Percent of Area Exposed:	5	5
Population Exposed:	8,094	11,317
Percent of Population Exposed:	14	20
Structures Exposed:	3,829	5,325
Total Depreciated Replacement Value of Exposed Structures and Contents:	\$625.0 million	\$887.7 million
Exposed Crops (acres):	24,274	25,859
Value of Exposed Crops:	\$62.3 million	\$66.2 million
Department of Defense Facilities Exposed:	1	1
Essential Facilities Exposed:	5	6
High Potential Loss Facilities Exposed:	4	4
Lifeline Utilities Exposed:	2	2
Transportation Facilities Exposed:	130	135
Transportation Segments Exposed (miles):	32	35
Native American Tribal Land Exposed (acres):	0	0
Total Sensitive Plant Species Exposed:	20	20
Total Sensitive Animal Species Exposed:	35	35

Tehama County

Types of Flooding

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

Hydrologic Regions



Figure D-103
Summary of Available Flood Types, Flood History, and Flood Hazard Exposure, Tehama County

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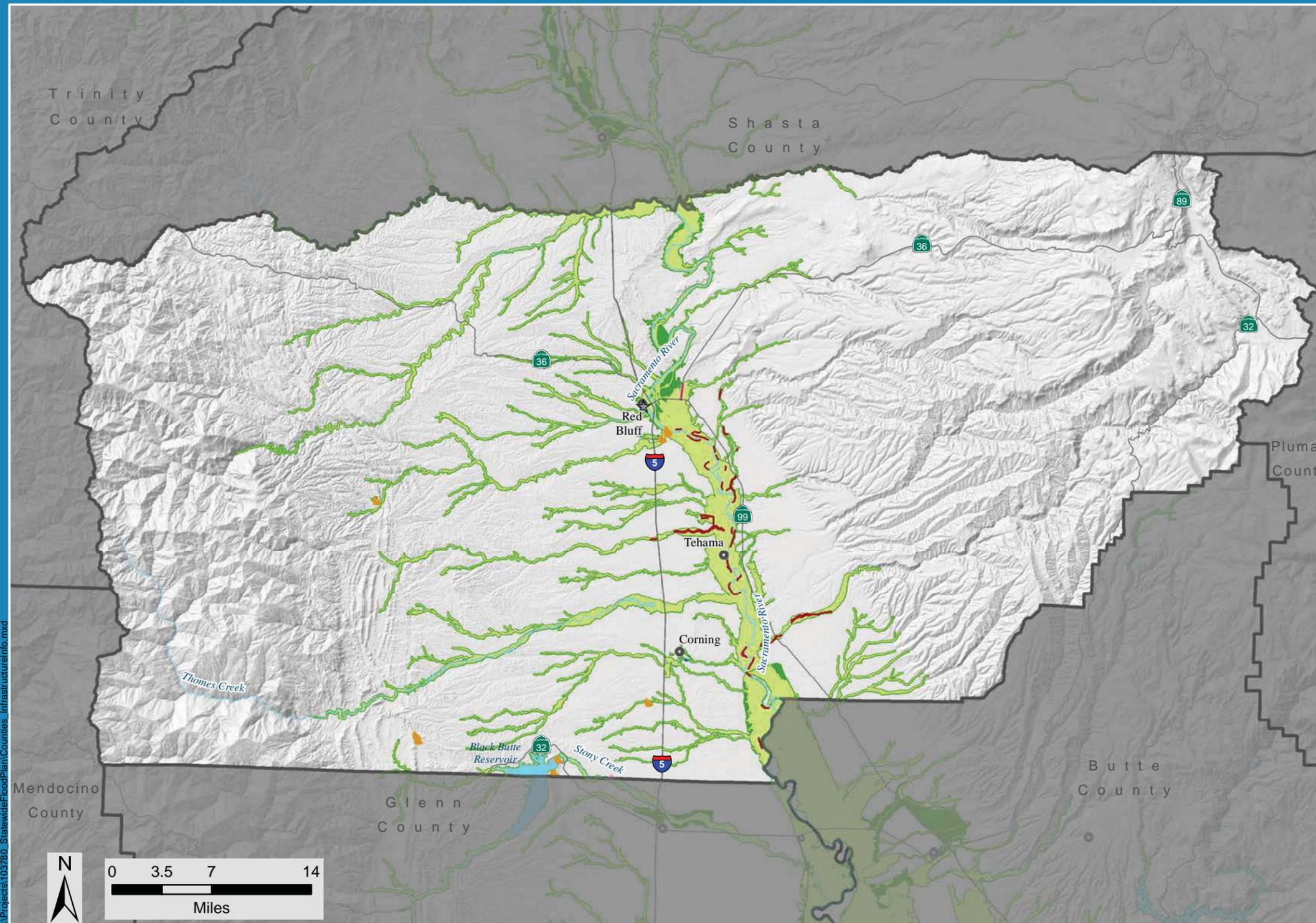
Mar 22, 2013



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

Summary of Available Flood Infrastructure Information

Tehama 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:
Tehama County Flood Control and Water Conservation District
City of Corning
City of Red Bluff
Gerber Las Flores Community Services District

Planned Projects:
Number of Local Projects: 6
Estimated Cost of Local Projects: \$6.8 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, Bulletin 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.

Tehama County

Statewide GIS Data:

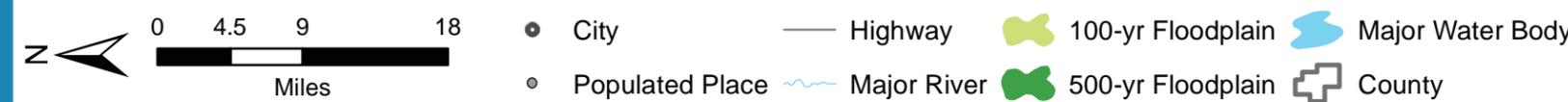
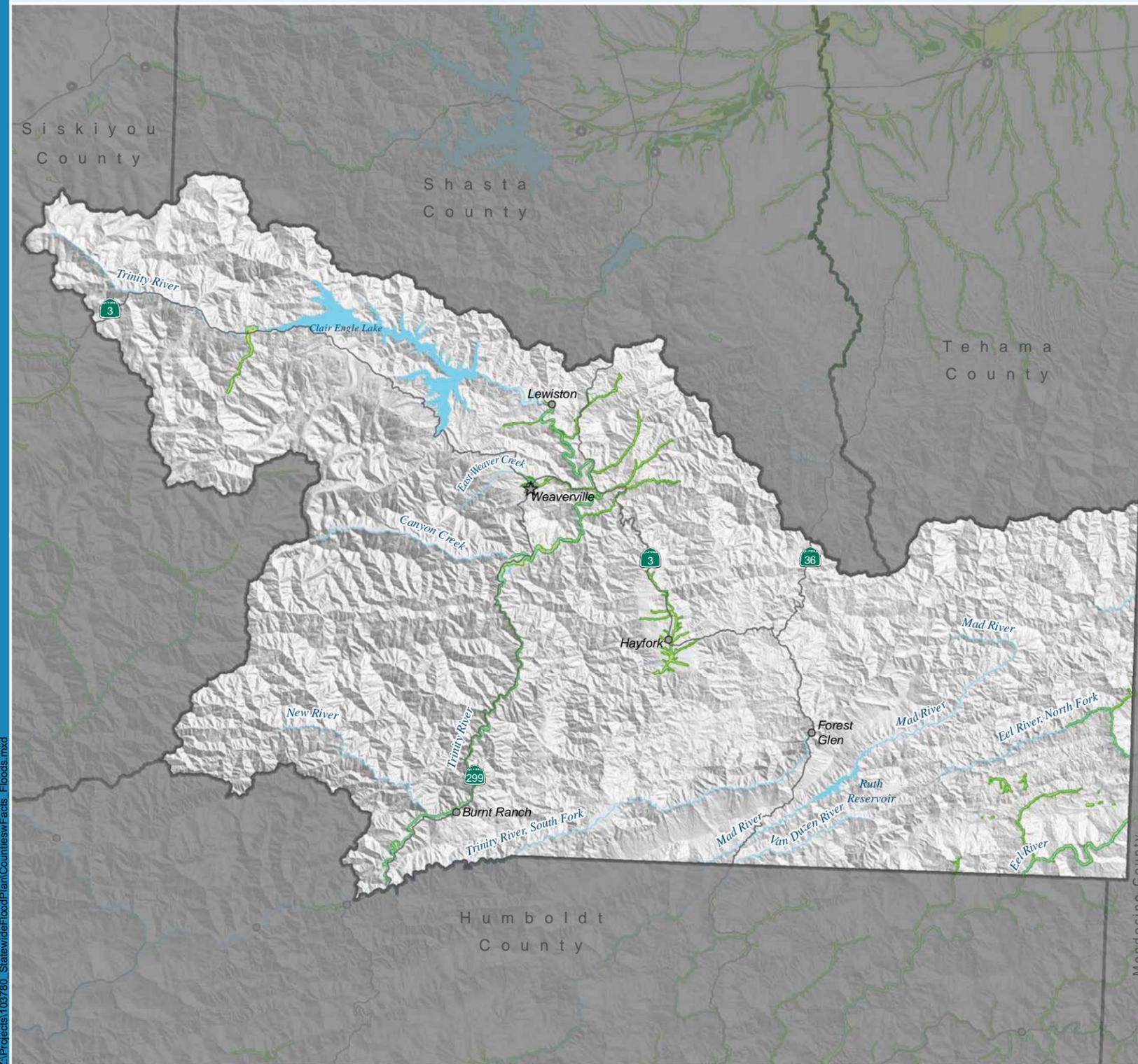
● City	● DWR Local Agency Dam	PS CLD Pump Station	~ NFHL Levee	~ NFHL Control Structure	— Highway	100-yr Floodplain
○ Populated Place	● DWR Other Dam	~ CLD Local Agency Levee	~ NFHL Flood Event Structure	~ NFHL Dike	~ Major River	500-yr Floodplain
	● NFHL Dam or Weir	~ CLD Other Levee	~ NFHL Channel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

Figure D-104
Summary of Available Flood Infrastructure Information, Tehama 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
- 1953 January, Mad River
- 1955-1956 December-January, 1955 Christmas Flood, Mad River, Trinity River
- 1962 October
- 1964 January
- 1964 December-January, Northern California Christmas 1964 Disaster, Mad River
- 1969-1970 December-March, Countywide
- 1974 January
- 1982-1983 December-April, Winter Storms
- 1986 February, Trinity River
- 1995 January-March, Severe Winter Storms
- 1996-1997 December-January
- 2005-2006 December-January, New Year's Eve Flood of 2006
- 2006 March 29-April 1, May 10

Flood Hazard Exposure

County Statistics

Total Acreage:	2.1 million
Total Population:	13,021
Total Structures:	8,500
Total Value of Structures and Contents:	\$1.1 billion
Total Agricultural Acreage:	2,751
Total Value of Crops:	\$1.1 million

Summary of Exposure to Flood Hazard Reported by County

	100-yr Event	500-yr Event
Exposed Area (acres):	10,285	10,862
Percent of Area Exposed:	1	1
Population Exposed:	967	1,149
Percent of Population Exposed:	7	9
Structures Exposed:	610	725
Total Depreciated Replacement Value of Exposed Structures and Contents:	\$81.7 million	\$98.8 million
Exposed Crops (acres):	217	264
Value of Exposed Crops:	\$17,877	\$18,969
Department of Defense Facilities Exposed:	0	0
Essential Facilities Exposed:	8	9
High Potential Loss Facilities Exposed:	1	1
Lifeline Utilities Exposed:	0	0
Transportation Facilities Exposed:	13	17
Transportation Segments Exposed (miles):	21	21
Native American Tribal Land Exposed (acres):	27	27
Total Sensitive Plant Species Exposed:	11	11
Total Sensitive Animal Species Exposed:	19	19

Trinity County

Types of Flooding

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

Hydrologic Regions

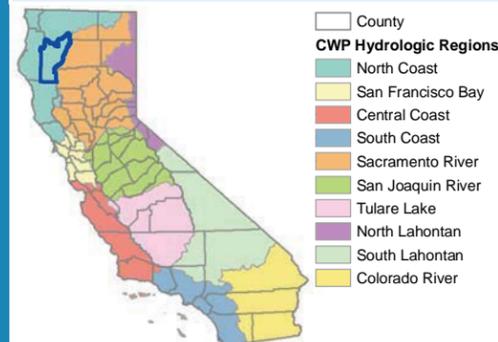


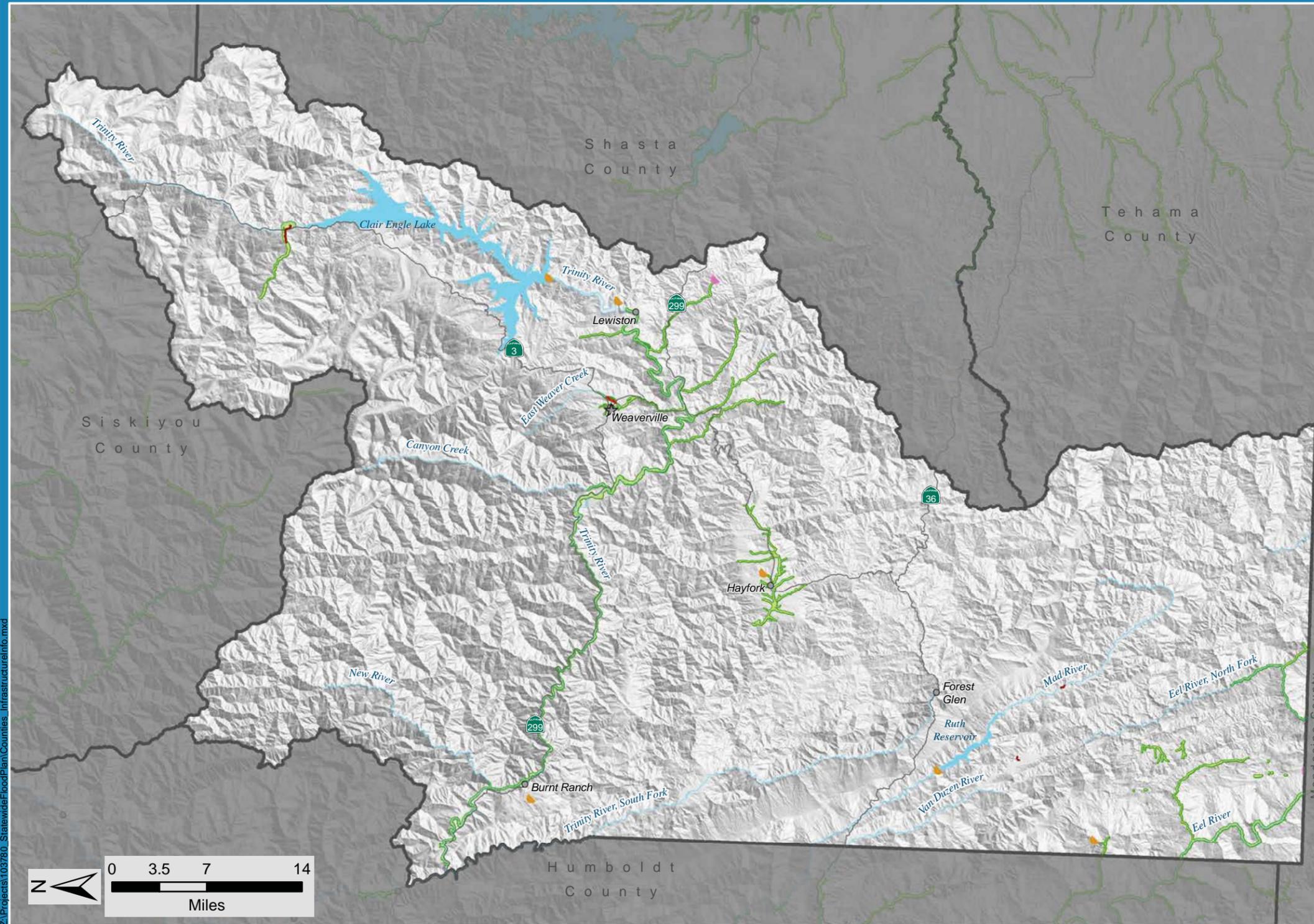
Figure D-105
Summary of Available Flood Types, Flood History, and Flood Hazard Exposure, Trinity County

DRAFT Mar 22, 2013

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

Summary of Available Flood Infrastructure Information

Trinity 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:
Trinity County Planning Department
Trinity County Department of Transportation
Trinity River Restoration Program

Planned Projects:

Number of Local Projects:	2
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, Bulletin 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-106
Summary of Available Flood Infrastructure Information, Trinity County

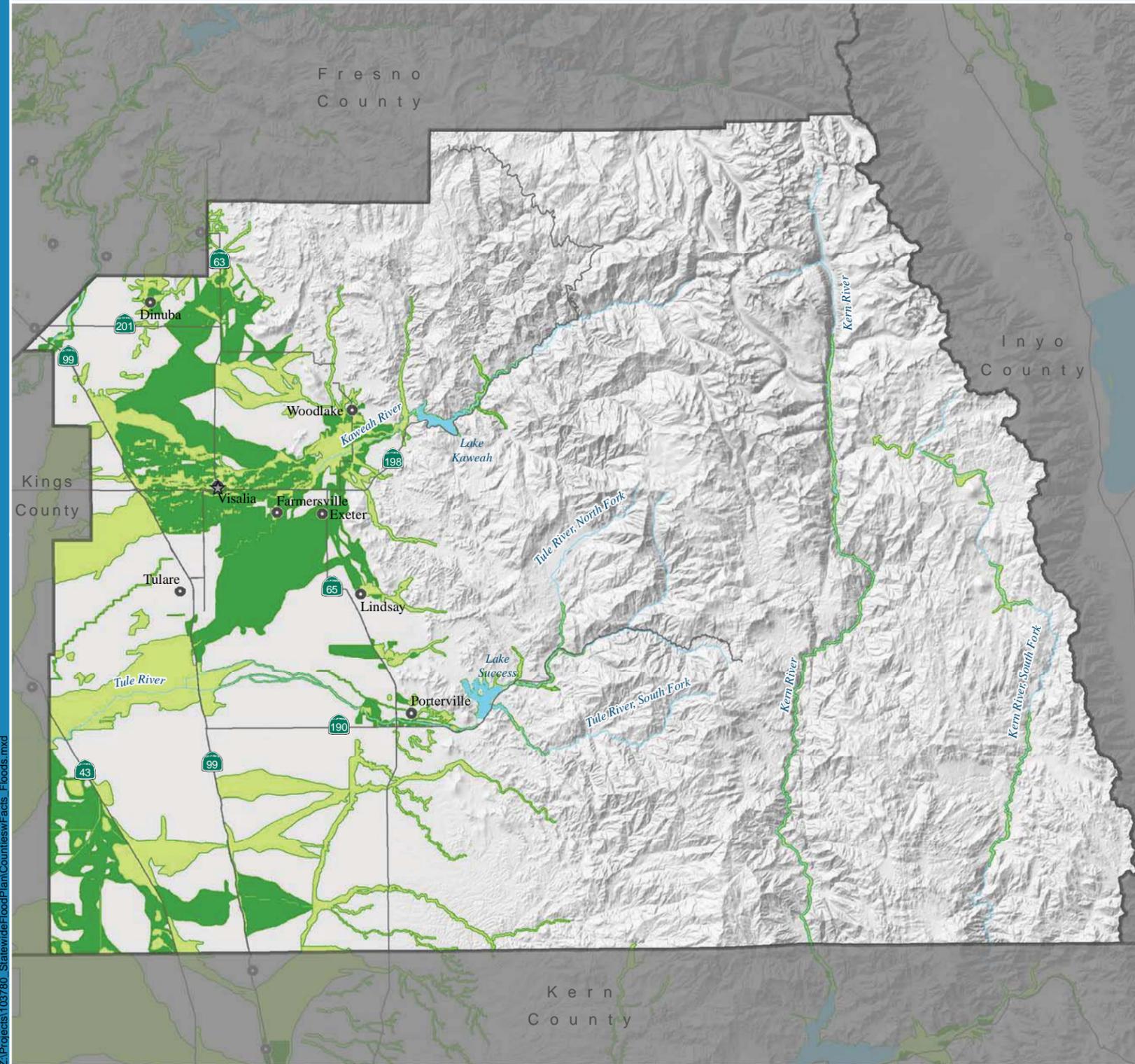
DRAFT Mar 22, 2013

- 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

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Trinity County

100-year and 500-year Floodplains



Selected Flood Events by Event Year

- 1955-1956** December-January, 1955
Christmas Flood, Tulare Lake
- 1966-1967** December-January, Tulare Lake Basin
- 1969-1970** December-January, Winter '69 Storms
Sand Creek, Cottonwood Creek, Yokohl Creek,
Lewis Creek, Frazier Creek, Deer Creek,
White River
- 1995** January-March, Severe Winter Storms
- 1997** January, Countywide
- 1998** January-June, Tule River, White River
- 2006** May 10
- 2010** December
- 2011** January

Flood Hazard Exposure

County Statistics

Total Acreage:	3.1 million
Total Population:	368,064
Total Structures:	128,000
Total Value of Structures and Contents:	\$25.2 billion
Total Agricultural Acreage:	753,785
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):	176,123	366,339
Percent of Area Exposed:	6	12
Population Exposed:	62,135	191,873
Percent of Population Exposed:	17	52
Structures Exposed:	20,447	64,835
Total Depreciated Replacement Value of Exposed Structures and Contents:	\$4.5 billion	\$14.1 billion
Exposed Crops (acres):	112,898	254,318
Value of Exposed Crops:	\$326.4 million	\$721.3 million
Department of Defense Facilities Exposed:	2	2
Essential Facilities Exposed:	33	110
High Potential Loss Facilities Exposed:	12	15
Lifeline Utilities Exposed:	3	11
Transportation Facilities Exposed:	199	334
Transportation Segments Exposed (miles):	128	259
Native American Tribal Land Exposed (acres):	4	4
Total Sensitive Plant Species Exposed:	38	39
Total Sensitive Animal Species Exposed:	48	50

Tulare County

Types of Flooding

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

Hydrologic Regions

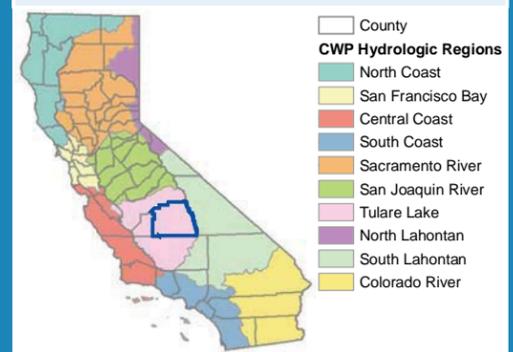


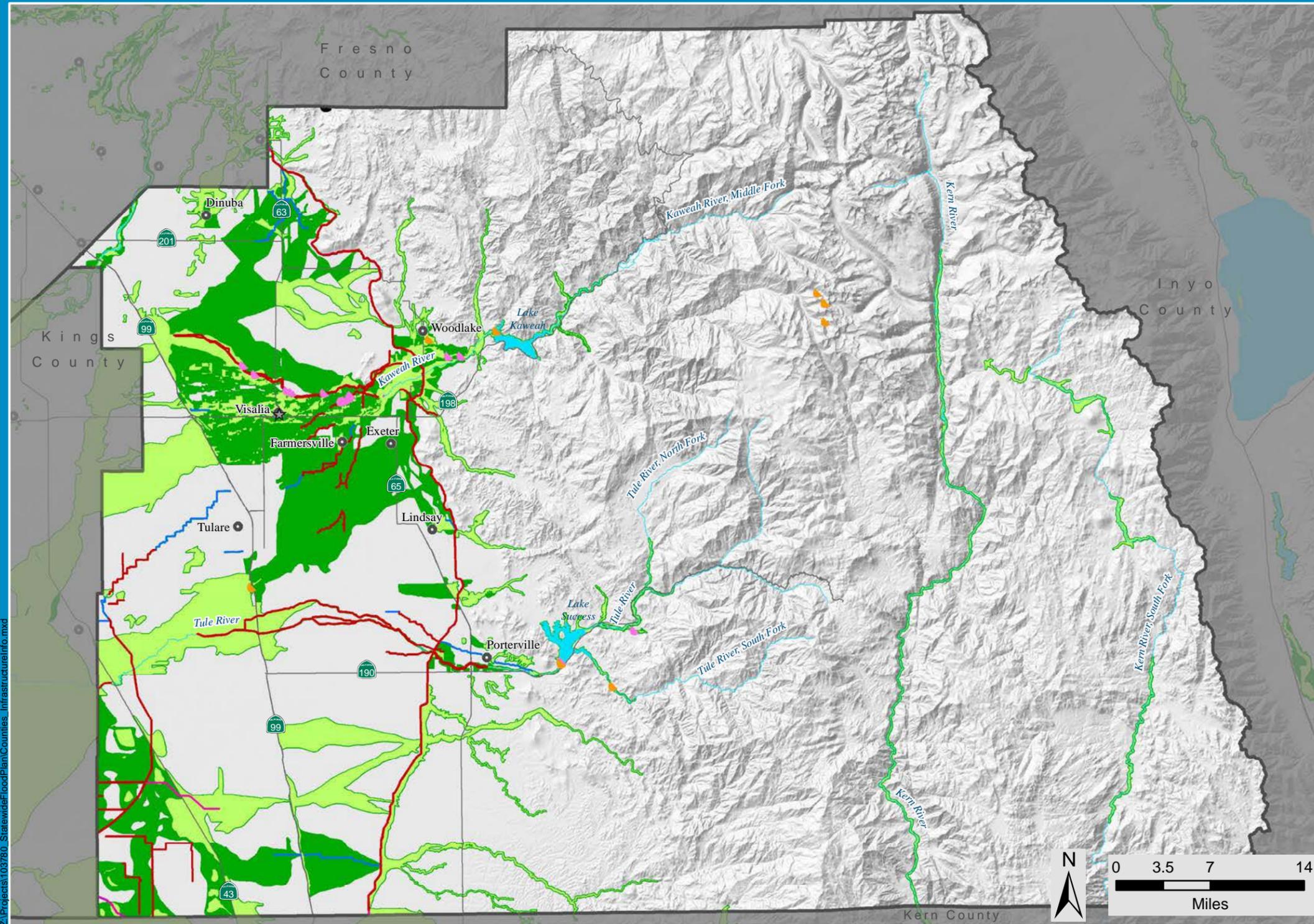
Figure D-107
Summary of Available Flood Types, Flood History, and Flood Hazard Exposure, Tulare County

DRAFT Mar 22, 2013

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Summary of Available Flood Infrastructure Information

Tulare 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

Agencies Contacted as Part of SFMP:
 Tulare County Flood Control District

Planned Projects:

Number of Local Projects:	2
Estimated Cost of Local Projects:	\$64.4 million
Number of USACE Projects:	5
Estimated Cost of USACE Projects:	\$529.4 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, Bulletin 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-108
 Summary of Available Flood Infrastructure Information, Tulare County

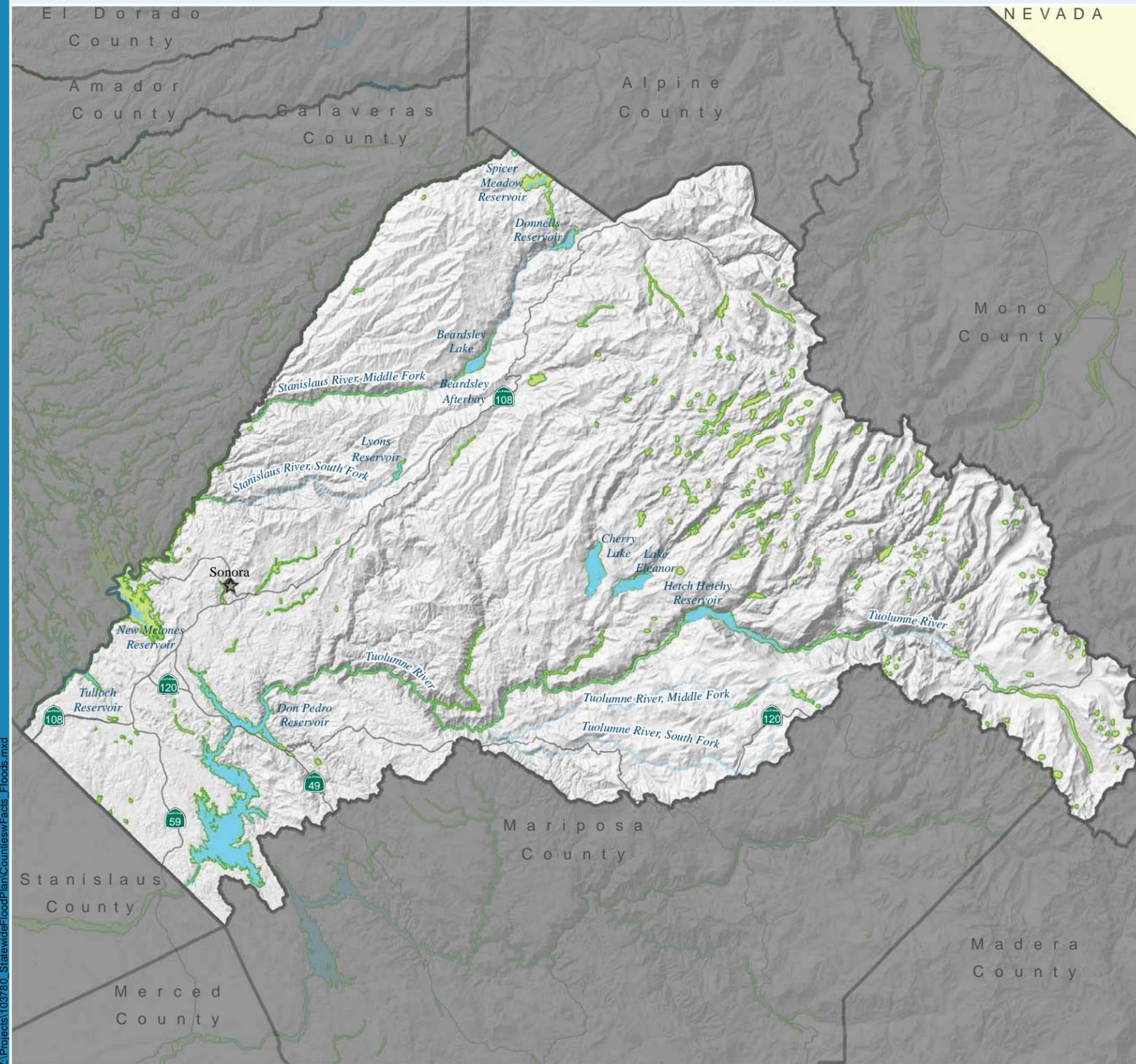
DRAFT Mar 22, 2013

- 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

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Tulare County

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
- 1958** February-April
- 1964-1965** December-January, Countywide
- 1968-1969** December-February, Winter '69 Storms, Klamath River Basin
- 1983** March, Regional
- 1986** February-March, St. Valentine's Day Storm
- 1995** January-April, 1995 Christmas Flood
- 1997** January
- 2006** March 29 - April 1, May 10, Spring Storms

Flood Hazard Exposure

County Statistics

Total Acreage:	1.5 million
Total Population:	54,508
Total Structures:	29,900
Total Value of Structures and Contents:	\$6.0 billion
Total Agricultural Acreage:	1,431
Total Value of Crops:	\$2.3 million

Summary of Exposure to Flood Hazard Reported by County

	100-yr Event	500-yr Event
Exposed Area (acres):	41,249	41,249
Percent of Area Exposed:	3	3
Population Exposed:	515	515
Percent of Population Exposed:	1	1
Structures Exposed:	229	229
Total Depreciated Replacement Value of Exposed Structures and Contents:	\$45.1 million	\$45.1 million
Exposed Crops (acres):	6	6
Value of Exposed Crops:	\$27,278	\$27,278
Department of Defense Facilities Exposed:	0	0
Essential Facilities Exposed:	3	3
High Potential Loss Facilities Exposed:	10	10
Lifeline Utilities Exposed:	0	0
Transportation Facilities Exposed:	6	6
Transportation Segments Exposed (miles):	2	2
Native American Tribal Land Exposed (acres):	0	0
Total Sensitive Plant Species Exposed:	30	30
Total Sensitive Animal Species Exposed:	44	44

Tuolumne County

Types of Flooding

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

Hydrologic Regions



Figure D-109
Summary of Available Flood Types, Flood History, and Flood Hazard Exposure, Tuolumne County

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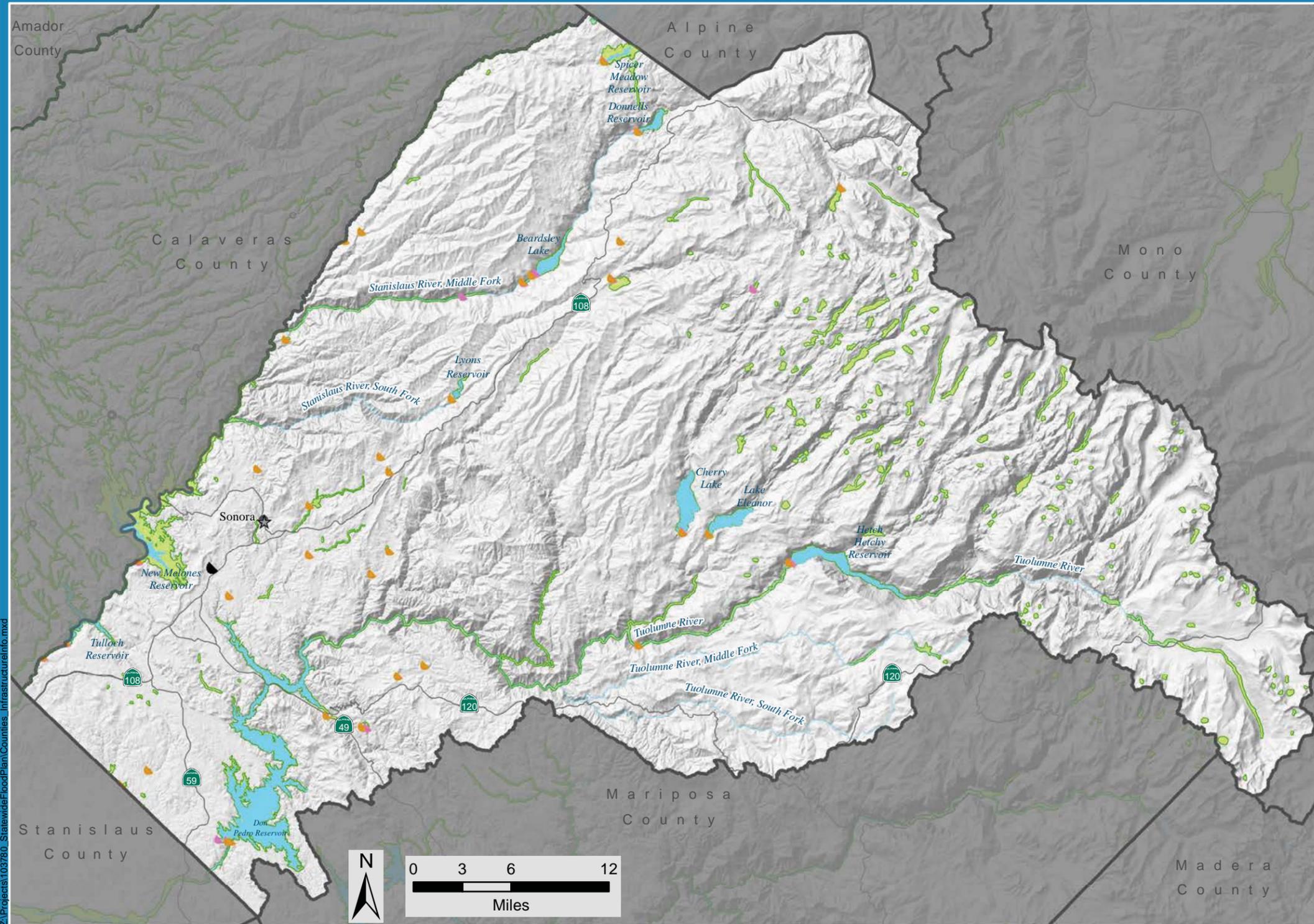
Mar 22, 2013



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Summary of Available Flood Infrastructure Information

Tuolumne County



Flood Infrastructure GIS Data Received from Agencies Contacted:
No Flood Infrastructure GIS Data Received

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

Agencies Contacted as Part of SFMP:
Tuolumne County

Planned Projects:

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

Statewide GIS Data Sources:
 Cities derived from CAL FIRE incorporated city limit polygons, 2010. **Populated Places** from GNIS, 2011. **Counties** from CalAtlas, 2009. **Dams** modified from DWR, Bulletin 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.

Tuolumne County

Statewide GIS Data:

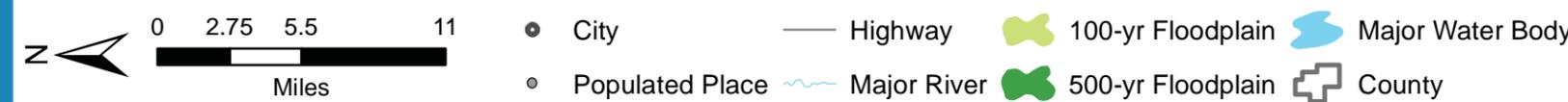
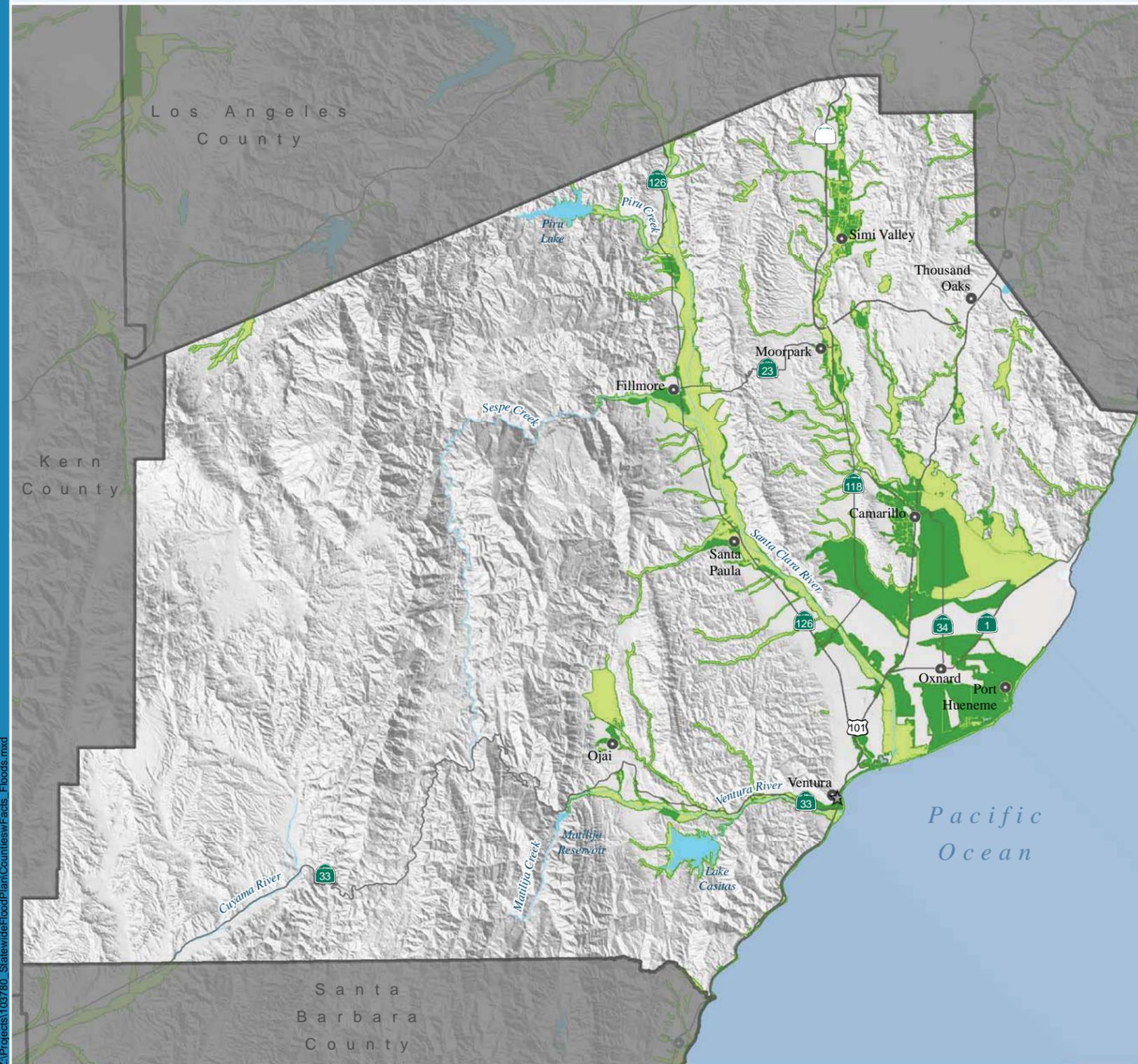
City	DWR Local Agency Dam	CLD Pump Station	NFHL Levee	NFHL Control Structure	Highway	100-yr Floodplain
Populated Place	DWR Other Dam	CLD Local Agency Levee	NFHL Flood Event Structure	NFHL Dike	Major River	500-yr Floodplain
	NFHL Dam or Weir	CLD Other Levee	NFHL Channel	NFHL Retaining Wall	Major Water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

Figure D-110
Summary of Available Flood Infrastructure Information, Tuolumne County

DRAFT Mar 22, 2013

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
- 1938 March, Great Flood
- 1955-1956 December-January, Christmas Flood
- 1958 February-April, Santa Clara River
- 1965 November-December, Santa Clara River
- 1967 November-December, Santa Clara River
- 1969 January-February, Winter '69 Storms, Santa Clara River
- 1970 January
- 1973 January-February, Coastal Flooding, Santa Clara River
- 1978 January-March, Santa Clara River
- 1980 January-March, Santa Clara River
- 1995 January-March, Severe Winter Storms
- 1998 February 6, Santa Clara River
- 2002 December
- 2010 February
- 2011 March

Flood Hazard Exposure

County Statistics

Total Acreage:	1.2 million
Total Population:	753,402
Total Structures:	240,400
Total Value of Structures and Contents:	\$71.7 billion
Total Agricultural Acreage:	110,478
Total Value of Crops:	\$896.4 million

Summary of Exposure to Flood Hazard Reported by County

	100-yr Event	500-yr Event
Exposed Area (acres):	52,208	87,712
Percent of Area Exposed:	4	7
Population Exposed:	49,560	203,378
Percent of Population Exposed:	7	27
Structures Exposed:	16,395	58,603
Total Depreciated Replacement Value of Exposed Structures and Contents:	\$5.1 billion	\$16.8 billion
Exposed Crops (acres):	21,701	38,683
Value of Exposed Crops:	\$192.8 million	\$379.4 million
Department of Defense Facilities Exposed:	2	2
Essential Facilities Exposed:	30	81
High Potential Loss Facilities Exposed:	1	19
Lifeline Utilities Exposed:	4	12
Transportation Facilities Exposed:	111	189
Transportation Segments Exposed (miles):	74	198
Native American Tribal Land Exposed (acres):	0	0
Total Sensitive Plant Species Exposed:	31	31
Total Sensitive Animal Species Exposed:	51	52

Ventura County

Types of Flooding

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

Hydrologic Regions

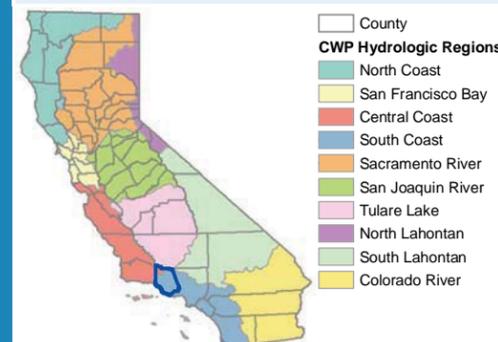


Figure D-111
Summary of Available Flood Types, Flood History, and Flood Hazard Exposure, Ventura County

DRAFT

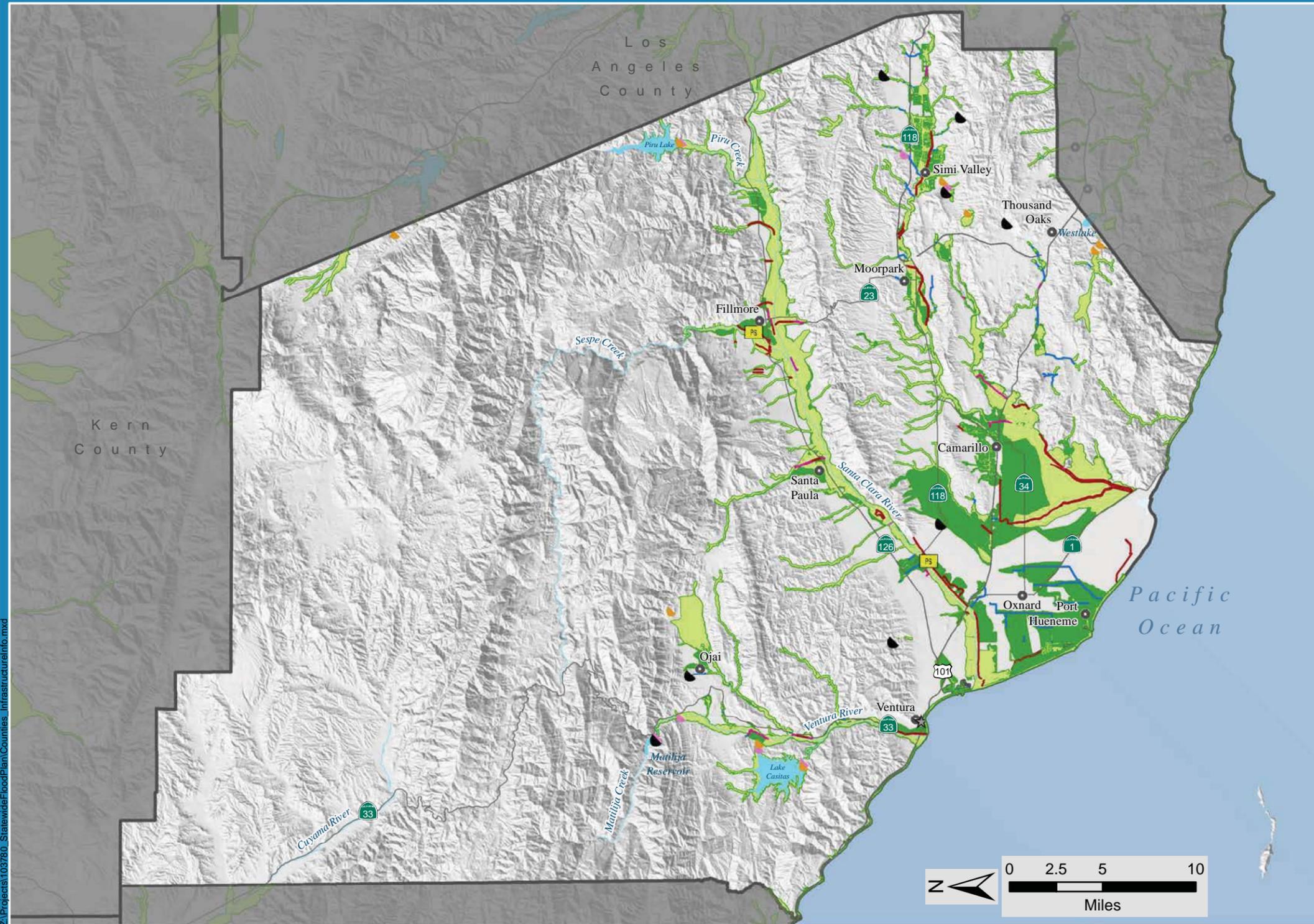
Mar 22, 2013



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

Summary of Available Flood Infrastructure Information

Ventura 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
 Debris Basin
 Detention Basin

Agencies Contacted as Part of SFMP:
 Ventura County Watershed Protection District
 Ventura County Public Works

Planned Projects:
 Number of Local Projects: 27
 Estimated Cost of Local Projects: \$1.4 billion
 Number of USACE Projects: 3
 Estimated Cost of USACE Projects: \$142.9 million

Statewide GIS Data Sources:
 Cities derived from CAL FIRE incorporated city limit polygons, 2010. Populated Places from GNIS, 2011. Counties from CalAtlas, 2009. Dams modified from DWR, Bulletin 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.

Ventura County

Statewide GIS Data:

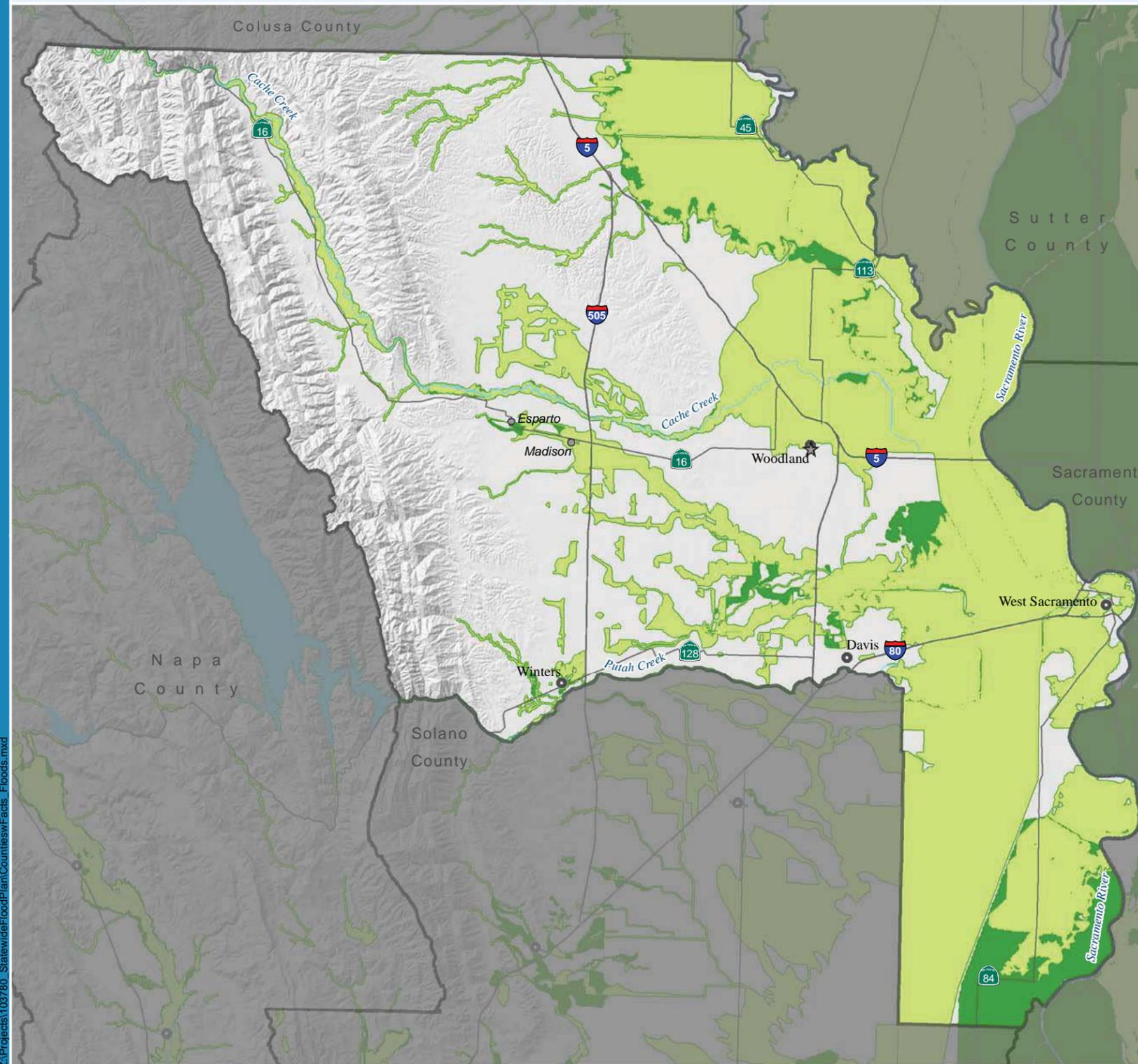
● City	● DWR Local Agency Dam	PS CLD Pump Station	~ NFHL Levee	~ NFHL Control Structure	— Highway	100-yr Floodplain
○ Populated Place	● DWR Other Dam	~ CLD Local Agency Levee	~ NFHL Flood Event Structure	~ NFHL Dike	~ Major River	500-yr Floodplain
	● NFHL Dam or Weir	~ CLD Other Levee	~ NFHL Channel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

Figure D-112
 Summary of Available Flood Infrastructure Information, Ventura County

DRAFT Mar 22, 2013

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, Christmas Flood
- 1958** February-April
- 1963** January-February
- 1964-1965** December-January, Northern California Christmas 1964 Disaster
- 1969-1970** December-March, Regional
- 1974** January-April, Upper Sacramento River Area
- 1982-1983** December-March, Winter Storms
- 1986** February, St. Valentine's Day Storm
- 1995** January-March, Severe Winter Storms, Sacramento River Basin
- 1998** El Niño Floods
- 2006** March 29-April 1, May 10
- 2008** January 5 -14, Winter Storms

Flood Hazard Exposure

County Statistics

Total Acreage:	653,450
Total Population:	168,013
Total Structures:	53,500
Total Value of Structures and Contents:	\$15.5 billion
Total Agricultural Acreage:	348,037
Total Value of Crops:	\$631.8 million

Summary of Exposure to Flood Hazard Reported by County

	100-yr Event	500-yr Event
Exposed Area (acres):	239,867	260,585
Percent of Area Exposed:	37	40
Population Exposed:	56,822	59,783
Percent of Population Exposed:	34	36
Exposed Structures:	19,505	20,530
Total Depreciated Replacement Value of Exposed Structures and Contents:	\$5.8 billion	\$6.1 billion
Exposed Crops (acres):	180,459	199,809
Value of Exposed Crops:	\$330.7 million	\$360.7 million
Department of Defense Facilities Exposed:	0	0
Essential Facilities Exposed:	37	39
High Potential Loss Facilities Exposed:	9	9
Lifeline Utilities Exposed:	4	4
Transportation Facilities Exposed:	116	120
Transportation Segments Exposed (miles):	153	166
Native American Tribal Land Exposed (acres):	282	282
Total Sensitive Plant Species Exposed:	18	19
Total Sensitive Animal Species Exposed:	41	41

Yolo County

Types of Flooding

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

Hydrologic Regions



Figure D-113
Summary of Available Flood Types, Flood History, and Flood Hazard Exposure, Yolo County

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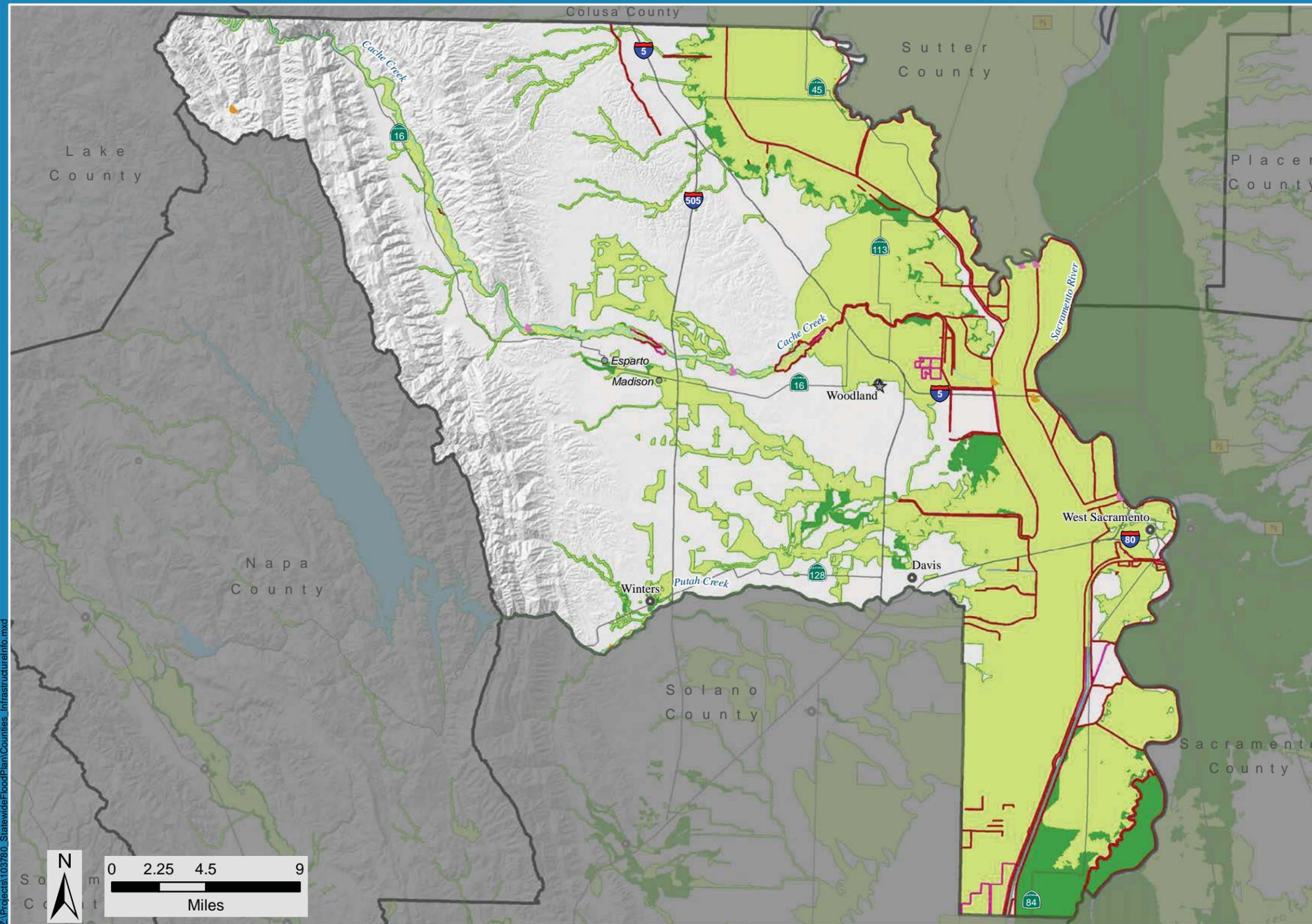
Mar 22, 2013



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

Summary of Available Flood Infrastructure Information

Yolo 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
 Settling Basin

Agencies Contacted as Part of SFMP:
 Yolo County Flood Control and Water Conservation District
 Yolo County
 Knights Landing Ridge Drainage District
 City of West Sacramento
 West Sacramento Flood Control Agency
 City of Woodland
 Yolo County Service Area 6

Planned Projects:

Number of Local Projects:	52
Estimated Cost of Local Projects:	\$750.3 million
Number of USACE Projects:	2
Estimated Cost of USACE Projects:	\$202.0 million

Statewide GIS Data Sources:
 Cities derived from CAL FIRE incorporated city limit polygons, 2010. **Populated Places** from GNIS, 2011. **Counties** from CalAtlas, 2009. **Dams** modified from DWR, Bulletin 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.

Yolo County

Statewide GIS Data:

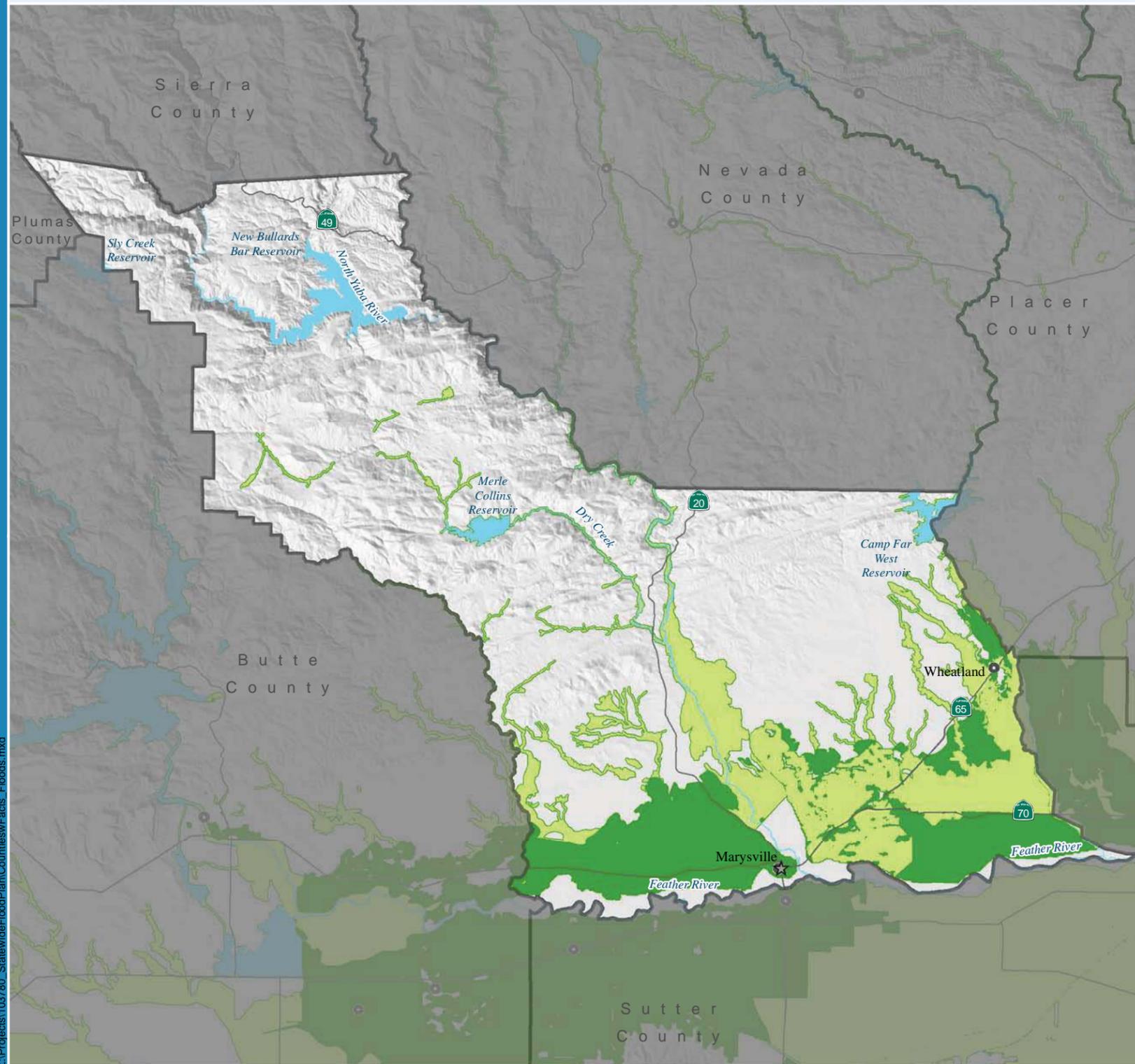
City	DWR Local Agency Dam	CLD Pump Station	NFHL Levee	NFHL Control Structure	Highway	100-yr Floodplain
Populated Place	DWR Other Dam	CLD Local Agency Levee	NFHL Flood Event Structure	NFHL Dike	Major River	500-yr Floodplain
	NFHL Dam or Weir	CLD Other Levee	NFHL Channel	NFHL Retaining Wall	Major Water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

Figure D-114
 Summary of Available Flood Infrastructure Information, Yolo County

DRAFT Mar 22, 2013

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100-year and 500-year Floodplains



Selected Flood Events by Event Year

1861-1862 Winter, The Great Flood
1937-1938 December-March
1955-1956 December-January, 1955 Christmas Flood
1962 October
1964-1965 December-January, Northern California Christmas 1964 Disaster
1969-1970 December-March, Winter Storms
1973 January-April
1986 February, St. Valentine's Day Storm
1995 January-March, Severe Winter Storm, Sacramento River Basin
1996-1997 December-January, 1997 South Yuba County Flood, Feather River
1998 January-March, El Niño Floods
2005-2006 December-January, New Year's Eve Flood of 2006
2006 March 29-April 1, May 10
2008 January 5-14, Winter Storms

Flood Hazard Exposure

County Statistics

Total Acreage:	412,018
Total Population:	60,223
Total Structures:	23,300
Total Value of Structures and Contents:	\$3.9 billion
Total Agricultural Acreage:	92,602
Total Value of Crops:	\$158.7 million

Summary of Exposure to Flood Hazard Reported by County

	100-yr Event	500-yr Event
Exposed Area (acres):	51,827	95,439
Percent of Area Exposed:	13	23
Population Exposed:	20,833	41,372
Percent of Population Exposed:	35	69
Structures Exposed:	7,372	16,676
Total Depreciated Replacement Value of Exposed Structures and Contents:	\$1.1 billion	\$2.5 billion
Exposed Crops (acres):	22,279	55,029
Value of Exposed Crops:	\$34.5 million	\$110.2 million
Department of Defense Facilities Exposed:	1	1
Essential Facilities Exposed:	14	34
High Potential Loss Facilities Exposed:	4	4
Lifeline Utilities Exposed:	0	1
Transportation Facilities Exposed:	42	66
Transportation Segments Exposed (miles):	38	84
Native American Tribal Land Exposed (acres):	0	0
Total Sensitive Plant Species Exposed:	5	7
Total Sensitive Animal Species Exposed:	14	14

Yuba County

Types of Flooding

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

Hydrologic Regions

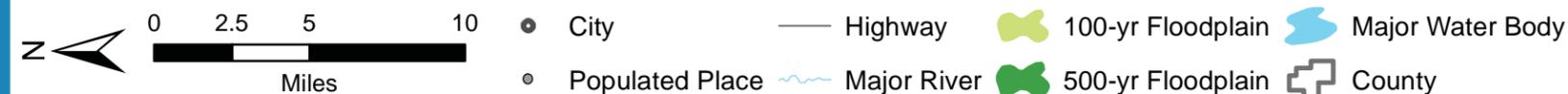


Figure D-115

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

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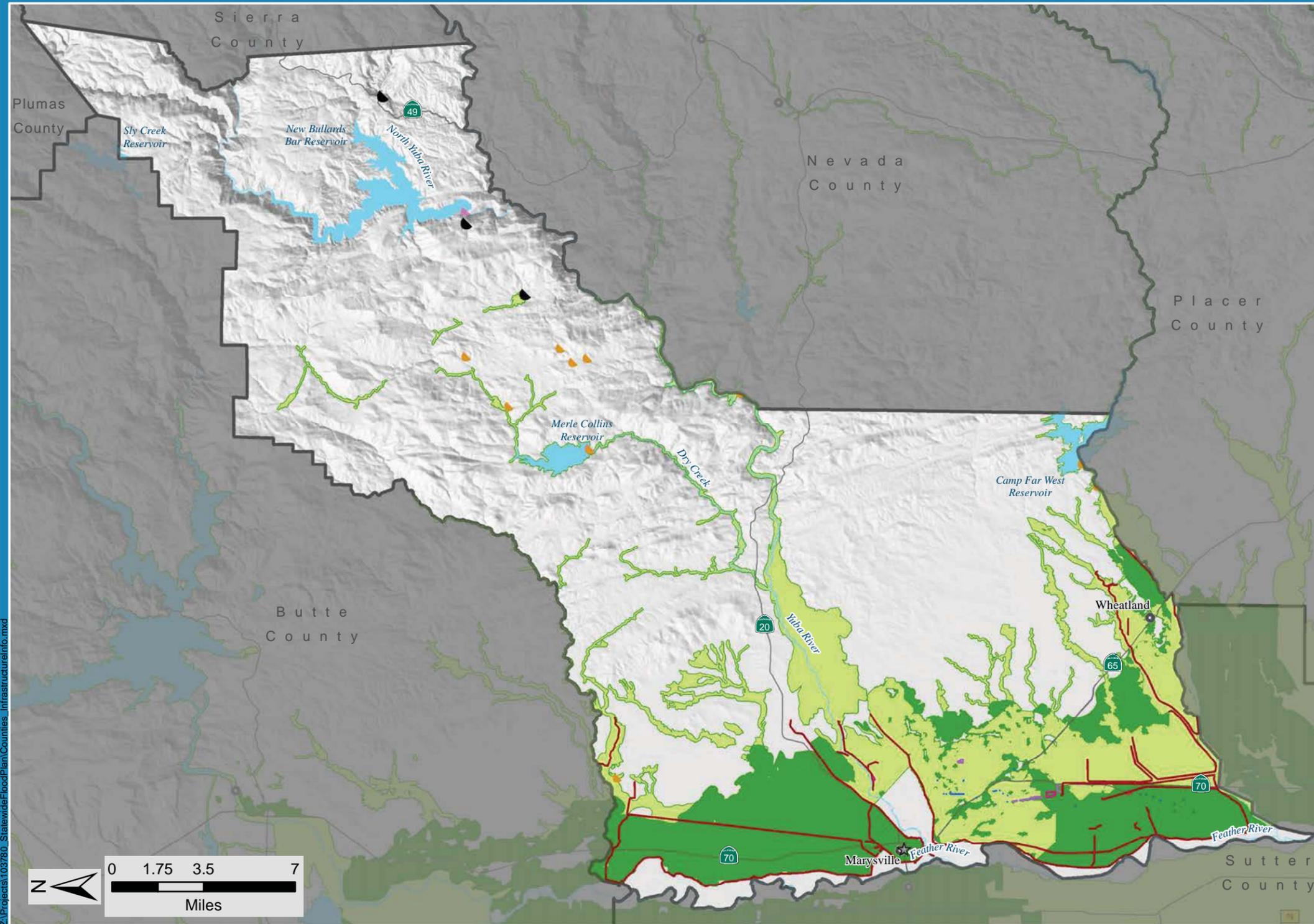
Mar 22, 2013



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

Summary of Available Flood Infrastructure Information

Yuba County



Flood Infrastructure GIS Data Received from Agencies Contacted:
 No Flood Infrastructure GIS Data Received

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

Agencies Contacted as Part of SFMP:
 Yuba County Water Agency
 Three Rivers Levee Improvement Authority
 Yuba County Public Works

Planned Projects:
 Number of Local Projects: 11
 Estimated Cost of Local Projects: \$923.7 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, Bulletin 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: | DWR Local Agency Dam | CLD Pump Station | NFHL Levee | NFHL Control Structure | Highway | 100-yr Floodplain |
| City | DWR Other Dam | CLD Local Agency Levee | NFHL Flood Event Structure | NFHL Dike | Major River | 500-yr Floodplain |
| Populated Place | NFHL Dam or Weir | CLD Other Levee | NFHL Channel | NFHL Retaining Wall | Major Water Body | County |

Figure D-116
 Summary of Available Flood Infrastructure Information, Yuba County

DRAFT Mar 22, 2013

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Yuba County