

GENERAL PLAN AMENDMENT #2011-03 FLOOD HAZARDS

The following text that appears on pages HS 3-4 of the Health and Safety Element in the Yolo 2030 Countywide General Plan has been amended. New language is shown in underline. Deleted language is shown in strike-through. Proposed new language is shown in underline. Proposed deleted language is shown in ~~strike-through~~.

- ~~• Central Valley Flood Protection Board designated floodway maps, DWR Awareness Floodplain Mapping Program maps, DWR 200-year floodplain maps, Maps of levee protection zones—At the time of this General Plan update, this information is not available. An action item has been added to monitor the progress of the State in these areas and amend the General Plan in the future as appropriate.~~

The following text that appears on pages HS 12-24 of the Health and Safety Element in the Yolo 2030 Countywide General Plan has been amended, as follows.



Indian Valley Reservoir

Source: Yolo County Flood Control & Water Conservation District

2. Flood Hazards

The Flood Hazards section of this General Plan provides goals, policies, and actions that guide Yolo County in ensuring adequate safety from flooding for Yolo County communities.

a. Background Information

Yolo County has five primary watersheds with the potential to impact unincorporated communities: Cache Creek Basin; the Sacramento River corridor including the Yolo Bypass (Clarksburg and Knights Landing); Willow Slough (Madison and Esparto), Colusa Basin Drain (Knights Landing) and Dry Slough (West Plainfield, North Davis Meadows and Binning Farms).

100- and 200-Year Floodplains

The threshold for unacceptable flood risk has traditionally been associated with the “100-year flood”. The Federal Emergency Management Agency (FEMA) creates Flood Insurance Rate Maps (FIRMs) that designate 100-year floodplain zones. A 100-year floodplain zone is the area that has a one in one hundred (1 percent) chance of being flooded in any one year based on historical data. Figure HS-4 identifies the existing 100-year floodplain contours as identified by FEMA for Yolo County. These maps reflect recent climate assumptions, as well as assumptions regarding the likelihood of flooding due to levee failure. State law requires that urban areas, defined as those exceeded a population of 10,000, shall provide 200-year flood protection. The FIRMs do not show the 200-year floodplain; however, ~~draft~~ maps have been created by the State Department of Water Resources (DWR) showing these areas and ~~are currently under review.~~ Figure HS-4 HS-5 identifies the existing 100/200-year floodplain contours as identified by FEMA for Yolo County DWR. FEMA has also recently released new draft FIRMs, showing changes to the floodplain using more recent climate assumptions, as well as assumptions regarding the likelihood of flooding due to levee failure. Adoption of the FIRMs is expected in 2010. Because of the generally flat terrain in Yolo County, and the relatively small difference between the volume of 100- and 200-year flood events, the two floodplains are very similar in extent. Affected communities include Clarksburg, Davis, Esparto, Knights Landing, Madison, West Sacramento, Woodland, and Yolo.

Dam Inundation Zones

In addition to hazards from natural flood events, portions of Yolo County are also located downstream of several dams with large inundation areas, as shown in Figure ~~HS-5~~ HS-6. In the unlikely event that any of these dams were to fail, the inundation zones indicate areas that could potentially be flooded. If the dams at Indian Valley Reservoir, Lake Berryessa or along the Sacramento, Feather or American rivers were to fail, ~~the majority of the cities of Woodland West Sacramento, Winters and Davis would be entirely inundated by floodwaters, as would much of the city of Woodland.~~ The ~~entire~~ unincorporated communities of Rumsey, Capay, Madison, Knights Landing and Clarksburg and parts of Guinda, Esparto, Monument Hills and Yolo are also located entirely within dam inundation zones.

Levee Flood Protection Zones

Yolo County has approximately 215 miles of project levees, managed by various agencies, including the County, 13 reclamation districts, one levee district, one drainage district, and the California Department of Water Resources. These levees provide flood protection to West Sacramento, Woodland, Knights Landing, Clarksburg, Davis and important agricultural lands. In addition, the Yolo Bypass, the Sacramento Weir, and the Fremont Weir help protect Sacramento and other urban communities in the region from flooding by the Sacramento River. Some levees, particularly the project levees that protect parts of the City of Woodland and unincorporated Yolo County, the vicinity of Cache Creek and the town of Yolo, only provide a 10-year level of flood protection rather than the 100-year federal standard. Without work to improve these levees, additional development in Yolo County's floodplain could put more residents at risk of flooding hazards.

The local levees have been assumed to provide adequate protection since their acceptance into the Sacramento River Flood Control Project in 1918. Recently, where insufficient geotechnical information exists to evaluate the integrity of the levees, the State Department of Water Resources has taken the position, in conjunction with FEMA, that levees are not certified. ~~may not be recertified.~~ DWR has completed geotechnical evaluations of the urban Sacramento River Flood

Control Project levees within the county, and has proposed to do additional evaluations of non-urban levees in the next two coming years. Preliminary indications are that local levees will not be considered adequate to protect against the 100-year flood.

Figure HS-7 shows the extent of those areas that are protected by decertified levees and are currently subject to flooding. This map uses the best available information to identify those areas where flooding would be more than three feet deep if a project levee were to fail, assuming maximum capacity flows. Not surprisingly, levee flood protection zones are concentrated in eastern Yolo County, in areas adjoining levees for lower Cache Creek, Putah Creek, the Colusa Basin Drain, the Yolo Bypass, and the Sacramento River. Affected communities include Clarksburg, Davis, Knights Landing, West Sacramento, Woodland, and Yolo.

Responsibility for flood protection is distributed among many agencies at various levels of government. At the federal level the three primary agencies are the Army Corps of Engineers, the FEMA, and the Bureau of Reclamation. At the state level the primary agencies are Department of Water Resources and the Central Valley Flood Protection Board. At the local level in Yolo County and the region these agencies include: the County of Yolo and each of its four cities; the Yolo County Flood Control and Conservation District, 15 local reclamation districts, the Knights Landing Ridge Drainage District, the Madison Esparto Regional County Service Area, the Snowball Levee County Service Area, other CSAs, various Community Service Districts and the Sacramento River West Side Levee District.

Awareness Floodplains

Figure HS-8 shows the extent of awareness floodplains. The Awareness Floodplain Mapping project is an effort by the California Department of Water Resources to identify all flood hazard areas that are not mapped by the Federal Agency Management Agency's (FEMA). These maps are intended to provide communities with additional information regarding potential flood hazards that are not currently identified. The awareness floodplain maps use approximate assessment procedures, relying on aerial photos and general flood models, to identify potential 100-year flood hazard areas. These areas are shown simply as flood prone areas and do not include specific depths and/or other flood hazard data.

Awareness floodplains do not result in any restrictions on building or development. However, if requested by the local jurisdiction, FEMA can incorporate them into National Flood Insurance Program maps where they would become regulatory. Awareness floodplains have been generally identified along minor drainages within the Capay Valley and Putah Creek, as well as Lamb Valley Slough and upper Willow Slough.

Designated Floodways

Figure HS-9 shows the location of floodways, both designated and regulatory. The Central Valley Flood Protection Board (CVFPB) has the authority to designate floodways in the Central Valley and regulate their uses. The CVFPB defines a Designated Floodway as that portion of the stream channel and adjoining floodplain which is reasonably required to accommodate a design flood event. It can also refer to the floodway between existing levees, as designated by the CVFPB or the State Legislature. The only floodways designated by the CVFPB in Yolo County are: (1) the Colusa Basin Drain; and (2) that portion of Cache Creek located between the Lake County line and the town of Yolo.

For FEMA, a "regulatory floodway" is defined as that portion of the watercourse and adjacent lands that are needed to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height. FEMA requires local cities and counties to regulate development within floodways to prevent any increases in upstream flood elevations. FEMA has designated a portion of Cache Creek as a regulatory floodway, between the towns of Capay and

Yolo. A portion of Willow Slough is also considered a regulatory floodway, between County Road 27 and the Southern Pacific Railroad, as is a small portion of Union Pacific Railroad Drain located within the City of Davis.

Existing and New Development within the Floodplain

As a result of rapid population growth and escalating housing costs in the past ten years, there has been increasing pressure in the Sacramento Valley to build homes and other structures in natural floodplains. There has been limited growth within the floodplains of unincorporated Yolo County, however, due to policies that have restricted growth in general within the unincorporated area.

Development within the floodplain can have negative environmental implications that can both lead to increased risk of flooding and expose people and property to flooding risks. Urban development increases the amount of impervious surface and therefore increases surface water runoff and accelerates the timing of peak runoff flows. This results in increased erosion, sedimentation and water quality problems in surface runoff, as well as increased risk of flooding.

Figure HS-10 shows existing development located in the 100-year floodplain. Communities that are currently subject to flooding include the Central Landfill, Clarksburg, east Woodland, Knights Landing, Madison, North Woodland, Spreckles, and Yolo. In addition, portions of the County Airport, Covell, DQ University, Esparto, North David Meadows, Patwin Road, and UC Davis are also located within the floodplain. Historically, nearly all of these communities have been considered outside the floodplain. However, recent changes in FEMA mapping, particularly regarding the protection provided by uncertified levees, has designated large portions of the County in the floodplain that were not previously considered to be at risk from flooding.

Figure HS-11 shows where planned development is located in relation to the 100-year floodplain. Future growth subject to potential flooding includes both the Elkhorn and Knights Landing Specific Plans. The Covell and Madison Specific Plans are partially located within the floodplain. The Dunnigan Specific Plan is largely located outside the 100-year floodplain. As a result, new development located within the floodplain must either elevate improvements and structures or provide a means of community-wide flood protection acceptable to FEMA, such as certified levees, bypasses, or similar measures.

Legislation

The State Assembly and Senate, in 2006 and 2007, produced legislation governing various aspects of flood planning. The following list includes legislation applicable to Yolo County:

- AB 5 – Flood Management. Renames the Department of Water Resources (DWR) Reclamation Board as the Central Valley Flood Protection Board (CVFPB), and expands its size, duties, and powers. Makes clarifying and technical changes to the State's new flood planning legislation.
- AB 70 – Flood Liability. Requires a city or county to contribute its fair share to property damage caused by a flood, to the extent that the jurisdiction increased the State's exposure to liability by approving new development within the boundary of a state flood control project.
- AB 162 – Requires cities and counties to address flood-related matters in the land use, conservation, safety, and housing elements of their General Plans.

FIGURE HS-4 100-YEAR FLOODPLAIN

(New figure has been inserted.)

COUNTY OF YOLO
 2030 COUNTYWIDE GENERAL PLAN
 HEALTH AND SAFETY ELEMENT

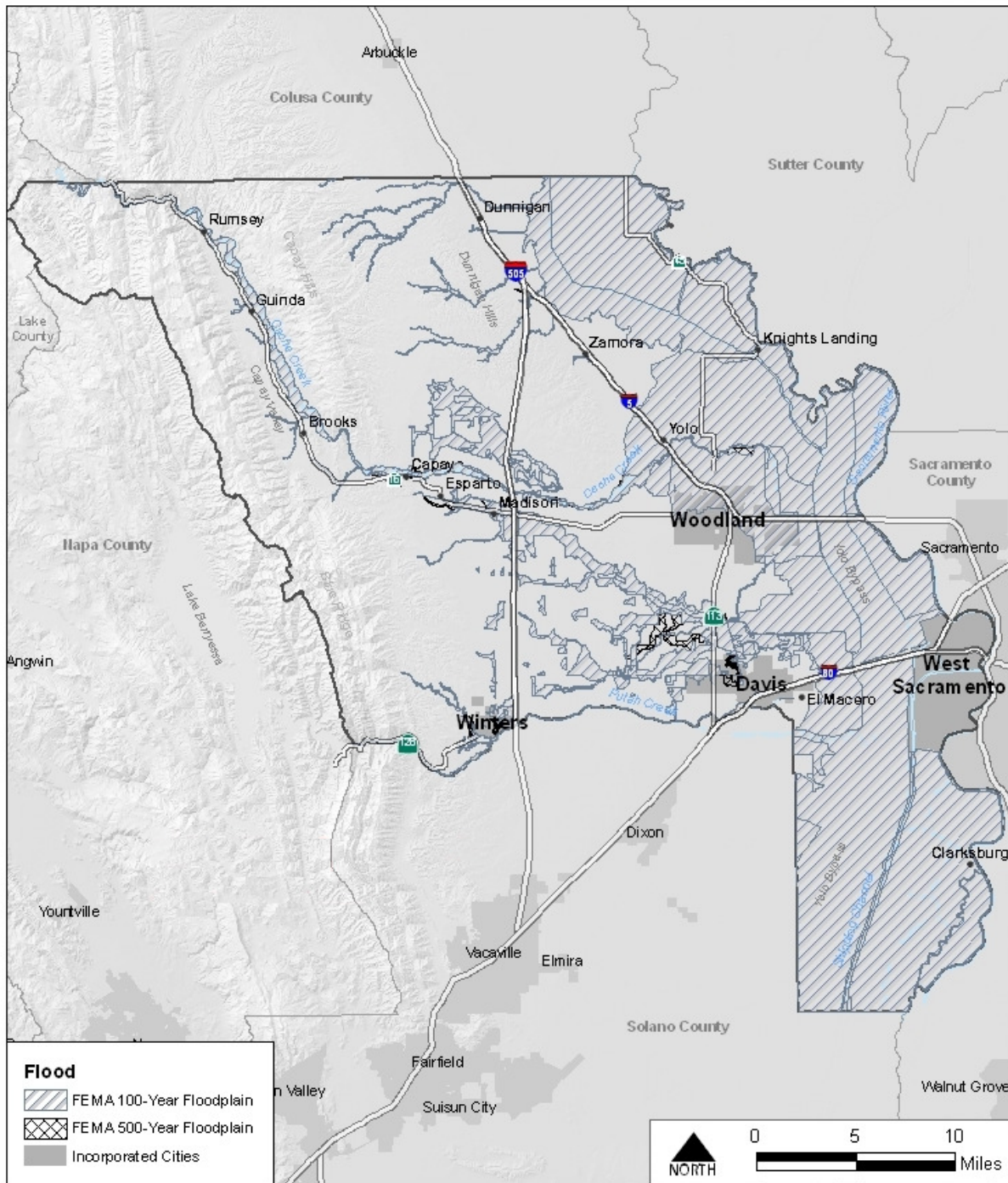


FIGURE HS-5 200-YEAR FLOODPLAIN

(New figure has been inserted.)

COUNTY OF YOLO
2030 COUNTYWIDE GENERAL PLAN
HEALTH AND SAFETY ELEMENT

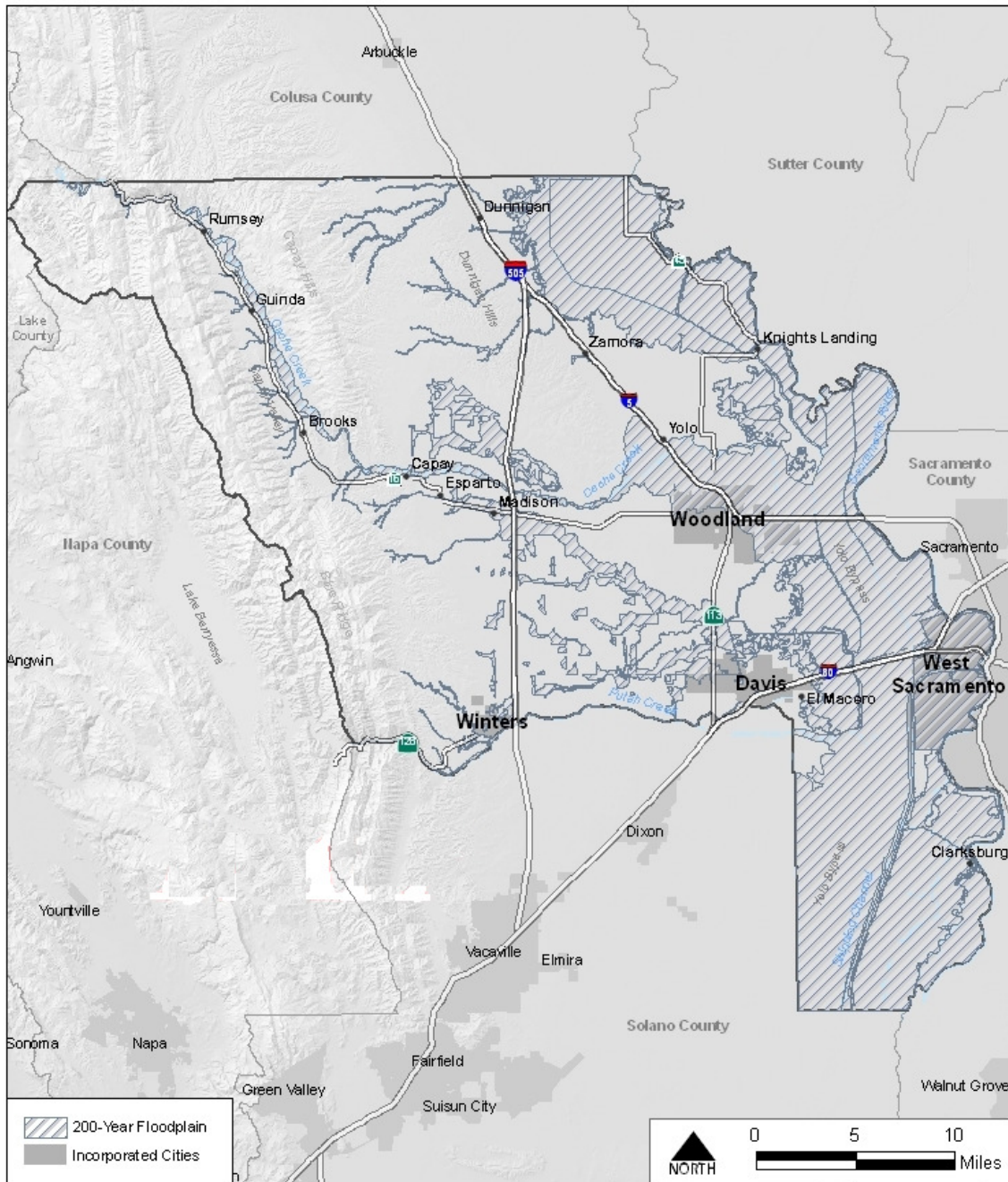
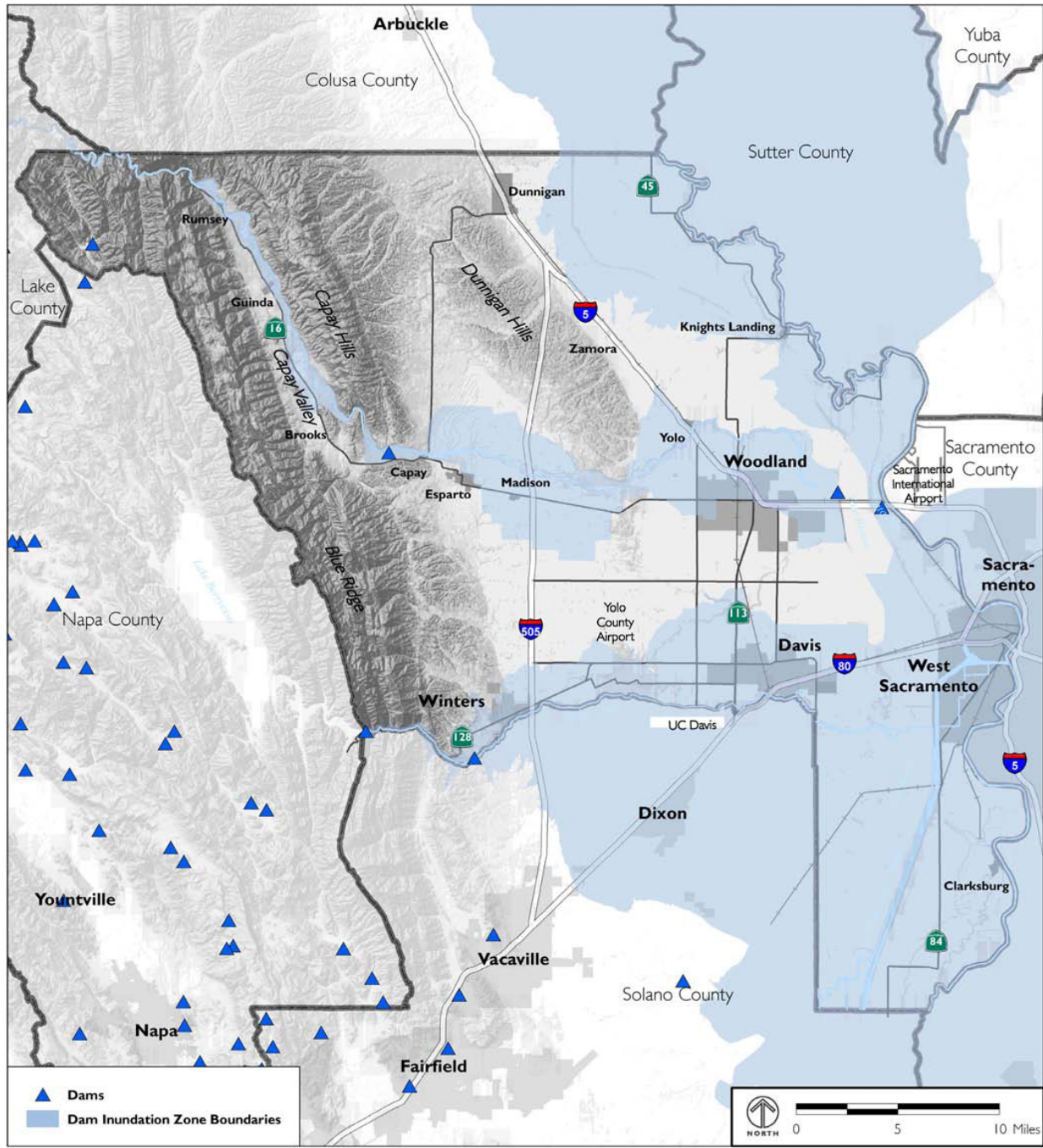


FIGURE HS-5 HS-6 DAM INUNDATION



Source: California Office of Emergency Services, 2000.

FIGURE HS-7 LEVEE PROTECTION ZONES

(New figure has been inserted.)

COUNTY OF YOLO
2030 COUNTYWID GENERAL PLAN
HEALTH AND SAFETY ELEMENT

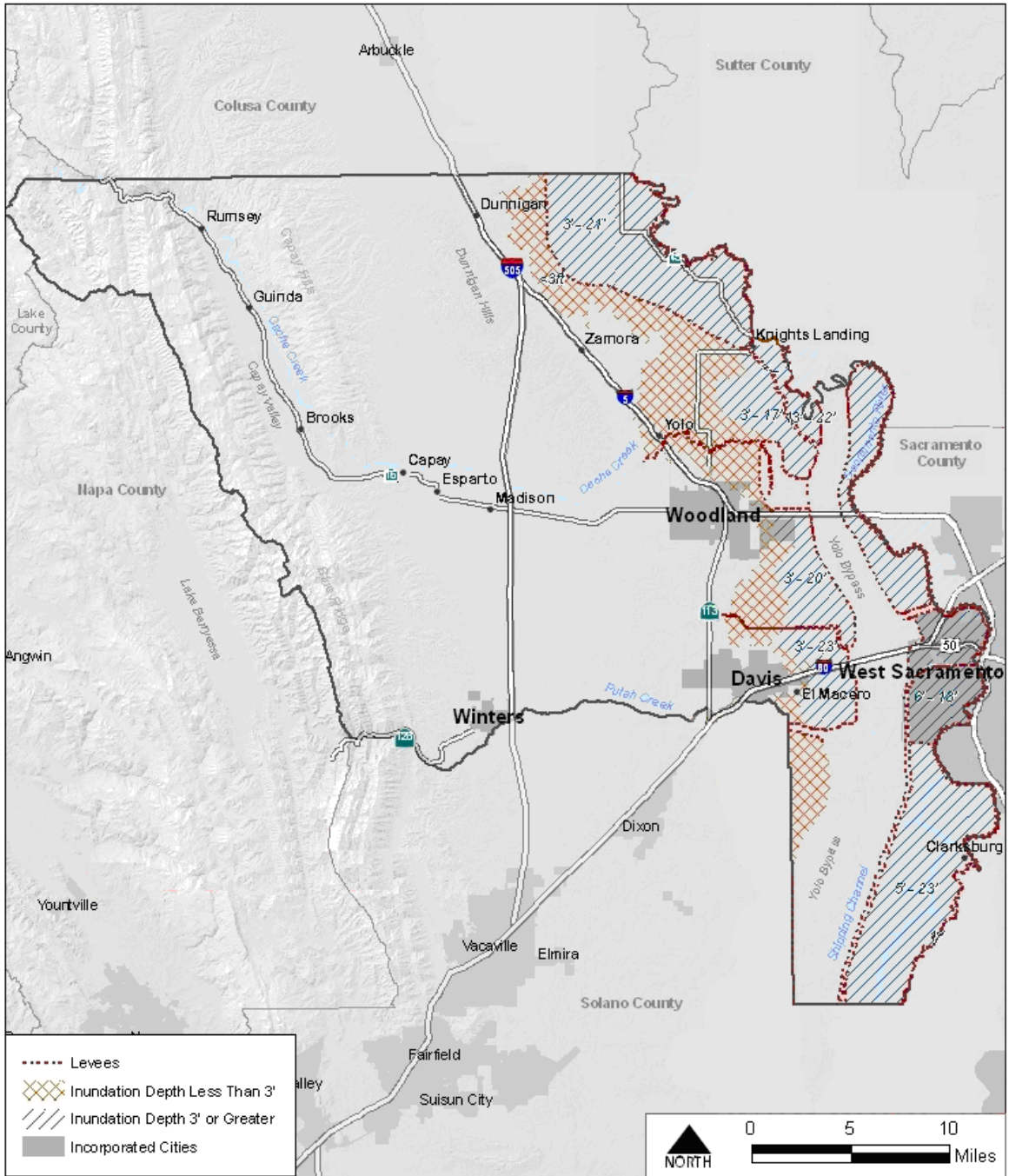


FIGURE HS-8 AWARENESS FLOODPLAINS

(New figure has been inserted.)

COUNTY OF YOLO
2030 COUNTYWIDE GENERAL PLAN
HEALTH AND SAFETY ELEMENT

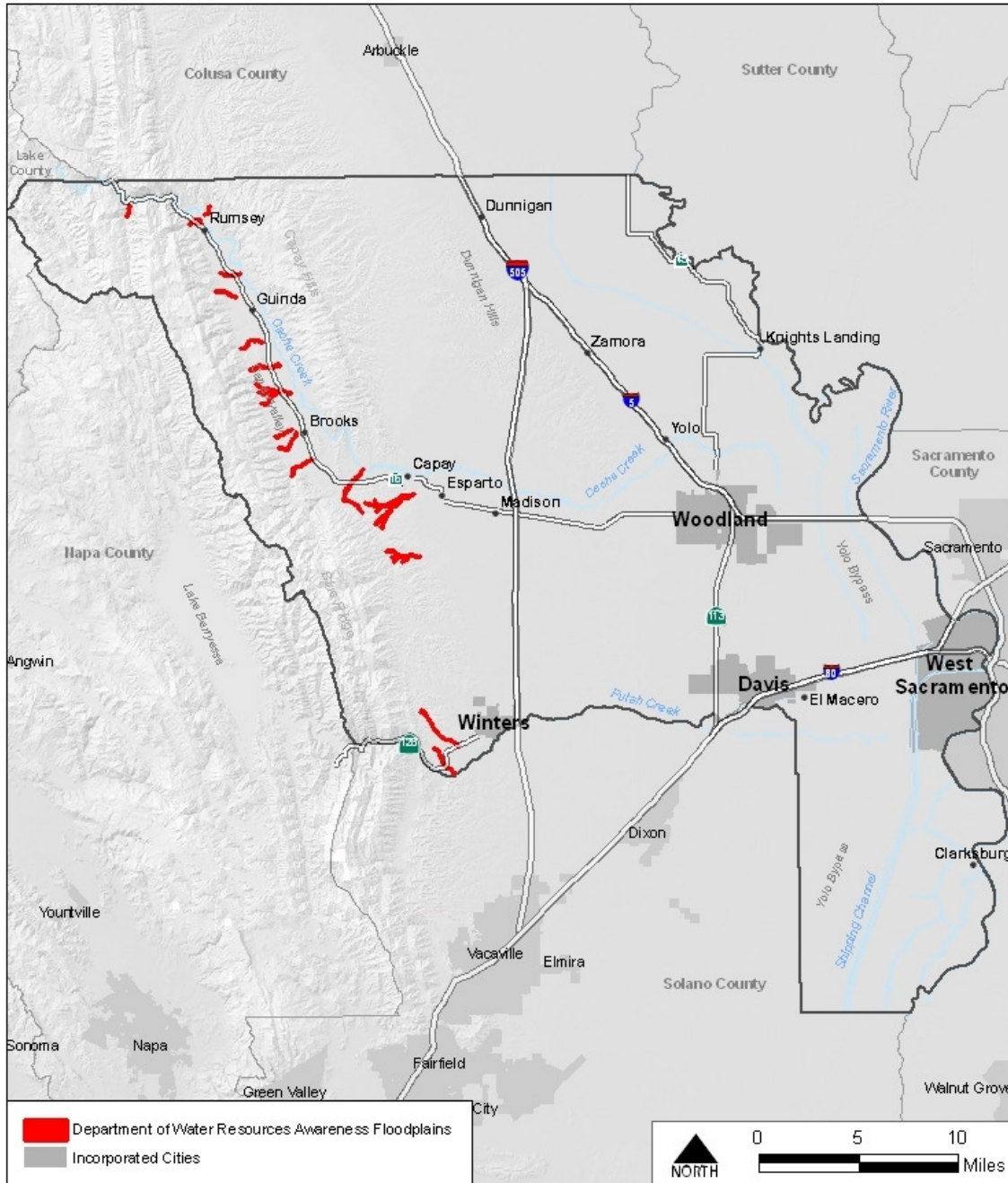


FIGURE HS-9 DESIGNATED FLOODWAYS

(New figure has been inserted.)

COUNTY OF YOLO
2030 COUNTYWIDE GENERAL PLAN
HEALTH AND SAFETY ELEMENT

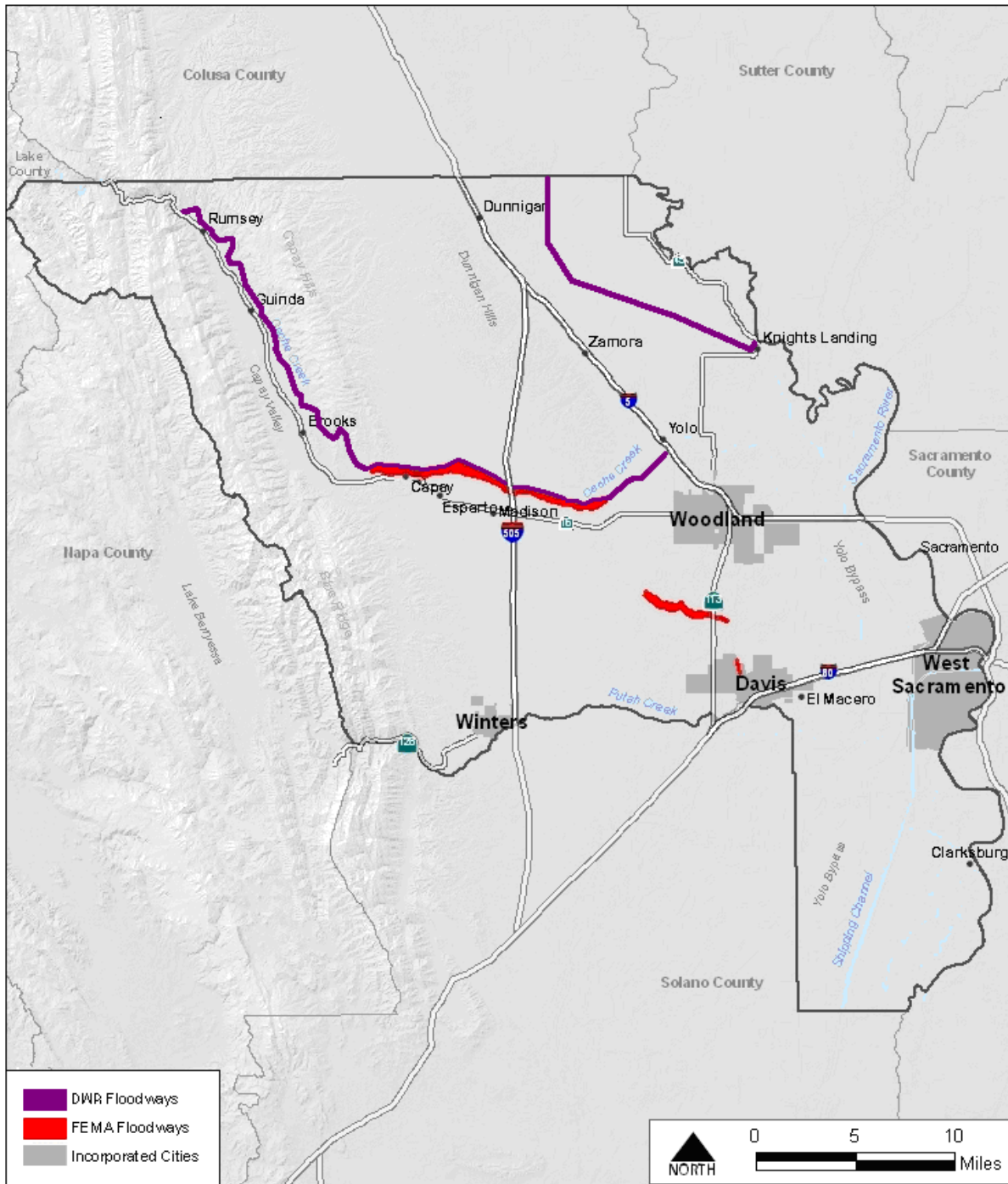


FIGURE HS-10 EXISTING DEVELOPMENT WITHIN THE 100-YEAR FLOODPLAIN

(New figure has been inserted.)

COUNTY OF YOLO
2030 COUNTYWIDE GENERAL PLAN
HEALTH AND SAFETY ELEMENT

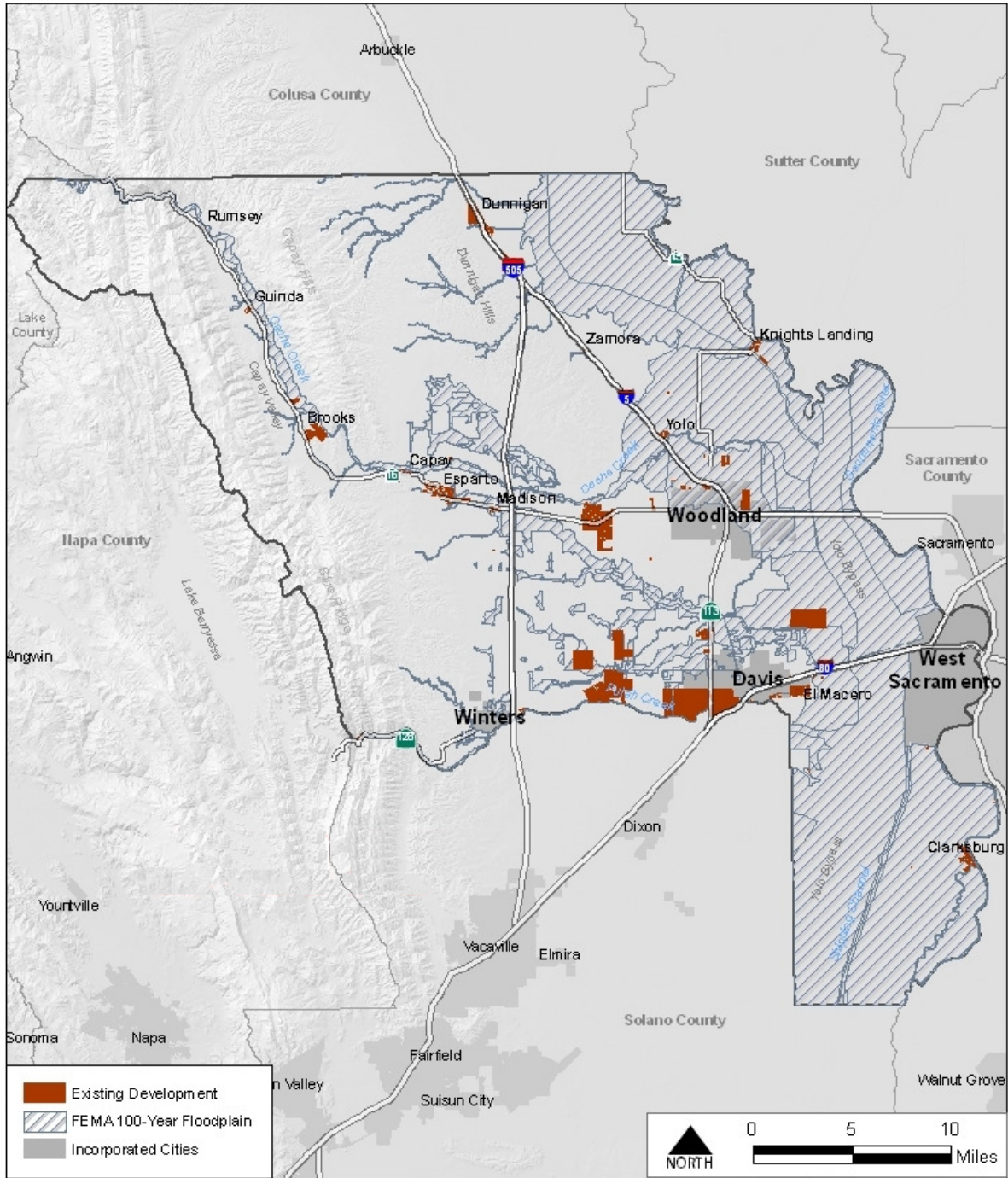
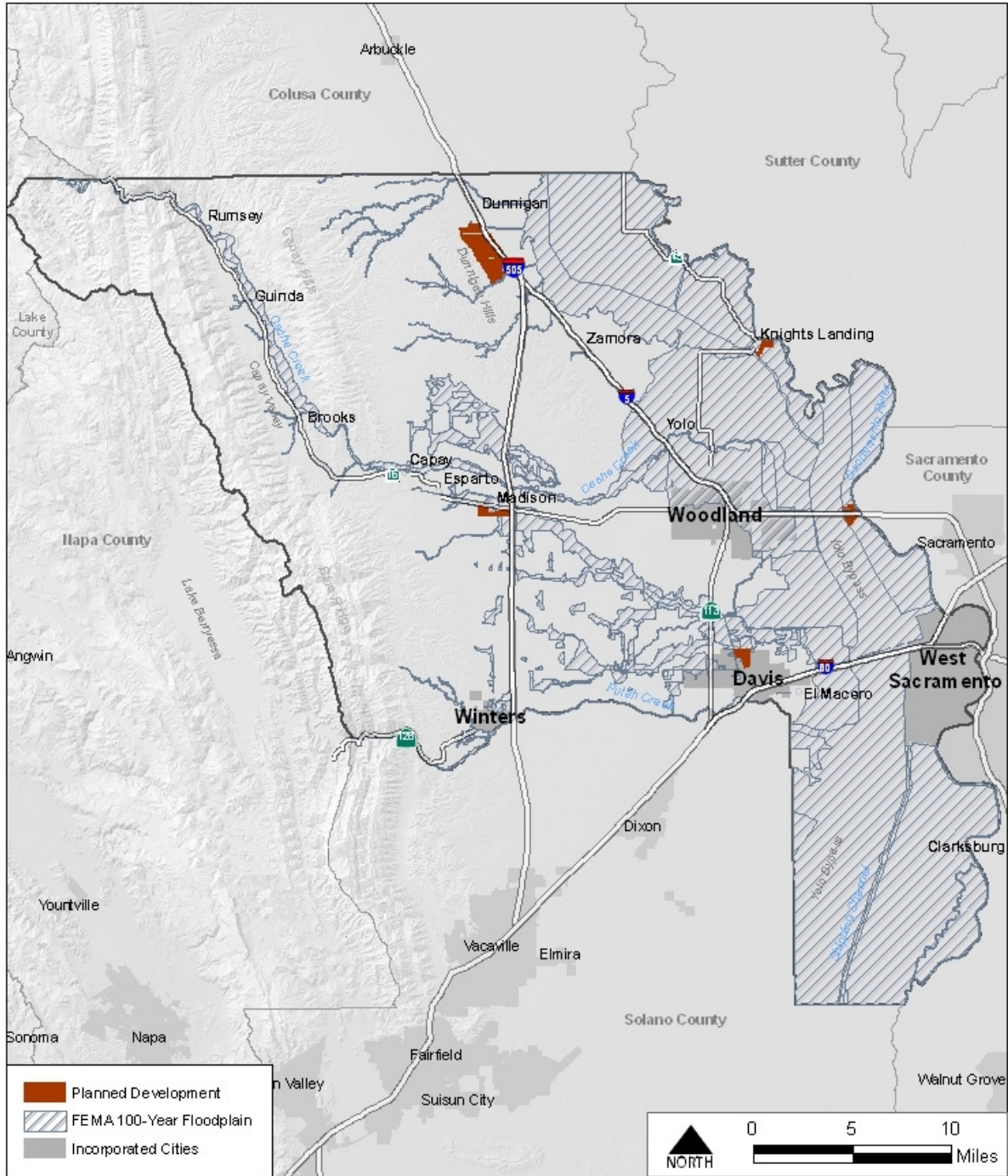


FIGURE HS-11 PLANNED DEVELOPMENT WITHIN THE 100-YEAR FLOODPLAIN

(New figure has been inserted.)

COUNTY OF YOLO
 2030 COUNTYWIDE GENERAL PLAN
 HEALTH AND SAFETY ELEMENT



- AB 930 – Flood Management. Expands the powers of the Sacramento Area Flood Control Agency to include the acquisition of land easements.
- SB 5 – Flood Management. Requires DWR and the CVFPB to prepare and adopt a Central Valley Flood Protection Plan by 2012. Requires cities and counties in the Sacramento–San Joaquin Valley to amend their General Plan and Zoning Ordinances to be consistent with a newly adopted Flood Management Plan within 36 months of flood plan adoption. Establishes other flood protection requirements for local land-use decisions consistent with the Central Valley Flood Protection Plan.

Senate Bill 5 (2007) establishes higher standards of flood protection (generally 200 year protection) for urban and urbanizing areas (defined as areas of at least 10,000 residents, or which will grow to 10,000 or more within the next 10 years). Other areas remain subject to the pre-existing 100-year standard for protection. Yolo County’s unincorporated communities are all well under the 10,000 population threshold at this time and therefore are generally not affected by this new legislation, ~~however, future planned growth in Dunnigan will be required to meet the higher 200-year standard, however, it is not currently located within a floodplain.~~

b. Policy Framework

GOAL HS-2 Flood Hazards. Protect the public and reduce damage to property from flood hazards.

- Policy HS-2.1 Manage the development review process to protect people, structures, and personal property from unreasonable risk from flooding and flood hazards.
- Policy HS-2.2 Ensure and enhance the maintenance and integrity of flood control levees.
- Policy HS-2.3 Actively update and maintain policies and programs to ensure consistency with State and federal requirements.
- Policy HS-2.4 Clearly communicate the risks, requirements, and options available to those who own land and live within the floodplain.
- Policy HS-2.5 Within the Delta Primary Zone, ensure compatibility of permitted land use activities with applicable flood control and protection policies of the Land Use and Resource Management Plan of the Delta Protection Commission.
- Policy HS-2.6 Maintain the structural and operational integrity of essential public facilities during flooding.
- Policy HS-2.7 Manage the floodplain to improve the reliability and quality of water supplies.
- Policy HS-2.8 Consider and allow for the ecological benefits of flooding within historic watercourses while balancing public safety and the protection of property.

c. Implementation Program

- Action HS-A5 Require a minimum of 100-year flood protection for new construction, and strive to achieve 200-year flood protection for unincorporated communities. Where such levels of protection are not provided, require new development to adhere to the requirements of State law and the County Flood Damage Prevention Ordinance. (Policy HS-2.1)

Responsibility: Planning and Public Works Department
Timeframe: Ongoing

Action HS-A6 Continue to require habitable structures in the 100-year floodplain to be designed and constructed so that they do not significantly contribute to cumulative flooding that could pose a hazard to surrounding landowners and/or the public. (Policy HS-2.1)
Responsibility: Planning and Public Works Department
Timeframe: Ongoing

Action HS-A7 Yolo County shall not approve any discretionary permit, or ministerial permit, that would result in the construction of a new residence, for a project located within a flood hazard zone, unless the County can make the findings identified in Section 65962a of the Government Code. (Policy HS-2.1)
Responsibility: Planning and Public Works Department
Timeframe: Ongoing

Action HS-A8 Locate new essential public facilities outside of flood hazard zones, including hospitals and health care facilities, emergency shelters, fire stations, emergency command centers, and emergency communications facilities. Where such location is not feasible, incorporate methods to minimize potential flood damage to the facility. (Policy HS-2.6)
Responsibility: Planning and Public Works Department, General Services Department, Office of Emergency Services
Timeframe: Ongoing

Action HS-A9 Require new developments to detain the stormwater runoff created on-site by a 100-year storm event. (Policy HS-2.1)
Responsibility: Planning and Public Works Department
Timeframe: Ongoing

Action HS-A10 Limit the construction of extensive impermeable surfaces and promote the use of permeable materials for surfaces such as driveways, and parking lots. (Policy HS-2.1)
Responsibility: Planning and Public Works Department
Timeframe: Ongoing

Action HS-A11 Locate new structures outside of the floodplain, where feasible, and implement appropriate methods to minimize potential damage where new construction occurs within flood hazard zones. (Policy HS-2.1)
Responsibility: Planning and Public Works Department
Timeframe: Ongoing

Action HS-A12 Evaluate the feasibility of designating land as open space for future bypass systems to prevent flooding hazards. Work with State and Federal agencies to include such bypasses in the Central Valley Flood Protection Plan, where appropriate. Ensure that responsible agencies fund the purchase of flood easements where bypass systems are designated. (Policy HS-2.1)
Responsibility: Parks and Resources Department
Timeframe: Ongoing

Action HS-A13 Review development proposals to ensure that the need to maintain flood control capacity is balanced with consideration of the environmental health of

watercourses that convey floodwaters so as not to cause significant erosion, sedimentation, water quality problems, or loss of habitat. (Policy HS-2.1)
Responsibility: Planning and Public Works Department
Timeframe: Ongoing

Action HS-A14 Require a minimum 50-foot setback for all permanent improvements from the toe of any flood control levee. (Policy HS-2.2)
Responsibility: Planning and Public Works Department
Timeframe: Ongoing

Action HS-A15 Restrict proposed land uses within 500 feet of the toe of any flood control levee, including but not limited to the items listed below, unless site-specific engineering evidence demonstrates an alternative action that would not jeopardize public health or safety:

- Prohibit permanent unlined excavations;
- Large underground spaces (such as basements, cellars, swimming pools, etc) must be engineered to withstand the uplift forces of shallow groundwater;
- Prohibit below-grade septic leach systems;
- Engineered specifications for buried utility conduits and wiring;
- Prohibit new water wells;
- Prohibit new gas or oil wells;
- Require engineered specifications for levee penetrations; and
- Require landscape root barriers within 50 feet of the toe. (Policy HS-2.2)

Responsibility: Planning and Public Works Department
Timeframe: Ongoing

Action HS-A16 Support the efforts of levee maintenance districts with efforts to secure State and Federal funding for geotechnical studies of levees and implementation of associated improvements, as well as their ongoing maintenance. (Policy HS-2.2)
Responsibility: County Administrator's Office
Timeframe: Ongoing

Action HS-A17 Encourage flood hazard reduction projects along the Sacramento River to be consistent with the guidelines of the Sacramento River Corridor Floodway Management Plan. (Policy HS-2.2)
Responsibility: Parks and Resources Department
Timeframe: Ongoing

Action HS-A18 Coordinate with local, State and Federal agencies to define existing and potential flood problem areas, including the possible impacts associated with global climate change, and to maintain and improve levees and other flood control features. (Policy HS-2.2)
Responsibility: Planning and Public Works Department
Timeframe: 2012/2013

Action HS-A19 Develop a detailed maintenance and funding plan for levees under County control, to ensure that levee safety is maintained. (Policy HS-2.2)
Responsibility: Planning and Public Works Department
Timeframe: Ongoing

- Action HS-A20 Support and encourage responsible agencies to site new levees or major rehabilitation of levees at a distance from the river and from existing levees, where feasible. These setback levees would provide a degree of redundancy in the system, increase the land available for habitat and flood storage, reduce operation and maintenance costs, and help to ensure the integrity of the structures. (Policy HS-2.2)
Responsibility: Planning and Public Works Department
Timeframe: Ongoing
- Action HS-A21 Private development of levees should be limited to those cases where the construction meets national levee standards, the project is in conformance with the State's comprehensive plan for flood damage reduction, and a public agency agrees to provide long-term maintenance of the levee. (Policy HS-2.2)
Responsibility: Planning and Public Works Department
Timeframe: Ongoing
- Action HS-A22 Ensure that the upgrade, expansion, or construction of any flood control levee demonstrates that it will not adversely divert flood water or increase flooding. (Policy HS-2.2)
Responsibility: Planning and Public Works Department
Timeframe: Ongoing
- Action HS-A23 Work cooperatively with other local agencies and interested parties to develop funding mechanisms to finance the local share of design, construction, and capital costs for repairs and improvements to flood control levees. (Policy HS-2.2)
Responsibility: Parks and Resources Department
Timeframe: Ongoing
- Action HS-A24 Improve the county's classification within the Federal Emergency Management Agency Community Rating System. (Policy HS-2.3)
Responsibility: Planning and Public Works Department
Timeframe: 2009/2010
- Action HS-A25 Pursuant to Sections 65302.9 and 65860.1 of the Government Code, amend the Zoning Ordinance and General Plan, as appropriate, to be consistent with the adopted Central Valley Flood Protection Plan. (Policy HS-2.3)
Responsibility: Planning and Public Works Department
Timeframe: Ongoing
- Action HS-A26 Review on an annual basis those portions of the unincorporated area that are subject to flooding, based on mapping prepared by the Federal Emergency Management Agency and/or the Department of Water Resources, and amend the General Plan as appropriate to reflect any changes. (Policy HS-2.3)
Responsibility: Planning and Public Works Department
Timeframe: Ongoing
- Action HS-A27 Revise the Health and Safety Element, concurrently with the regular update to the Housing Element, to include new information regarding floodplain mapping and/or regulation. (Policy HS-2.1, Policy HS-2.3)
Responsibility: Planning and Public Works Department
Timeframe: Ongoing

- Action HS-A28 Take all reasonable and feasible actions to mitigate potential flood damage for new construction on agriculturally designated land in areas protected by the Sacramento River Flood Control Project and related flood protection efforts. (Policy HS-2.1)
Responsibility: Planning and Public Works Department
Timeframe: Ongoing
- Action HS-A29 Pursuant to Section 8201 of the State Water Code, develop local plans for flood protection, including analysis of financing options to construct and maintain any needed improvements, to address how 100-year floodplain protection for each community may be provided. Those communities that are economically disadvantaged and at greatest risk shall have priority in developing flood protection plans. The cities shall be consulted in development of the plans, which shall be consistent with the Central Valley Flood Protection Plan. (Policy HS-2.1, Policy HS-2.2)
Responsibility: Parks and Resources Department, Planning and Public Works Department
Timeframe: 2014/2015
- Action HS-A30 Maintain and update on a regular basis the County Flood Damage Prevention Ordinance, to ensure its conformity with the State Model Flood Ordinance and all Federal Emergency Management Agency requirements. (Policy HS-2.1, Policy HS-2.3)
Responsibility: Planning and Public Works Department
Timeframe: Ongoing
- Action HS-A31 Inform the public about the specific risks of living in areas at risk of flooding, and provide steps property owners can take to reduce their exposure to flood damages. Encourage all landowners within the 100- or 200-year floodplain, and/or within areas protected by levees, to purchase and maintain flood insurance. (Policy HS-2.4)
Responsibility: Planning and Public Works Department
Timeframe: Ongoing
- Action HS-A32 Require that all residential development projects located within floodplains include a signed waiver regarding the potential flood risk to future buyers. (Policy HS-2.4)
Responsibility: Planning and Public Works Department
Timeframe: Ongoing
- Action HS-A33 Develop and implement a public outreach campaign to notify landowners and tenants of their flood status, options for flood insurance, evacuation plans, flood protection programs, locally responsible flood agencies, and other related topics. (Policy HS-2.4)

Responsibility: Parks and Resources Department, Planning and Public Works Department, Office of Emergency Services
Timeframe: 2010/2011

- Action HS-A34 Amend the County's Development Agreement enabling ordinance to include the applicable restrictions from Section 65865.5 of the Government Code. (Policy HS-2.3)
 Responsibility: Planning and Public Works Department
 Timeframe: Ongoing
- Action HS-A35 Develop emergency response plans and systems for floodplain evacuation and flood emergency management. Educate the public regarding these plans. (Policy HS-2.4)
 Responsibility: Office of Emergency Services
 Timeframe: Ongoing
- Action HS-A36 Evaluate the creation of a countywide agency to provide flood control and protection. (Policy HS-2.2, Policy HS-2.4, Policy HS-2.6)
 Responsibility: County Counsel, County Administrator's Office, Parks and Resources Department
 Timeframe: 2009
- Action HS-A37 Continue to work with the Flood Control District, the City of Woodland, other appropriate agencies and private landowners to develop strategies and pursue funding for the implementation of projects to improve flood protection for urban and rural residents along lower Cache Creek. (Policy HS-2.2)
 Responsibility: County Administrator's Office, Parks and Resources Department, Planning and Public Works Department
 Timeframe: Ongoing