This document outlines the response expectations of Yolo County due to drought emergencies and serves as a Support Annex to the Yolo County Emergency Operations Plan

# Yolo County Drought Support Annex

## Annex to the Yolo County Emergency Operations Plan

Version 2.0 January 2026

# PROMULGATION

This Emergency Support Function Annex to the County of Yolo Emergency Operations Plan describes how Yolo County will manage an emergency incident or disaster mitigation, preparedness, response, and restoration related to this Emergency Support Function. All Primary and Support agencies identified as having assigned responsibilities in this Emergency Support Function shall perform the emergency tasks described, including preparing and maintaining Standard Operating Guidelines and Procedures and carrying out the training, exercises, and plan maintenance needed to support the plan.

This Emergency Annex plan was developed using the Comprehensive Planning Guide 101 version 3 from the Federal Emergency Management Agency and California's emergency planning guidance documents. Adoption will occur following the established maintenance schedule; however, the plan may be modified in the interim without prior approval and formal adoption under the direction of the Director of Emergency Operations. The revised plan will be relayed digitally to all Primary and Support agencies with assigned responsibilities in this Emergency Support Function. The Primary assigned agency will coordinate the review and update of the plan with the Support agencies as needed at least every three years. This Emergency Support Function plan supersedes any previous versions.

This Emergency Support Function Annex applies to Primary and Support agencies within Yolo County who are assigned responsibilities by Emergency Support Function of the All-Hazard Emergency Operations Plan and identified within the Emergency Support Function Annex.

This plan replaces previous annexes of the same or similar title.

The County of Yolo Board of Supervisors chairperson will formally promulgate this annex. The County Ordinance empowers the County Board of Supervisors to review and approve emergency and mutual aid plans.

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Sheila A. Allen Date:
Chair of the Board of Supervisors

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# SECTION 1.0: INTRODUCTION

## 1.1 OVERVIEW

The Drought Annex provides information and guidance for emergency operations during natural and human-caused conditions impacting the County of Yolo water systems. This Annex will provide the following:

- Identifies the emergency management organizations required to mitigate water system emergencies.
- Identifies the policies, responsibilities, and procedures required to protect the health and safety of community members and public and private property.
- Outline the operational concepts and procedures associated with field response to emergencies, Emergency Operations Center (EOC) activities, and recovery process.

This Annex will be activated when the Yolo County Office of Emergency Services (YC OES) receives reports of potential drought conditions and water shortages affecting the Operational Area (OA).

## 1.2 PURPOSE

This Annex aims to minimize drought and water shortage impacts by improving agency coordination, monitoring and early warning capabilities, water shortage impact assessments, and preparedness, response, and recovery programs. This Annex includes a coordinated local, state, and federal government strategy to prepare for, respond to, and recover from droughts and water shortages. It identifies an integrated regional approach to assessing droughts, drought action levels, and appropriate agency responses as drought severity changes. This plan may be reviewed and updated with each schedule revision date or as necessary to provide current information, technology, and strategies.

## 1.3 SCOPE

Emergency response to drought events may require the resources of the entire Yolo County Operational Area (OA), State, and Federal government. To meet this Annex's response objectives, public and private agencies are assigned specific tasks. The American Meteorological Society defines a drought as abnormally dry weather sufficiently long enough to cause a serious hydrological imbalance. This condition can lead to the following:

- Reduced water supply within the surface and subsurface water storage systems
- Reduced water allocations to water users and suppliers
- Increased subsurface water usage and associated effects

- Associated impacts on populations (human and animal) as well as on crops

General assignments are as follows:

- OES is responsible for general support of the county's response and will ensure proper notifications are made upon activation of this Annex. OES will activate the EOC to support operations, planning, logistics, and finance as the situation dictates, as defined by ESF-05, Emergency Management.
- County departments and other community organizations identified in this Annex are responsible for checking the welfare and/or providing services to vulnerable population members who fall under their programs.

# SECTION 2.0: SITUATION OVERVIEW

## 2.1 HAZARDS

Drought is a gradual phenomenon. A drought is a deficiency in precipitation over an extended period, usually a season or more, resulting in a water shortage and causing adverse impacts on vegetation, animals, and/or people. It is a normal recurrent feature of climate that occurs in virtually all climate zones, from very wet to very dry. Drought is a temporary aberration from normal climatic conditions and can thus vary significantly from one region to another. Because droughts occur slowly over a multi-year period, it is often not obvious or easy to quantify when a drought begins and ends. Water districts normally require at least a 10-year planning horizon to implement a multiagency improvement project to mitigate the effects of a drought and water supply shortage.

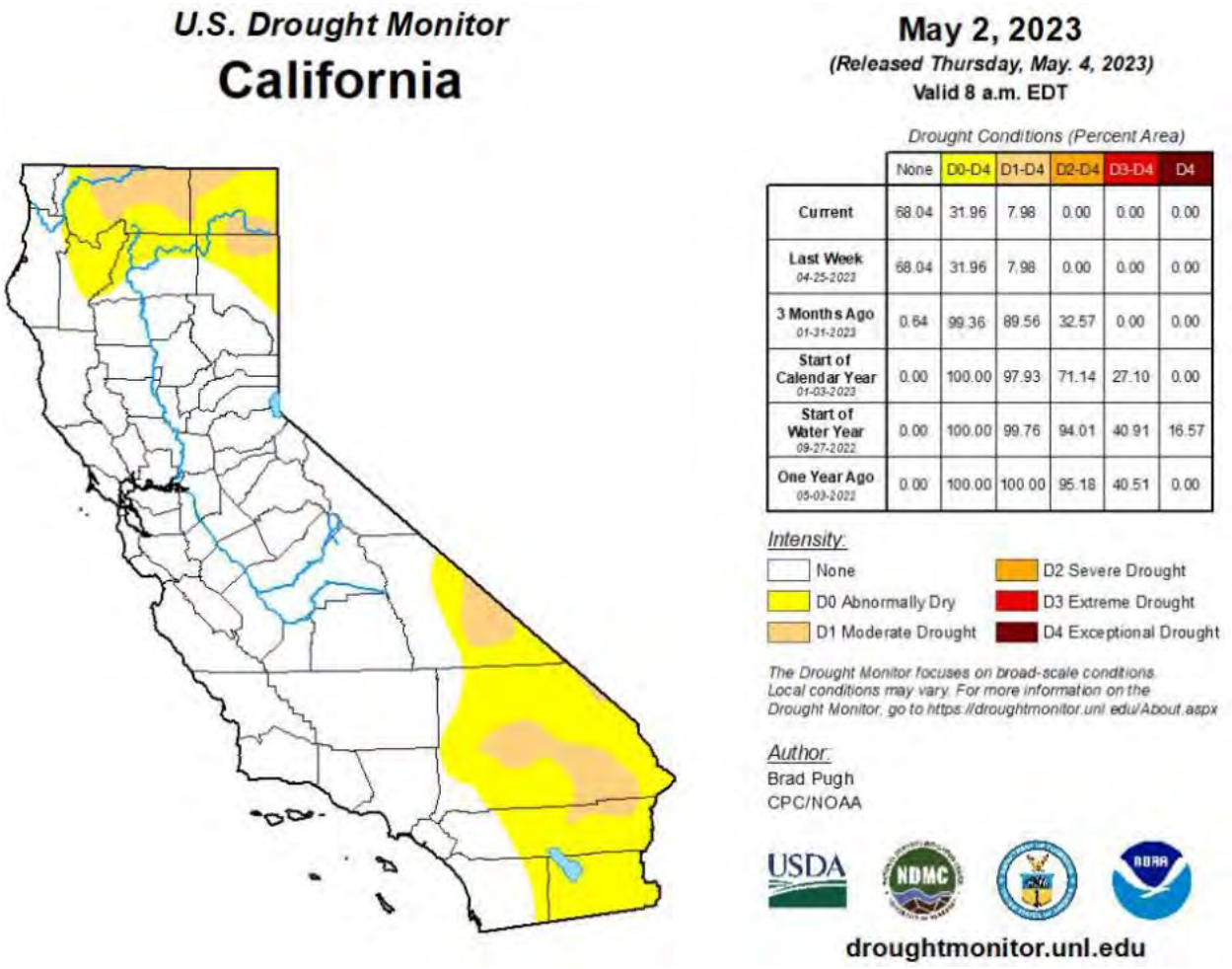
Drought is a complex issue involving many factors—it occurs when a normal amount of moisture is unavailable to satisfy an area's usual water-consuming activities. There are several types of droughts which can often be defined regionally based on their effects:

- **Meteorological drought** is usually defined as a period of below-average water supply based on the degree of dryness (compared to normal or average) and the duration of the dry period. Drought onset generally occurs with a meteorological drought.
- **Agricultural drought** occurs when there is an inadequate water supply to meet the needs of the state's crops and other agricultural operations, such as livestock. Agricultural drought links various characteristics of meteorological (or hydrological) drought to agricultural impacts, focusing on precipitation shortages, soil water deficits, and reduced groundwater or reservoir levels needed for irrigation.
- **Hydrological drought** is defined as deficiencies in surface and subsurface water supplies. It is generally measured as stream flow, snowpack, and lake, reservoir, and groundwater levels. It usually occurs following periods of extended precipitation shortfalls.

- **Socioeconomic drought** occurs when a drought impacts health, well-being, and quality of life or starts to have an adverse economic impact on a region.

Since drought is a regional phenomenon, it affects the entire county. The speed of onset of drought is slow, while the duration varies from short (months) to long (years). The National Integrated Drought Information System (NDIS) monitors Drought in the United States. A major component of this portal is the U.S. Drought Monitor. The Drought Monitor is a process that synthesizes multiple indices, outlooks, and local impacts into an assessment that best represents drought conditions. The outcome of each Drought Monitor is a consensus of federal, state, and academic scientists familiar with the conditions in their respective regions. A snapshot of the drought conditions in California and Yolo County (May and Jan 2023) can be found in Figure 1.

***Figure 1***



## Yolo County

The County contains three Bulletin 118 Subbasins: the Sacramento Valley-Yolo Groundwater Basin (DWR Basin Number 5-021.67), a small portion of the southern Sacramento Valley-Colusa Groundwater Basin (DWR Basin Number 5-021.52), and a small portion of the northern Sacramento Valley-Solano Groundwater Basin (DWR Basin Number 5-021.66). A DWR analysis to support implementation of the Sustainable Groundwater Management Act (SGMA) classified the Sacramento Valley-Solano Basin as a medium-priority subbasin, and the other basins as high-priority basins. The remainder of County groundwater supplies are in fractured rock regions (DWR 2024b).

Passed in 2014, SGMA represents a statewide framework to protect groundwater resources over the long-term. Pursuant to CWC Section 10721(n), local public agencies formed groundwater sustainability agencies (GSA) in high and medium-priority basins and developed groundwater sustainability plans (GSP) to avoid undesirable results and mitigate overdraft within 20 years.

The Sacramento Valley-Yolo Groundwater Basin (Yolo Subbasin) makes up the majority of Yolo County. The Yolo Subbasin is a relatively stable basin, with groundwater levels maintaining a relatively consistent long-term average elevation or depth-to-groundwater. As illustrated in Figure 2, Groundwater levels decline during dry conditions due to reduced recharge and increased groundwater demand, but levels substantially recover during wet years. There are currently 554 active monitoring wells in Yolo County, as shown in Figure 3. The Yolo Subbasin is managed by the Yolo Subbasin Groundwater Agency (YSGA) according to the 2022 approved GSP. The Colusa Subbasin borders the County to the north and is managed by the Colusa Groundwater Authority. The Solano Subbasin adjoins the County to the south and is managed by multiple GSAs in accordance with the 2022 approved Solano Subbasin GSP.

***Figure 2***

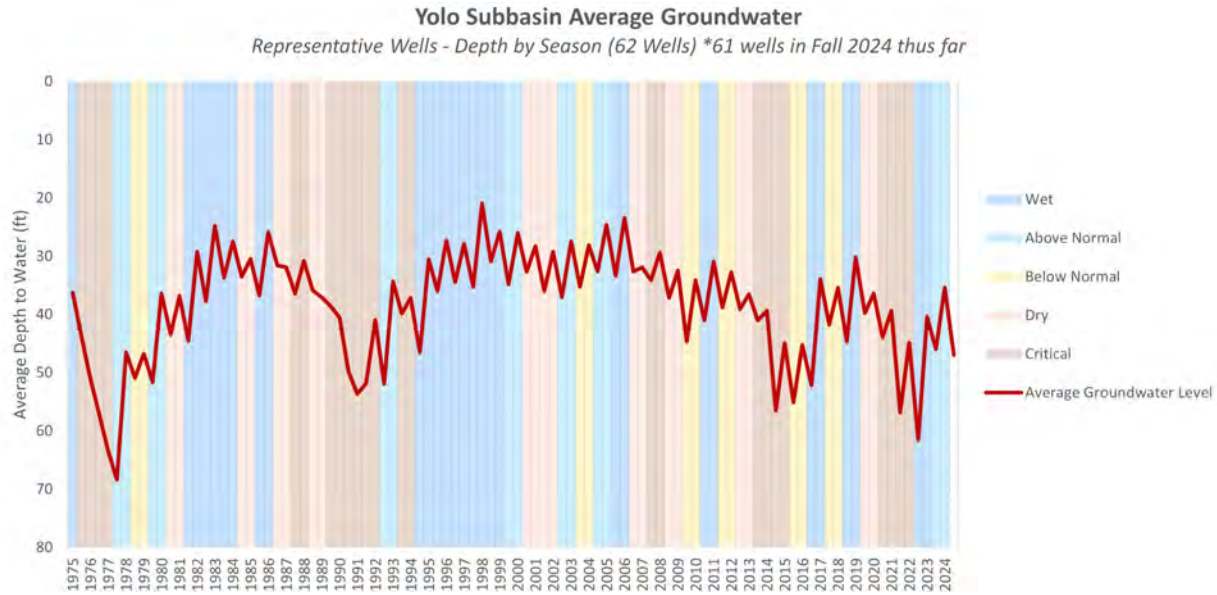
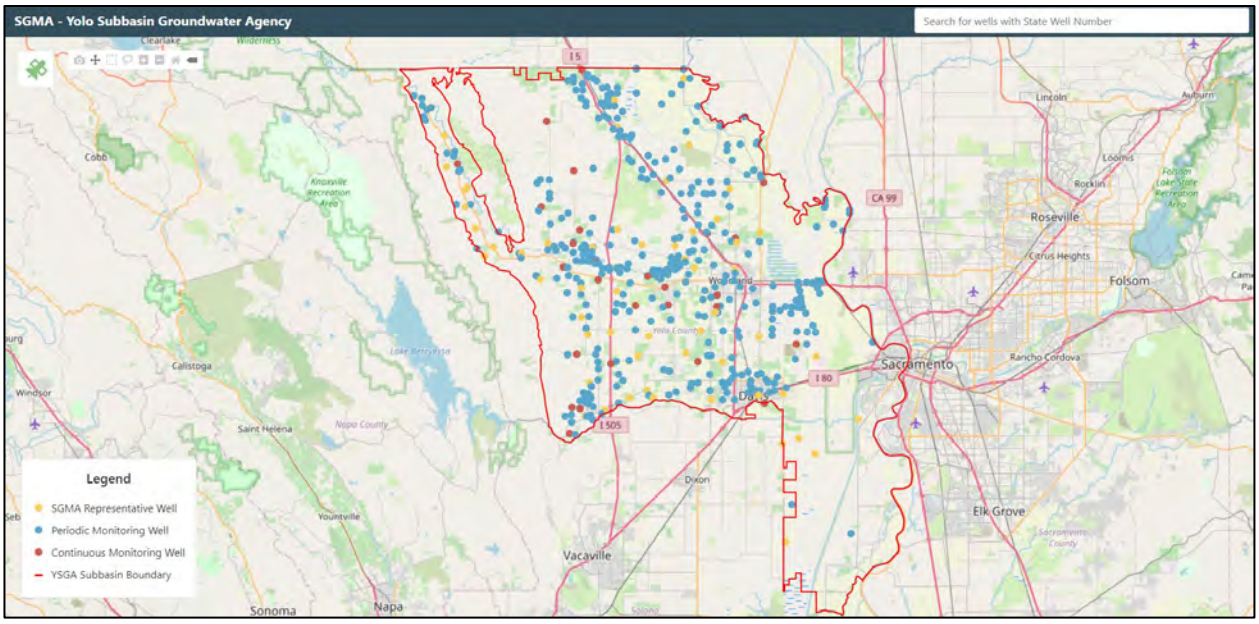
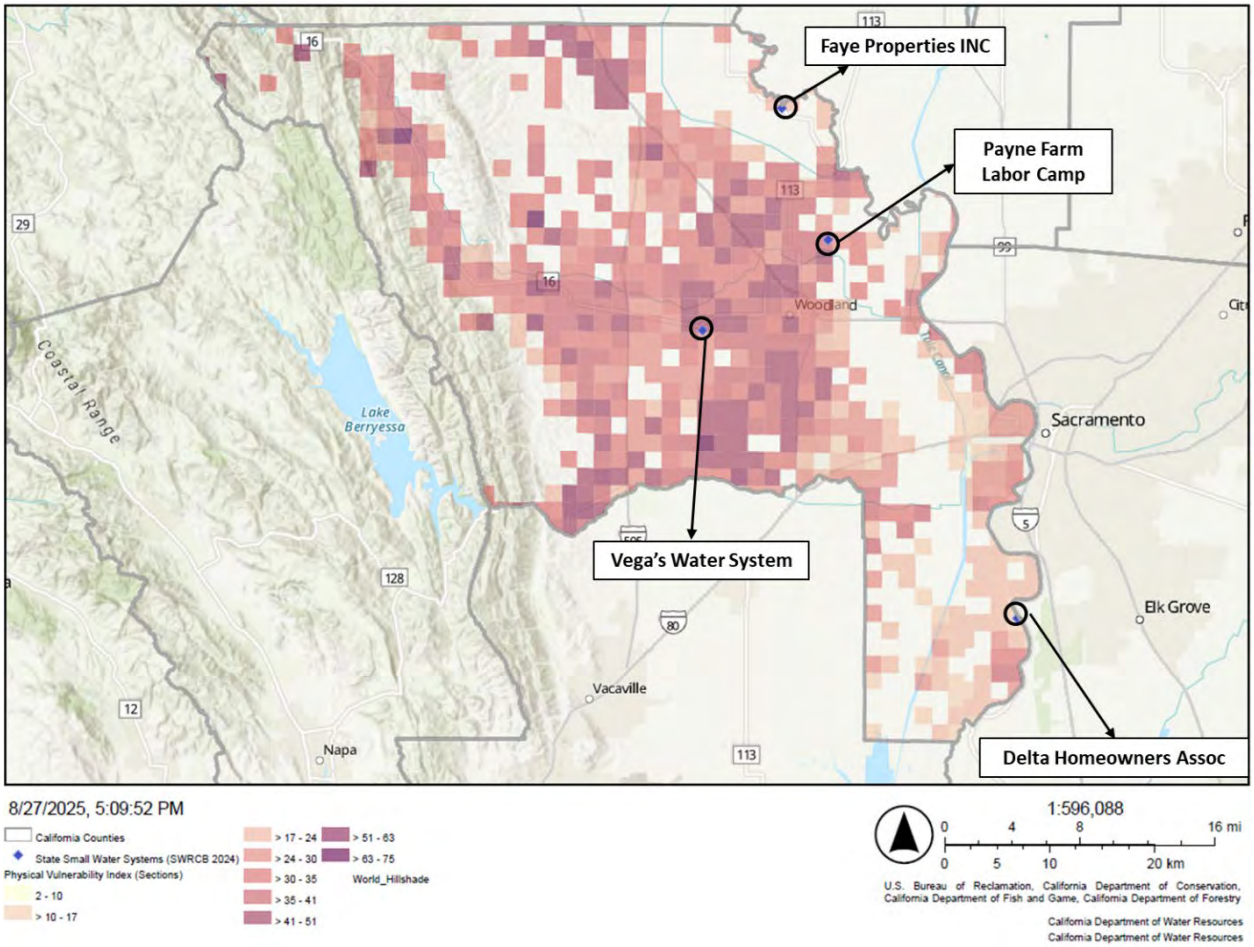


***Figure 3***




The distribution of total physical vulnerability scores throughout the County is shown in Figure 4, with darker shaded areas (or PLSS) indicating higher physical vulnerability scores. Physical and social vulnerability were scored for the entire State, but the figures in this DRP show PLSSs only containing domestic wells and SSWSs. Areas with high physical vulnerability are scattered throughout the County, with notable concentrations observed in Central Yolo near Esparto's eastern and western regions, as well as north, south, and west of Woodland. The highest physical vulnerability has been identified in the southern portion of Central Yolo in the vicinity of Winters and near the Yolo County Airport, in the northwestern areas of the County within Capay Valley in Rumsey and Guinda, in the northern areas of the County within northwest of North Yolo and northeast of Dunnigan Hills, and in the eastern portion of North Yolo in Knights Landing, as well as some portion of upland areas.

***Figure 4***




Drought affects all areas of Yolo County, though drought conditions can be greater in the southeastern part of the county. The geographic extent of a drought in Yolo County is Significant with 35-50 percent of the operational area potentially being affected by drought. Drought conditions of D4 on the U.S. Drought Monitor could cover most of Yolo County, east of the Blue Ridge Mountains.

Drought impacts are wide-reaching and may be economic, environmental, and/or societal. The most significant impacts associated with drought in Yolo County are those related to water intensive activities such as agriculture, wildfire protection, municipal usage, commerce, tourism, recreation, and wildlife preservation. Also, allocations go down during a drought which results in reduced water availability. These issues become particularly evident in shallow wells, such as the ones near Capay. Voluntary conservation measures are typically implemented during extended droughts. A reduction of electric power generation and water quality deterioration are also potential problems. Drought conditions can also cause soil to compact and not absorb water well, potentially making an area more susceptible to flooding. Drought has the potential to

significantly impact Yolo County's agriculture commodities, requiring changes in irrigation practices, changes in crop patters, greater reliance on groundwater, and discontinuation of certain agricultural activities. Communities that rely on well water, such as our unincorporated areas like Dunnigan, Zamora, and Yolo are susceptible to drought when groundwater levels are lower, and experience dry wells from drought conditions, resulting in the county needing to provide water hauling resources to domestic well owners experiencing drought. Drought conditions increase vulnerability in our county to those who live in the unincorporated areas of Yolo County who depend on well water sources, those residences are also in the areas were vulnerable populations reside such as those who have lower incomes, elderly, or have other contributing factors such as disability/mobility issues.

Historically, California has experienced multiple severe droughts. According to the California Department of Water Resources (DWR), droughts exceeding three years are relatively rare in Northern California, the source of much of the State's developed water supply. The 1929-34 drought established the criteria commonly used in designing storage capacity and yield of large northern California reservoirs. The driest single year of California's measured hydrologic record was 2013. A drought emergency was declared for the state in 2014, and lifted in 2017 after a series of strong winter storms. Drought also occurred throughout California in 1976-77 and in 1987-92 causing depletion of water throughout the Yolo County Operational Area but overall impacts were minimal and Yolo County did not issue a local emergency for either event.

From 1965 through 2023, there has been one Federal disaster related to drought in Yolo County issued in 1977, and one state disaster declaration in 2021. Between the years of 2012-2023, another database of disaster declarations from the USDA illustrated agricultural disasters that resulted from natural hazards such as drought and similar ones, see *Table 1*.

***Table 1: Disaster Declaration caused by Drought in Yolo County***

| Year | Declaration Number | Primary or Contiguous County | Disaster Type |
|---|---|---|---|
| 2012 | S3452 | Primary | Drought |
| 2013 | S3569 | Primary | Drought, High winds, Wildfire, Heat/Excessive heat/high temp (incl. low humidity), Insects |
| 2014 | S3626 | Contiguous | Drought, High winds, Wildfire, Heat/Excessive heat/high temp (incl. low humidity), Insects |
| 2014 | S3637 | Primary | Drought, High winds, Wildfire, Heat/Excessive heat/high temp (incl. low humidity), Insects |
| 2014 | S3743 | Primary | Drought |
| 2014 | S3797 | Contiguous | Drought |
| 2015 | S3784 | Primary | Drought, High winds, Wildfire, Heat/Excessive heat/high temp (incl. low humidity), Insects |
| 2016 | S3952 | Primary | Drought, High winds, Wildfire, Heat/Excessive heat/high temp (incl. low humidity), Insects |
| 2017 | S4163 | Primary | Drought |
| 2020 | S4691 | Contiguous | Drought |
| 2020 | S4697 | Primary | Drought |

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|---|---|---|---|
| 2021 | S4916 | Primary | Drought |
| 2022 | S5146 | Primary | Drought |

In the unincorporated areas of the county, droughts have been recorded in 1976-1977, 1988-1992, 2007-2009, 2014-2016, 2021-2022. Groundwater levels reached the lowest point ever recorded in the 1976-1977 drought and the second lowest in 2014. Collapsed well housings in the Knights Landing area occurred during the height of the drought.

## 2.2 Climate Change

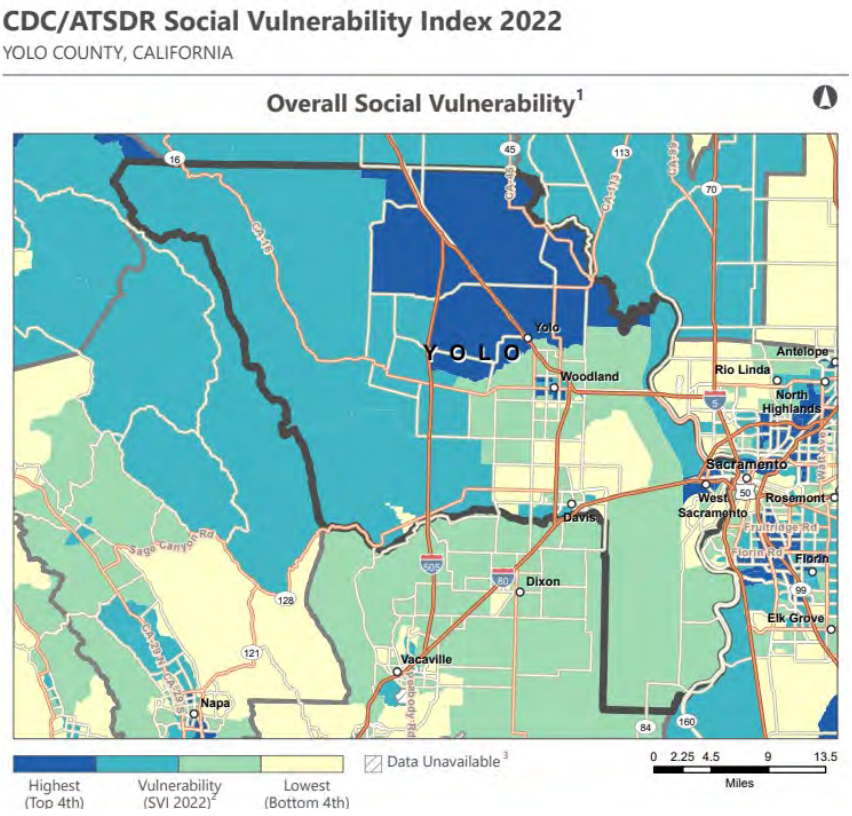
The most critical indicators of climate change impacts in Yolo County are temperature change and wildfire projections. Increased temperatures could increase water supply demands from users, evapotranspiration, and others, increasing vulnerability to drought and/or water shortage impacts. Projected increased temperature values are expected to range from 4.6°F to 5.2°F, with the greatest shifts in the county's eastern portion, which would affect multiple domestic wells. Increasing wildfire frequency and severity can increase the vulnerability of water sources. The most susceptible area is the northwestern portion of Yolo County, again affecting multiple domestic wells. These climate change impacts would increase vulnerability to populations living in these areas that rely on well water/groundwater sources. A dry year increases physical vulnerability. The higher number of recent dry years will also increase the physical vulnerability of water supply conditions to the northwestern part and some western border areas of the county, which have already experienced a higher frequency of dry years in 2018-2022.

## 2.3 Impacts

**Access and Functional Needs Populations**

Physical and social vulnerabilities do not directly overlap with the CDC's Social Vulnerability Index Score of 0.73 for 2022 in Yolo County (see Figure 5). High social vulnerability scores are more prevalent in the county's northern half, especially around Dunnigan Hills, regardless of physical vulnerability scores, suggesting a higher influence of socioeconomic factors in those regions. On the contrary, areas with lower social vulnerability scores are more prevalent in the eastern and southern parts of the county. The percentage of the population below the poverty levels is higher in the central, northwest, and a portion of the east compared to the rest of the county. It is also in the northwest and northeast of the county, with more than 70% of its population above 65 years old. There are also areas in the northeast, central south, and southwest where more than 70% of the population lives in mobile homes. Given that several wells are considered highly physically vulnerable, they tend to be in the northern part of the county, where there is also high social vulnerability, with some in the southern part of the county, with medium social vulnerability, these populations would be significantly impacted by drought if their wells were to run dry. In addition, areas that have already experienced the presence of domestic wells running dry, will likely experience it during future dry years.

***Figure 5***




## Agriculture and Land Use

Agriculture throughout the county is susceptible to drought, which can cause a decrease in crop production. Crops that rely heavily on water, such as rice, are most susceptible, while nut crops and vine-grown fruit are least susceptible. Other impacts include feeding and forage, altered plant populations, and tree mortality. During drought, vegetation can dry out, increasing fire risk. Drought during extreme heat and high winds can cause Public Safety Power Shutoffs (PSPS) events to be declared within the county. Agriculture can also strain groundwater and raise water quality concerns, increasing the vulnerability of domestic wells and small water systems during drought. Yolo County is heavily farmed, mostly in the southern, central, and eastern parts (except a portion in West Sacramento) of the county and small areas on the west alongside the Capay Valley. Drought will continue to be a concern to the Operational Area as agriculture is a major source of income. The impact of agriculture/land use in these ways will further increase the impacts of drought in Yolo County.

## Wildfires

A secondary impact associated with drought is wildfire. A prolonged lack of precipitation dries out vegetation, which becomes increasingly susceptible to ignition as the duration of drought extends. Drought is also associated with extreme heat, exposing people to the risk of sunstroke, heat cramps, and heat exhaustion. A higher risk of wildfire contributes to higher physical

vulnerability for water sources. The eastern and central part faces little risk of wildfire, but the western part of the county tends to have a higher risk of wildfires. Their hazard profiles contain more information on extreme heat and fire hazards.

# SECTION 3.0: CONCEPT OF OPERATIONS

This plan will be implemented as called for by the Director of Emergency Services or their designee as appropriate. Actions will be consistent with those outlined in the Emergency Operations Plan (EOP), including activating the Emergency Operation Center (EOC). Levels and positions activated will be based on SEMS and reflect the extent and pace of the crisis. Additional activation information is in the ESF-05 Management Annex and EOC policies.

Drought conditions will typically take some time to build to the point of creating an impact. In contrast, water shortage conditions can materialize without warning and usually as a side effect of another emergency.

The phases of drought are:

I. Long-term Planning and Preparedness
II. Drought Declaration and Response
III. Drought Recovery

These phases are activated based on the severity of risk to individuals who are vulnerable to serious illness from severe weather events, individuals with an access or functional need, the general population, and animals. The drought emergency response will be carried out using the following phases as guidelines to determine the most appropriate level of response.

## 3.1 LONG-TERM PLANNING AND PREPAREDNESS

In addition to ongoing water conservation practices, proactive drought planning will help Yolo County residents prepare for and mitigate future droughts.

Adequate drought response is predicated on long-term, continued planning, preparation, and well-thought policy that becomes part of the overall management of the water resources of the state, well before any declaration of a drought.

**Water Supply Plans**

Each major public water supplier must prepare a water supply plan that indicates ongoing water conservation actions as well as an emergency contingency planning component. The plan includes triggers for water conservation during any water supply concern, including various stages of drought.

**Conservation Activities**

Ongoing water conservation activities are critical to the long-term management of water resources in the state and should be a primary consideration in all water management decisions and strategies. During a water emergency, there may be insufficient lead-time to undertake major water-saving improvements. Water conservation is more important than ever due to increasing demands on water supplies, increased runoff and less infiltration from urbanized watersheds, and the high costs and difficulties in developing new water supplies. In addition, anticipated precipitation, extreme heat, drought, and runoff impacts associated with climate change will add to the concern. For these reasons, the general public should adopt water conservation practices.

**Enforcement**

Yolo County can enforce water use restrictions only when the governor orders an emergency declaration (Stage 5 Drought). Therefore, the local authority is necessary to enforce local conservation measures at earlier stages of drought. The local ordinance should be included in the municipality's hazard mitigation and emergency preparedness plans. The county will continue to promote and encourage the use of local water conservation and drought management ordinances.

**Coordination and Management**

A platform for efficient and adequate coordination and management is arguably the most important aspect of drought preparedness. There are multiple entities (public and private) responsible for managing water resources in the state; therefore, coordination hinges on communication among state, regional, and local agencies and public water providers, and the timely dissemination of clear and succinct information to the public. It is suggested that the Yolo County Drought Task Force designates a Drought Task Force Representative who acts as a primary point of contact.

**Public Outreach & Education**

Public outreach and education are critical components of long-term drought preparedness. Public water suppliers should periodically inform customers about their water—where it comes from, how to ensure its quality, and how to use it wisely. Conservation of water should be part of this education. Public water suppliers should identify and encourage large users to adopt water conservation practices. Outdoor water use is the largest component of water demand during the summer. Education should include discussion of best management practices for various industries and for homeowners.

## 3.2 Drought Declaration and Response

This section identifies a list of criteria thresholds to guide the Drought Task Force's identification of drought stages. The tables in this section select possible drought mitigation actions appropriate for each drought stage. The necessary mitigation actions and restrictions increase in frequency and significance as drought conditions worsen. The Drought Task Force may use professional judgment to determine whether taking all mitigation actions listed for a particular

stage is appropriate or necessary. As a drought worsens, all actions corresponding to earlier stages of drought should continue to be considered.

It is not possible to specify numerical thresholds for all potential drought criteria because of the many factors, both natural and man-made, that can affect or be affected by the availability of water and water-use patterns. Therefore, qualitative and other auxiliary data and sound subject matter expertise are crucial for guiding the Drought Task Force's recommendations.

Each drought stage is described in the colored boxes on the following pages, in order of increasing severity, and includes defining thresholds for drought criteria used in assessing conditions. It should be understood that the specified thresholds are not absolute, but are intended to guide the Drought Task Force in determining the severity of the drought being experienced. For example, because each drought is unique, it is possible that a particular drought stage could be triggered by less intense conditions experienced over a longer duration, or by more intense conditions experienced over a shorter duration.

| STAGE 1 | |
|---|---|
| **Defining Criteria** | Stage 1 is a preliminary preparedness stage that serves to alert the parties who should be prepared to respond to potentially worsening drought conditions. The primary target audience includes local officials and public water suppliers. Typically, this stage is activated upon the first signals of impacts from abnormally dry conditions. There is no expectation for a broad public notice of a Stage 1 declaration. Specific criteria thresholds are not defined for Stage 1 as the decision to begin focusing on a possible developing drought is based on the Drought Task Force professional judgment. |
| **Recommended Mitigation Actions** | • Pay attention to all aspects of agency operations that could indicate impending drought conditions; communicate and meet as needed.<br>• Delegate duties and responsibilities as necessary to assure information flow among agencies.<br>• Designate agency spokesperson(s) to coordinate interaction with the public and expedite information referrals. Submit drought assessment reports as necessary to agency heads.<br>• Designate an individual to be the contact person for receiving and compiling drought-related information.<br>• Drought Task Force Representatives provide HHSA with current contact information. If no Drought Task Force representatives exist, designate a local official competent in water supply issues as the Drought Task Force representatives and provide contact information.<br>• Drought Task Force representatives maintain regular communications flow with local emergency services (Yolo County OES).<br>• Designate a point contact person for communication with municipalities and the state. Provide up-to date contact information to HHSA to ensure the communication of vital information and assess needed technical and financial assistance in an emergency.<br>• Stage 1 is intended to initiate internal communication and awareness among the Drought Task Force and other decision makers, in response |

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| | to observations or reports that warrant heightened awareness of conditions. Communication with the public is not planned at this time.<br>• Continue to regularly monitor the primary indicators of drought; systematically collect, analyze, and disseminate real-time drought-related information.<br>• Identify geographic extent of dry conditions and determine affected areas.<br>• Plan what staff and/or funding could be made available, if necessary, to support increased monitoring activities.<br>• Verify that all monitoring networks and drought information websites are functioning and include relevant, up-to-date information.<br>• Review database of contact information for public water suppliers and municipal water coordinators and update as needed.<br>• Update database/map of public water suppliers that that have requested voluntary conservation and/or have placed mandatory water restrictions. |

| **STAGE 2: Incipient Drought** | |
|---|---|
| **Defining Criteria** | A decision to issue a Stage 2 declaration is guided by the following drought criteria thresholds, as well as any other ancillary data. |
| **Recommended Mitigation Actions** | • Alert Drought Task Force Representatives and water suppliers of conditions.<br>• Coordinate with Drought Task Force Representatives, local health directors, and water suppliers to promote water conservation, monitor local situations, and report problems.<br>• Offer technical assistance to water utilities experiencing problems to assist with system management and promotion of water conservation with specific measures tailored to each water utility. Assist water utilities in strengthening supply-side and demand-side conservation measures.<br>• Survey Drought Task Force Representatives and assess municipal drought preparedness.<br>- Advise municipalities to review appropriate ordinances to enable the enforcement of water conservation if needed in the future and to coordinate with water utilities, when pertinent.<br>- Advise water utilities to implement their coordination plans with their municipalities<br>• Water coordinator Drought Task Force Representatives and water suppliers should review communications protocol and coordinate on any public announcements (this could involve multiple communities)<br>• Alert key town officials (police & fire chiefs, health director, chief executive officer, Yolo County OES, public works, parks & recreation, superintendent of schools) about conditions<br>• Notify municipal public works departments and fire responders to consider suspending all unnecessary exercises that require fire hydrants to be opened<br>• Communicate with Drought Task Force Representatives about local conditions, concerns, and any changes to the status of water supply |

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| | • Consider postponing discretionary water consuming maintenance, repair work, and shutdowns<br>• Provide information to weather forecasters and other media to encourage public interest stories and facilitate dissemination of drought information to the public<br>• Compile information on water conservation tips to homeowners, e.g., “Water Efficiency Measures for Residents,” and “Water Efficiency Measures for Landscaping,” in preparation for distribution through the Internet, public service announcements, and other timely mailings should the drought worsen<br>• Increase awareness of the state's drought information website.<br>• Work with state agencies to prepare information on water conservation tips for future dissemination to water users through the Internet, newspapers, public service announcements, and other timely mailings.<br>• Issue guidance document for private well users who may require assistance with well repairs or enhancement and make this available via the Internet.<br>• Consider issuing voluntary conservation appeals to all customers.<br>• Continue to monitor the primary indicators of drought, increasing the frequency as needed. Include qualitative data<br>• Prepare new assessment reports as conditions change<br>• Review activities of neighboring states through websites, and in coordination with National Weather Service and USGS<br>• Review and implement, as needed, the plan for managing potential forest fire hazards and threats<br>• Review water supply systems that have historically had adequacy problems, “target systems,” and provide technical assistance as needed<br>• Review reservoir storage reports of the systems that use surface water supplies and consider more frequent reservoir level reporting for selected systems<br>• Verify database accuracy of approved water haulers, approved bottled water purveyors, licensed well drillers, and upload lists to the state drought management website.<br>• Drought Task Force Representatives should review any local sources of data on wells, dry hydrants, fire conditions, etc., and communicate to the appropriate state agencies<br>• Monitor local water supplies and collect data more frequently as needed<br>• Begin preparing for the possibility of bringing alternative/secondary supply systems online<br>• Investigate any deviation from normal use registered on production meters<br>• Review water supply emergency contingency plan triggers and mitigation activities; update if necessary |

| **STAGE 3: Moderate Drought** |
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| Defining Criteria | A decision to issue a Stage 3 declaration is guided by the following drought criteria thresholds, as well as any other ancillary data. |
|---|---|
| **Recommended Mitigation Actions** | • Declare a Stage 3 Drought and notify Drought Task Force Representatives.<br>• Require all county-owned facilities to enact water conservation measures and to review and update any specific drought/emergency plans.<br>• Communicate with the Army Corps of Engineers or other dam operators on possible use of impoundments for streamflow augmentation in locations where existing streamflow regulations are not adequately meeting the needs of fish and wildlife downstream.<br>• Initiate contact with federal agencies (FEMA/EPA/USGS/USDA/Corps) in order to identify federal assistance capabilities.<br>• Provide technical assistance to utilities on managing systems during dry conditions, including (a) administering expedited reviews of proposed system upgrades and alternative water supplies for drought impacted community water systems; and (b) assist in the identification of emergency connections.<br>• Evaluate unused or underutilized high yield aquifers developable as temporary emergency water supplies including for non-potable uses.<br>• Disseminate generic press releases and notification letters to water systems, local health directors, well drillers, etc.<br>• Direct agencies to conserve water and repair leaks at state facilities.<br>• Review operations to ensure that conservation efforts are maximized. Non-critical utility uses such as routine flushing, clear well, clarifier or storage tank cleaning, meter testing and bleeders should be reviewed to eliminate, reduce or delay water use, where feasible.<br>• Preparation for mandatory conservation, including necessary enforcement mechanisms, will be initiated.<br>• Determine where temporary interconnections between water utilities are needed and coordinate expedited permitting.<br>• Send letters to officials requesting they urge residents to curtail outdoor watering.<br>• Hold news conference to announce activation of the Water Status website and information line to get information on water status and conservation measures.<br>• Target heavy water users and evaluate mechanisms for water use reduction.<br>• Use guidance provided in “Industrial/Commercial/Institutional Water Users – Planning Guidance for Water Conservation and Emergency Contingency Plans” and “Agricultural Water Users - Planning Guidance for Water Conservation and Emergency Contingency Plans”.<br>• Assist agricultural industry by determining possible issues, prospective situations, and remedial steps that can be taken, including the dissemination of information and technical assistance for irrigation improvements available under federal emergency programs to agricultural growers. |

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| | • Remind holders of registered water diversions of their legal responsibilities and conditions that are prerequisite to a suspension of minimum stream flow standards<br>• Use the Internet, public service announcements and radio station broadcasts to urge residents and businesses to conserve water (provide conservation tips such as “Water Efficiency Measures for Residents,” and “Water Efficiency Measures for Landscaping").<br>• Encourage water users to cooperate with local officials and utilities as conditions may be worse in specific areas, requiring greater efforts in accordance with adopted utility plan.<br>• Set a voluntary outdoor water use reduction for all residents and businesses.<br>• Voluntary conservation will be promoted in residential, commercial and industrial facilities to reduce demand from previous non-drought projected usage for the appropriate month.<br>• Monitor implementation of individual water supply plans.<br>• Identify non-essential water uses during the Severe Drought Stage relative to time of year.<br>• Assess and report agricultural impacts of worsening drought.<br>• Track and report problems related to the drought for both deep and shallow wells.<br>• Review adequacy of water monitoring and consumption records and invest in increased monitoring capabilities where needed.<br>• Evaluate potential funding needs for actions required under severe or extreme drought conditions to ensure the availability of adequate funding through budgets or emergency measures.<br>• Initiate increased reservoir level monitoring and reporting |

| **STAGE 4: Severe Drought** | |
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| **Defining Criteria** | A decision to issue a Stage 4 declaration is guided by the following drought criteria thresholds, as well as any other ancillary data. |
| **Recommended Mitigation Actions** | • Declare a Stage 4 Drought and notify Drought Task Force Representatives.<br>• Consider requesting a Local and Presidential Emergency Disaster Declaration if direct federal assistance is required.<br>• If State EOC is activated, provide regular situation status reports to state and municipal partners, the Federal Emergency Management Agency and the US Army Corps of Engineers regarding drought impacts and response measures being taken by state and local officials.<br>• Issue emergency and temporary permits, as appropriate, and expedite drought-related emergency requests for water utility interconnections and access to alternative water sources<br>• Ag. Commissioner’s Office should coordinate with USDA to assess agricultural impacts of worsening drought and provide federal relief/emergency assistance for farmers. |

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| | • Coordinate with water suppliers to bring “emergency” and “inactive” sources of water supply into production, including accessible and developable high yield aquifers.<br>• Encourage the activation of unused or underutilized water sources as temporary emergency water supplies for non-potable uses.<br>• Facility managers should implement water efficiency improvements at facilities.<br>• Prohibit aquifer pumping tests unless a) the test is associated with a groundwater remediation project, or b) the test is associated with a replacement well for a previously approved, allocated diversion source, or c) the test is associated with a drinking water supply well necessary to ensure uninterrupted water supply during a water supply emergency.<br>• Expedite drought-related diversion permit applications and requests for temporary and/or emergency authorization.<br>• Direct Drought Task Force Representatives to provide situation reports periodically, share those reports with County OES.<br>• Initiate first phase of mandatory conservation. At this level, all unnecessary water usage will be banned. No outside hose usage will be allowed, nor are in-ground sprinkler systems to be used. A 20 percent reduction in usage from previous non-drought projections for the appropriate month will be targeted.<br>• A plan will be formulated in concert with state and local officials for strict rationing of water if a drought emergency should be reached. The needs of high priority customers, homes, commerce, and fire protection will be established and prioritized. Plans will be made for emergency service of drinking and cooking water by tanker to any areas where normal water service must be terminated.<br>• Coordinate with water suppliers to bring “emergency” and “inactive” sources of water supply into production, including accessible and developable high yield aquifers.<br>• Encourage the activation of unused or underutilized water sources as temporary emergency water supplies for non-potable uses.<br>• All possible supplementary water sources will be prepared for use.<br>• Coordination with local officials concerning alternative facilities for obtaining water will be initiated, as required.<br>• Prohibit all outdoor watering and curtail other water uses as appropriate.<br>• Assist community water systems in exploring alternative sources of water for non-potable uses.<br>• Increase the degree of public education and information; increase the tone of seriousness in public service announcements, press releases, etc.<br>• Coordinate with 211 to respond to public inquiries<br>• Increase the degree of public education and information; increase the tone of seriousness in public service announcements, press releases, etc.<br>• Coordinate messaging with local, regional, and state partners.<br>• Enforce or assist with enforcement of water use restrictions. |

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| | • Assist owners of residents with dry wells with obtaining permits to construct wells or evaluate the feasibility of connecting to a public water supply.<br>• Meet with individual, large, water-intensive industries to discuss water use cutbacks.<br>• Increase the degree of public education and information; increase the tone of seriousness in public service announcements, press releases, etc.<br>• Synchronize messaging with the State by notifying all customers, through business communication channels and the media, of drought declarations made by State officials, actions being taken by the State and by the water supplier, and on the implementation of mandatory conservation.<br>• Develop plans to deliver drinking water to key distribution stations within each municipality.<br>• Assess capability and finalize readiness plans for the mobilization of water distribution and storage equipment to armories and other designated locations.<br>• Explore alternative means of water delivery during outages. Identify and communicate with authorities to implement a ban of non-essential water uses during the Extreme Drought Stage |

| **STAGE 5: Extreme Drought** | |
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| **Defining Criteria** | A decision to issue a Stage 5 declaration is guided by the following drought criteria thresholds, as well as any other ancillary data |
| **Recommended Mitigation Actions** | • Declare a Stage 5 Drought and notify Drought Task Force Representatives.<br>• Apply for a Presidential Emergency Disaster Declaration if direct federal assistance is needed; apply for a USDA Secretarial Disaster Declaration; apply for federal assistance and funding as appropriate.<br>• Track damages and costs related to drought for potential Presidential Major Disaster Declaration.<br>• Declare a public drinking water supply emergency<br>• Utilize authorities under a declared water supply to undertake actions as needed relative to approving temporary suspension of diversion permits, issuing orders for new diversions.<br>• Improve distribution and transmission of potable water; divert water from current sources; and bridge existing water systems, including the determination of appropriate methods for financing emergency drinking water operation.<br>• Issue permits and conditions for the use on a case by-case basis<br>• Work with Yolo OES to activate the Emergency Operations Center as deemed appropriate.<br>• Initiate transporting and distributing potable water to provide essential water to key municipal emergency potable water stations (trucking water and laying water pipe, as necessary). |

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| | • Consider preserving (shut valves) remaining available water in select storage tanks for rationing or fire emergency.<br>• It may be necessary to set a storage minimum to be held for extinguishing fires, the amount needed depending upon the nature of the emergency and structures in the service area.<br>• Initiate a drought hazard rationing plan in cooperation with appropriate local and state officials.<br>• The plan will consider needs of high priority customers, homes, commerce and fire protection.<br>• Maximize use of alternative supplies.<br>• Ban all non-essential water uses<br>• Enforce compliance with mandatory drought restrictions.<br>• Process applications for exemptions or variances to mandatory drought restriction.<br>• End outdoor watering exceptions for new lawns; ban all lawn watering<br>• Coordinate provisions for emergency bathing services and emergency service of drinking and cooking water by tanker to any areas where normal water service must be cut off.<br>• Coordinate provisions for emergency bathing services and emergency service of drinking and cooking water by tanker to any areas where normal water service must be cut off.<br>• Prepare, based on available information and professional judgement, recommendations for the Governor on additional action steps to take in a worse-case scenario if conditions do not improve and water supplies become critical. |

## 3.3 DROUGHT RECOVERY

At such time when the drought criteria or other information, when warranted, signal that drought conditions are improving, the Drought Task Force will consider whether to scale back the drought declaration to a lower stage of drought. When considering the criteria for signs of improvement, special attention should be paid to groundwater levels since they are more reliable for measuring long-term shifts in rainfall patterns and respond more gradually. Other criteria, such as streamflow, respond quickly to changing conditions and can be misleading during wet periods during a long-term drought. The Drought Task Force will rely on professional judgment guided by the drought criteria when deciding whether to scale back a drought declaration.

With improving conditions, the Drought Task Force should continue to assess and recommend appropriate drought mitigation actions. These actions should be communicated similarly to when the drought was worsening.

**Post Drought Actions**

The primary objectives during post-drought recovery are to maintain, as far as possible, the resources affected by drought, and to assist in the post-drought return and restoration of those resources, considering resource maintenance and long-term sustainability. These include:

- Administering available funding of federal long-term drought relief
- Providing risk management programs to assess the financial condition of individual agricultural enterprises and give alternatives for operators to utilize in drought recovery
- Following-up with drought-impacted community water systems to restore operations and to ensure that drought-driven system improvements and modifications are in compliance with applicable standards
- Evaluating the effectiveness of the triggers as defined in utility water supply plans or asset management plan
- Preparing an After-Action / Improvement Plan Report summarizing the drought-related issues for the governor and commissioners, including an assessment of activities undertaken to mitigate drought impacts, successes realized, and recommended improvements. At a minimum, this report should recommend;
    - appropriate amendments to state legislation and municipal ordinances
    - appropriate amendments to the County Drought Plan
    - programs to encourage the efficient use of potable waters
    - the level of resource monitoring that is needed to establish accurate baseline conditions
    - improvements to economic impact assessment tools
    - improvements to drought-impacted public water system's water supply plan drought triggers and actions
    - describe lessons learned with all applicable entities

**After-Action Report**

An After-Action Report (AAR) aims to provide a mechanism where shortfalls and limiting factors can be captured and documented. They can then be improved on as part of an ongoing improvement effort. OES and responding departments are responsible for compiling and developing the after-action report. In addition, individuals assigned to the event will assist by providing input and attending debriefing sessions. All After-Action Reports are due within 90 days of the end of the event.

## 3.4 NOTIFICATIONS

Drought Task Force and Community Services will monitor information from State agencies responsible for gathering and maintaining information to provide situational awareness on the surface and sub-surface water supplies. During a water shortage or drought conditions, local information will be shared with agencies throughout the OA, coordinated by Yolo County OES and the State to ensure vertical and horizontal partners maintain a common operating picture. While there is no single point at which drought or water shortage conditions can be seen as a

trigger, there are trends in water supplies that should be monitored. Once monitoring begins, a report of findings should be generated and pushed up to the Yolo County Office of Emergency Services, and to the Director of Emergency Services for consideration so that notification can be provided to the Board of Supervisors (BOS).

As with many emergencies, incident management is integral to the response and recovery effort. Ensuring a reliable water supply is available to support people's health and safety needs in an emergency is critical to this effort.

## 3.5 Public Information

A significant portion of a response to a drought incident is getting the messaging out to the public regarding the response and recovery to drought and/or water shortage conditions. The use of a Joint Information System is a comprehensive method to ensure a single unified message can reach the individuals and organizations impacted by this type of event. For drought conditions, there may be information on conservation, while a water shortage may require messaging on maintaining potable water or identifying locations to pick up drinking water.

## 3.6 Information Sharing and Dissemination

OES will monitor information from local agencies, the drought task force, and State agencies responsible for maintaining situational awareness. This information will go into an Incident Action Plan (IAP) and/or a Drought Situation Report to be shared with the participating agencies of both the Drought Task Force as well as locally impacted jurisdictions. Conversely, local information will be shared with the State to ensure partners, both vertically and horizontally, maintain a common operating picture.

# SECTION 4.0: ROLES AND RESPONSIBILITIES

Potential Roles and Responsibilities of local agencies and other organizations involved in Emergency Management for Drought Emergencies.

| Primary Agency | Roles and Responsibilities |
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| **Yolo County Subbasin Groundwater Agency** | • Maintain the Sustainable Groundwater Management Act (SGMA). |
| **Natural Resources** | • Maintain the Drought Resilience Plan<br>• Organize and operate the Drought Task Force to facilitate drought and water shortage preparedness for state small water systems |
| **Office of Emergency Services** | • Request the BOS to proclaim a local emergency due to drought conditions, and promulgate orders, regulations, or laws as needed throughout the duration of the emergency.<br>• Coordinates countywide response activities during drought and water shortage emergencies.<br>• Mobilize county resources and emergency organizations.<br>• Addresses emergency management needs related to the drought or water shortage.<br>• Develops the Emergency Action Plan that documents operational activities and tasks carried out by agencies. |
| **County Administrator's Office** | • Establish a list of approved bottled water purveyors and certified drinking water haulers. |
| **Environmental Health Division** | • Monitors the status of water well drilling permits.<br>• Regulates Small Public Water Systems (SPWS) (less than 200 connections) to protect and conserve the system's drinking water supply. Provides technical assistance as needed.<br>• Requires the SPWS to collects water samples after an emergency for laboratory analysis to verify that a water supply is safe to drink.<br>• Assists residents on private wells with information on what contaminants the well water needs to be tested for, interprets the laboratory results, and gives guidance to the public on how to treat their water to make it safe to drink.<br>• Inspect emergency interconnections among the county's SPWS or private wells.<br>• Provide technical assistance from existing resources to improve or add interconnections.<br>• Monitors impacts to at-risk small public water systems.<br>• Assists requests for financial assistance through State Revolving Fund (SRF).<br>• Re-evaluates required drinking water treatments and issuance of Public Notification notices to water users as an on-going necessity to protect public health during a drought. |

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| **Agriculture Commissioners' Office** | • Provides agricultural drought impact estimates to support requests for drought designations by the United States Department of Agriculture Secretary. |
| **Public Works** | • Manages multiple Community Service Districts |
| **Health and Human Services Agency** | • Assesses and responds to impacts of water shortages on public health.<br>• Issues or directs water system operators to issue notices and monitors the issuance of notices as directed by California Department of Public Health (CHHSA) or EHD.<br>• Conducts health and nutrition programs for low-income women, infants, and children.<br>• Provides information on available short-term counseling for emotional or mental health problems caused by the economic impacts of the drought or water shortage emergency.<br>• Applies for and utilizes the FEMA Crisis Counseling Program grant for a presidentially declared disaster. |
| **Irrigation Districts** | • Agricultural water purveyors must efficiently distribute reduced surface water supplies.<br>• Provides technical water conservation information to their growers. |
| **Water Districts** | • Updates Urban Water Management Plan<br>• Promotes Water Conservation.<br>• Enforces drought response measures. |
| **Resource Conservation District** | • Provides technical assistances, loans, and grants to farmers and ranchers cope with some of the short term and long term consequences of droughts. |

## 4.1 OTHER AGENCIES

City agencies will follow their procedures in accordance with their Urban Water Management Plan (UWMP), state agencies will follow their procedures in accordance with the California Drought Contingency Plan and SEMS, and federal agencies will follow their procedures in accordance with NIMS.

| Support Agency | Roles and Responsibilities |
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| **Community Based Organization** | • Obtain and distributes food donations to those who have lost jobs or income due to the drought and water shortages. |
| **Nongovernmental Organization** | • Provides drought-related information to their members and cooperates with State surveys of drought impacts. Provides a variety of services including help with food, household needs, clothing, and personal needs. |

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| | • Mobilizes staff, volunteer leaders, and resources for disaster response. |
| **Medical Health Operational Area Coordinator** | • Serves as the OA (mutual aid) Coordinator for HHSA<br>• Reports the status of medical, mental health, public health, and environmental health activities to the regional and state Medical Health Coordination Center. |
| **Emergency Medical Services** | • Assesses impact on medical activities. |
| **Private Non-profit** | • Assists with providing services as an independent organization. |

# APPENDIX A: VERSION HISTORY

| Change Number | Section | Date of Change | Individual Making Change | Description of Change |
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| 1.0 | All | 8/12/2024 | Yolo OES | Drafted, developed |
| 2.0 | Some | 1/6/2026 | Yolo OES | Updated information |
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