Inyo County
Drought Resilience Plan

November 2025

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Acronyms and Abbreviations

°C	degrees Celsius
°F	degrees Fahrenheit
CWC	California Water Code
County	Inyo County
DRP	drought resilience plan
DWR	California Department of Water Resources
EHD	Inyo County Environmental Health Department
FEMA	Federal Emergency Management Agency
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
HSC	California Health and Safety Code
ICWD	Inyo County Water Department
IWVGA	Indian Wells Valley Groundwater Authority
LADWP	Los Angeles Department of Water & Power
OVGA	Owens Valley Groundwater Authority
PLSS	Public Land Survey Section
SAFER	Safe and Affordable Funding for Equity and Resilience Program
SB	Senate Bill
SGMA	Sustainable Groundwater Management Act
SSWS	state small water system
Task Force	Inyo County Drought and Water Shortage Task Force
WSVE	DWR Water Shortage Vulnerability Explorer

1.0 Introduction

The Inyo County Drought Resilience Plan (County DRP) documents how Inyo County (County), its Drought and Water Shortage Task Force (Task Force) members, and other entities with water supply and drought management responsibilities will address water supply vulnerabilities for three types of water systems in the County: domestic wells, as defined in California Health and Safety Code (HSC) Section 116275(n) and Section 10609.51(d); state small water systems (SSWS), as defined in HSC Section 116275(n) and Section 10609.51(m); and spring-fed systems. The County DRP was prepared pursuant to Senate Bill (SB) 552: Drought Planning for Small Water Suppliers, SSWSs, and Domestic Well Communities (Hertzberg; see Section 1.2 for additional detail). This County DRP was developed by the County with funding and technical support provided by the California Department of Water Resources (DWR) Drought Resilience Planning Assistance Program.

1.1 Document Organization

The organization of this document draws from DWR's *County Drought Resilience Guidebook* (2023) (Guidebook). The Guidebook is a resource for counties to use to develop a County DRP specifically for SSWSs and domestic wells. Consistent with the Guidebook, the County DRP is organized into six chapters:

- **Chapter 1: Introduction** provides an overview of the legislation relating to SB 552 and the development of the County DRP. This chapter also includes background on County demographics, geography, and an overview of domestic wells and SSWSs within the County's jurisdiction.
- **Chapter 2: County Drought and Water Shortage Task Force** provides an overview of the Task Force, including its development process and charter, membership, roles, purpose, and meeting frequency.
- **Chapter 3: Drought and Water Shortage Risk Assessment** characterizes the vulnerability of domestic wells and SSWSs within the County to drought and water shortage. This chapter also presents the approach and data used to assess vulnerability. It highlights areas within the County with a higher risk of drought and water shortage where domestic wells and SSWSs are present. Additionally, data gaps are identified to help inform potential long-term strategies.
- **Chapter 4: Short-Term Response Actions** details the proposed short-term response actions for emergency and interim drought solutions, including specific actions, local response triggers, and public engagement.
- **Chapter 5: Long-Term Mitigation Strategies and Actions** details the proposed long-term mitigation strategies and actions for improving the water supply resilience of domestic wells and SSWSs.
- **Chapter 6: Implementation Considerations** presents a roadmap for implementing short-term response actions and long-term mitigation strategies/actions consistent with the mission and authority of involved agencies. This includes identifying agencies and entities responsible for implementation, the status of implementation, funding, authorization for implementation, and the anticipated schedule. This section also summarizes the level of multi-agency collaboration identified by agencies to support implementation.
- **Chapter 7: References** provides a list of references used in this plan.

1.2 Legislative Requirements

Signed into law in September 2021 by Governor Gavin Newsom, SB 552 (Hertzberg, 2021) obligated the State of California (State) and local governments to share the responsibility of preparing for and responding to a water shortage event. These new requirements are expected to improve the ability of Californians to manage future droughts and help prevent catastrophic impacts on drinking water for communities vulnerable to the effects of climate change. The bill outlines the new requirements for small water suppliers, county governments, DWR, and the State Water Resources Control Board (SWRCB) to implement more proactive drought planning and better prepare for future water shortage events or dry years.

SB552 also implements legislation on Water Conservation and Drought Planning (SB 606 [Hertzberg, 2021] and AB 1668 [Friedman], as amended; collectively referred to as the "2018 Legislation") passed by the State Legislature. The 2018 Legislation provides a new framework for urban water use efficiency; directives for eliminating water waste; additional requirements for strengthening local drought resilience for urban areas, vulnerable small water suppliers and rural communities, and recommendations for improving agricultural water use efficiency and drought planning.

Water users protected under SB 552 include the following:

- **Small Water Supplier:** A community water system serving 15 to 2,999 service connections and that provides less than 3,000 acre-feet of water annually (CWC Section 10609.51(k)).
- **Community Water System:** A public water system that serves at least 15 service connections used by yearlong residents or regularly serves at least 25 yearlong residents of the area served by the system, as defined in HSC Section 116275(i) and Section 10609.51(a).
- **State Small Water System:** A system for the provision of piped water to the public for human consumption that serves at least five, but not more than 14, service connections and does not regularly serve drinking water to more than an average of 25 individuals daily for more than 60 days out of the year, as defined in HSC Section 116275(n) and Section 10609.51(m).
- **Domestic Well:** A groundwater well used to supply water for the domestic needs of an individual residence or a water system that is not a public water system and that has no more than four service connections, as defined in HSC Section 116275(n) and Section 10609.51(d).
- **Nontransient Noncommunity Water System:** A public water system that is not a community water system and that regularly serves at least 25 of the same persons over six months per year, as defined in HSC Section 116275(k) and Section 10609.51(f).

For the water users protected under SB 552, this County DRP addresses water shortage vulnerabilities for domestic wells and SSWS. Other water users protected under SB 552 not included in this County DRP have separate requirements to address water shortage vulnerabilities.

1.2.1 County Agency Requirements

This plan fulfills County requirements for a plan that includes potential drought and water shortage risk and proposed short-term and long-term solutions for domestic wells and SSWSs within the County's jurisdiction (CWC Section 10609.70). While measures to protect small water suppliers and nontransient noncommunity water systems are not within the scope of this document, this plan considers integration opportunities consistent with the intent of SB 552. SB 552 requires the County to:

- Establish a standing County Drought and Water Shortage Task Force (CWC Section 10609.70(a))
- Develop a plan that considers, at a minimum, each of the following (CWC Section 10609.70(b)):

1) Consolidations for existing water systems and domestic wells
2) Domestic well drinking water mitigation programs
3) Provision of emergency and interim drinking water solutions
4) An analysis of the steps necessary to implement the plan
5) An analysis of local, State, and federal funding sources available to implement the plan

1.2.2 State Agency Involvement and Implementation

SB 552 defined a series of requirements for the State Water Board and DWR. These include the following:

State Water Resources Control Board (CWC Section10609.70(c)):

The state board shall work with counties, groundwater sustainability agencies, technical assistance providers, nonprofit organizations, community-based organizations, and the public to address state small water system and domestic well community drought and emergency water shortage resiliency needs, including both of the following:

> *(1) Proactive communication to domestic well communities before a drought occurs, such as information on local bottled water and water tank providers.*
> *(2) Funding for installation of basic drought and emergency water shortage resiliency infrastructure, such as well monitoring devices.*

California Department of Water Resources (CWC Section 10609.80):

(a) The department shall take both of the following actions to support implementation of the recommendations of its County Drought Advisory Group:

> *(1) Maintain, in partnership with the state board and other relevant state agencies, the risk vulnerability tool developed as part of the County Drought Advisory Group process and continue to refine existing data and gather new data for the tool, including, but not limited to, data on all of the following:*
> > *(A) Small water suppliers and nontransient noncommunity water systems serving a school.*
> > *(B) State small water systems and rural communities.*
> > *(C) Domestic wells and other self-supplied residents.*
>
> *(2) Update the risk vulnerability tool for small water suppliers and rural communities periodically, by doing all of the following:*
> > *(A) Revise the indicators and construction of the scoring as more data becomes readily available.*
> > *(B) Make existing and new data publicly available on the California Open Data internet web portal.*
> > *(C) In consultation with other relevant state agencies, identify deficits in data quality and availability and develop recommendations to address these gaps.*

(b) (1) The department, in collaboration with the state board and relevant state agencies, shall establish a standing interagency drought and water shortage task force to facilitate proactive state planning and coordination, both for predrought planning and post-drought emergency response, to develop strategies to enhance collaboration between various fields, and to consider all types of water users.

> *(2) The interagency drought and water shortage task force shall include representatives from local governments, community-based organizations, nonprofit technical assistance providers, the public, and experts in land use planning, water resiliency, and water infrastructure.*

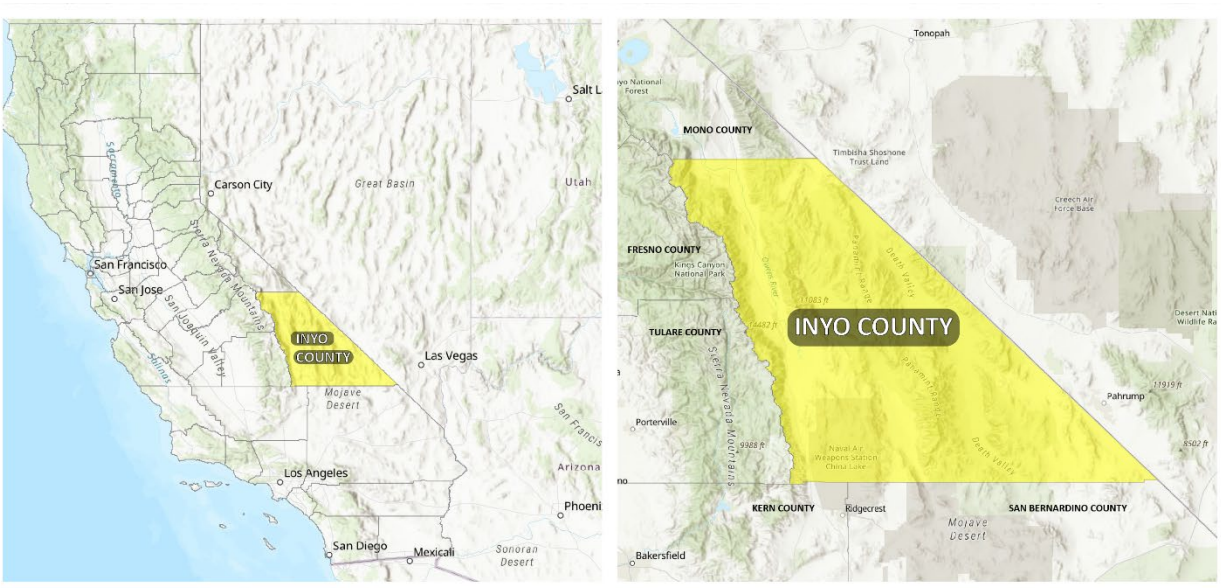
1.3 Purpose of the Inyo County Drought Resilience Plan

The County DRP documents how the County, Task Force members, and other entities with water supply and drought management responsibilities intend to address water supply vulnerabilities of water users protected under SB 552 in the County. It is a single document for ease of reference and future updates. It describes the water shortage vulnerabilities present in the County, how the County will respond to and mitigate identified vulnerabilities, and the policy, financial, and regulatory considerations necessary for the implementation of the County DRP. The County Office of Emergency Management (OEM) leads the implementation of the County DRP in close coordination with other departments, including the County Water Department (ICWD) and the County Environmental Health Department (EHD).

1.4 Inyo County Overview

Situated on the eastern flank of the Sierra Nevada and southeast of Yosemite National Park in Central California, the County spans an area of 10,197 square miles and is the second-largest county by surface area in California (USCB 2020a). It is located on the ancestral land of the Paiute (Nuumu), Shoshone (Newe) and Timbisha peoples. The County includes 58 different communities (Inyo County 2001).

As can be seen in Figure 1-1, the County is bordered by five California counties—Mono County to the north, San Bernardino County to the south, and Fresno, Kern, and Tulare Counties to the west—and the State of Nevada to the east.



Source: ArcGIS Online Mapping

Figure 1-1. Inyo County Location Map

1.4.1 Demographics

Selected demographics of the County are summarized below per the 2020 Census and 2022 American Community Survey (USCB 2020b).

- **Population:** The County has a population of 19,016 people. 57.9 percent (11,013) of this population resides in urban areas, with 42.1 percent (8,003) living in rural areas.
- **Age:** The County has a median age of 44.6. Approximately 21 percent of the population is under 18 years old, while 23.7 percent is 65 years and over.
- **Ethnicity:** The largest ethnic groups in the County are White (61.8 percent), Hispanic (23.1 percent), and Native American/Tribal (13.0 percent). The County has the second-highest proportion of Native American residents in California, exceeded only by Alpine County (19.6 percent). Named after the Mono term for "dwelling place of the great spirit," the County has been the historic homeland of the Mono tribe, Coso people, Timbisha, and Kawaiisu Native Americans for thousands of years (Inyo County 2021b).
- **Household Income:** The median household income of the County is $63,417; this is 69.3 percent of the statewide average of $91,551.
- **Education:** The County has a lower-than-average percentage of residents with a bachelor's degree or higher at around 29 percent compared to 37 percent for California overall.
- **Poverty Level:** About 11.9 percent of the population in the County live below the poverty line, which is slightly below the national average of 12.2 percent.

1.4.2 Geography

Hydrology

Hydrologic Unit Codes (HUC) is a system used to classify and manage watersheds across the United States, with the hierarchy indicated by the number of digits in the code. This system organizes watersheds into various levels, each representing a different scale of hydrologic units. HUC-2 codes represent the broadest level, identifying large river basins or major hydrologic regions. HUC-4 codes denote subregions, which are significant river basins. HUC-8 codes map subbasins, which are medium-sized river basins, and HUC-12 codes represent local sub-watersheds or tributary systems (Environmental Protection Agency [EPA] 2024). There are nine HUC-8 basins within the County, either partially or fully within its boundaries, as shown in Figure 1-2. Water within these subbasins originates in the County's many tributaries and streams. The County's lakes and reservoirs, though not major sources of water supply, are vital for ecological health, recreation, and hydroelectric power. Natural lakes are found in alpine areas, while reservoirs are concentrated in the Owens Valley.

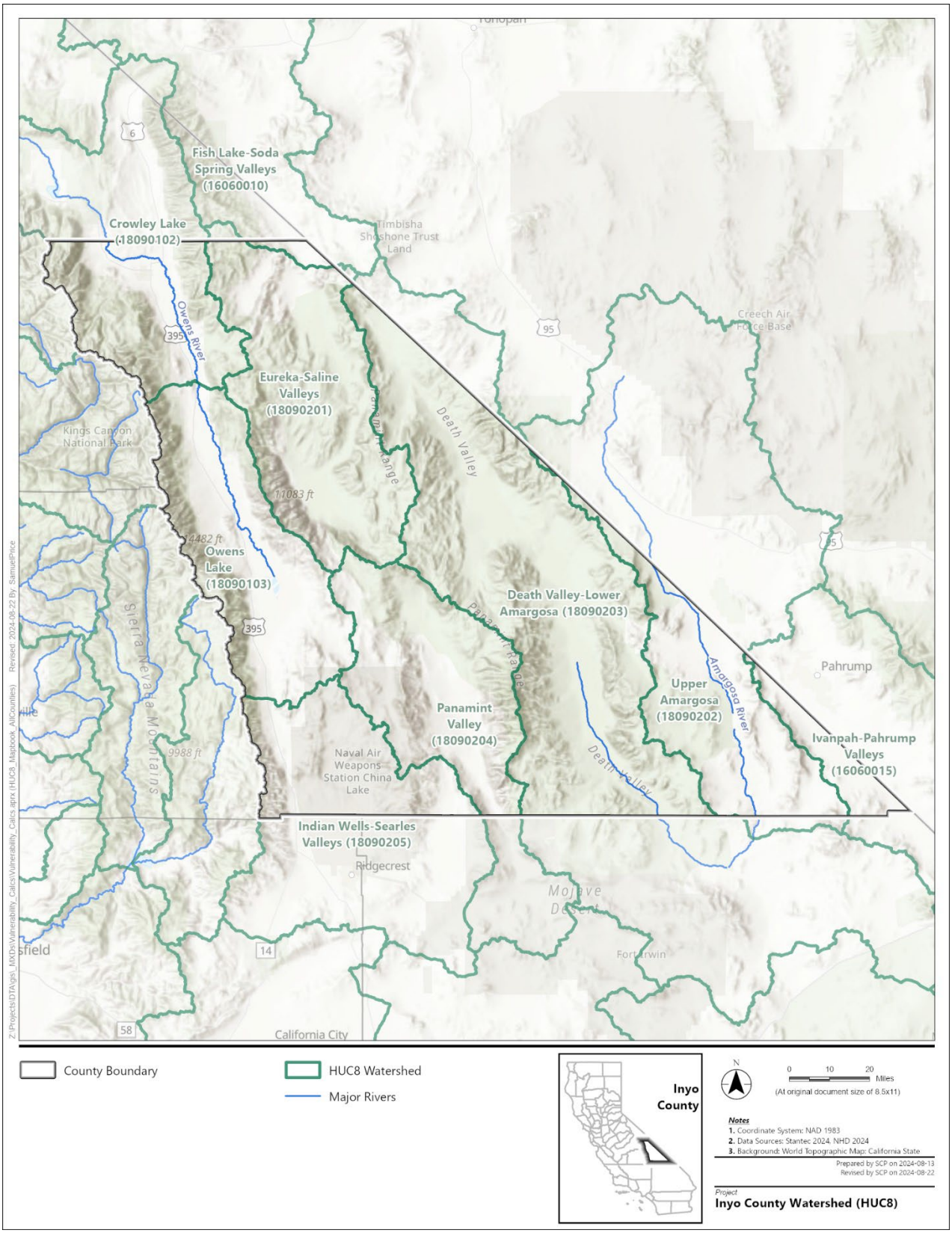


Figure 1-2. Inyo County Watersheds

Precipitation

Due to its variable terrain and location in the Great Basin Desert region, precipitation is highly varied across the County. Long-term averages of total annual precipitation (1981 to 2010) are about 57 inches in the Sierra Nevada, 14 inches in the White and Inyo Mountains, and 5.9 inches on the Owens Valley floor (PRISM Climate Group n.d.).

Bishop, the largest and only incorporated city in the County, has precipitation trends with distinct seasonal patterns. Late summer starts with moderate rainfall, peaking in August and September before dropping in October. Fall generally sees a mix of modest to moderate precipitation, with November being relatively dry and December experiencing a peak in rainfall. Winter is characterized by increased precipitation, often peaking in January, and continuing through February and March. Spring typically features a sharp decline in rainfall, with April and May often experiencing very low or no precipitation, and only modest amounts in June and July. However, this precipitation can vary considerably from year to year. The annual precipitation in Bishop was 4.27 inches in 2022, and 13.87 inches in 2023 (CDEC 2024).

Geology

The County has a complex and diverse geology. The mountainous regions of the County are comprised of a variety of igneous and sedimentary features, and the valley regions are made up of alluvial fill. Highlighted areas include the Conglomerate Mesa and the Santa Rosa Hills, showcasing extensive exposures of Paleozoic and Mesozoic rocks. Additionally, the southern part of the Inyo Mountains contains upper Cenozoic volcanic rocks and sedimentary deposits, reflecting the area's dynamic geological history and its position in the western Basin and Range Province (U.S. Geological Survey [USGS] 2009).

Topography

The County is home to Mt. Whitney (14,497 feet), the highest point in the contiguous 48 states, and the lowest point in the western hemisphere, Badwater Basin in Death Valley National Park (-282 feet) (Inyo County 2001). The elevation difference between these two points is approximately 14,800 feet. The County is also home to one of the deepest valleys in the world, the Owens Valley. The Sierra Nevada Mountains lie on the County’s western border, with the White and Inyo Mountains on its eastern border. The topography present in the County can be observed in Figure 1-3.

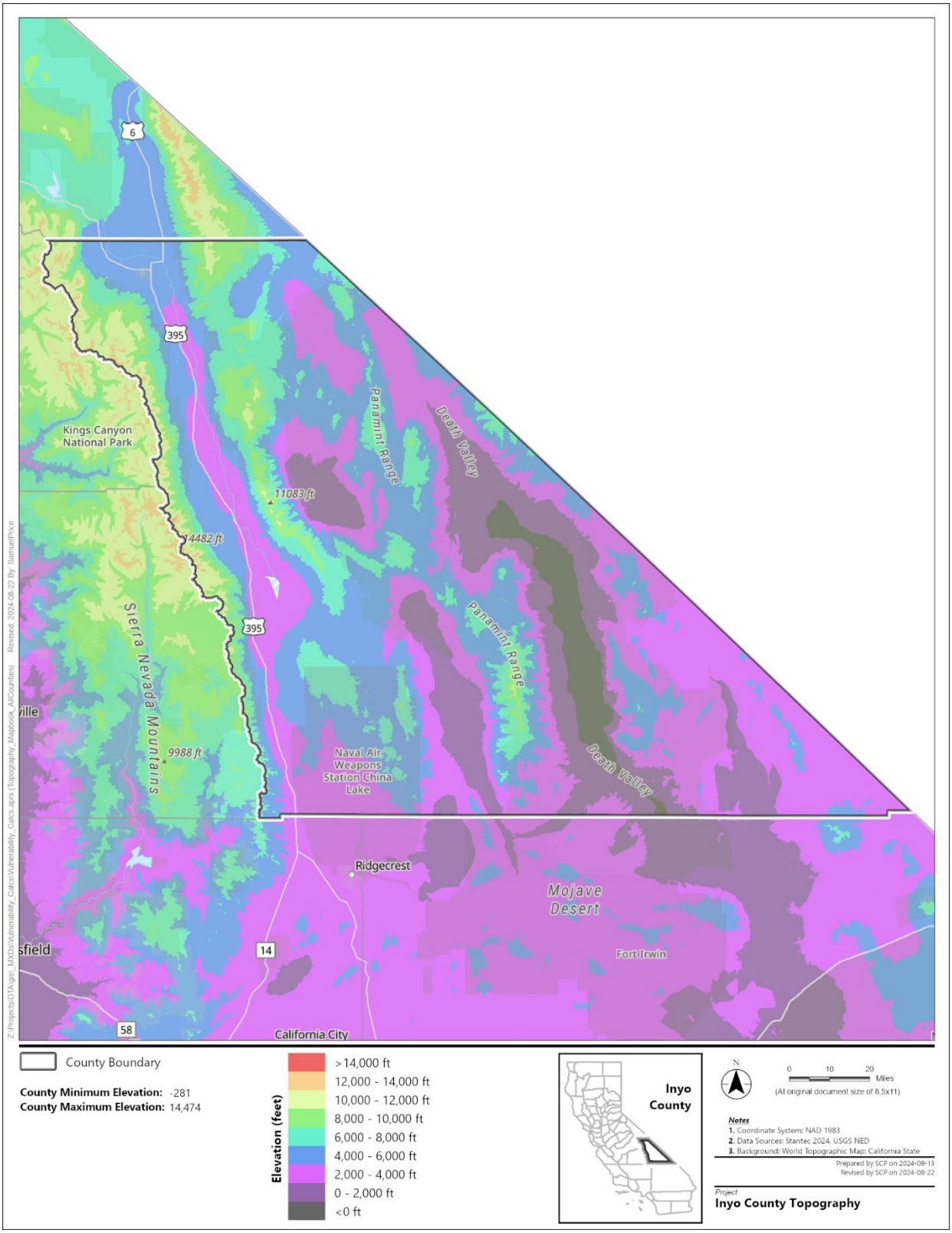


Figure 1-3. Inyo County Topography

Land Use

Figure 1-4 shows the land ownership and land status for lands within the County. The County consists almost entirely of federal, State, and City of Los Angeles lands (Inyo County 2001). The federal government owns 92 percent of the land in the County and is the County's largest landholder. Sixty percent of the County is wilderness, much of it located in Death Valley National Park and managed by the National Park Service, or in Inyo National Forest, managed by the U.S. Forest Service. The remaining federal land in the County is managed by the Bureau of Land Management for multiple uses and by the Department of Defense, which owns and operates the Naval Air Weapons Station China Lake. The Los Angeles Department of Water and Power (LADWP) owns 3.9 percent of the land in the County and is the second-largest landholder (Inyo County 2021a). Most LADWP land is open to the public for recreational uses or leased for grazing. The remaining 1.7 percent of land in the County is privately held. There are five Indian Reservations in the County: the Bishop Paiute Reservation, Big Pine Paiute Reservation, Lone Pine Paiute/Shoshone Reservation, Timbisha Shoshone Reservation, and Fort Independence Indian Reservation (Inyo County Visitor Guides 2019).

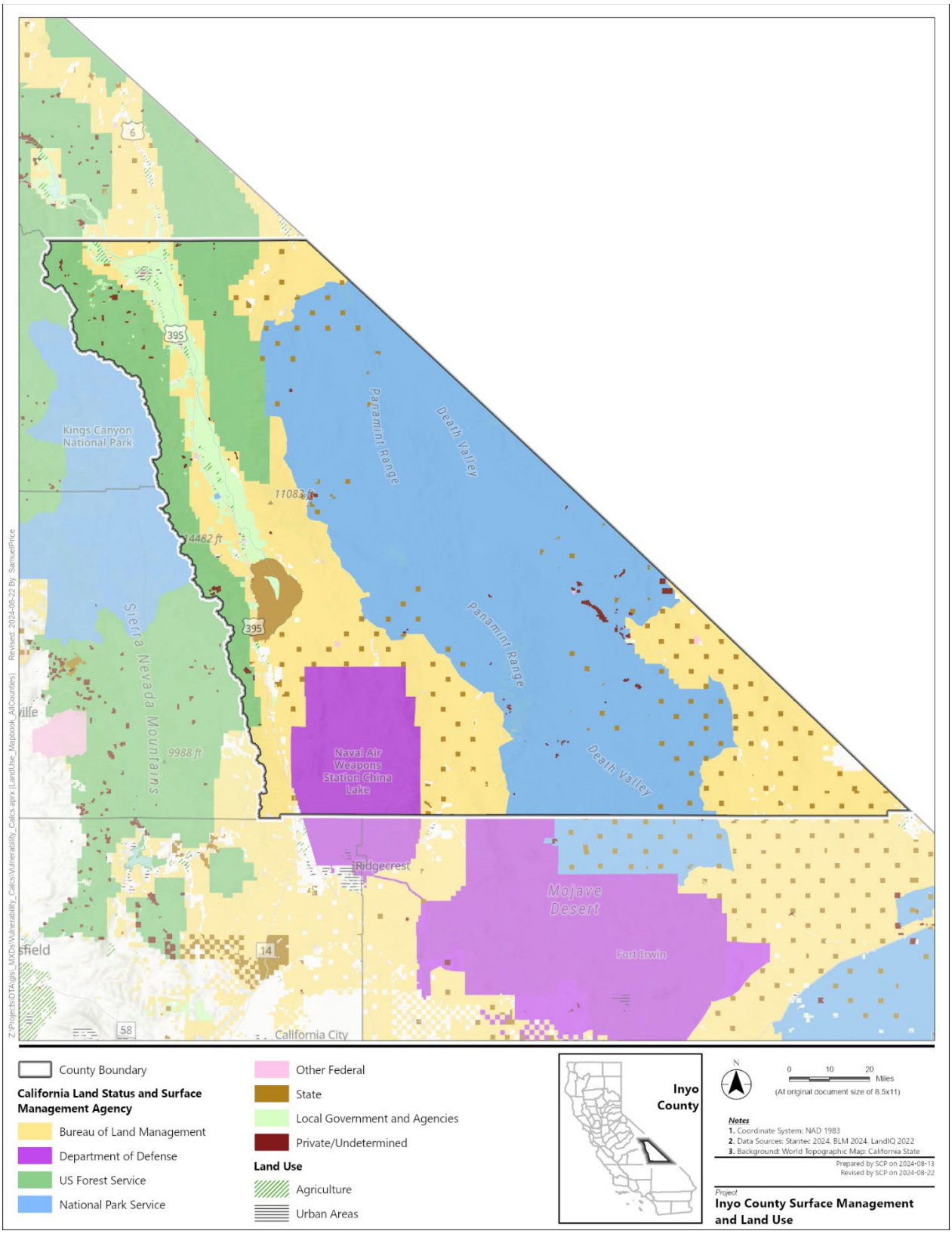


Figure 1-4. Inyo County Land Status and Surface Management Agencies

1.4.3 Water Landscape: Supply, Use, and Management

The County's water landscape is characterized by a delicate balance among supply, use, and management, shaped by both natural processes and human interventions. Central to this dynamic is the Owens Valley, a crucial area where water resources are closely monitored and managed. The County Water Department plays a key role in overseeing the Owens Valley's vegetation, soil moisture, and hydrological conditions, especially in light of the groundwater exportation by the City of Los Angeles. This oversight is conducted under the Inyo/Los Angeles Long-Term Water Agreement, an effort between the County and LADWP to ensure protection of the County's environment while providing a sustainable water supply to the City of Los Angeles (Inyo County Water Department 1989). This section provides an in-depth examination of the water landscape in the County, highlighting the complexities of water supply, its various uses, and the strategies employed to manage this vital resource effectively. Water supplies for export, ecosystems, agriculture, and municipal uses within the County are described below.

Water Supplies:

- **Groundwater:** California's Groundwater Bulletin 118 is the State's authoritative resource on the distribution and characteristics of groundwater across California. It details the boundaries of groundwater basins and provides a comprehensive overview of groundwater conditions for each of the State's 10 hydrologic regions. Under Bulletin 118, the County has 39 groundwater alluvial aquifers and fractured rock regional basins. Basins located fully within the County area include Black Springs Valley, Deep Springs Valley, Eureka Valley, Saline Valley, Pahrump Valley, Coso Valley, Rose Valley, Darwin Valley, the Cameo Area, Race Track Valley, Hidden Valley, the Marble Canyon Area, the Cottonwood Springs Area, Lee Flat, Santa Rosa Flat, Cactus Flat, Coles Flat, Wild Horse Mesa Area, Harrisburg Flat, Wildhorse Canyon, Middle Park Canyon, Butte Valley, Spring Canyon Valley, Greenwater Valley, Gold Valley and the Rhodes Hill Area (DWR 2020). Basins partially located within the County include the Owens Valley Basin, Fish Slough, Fish Lake Valley, Death Valley, Wingate Valley, Middle Amargosa Valley, Mesquite Valley, Searles Valley, Indian Wells Valley, Panamint Valley, Lost Lake Valley, California Valley, and Owl Lake Valley (DWR 2020). The Owens Valley Groundwater Basin supplies water to the largest population in the County. This basin is replenished by stream flow from surrounding mountains, infiltration of excess irrigation waters, and precipitation. The Basin is bound by non-water-bearing rocks and mountain ranges (the Sierra Nevada and Inyo Mountains) on all sides.
- **Surface Water:** Surface water in the Owens Valley Basin interacts closely with groundwater, influencing and being influenced by groundwater levels and quality. The basin features several interconnected surface water systems, including rivers, tributaries, springs, and groundwater-dependent ecosystems. The primary surface water sources in the County include the Owens River, fed by the Sierra Nevada (Owens Valley Groundwater Authority [OVGA] 2021), and the Amargosa River, which receives water from interbasin groundwater flow originating as precipitation from the Spring Mountains (Pavelko et al. 2023). The Owens Valley Watershed, like many watersheds in the Basin and Range Province, is internally drained, with its natural endpoint at Owens Lake. In the 1920s, Owens Lake dried due to diversions of the Owens River and its tributaries for irrigation within the valley and for export to Los Angeles. The diversion of water from the Owens Valley led to environmental and legal challenges. Ongoing water management and conservation efforts

continue to address these issues (Inyo County Water Department 1989; OVGA 2021; see Water Management Actions for further detail).

- Currently, the County Water Department monitors the Owens Valley water supply to ensure the protection of environmental resources and availability for both export and local use within the valley (OVGA 2021). While surface water is a component of the water supply for the County overall, it is a negligible source of public, SSWS, and domestic well supply.
- **Imported Water:** Currently, no water is imported into the County. However, the Indian Wells Valley Groundwater Authority (IWVGA) Groundwater Sustainability Plan has proposed importing water into neighboring Kern County (a portion of the Indian Wells Valley Groundwater Basin lies in Inyo County) to meet groundwater production demands.

Water Uses:

- **Export:** LADWP exports approximately 100,000 to 500,000 acre-feet per year from the Eastern Sierra and pumps approximately 50,000 to 95,000 acre-feet per year of groundwater for use in the Owens Valley for export to Los Angeles. Annual export volumes vary depending on runoff flow, local demand, and conditions related to groundwater and vegetation. Approximately 35 percent of the land area and most surface water rights within the Owens Valley Groundwater Basin (6-012.01) are owned by LADWP. LADWP has developed extensive facilities for water storage, water conveyance, groundwater production, groundwater recharge, surface water and groundwater monitoring, and dust control. Due to the importance of water supplied from the County to the City of Los Angeles, LADWP monitoring is extensive. Most surface water that would naturally flow into the Owens Lake management area is diverted to the Los Angeles Aqueduct for export out of the Basin (OVGA 2021).
- **Ecosystems:** The Inyo/Los Angeles Long-Term Water Agreement governs groundwater-dependent ecosystems in the Owens Valley. These ecosystems include riparian areas alongside water channels, creeks, and the Owens River; wetlands fed by springs and seeps; and terrestrial plant communities relying on groundwater. They provide critical habitat for numerous species, including those classified as threatened or endangered under State and federal laws (OVGA 2021).
- **Agriculture:** Demand for water used within the County is predominantly for agricultural purposes. Agriculture in the County relies on water for irrigation to grow crops, raise livestock, and sustain agricultural operations. Typically, each private agricultural area has its own well and water delivery system for its respective crops, or water delivery is managed by LADWP (OVGA 2021). The primary crop grown in the County is alfalfa hay, with 9,760 tons produced in 2022. Most of the actively farmed land in the County is located in the Owens Valley and is dedicated to pasture for cattle (Inyo County 2022).
- **Municipal and Domestic:** The County's municipal and domestic water supply provides water for drinking, cooking, bathing, evaporative cooling, and other household needs. There are 48 community water systems, 51 transient noncommunity water systems, and 12 nontransient noncommunity water systems in the County (California Water Boards n.d.). Additionally, there are 713 identified domestic wells and 12 SSWS within the County. The County directly operates and maintains three water systems: the Independence Water System (343 metered service

connections), the Lone Pine Water System (521 metered service connections), and the Laws Water System (14 metered service connections) (Inyo County 2001).

Water Management Actions:

- **Inyo County General Plan (December 2001):** The General Plan defines a series of goals and their policies centered around solutions for water resource issues, specifically relating to providing an adequate and high-quality water supply to all users within the County; protecting and preserving water resources for the maintenance, enhancement, and restoration of environmental resources; and protecting and restoring environmental resources from the effects of export and withdrawal of water resources. The topic of water resources was included in the General Plan to protect the County's water resources from overuse, export, and degradation (Inyo County 2001).
- **Inyo/Los Angeles Long-Term Water Agreement and Green Book (August 1989):** The Long-Term Water Agreement outlines the comprehensive framework for governing groundwater extractions, surface water management, and environmental protection in the Owens Valley. Key aspects include water-balance projections, vegetation management, and dispute resolution mechanisms. Despite initial controversy, the agreement helped resolve decades of litigation over Owens Valley water. Lands owned by LADWP in the Owens Valley are considered adjudicated under the Sustainable Groundwater Management Act and fall under the governance of this agreement. The Green Book is an extension of the agreement, outlining the standardized procedures for monitoring vegetation, soil, water, and hydrology in the Owens Valley (Inyo County Water Department 1989). Figure 1-6 presents the land owned by LADWP within the County.
- **Inyo County Ordinance #1004 (1998):** Amid a lawsuit initiated against LADWP in 1972, County voters passed a groundwater ordinance in 1980 to gain local oversight over LADWP's water management. LADWP disputed the ordinance's legality, leading to subsequent legal battles that were paused during negotiations for the Inyo/Los Angeles Long-Term Water Agreement. In 1998, the County Board of Supervisors approved Resolution #1004 to regulate the sale and transfer of groundwater outside the County or into another basin, including transfers to Los Angeles by third parties. Notably, this resolution does not apply to Los Angeles's own operations (Inyo County Water Department 1998).
- **Sustainable Groundwater Management Act (SGMA) Groundwater Sustainability Plans:** Passed in 2014, the SGMA represents a statewide framework to protect groundwater resources over the long term. The SGMA led local public agencies, pursuant to California Water Code (CWC) Section 10721(n), to form groundwater sustainability agencies (GSA) in high and medium priority basins. Very low and low priority basins may be managed pursuant to the SGMA at the discretion of eligible local public agencies. Each GSA must develop and implement a groundwater sustainability plan (GSP). GSPs provide a roadmap for how groundwater basins will end overdraft and achieve long-term sustainability within a 20-year timeframe. Specific short- and long-term management actions and projects to protect domestic wells and SSWSs vary by GSA. Table 1-1 summarizes the GSA management actions and projects that have been adopted in the County.

Table 1-1. GSP Management Actions and Projects Categories Focused on Domestic Wells and State Small Water Systems

Plan Name	Plan Manager	Management Actions and Projects Categories
Indian Wells Valley Groundwater Sustainability Plan	Indian Wells Valley Groundwater Authority	(1) Shallow Well Mitigation Program (2) Pumping Optimization Project
Owens Valley Groundwater Basin Groundwater Sustainability Plan	OVGA GSA	(1) Well Registration and Reporting Ordinance (2) Well Permit Review Ordinance (3) Groundwater Level Monitoring Network (4) Tri-Valley Groundwater Model Development

Key

GSA = Groundwater Sustainability Agency

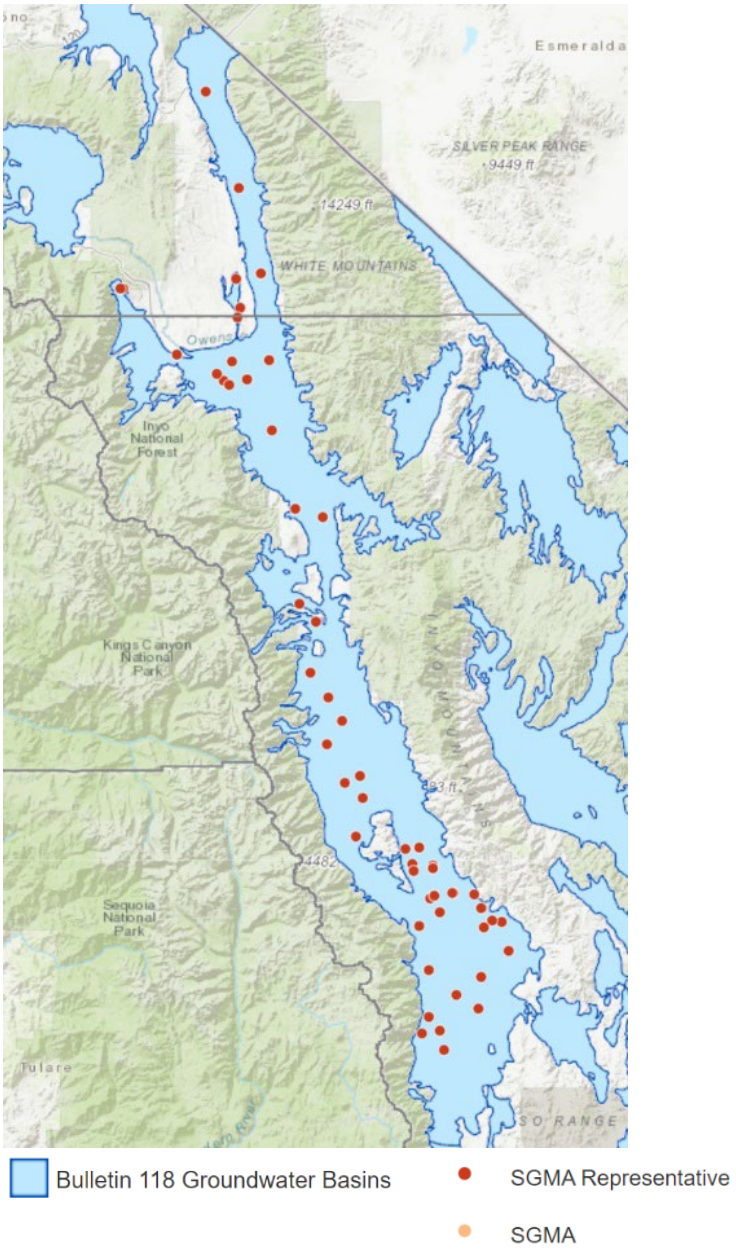
OVGA = Owens Valley Groundwater Authority

Groundwater Detail

The County encompasses two subbasins managed under the SGMA as defined in Bulletin 118: the Owens Valley Groundwater Basin (6-012.01) and the Indian Wells Valley Groundwater Basin (6-054). DWR's analysis under SGMA classified the Owens Valley Groundwater Basin as low priority and the Indian Wells Valley Groundwater Basin as both high priority and in critical overdraft (DWR 2024). The OVGA and the Mono County Tri-Valley Groundwater Management District manage the Owens Valley Basin, which includes both the Owens Valley and Fish Slough Subbasins. OVGA adopted a GSP in December 2021. Although initially ranked as medium priority, it was later deemed as low priority in December 2019 (OVGA 2021). The Indian Wells Valley Groundwater Basin, which spans Inyo, San Bernardino, and Kern Counties, is overseen by IWVGA.

1.4.3.1 The Owens Valley Groundwater Basin

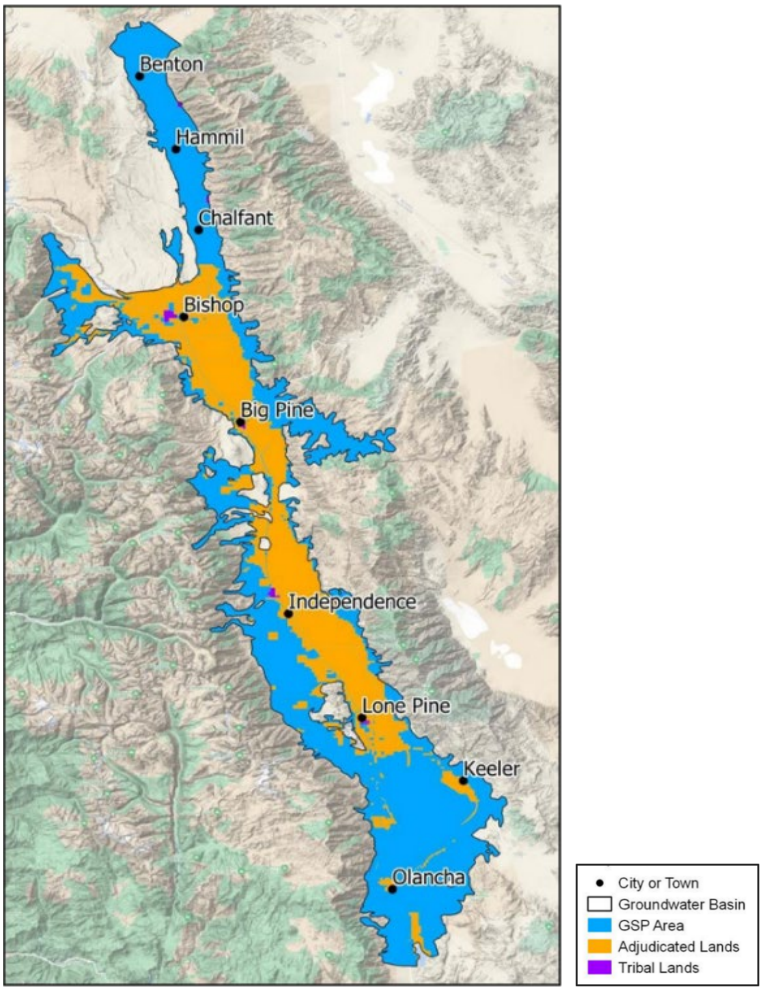
The Owens Valley Groundwater Basin is governed by its GSP and, where applicable, by the Inyo/Los Angeles Long-Term Water Agreement for adjudicated lands. This basin, crucial for the County's population, has 55 GSP monitoring wells, 48 of which are within County boundaries as shown in Figure 1-5. The County Water Department monitors these wells annually, while the LADWP provides monthly surface water flow totals, annual runoff measurements, and recharge forecasts. The specifics of monitoring and reporting can vary based on weather, funding, and regulatory changes, as guided by the SGMA. Efforts are ongoing to secure additional funding to support these activities and ensure compliance with the SGMA requirements (Inyo County Water Department 1989; OVGA 2021).



Source: https://sgma.water.ca.gov/webgis/?appid=SGMADataViewer#gwlevels, Accessed: 8/2024

Figure 1-5. Location of the Owens Valley GSP Monitoring Wells

Approximately 38 percent of the 1,037-square-mile Owens Valley Basin is owned by LADWP and managed pursuant to the Inyo/Los Angeles Long-Term Water Agreement. This area is considered adjudicated and, therefore, exempt from the SGMA (CWC §10720.8(c)). Mapping of the lands subject or potentially subject to the GSP and LADWP lands treated as adjudicated under the SGMA is presented in Figure 1-6.

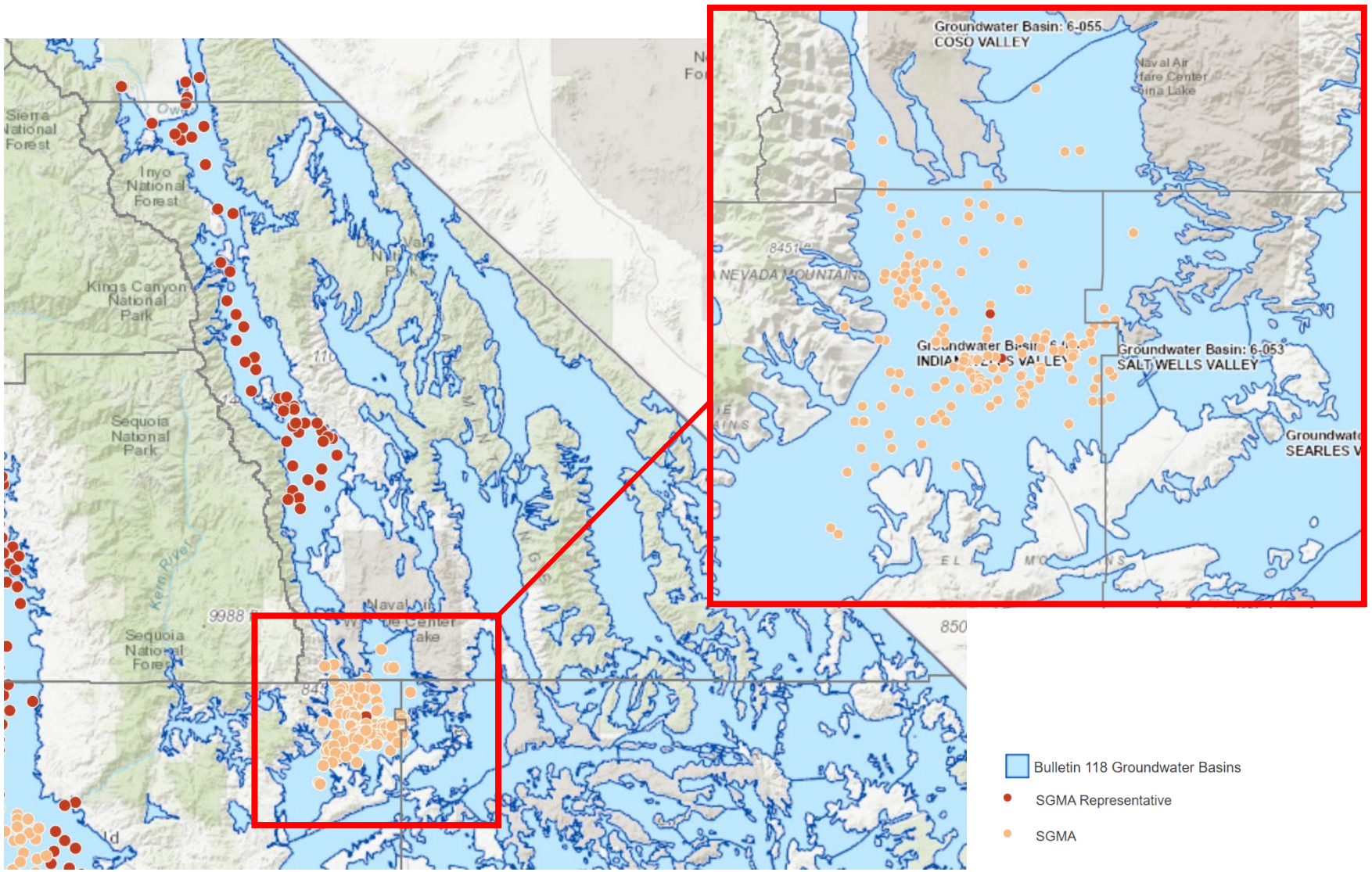


Source: OVGA GSP

Figure 1-6. Owens Valley Groundwater Authority: Lands Subject or Potentially Subject to the Groundwater Sustainability Plan and Los Angeles Department of Water and Power Lands Treated as Adjudicated under the SGMA

1.4.3.2 The Indian Wells Valley Groundwater Basin

IWVGA manages the Indian Wells Valley Groundwater Basin and prepared its GSP (IWVGA 2020), which was adopted in January 2020. There are 205 GSP monitoring wells in the Indian Wells Valley Groundwater Basin, seven of which are in the County, as shown in Figure 1-7. Several management actions and projects have been proposed to address groundwater sustainability in the Indian Wells Valley Groundwater Basin. These actions and projects revolve around setting groundwater extraction limits and introducing augmentation fees to support supplemental water projects, including developing imported water supplies, expanding recycled water use, and implementing conservation efforts.



https://sgma.water.ca.gov/webgis/?appid=SGMADataViewer#gwlevels, Accessed: 8/2024

Figure 1-7. Location of the Indian Wells Valley Groundwater Basin Monitoring Wells in Inyo County, Accessed August 2024

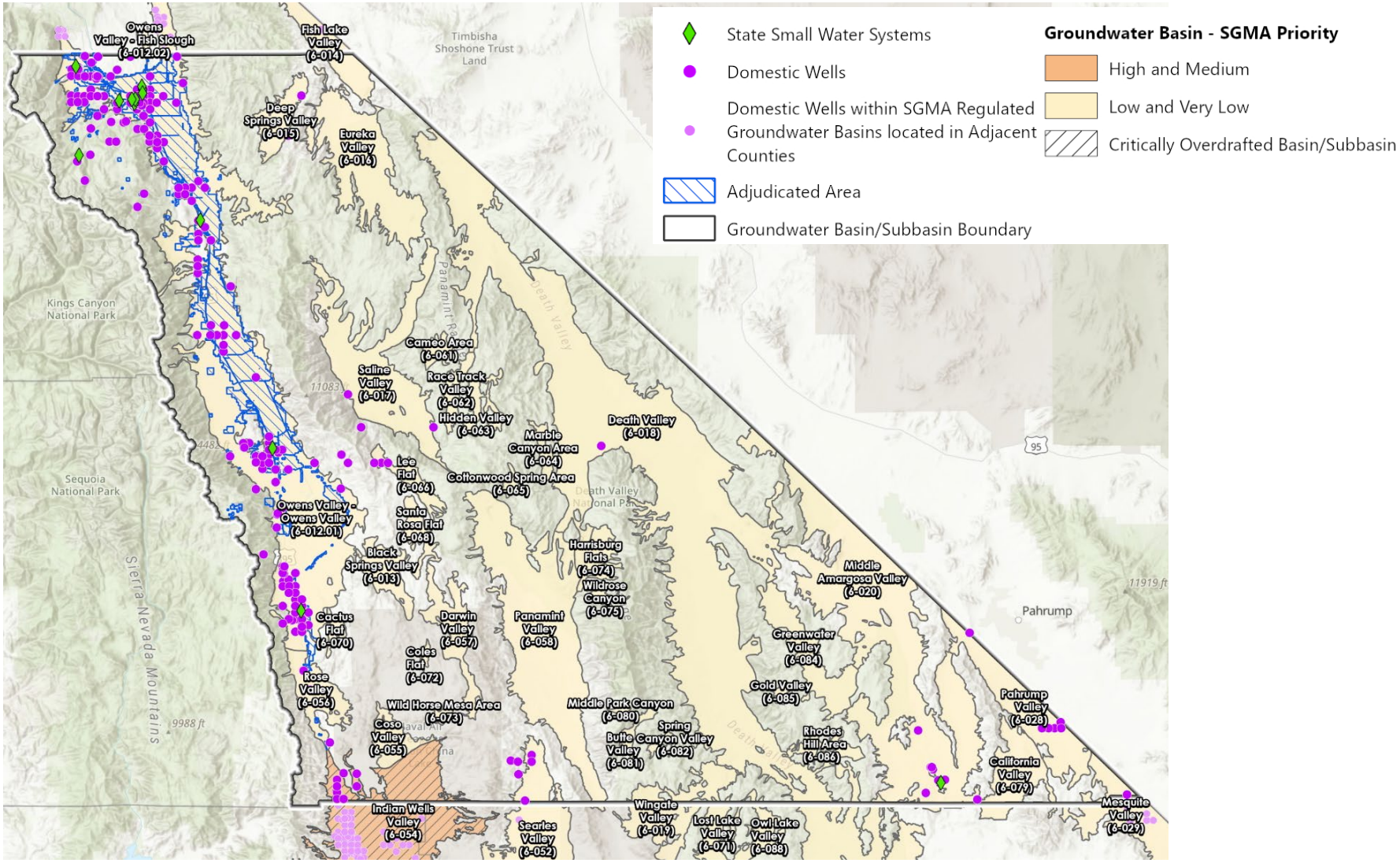
1.4.4 Water Systems within Inyo County's Jurisdiction

CWC Section 10609.70 requires the County DRP to include domestic wells and SSWSs. Figure 1-8 shows the location of domestic wells and SSWSs within the County, and Table 1-2 summarizes the number of domestic wells and SSWSs in the Bulletin 118 basins and fractured rock areas. There are 863 identified domestic wells and 13 SSWSs within the County; 10 of the 13 SSWSs are in the adjudicated region of the Owens Valley Basin. Domestic well data draws from well completion report data maintained by DWR and should not be considered a complete record.

Table 1-2. Alluvial and Fractured Rock Groundwater Basins of Inyo County

Bulletin 118 Basin ID	Groundwater Basin Name	Priority	Count of Domestic Wells within County Boundaries		Count of SSWSs within County Boundaries
			Post-1977	Pre-1977	
6-012.01	Owens Valley: Owens Valley (*Adjudicated Area*)	Low	328	45	10
6-012.01	Owens Valley: Owens Valley (outside of *Adjudicated Area*)	Low	262	30	1
6-017	Saline Valley	Very Low	1	0	0
6-018	Death Valley	Very Low	0	1	0
6-020	Middle Amargosa Valley	Very Low	24	13	1
6-028	Pahrump Valley	Very Low	26	2	0
6-029	Mesquite Valley	Very Low	2	0	0
6-052	Searles Valley	Very Low	4	1	0
6-054	Indian Wells Valley (*Critical Overdraft*)	High	5	2	0
6-056	Rose Valley	Very Low	4	1	0
6-066	Lee Flat	Very Low	2	0	0
N/A	Fractured Rock Aquifer Wells	N/A	205	16	1
	All Basins		**863**	**111**	**13**

Notes:
SSWS = State Small Water System



Source: Coordinate System—NAD 1983 StatePlane California II; Stantec 2024; DWR 2024; Background—World Topographic Map, California State

Figure 1-8. Locations of Domestic Wells and State Small Water Systems in Inyo County, Accessed 5/31/2024

2.0 County Drought and Water Shortage Task Force

This section provides an overview of the County Drought and Water Shortage Task Force (Task Force) charged with the development and implementation of this County DRP. This section describes the Task Force's formation, charter, purpose, organization, decision-making authority, and responsibilities.

2.1 Legislative Direction

The objective of the legislature and the governor, through the enactment of SB 552, is to ensure that counties take proactive measures to prepare and implement their DRPs through active collaboration with interested parties and the public. Central to this effort is the requirement that counties establish a standing County Drought and Water Shortage Task Force or implement an alternative process designed to inform and engage interested parties. This requirement underscores the importance of broad stakeholder involvement in the planning process.

Composition of the Task Force is guided by California Water Code (CWC) Section 10609.70 (a)(1) and (2):

> *(a)(1) A county shall establish a standing county drought and water shortage task force to facilitate drought and water shortage preparedness for state small water systems and domestic wells within the county's jurisdiction, and shall invite representatives from the state and other local governments, including groundwater sustainability agencies, and community-based organizations, local water suppliers, and local residents, to participate in the task force.*
>
> *(2) In lieu of the task force required by paragraph (1), a county may establish an alternative process that facilitates drought and water shortage preparedness for state small water systems and domestic wells within the county's jurisdiction. The alternative process shall provide opportunities for coordinating and communicating with the state and other local governments, community-based organizations, local water suppliers, and local residents on a regular basis and during drought or water shortage emergencies.*

The Task Force has been established pursuant to CWC Section 10609.70(a)(1).

2.2 Formation of the Task Force

The Task Force was established by the County OEM in May 2024 to comply with CWC 10609.70(a)(1). The Task Force consists of representatives from local government agencies and community organizations that have roles in well permitting, regulatory oversight of state small water systems, water supply and drought monitoring, emergency services, hazard assessment, planning, operations, communications, or water resources management. These members are involved in critical aspects of managing drought conditions, including drought condition monitoring, emergency services, hazard assessment, planning, operations, information coordination, or water resources management. The purpose of the Task Force is to:

- Strengthen drought and water shortage preparedness for SSWSs and domestic wells in the County
- Serve as a coordinating body for regular communication with State agencies, local governments, community-based organizations, water suppliers, and residents, with increased engagement during drought or water emergencies
- Facilitate drought and water shortage plan development for domestic wells and SSWSs within the County's jurisdiction

- Facilitate regular coordination and communication among staff of relevant County departments, local water agencies, local water suppliers, GSAs, and others representing the concerns of domestic wells and SSWS users
- Lead and guide development and adaptive management of the County DRP and long-term implementation strategies
- Support and advise on the implementation of drought and water shortage actions as identified in the County DRP

At the time of the Task Force's formation, the County also established a Task Force charter. The charter defines the Task Force's purpose, authority, composition, responsibilities, and structure, and serves as the guiding document for how the Task Force conducts its meetings and activities. The charter is included in this County DRP as Appendix A.

The founding membership of the Task Force includes, but is not limited to, the entities listed below:

- County Office of Emergency Management
- Inyo County Water Department
- County Environmental Health Department
- County Public Works Building and Maintenance
- County Public Works
- County Planning Department
- County Farm Advisor/University of California Cooperative Extension, Inyo and Mono Counties
- County Agricultural Commissioner
- City of Bishop
- Los Angeles Department of Water and Power
- Owens Valley Indian Water Commission
- Bureau of Land Management
- California Department of Fish and Wildlife
- National Park Service
- Eastern Sierra Land Trust
- California Department of Transportation (CalTrans)
- Great Basin Unified Air Pollution Control District

2.3 Responsibilities of the Task Force

The Task Force is an advisory body charged with developing and adaptively managing the County DRP and guiding its long-term implementation. Task Force members are expected to:

- Attend calendared Task Force meetings to review progress on the development of the County DRP and its implementation
- Provide input and share information on current water supply conditions and potential risk factors
- Help develop, implement, and adaptively manage short-term response actions and long-term mitigation strategies that reduce the impact and likelihood of water shortage among domestic wells and SSWSs
- Disseminate Task Force findings and recommendations related to drought and water shortage planning efforts to their respective agencies, seeking feedback that can be shared during Task Force meetings and working sessions

2.4 Organization and Decision-Making Authority

The decision-making structure for the development and implementation of the County DRP is designed to ensure that all relevant stakeholders are involved and that input is collected from various perspectives and governing bodies. These groups work together to ensure that the plan is comprehensive, effective, and aligned with the needs of the County, its residents, and relevant County regulations. Below are the key components of the decision-making structure for the County DRP.

2.4.1 Inyo County Board of Supervisors

The County Board of Supervisors adopts the County DRP and approves implementation actions requiring board-level decisions and funding actions. The Board of Supervisors also reviews recommendations provided by the Project Coordination Team (PCT) and the Task Force.

2.4.2 Project Coordination Team

The PCT is comprised of County offices and departments responsible for the preparation, revision, and implementation of the County DRP. The PCT is led by County OEM. Additional participating County departments include the County EHD and ICWD.

Unless otherwise agreed upon, County OEM leads engagement efforts with the Board of Supervisors. The PCT may be supported by additional entities as needed.

The responsibilities of the PCT are as follows:

- Oversee the development, implementation, and future updates to the County DRP, ensuring the plan reflects current drought indicators, agency roles, and local conditions
- Provide opportunities for public participation in the development, implementation, and updates of the County DRP through community outreach and communication efforts
- Support the Task Force by ensuring annual meetings are held each May and that emergency meetings are scheduled and facilitated when needed
- Collaborate with and respond to the informational needs of the Task Force by coordinating data collection, monitoring efforts, and sharing timely updates on drought conditions and impacts
- Lead and coordinate the implementation of the DRP by assigning responsibilities to County departments and partner agencies, monitoring progress, and facilitating communication among all stakeholders involved in drought planning and response

2.4.3 Task Force

The Task Force is an advisory and consultative entity to the County Board of Supervisors and the PCT, and is chaired by the County OEM. The Task Force does not have decision-making authority. Figure 2-1 illustrates the decision-making framework of the Task Force in relation to the County Board of Supervisors and County staff.

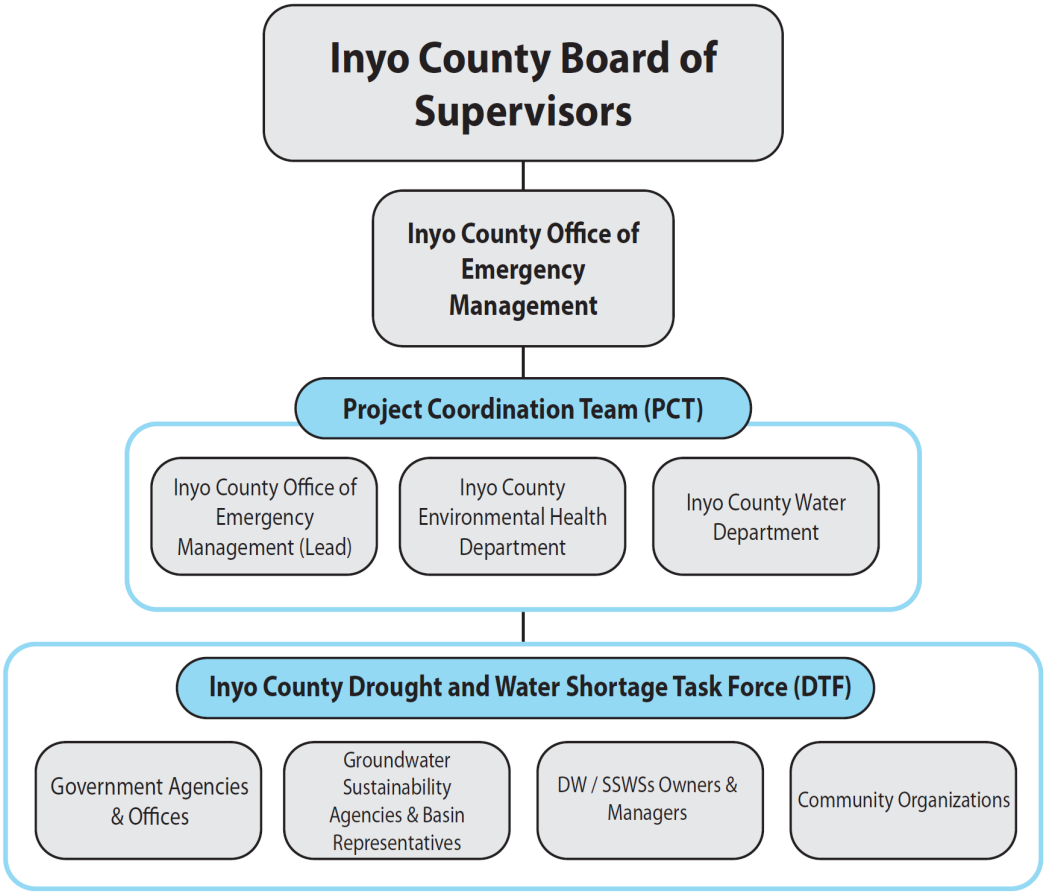


Figure 2-1. Inyo County Organizational Framework

2.5 Communication and Engagement

In developing the County DRP, the County conducted various communication and collaboration activities to gather input. These activities were:

- Task Force Meetings: Three Task Force meetings were held to inform County DRP development.
- Website: Information about the County DRP development process and how to attend Task Force meetings was posted on the County OEM website.

3.0 Drought and Water Shortage Risk Assessment

A drought and water shortage risk assessment was conducted during the development of the County DRP, as directed in CWC Section 10609.70(b). This risk assessment evaluated how potential hazards intersect with the County's domestic well and SSWS assets and other community assets to characterize the vulnerability of domestic wells and SSWSs to water supply shortage. The outcomes from the risk assessment helped inform response plans with short-term actions to employ when a water supply shortage occurs, and with long-term mitigation strategies and actions that reduce the vulnerability to water shortages. This chapter presents the risk assessment results for the County.

The risk assessment presented in this County DRP does not replace the regulatory requirements of the Federal Emergency Management Agency (FEMA). The County DRP could make the County eligible for FEMA's Pre-Disaster Mitigation and Hazard Mitigation Grant programs, but if a jurisdiction is also seeking approval of the drought and water shortage risk assessment within the Local Hazard Mitigation Plan, it should follow the requirements outlined in the FEMA *Local Mitigation Planning Handbook* (FEMA 2013).

3.1 Terminology

The County DRP adopted the following definitions from the FEMA *Local Mitigation Planning Handbook* (FEMA 2013) within the context of drought and water shortage planning:

- **Community Assets:** The people, structures, facilities, and systems that have value to the community. The minimum assets considered as part of the SB 552 plan include domestic wells, SSWSs, and populations relying on those water supplies.
- **Hazard:** A source of harm or difficulty created by a meteorological, environmental, geological, hydrological, or other event conditions. In the context of SB 552, hazards are the natural, human-made, and social processes that can lead to water shortages in the County.
- **Impact:** The consequences or effects of a hazard related to drought and water shortages on the community and its assets.
- **Risk:** The potential for damage, loss, or other impacts (e.g., water shortage) created by the interaction of natural hazards with community assets and their physical and social vulnerabilities.
- **Risk Assessment:** Product or process that collects information and assigns values to risks for the purpose of informing priorities, developing, or comparing courses of action, and informing decision-making.
- **Vulnerability:** Characteristics of community assets or populations that make them susceptible to damage from a given hazard. It includes both physical vulnerability and social vulnerability.

3.2 Risk Assessment Methodology

The nature and severity of hazards that can cause water shortages vary at regional and local scales due to differences in conditions such as precipitation patterns, groundwater levels, topography, geology, infrastructure, regulatory frameworks, and other conditions. To understand how local conditions influence water shortage risk in the County, a thorough risk assessment was completed that considered many physical and social hazard indicators. The results and findings of that risk assessment were then used by the County and Task Force to develop actions and strategies to address water shortages (see Chapters 4 and 5).

The risk assessment was completed following the four steps outlined below:

1. **Describe Major Hazards in the County:** Drought, climate change, and water quality hazards were identified and described.
2. **Complete a Draft Risk Assessment using DWR Water Shortage Vulnerability Explorer Tool (WSVE Tool):** The WSVE Tool was used to identify areas within the County where domestic wells and SSWSs are vulnerable to water supply shortages and then characterize the hazards driving vulnerability. This information was included in a draft risk assessment. The County and the Task Force reviewed the draft risk assessment, provided feedback, and identified data gaps. Additional detail on the WSVE Tool and how it was applied in the risk assessment is included below.
3. **Revise the Draft Risk Assessment:** County and Task Force feedback on the draft risk assessment was used to develop a revised risk assessment.
4. **Incorporate Results of Revised Risk Assessment into County DRP:** Information from the revised risk assessment was included in the County DRP (Section 3.4). Findings from the revised risk assessment were used by the County and Task Force to develop short-term actions and long-term strategies to improve water supply sustainability (Chapters 4 and 5).

Developed by DWR in collaboration with a County Drought Advisory Group, the WSVE Tool is an online geospatial tool that quantifies hazards using spatially organized indicators. These indicators were selected by DWR and the County Drought Advisory Group to reflect the hazards that could make a domestic well or SSWS vulnerable to water supply shortage. Indicators are used to calculate two composite scores for physical and social vulnerability: a "total physical vulnerability score" and a "total social vulnerability score." The process used by the WSVE Tool to calculate the total scores is summarized below:

- The total physical vulnerability score was calculated at the PLSS scale by normalizing the indicator value between 0 and 1, with 1 representing the highest possible vulnerability. Normalized scores were multiplied by a weighting factor from 1 to 5 that was assigned by DWR and the County Drought Advisory Group to capture how some indicators contribute more to water shortage vulnerability than others. The individual indicators used to calculate total physical vulnerability scores are listed in Table 3-1.
- The total social vulnerability score was calculated at the Census Block Group scale by normalizing the indicator value between 0 and 1 and summing the values together without additional weighting. This methodology is consistent with that which is employed by the Centers for Disease Control. The individual indicators used to calculate total social vulnerability scores are listed in Table 3-2.

Table 3-1. Water Shortage Vulnerability Explorer Indicators Used in the Development of the Total Physical Vulnerability Score

Indicator Name	Indicator Description
Climate Change	
Temperature Shift (RC1a[1])	Projected change in max temperatures by mid-century.
Saline Intrusion Projected (RC1b)	Spatial extent of projected 1-meter sea level rise by 2040 into coastal aquifers.
Wildfire Risk (RC1c)	Projected area burned by 2035-2064.
Current Environmental Conditions and Events	
2024 Precipitation (RC2a)	If 2024 precipitation was less than 70 percent of normal.
Multiple Dry Years (RC2aa)	Count of dry years within the last five years.
Wildfire Risk (RC2b)	CalFire Hazard Score.
Geology (RC2c)	Fractured rock basin within the PLSS.
Water Quality Aquifer Risk (RC2i)	SAFER Needs Assessment 2022 water quality composite score.
Subsidence (RC2d)	Amount of subsidence as measured by remote sensing.
Basin Salt (RC2e)	Presence of saltwater intrusion into coastal aquifer.
Overdrafted Basin (RC2f)	SGMA critically overdrafted groundwater basin.
Chronic Declining Water Levels (RC2g)	Amount of declining groundwater levels between 2019 to 2022.
Surrounding Land Use (RC2j)	Proportion of irrigated agriculture in PLSS
Infrastructure Susceptibility	
Dry Domestic Well Susceptibility in basins (RC3a)	Dry well susceptibility.
Domestic Well Density in Fractured Rock Areas (RC3c)	Density of Well Completion Reports.
Record of Shortage	
Reported Household Outage on Domestic Well	Presence of one or more households with reported outages in PLSS.

Notes:
[1] Indicator labels (i.e., "RC1a") correspond with the labeling convention used in the WSVE Tool.

Key:
CalFire = California Department of Forestry and Fire Protection
PLSS = Public Land Survey Section
SAFER = Safe and Affordable Funding for Equity and Resilience Program
SGMA = Sustainable Groundwater Management Act

Table 3-2. Water Shortage Vulnerability Explorer Indicators Used in the Development of the Total Social Vulnerability Score

Indicator Name	Indicator Description
Socioeconomic Status	
Poverty Level	Percent of persons below poverty level.
Unemployment	Percent of persons aged 16 years of age or older that are unemployed.
Per Capita Income	Per capita income.
Language and Education	
Education Attainment	Percent of persons without a high school diploma.
English Language Proficiency	Percent of persons who speak little to no English.
Demographics	
Elderly Population	Percent of persons 65 years of age or older.
Non-Adult Population	Percent of persons 17 years of age or younger.
Minority Population	Percent of persons that are in a minority population.
Disability	Percent of persons 5 years of age or older with a disability.
Single Parent Households	Percent of single-parent households.
Housing and Transportation	
Multi-Unit-Housed Population	Percent of persons living in a multi-unit structure
Mobile Home-Housed Population	Percent of persons living in a mobile home
Crowded Conditions	Percent of persons living in conditions with more than 1 person per room
No Vehicle Access	Percent of households with no vehicle available
Race and Ethnicity	
Persons of Color	Percent of persons that identify with a race other than White or identify ethnically as Hispanic or Latino.

DWR periodically revises the WSVE Tool to incorporate new data and/or updated methodology. Data for the risk assessment was accessed in November 2025 and used the 2024 methodology.[1] The detailed methodology that describes the WSVE Tool indicators and corresponding values, data sources, and weighting factors is available on the California Natural Resource Agency's Open Data Portal.

[1] https://water.ca.gov/Programs/Water-Use-And-Efficiency/SB-552/SB-552-Tool

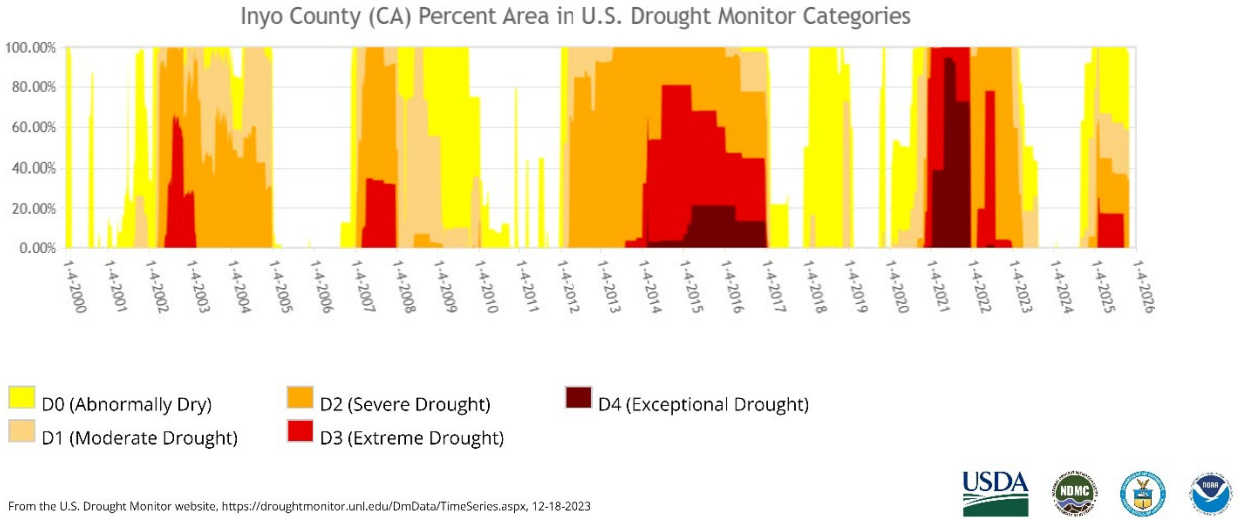
3.3 Hazards in Inyo County

This section summarizes the drought, climate change, water quality, and groundwater hazards in the County. Section 3.4 provides more detail on how these hazards informed the findings of the drought and water shortage risk assessment.

3.3.1 Drought

Droughts in California are triggered by a lack of large winter storms (i.e., atmospheric rivers), and water shortages are further exacerbated by high temperatures that increase the evaporative water loss from soils and surface waters. Drought conditions, particularly when persisting for several years, can cause mental and physical stress on community members and deteriorate air and water quality (Greene 2018). Drought can also have significant impacts on groundwater supply and quality. When rainfall decreases, less water infiltrates into aquifers, leading to lower groundwater levels and increased contaminant concentrations. Additionally, during droughts, the demand for water from wells often increases, exacerbating the decline in groundwater. Persistent dry conditions can reduce stream and river flows, lower lake and reservoir levels, and increase the depth to water in wells. Extended dry periods can turn into severe droughts, causing substantial water supply challenges (USGS 2018).

Figure 3-1 presents the percentage of area in Inyo County experiencing drought conditions by year. Since 2000, the County has experienced recurring cycles of drought and recovery, with periods of both intense dryness and complete drought relief. Severe drought conditions were first recorded in the early 2000s, peaking around 2002–2004, when much of the County was under Extreme to Exceptional Drought. Conditions improved by the late 2000s, with largely drought-free years around 2006–2010. Another prolonged and severe drought occurred between 2012 and 2016, reaching its height around 2014–2015, when nearly the entire County experienced Extreme or Exceptional Drought. Conditions improved again in 2017–2019, with most of the County returning to drought-free status. From 2020 to 2022, drought conditions intensified rapidly once more. By 2021, Inyo County was almost entirely classified under Exceptional Drought, the most severe category. Relief returned in 2023, and by the end of that year, most of the County was drought-free. In 2024 and into early 2025, moderate to severe drought conditions reemerged in portions of the County, though not as widespread or extreme as during the previous drought peaks.



Source: https://droughtmonitor.unl.edu/DmData/TimeSeries.aspx, Accessed 11/2025

Figure 3-1. Occurrence of Drought in Inyo County, 2000 to 2025

3.3.2 Climate Change

According to California's Fourth Climate Change Assessment, climate change is significantly impacting the Sierra Nevada region, including the County, with observable effects including increased heat and extreme precipitation, reduced snowpacks, and altered streamflow timing. These changes, which began around 1950, are linked to rising greenhouse gas levels beginning during the Industrial Revolution, such as carbon dioxide and methane. These gases trap heat in the atmosphere, causing warming trends and altering climate patterns. Current climate models predict these trends will continue and intensify, leading to further changes in temperature, precipitation, and other climate factors in the future (California Fourth Climate Change Assessment 2018).

As the atmosphere warms, extreme precipitation events could become more frequent since storms can hold about 6 to 7 percent more water for each degree Celsius of warming. Simulations of future climate conditions in the region indicate only modest changes in annual precipitation accumulation with some shifts in the seasonality of precipitation that may be relevant for water management, i.e., less precipitation during November through January and more during February through May (Dettinger et al. 2018). Such trends are generalizations, however; there are no recent downscaled or regional climate projections available for the County. Changes in precipitation and streamflow can disrupt aquifer recharge patterns, affecting the replenishment of valley alluvial aquifers. The effects of surface water changes on fractured rock aquifers, high mountain springs, and headwater streams are uncertain. Rainfall in the High Sierra accelerates surface runoff compared to snowmelt, reducing groundwater replenishment (Dettinger et al. 2018).

Anthropogenic climate change has contributed to an increase in acreage burned in wildfires in the American West. Rising temperatures and more frequent or intense periods of drought increase the likelihood of wildfires. Wildfires can damage infrastructure and cause water quality issues, including those discussed in Section 3.3.3.

3.3.3 Water Quality

The County faces various water quality concerns across its surface and groundwater resources. Climate change threatens the County's water quality, though the specifics of those impacts are uncertain. The water quality hazards within the County are summarized below.

Surface Water:

- **Fecal Indicator Bacteria**: Surface water quality in the County is generally very good, with some notable exceptions related to runoff from grazing areas. Grazing activities contribute to the presence of bacteria in the middle and lower reaches of Bishop Creek. Data collected by the Water Board's Surface Water Ambient Monitoring Program show that bacteria concentrations in the waterbody exceed the water quality objectives for fecal coliform and *Escherichia coli* (E. coli). To address this, the Lahontan Regional Water Quality Control Board is implementing the Bishop Creek Vision Project, a water quality improvement plan to reduce bacteria in creek waters (California Water Boards 2023).
- **Climate Change Impacts**: Climate change can increase air and water temperatures, leading to changes in surface water contaminant concentrations, reduced dissolved oxygen levels, and

altered pH, all of which affect aquatic life. Decreased summertime streamflow can result in seasonal spikes in contaminant concentrations and water temperatures, stressing aquatic ecosystems and riparian habitats (Dettinger et al. 2018). Increased extreme precipitation events can cause flooding and erosion, further compromising surface water quality and leading to greater contaminant runoff that impacts groundwater quality.

Groundwater:

- **Onsite Wastewater Disposal Systems**: Aging and concentrated onsite wastewater disposal systems such as septic tanks can significantly impact groundwater quality by failing to effectively treat wastewater. This leads to higher levels of nutrients and pathogens in groundwater.
- **Naturally Occurring Deposits**: Due to geological conditions, natural deposits of arsenic, uranium, and fluoride can leach into surface water and groundwater, altering the groundwater's chemical makeup and potentially posing health risks (Dettinger et al. 2018).

3.4 Risk Assessment Results

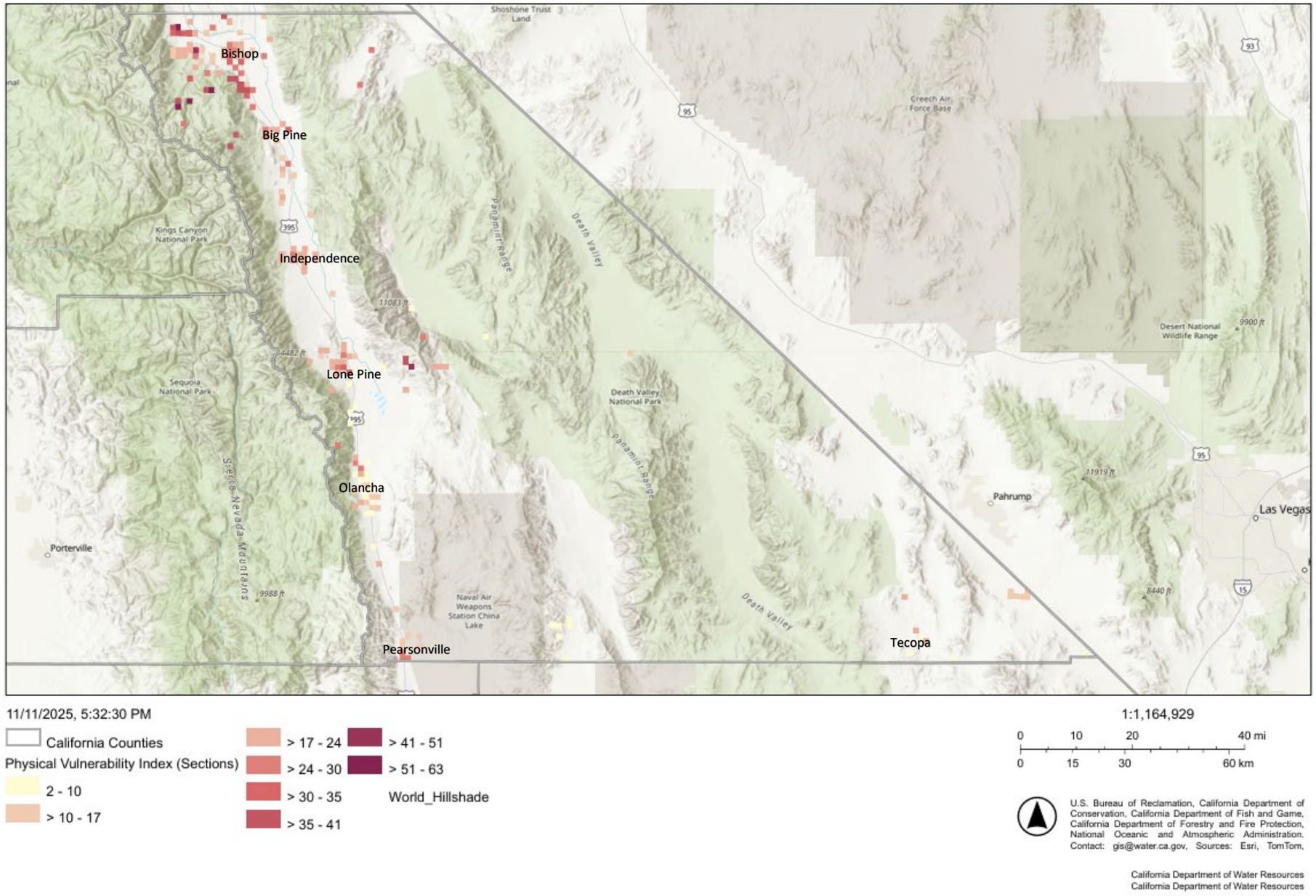
This section summarizes the risk assessment results, including the County's total physical and social vulnerability scores calculated by the WSVE Tool and discussions of the individual indicators driving physical vulnerability. This information was used to identify the regions with the greatest overall vulnerability to water supply shortage described in Section 3.5.

3.4.1 Total Physical Vulnerability Scores

Total physical vulnerability scores within the County are shown in Figure 3-2, with darker shaded areas (or PLSSs) indicating higher physical vulnerability scores. Physical and social vulnerability were scored for the entire State, but the figures in this County DRP only show PLSSs that contain domestic wells and SSWSs; if an area is not shaded, it means there are no domestic wells or SSWSs within the PLSS and physical vulnerability was not scored.

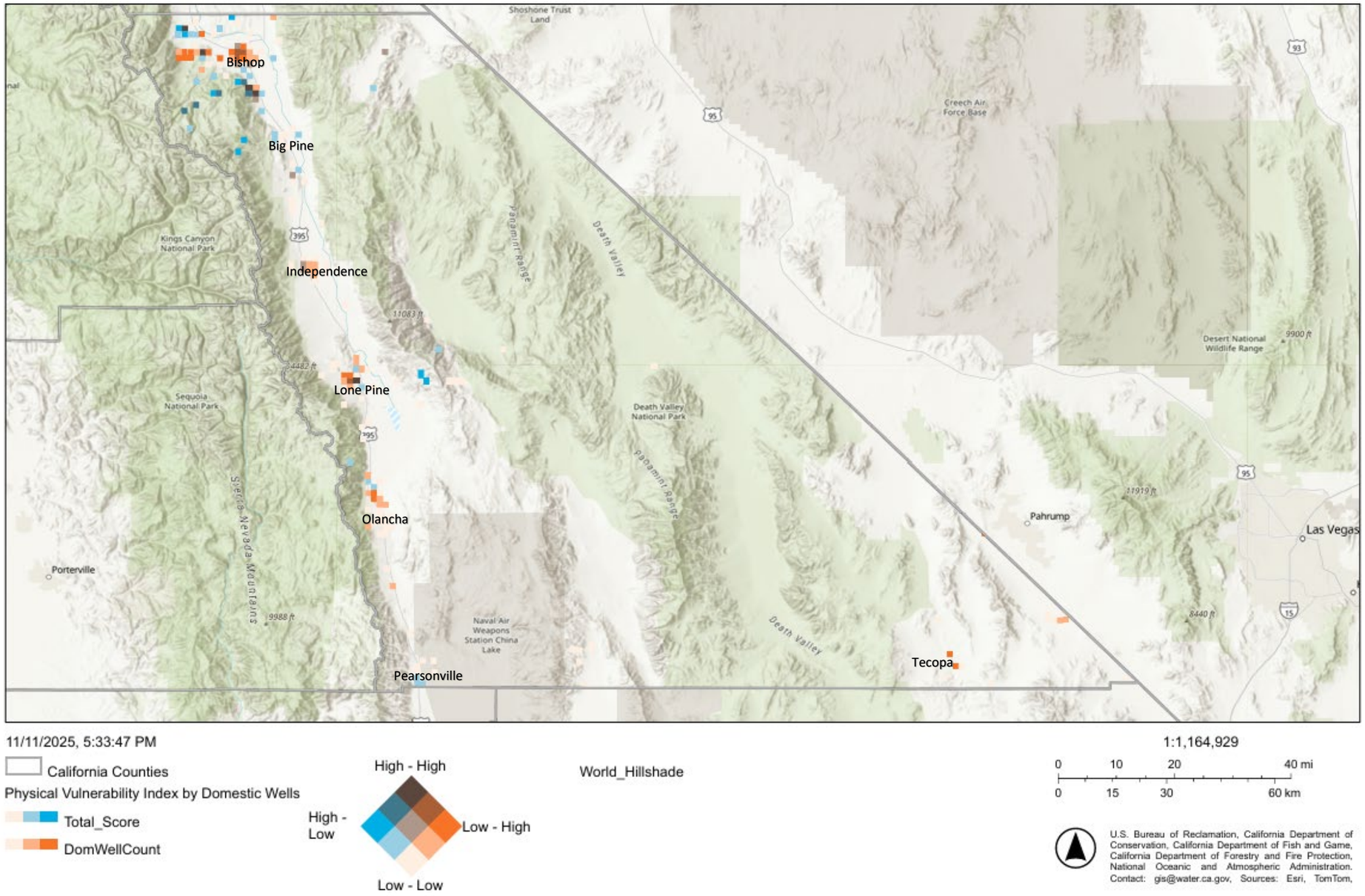
Figure 3-3 displays the total physical vulnerability scores of PLSSs intersected with domestic well density. The primary drivers of physical vulnerability within the County are projected temperature shift, consecutive dry years, wildfire risk, water quality risk, and dry well susceptibility in fractured rock areas. Details on these individual indicators are described below, and information on all physical vulnerability indicators is summarized in Table 3-3.

PLSSs with high total physical vulnerability to water supply shortages are communities with groundwater from fractured rock aquifers in the areas surrounding Mustang Mesa, Round Valley, Tungsten Hills, Peterson Mill, and Big Pine. Certain areas in the County, including Fish Springs, Independence, Lone Pine, Alabama Hills, and Cartago, as well as Tecopa to the southeast, are also considered vulnerable. Pearsonville also exhibits high physical vulnerability due to its location above the overdrafted Indian Wells Valley Groundwater Basin.



Source: WSVE Tool, https://arcg.is/1LCKGO, Accessed: 11/2025

Figure 3-2. Physical Vulnerability of Domestic Wells and State Small Water Systems in Inyo County



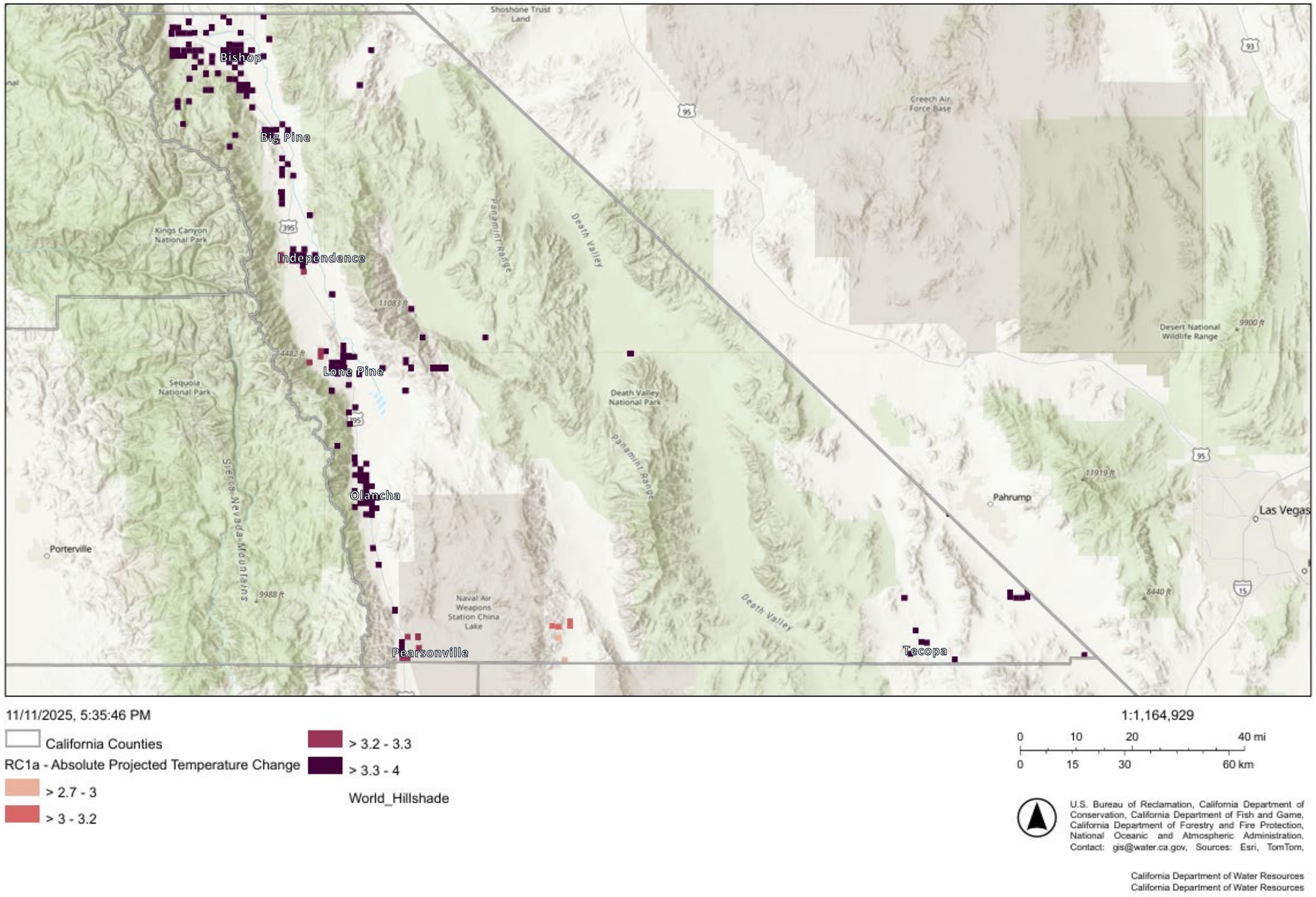
Source: WSVE Tool, https://arcg.is/1LCKGO, Accessed: 11/2025

Figure 3-3. Intersection of Vulnerability Score and Domestic Well Count in Inyo County

3.4.1.1 Projected Temperature Change

Figure 3-5 illustrates the projected change in maximum temperatures from the historical range (1961 to 1990) to the middle twenty-first century, centered around 2050. Temperatures in the County are projected to increase 3.3 degrees Celsius (°C) to 4°C in most PLSSs.

This increase is expected to lead to a substantial elevation increase of 1,500 to 3,000 feet for the rain-to-snow transition during storms. Concurrently, increased temperatures are expected to increase water demand from various users, including agriculture, industry, and households, as well as to increase the amount of water evaporated from the soil and transpired from plants. This increased water loss from the land surface reduces the amount of water available to recharge aquifers. The combination of higher temperatures, increased water demand, and accelerated evapotranspiration contributes to the region's vulnerability to drought conditions.



Source: WSVE Tool, https://arcg.is/1LCKGO, Accessed: 11/2025

Figure 3-4. Projected Temperature Increase in Degrees Celsius

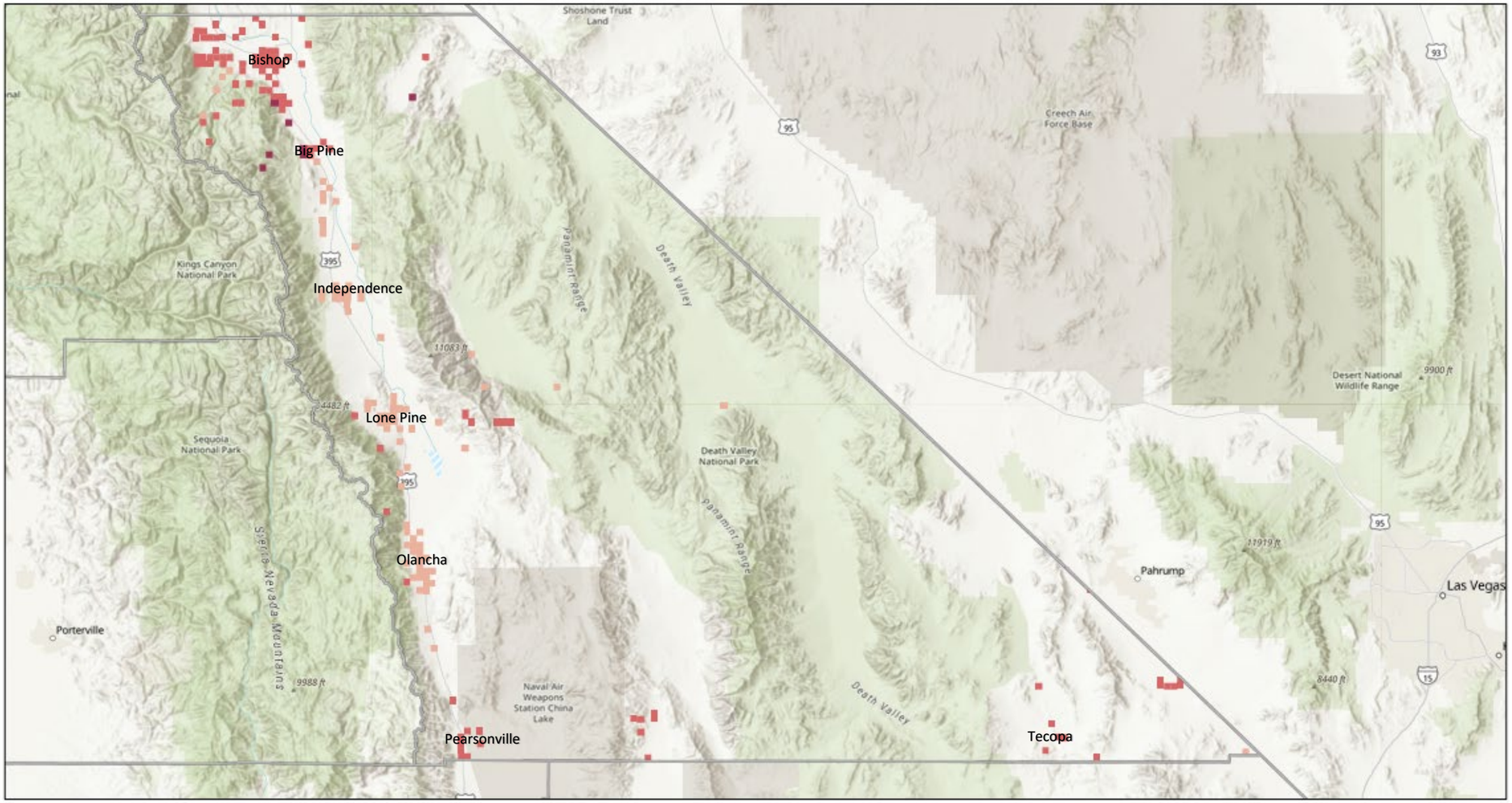
3.4.1.2 Multiple Dry Years (2020-2024)

Annual precipitation data is an important indicator of local water supply reliability. Multiple dry years – where precipitation levels were below average– can signal a potential near-term challenge in meeting water demands, stressing water resources and infrastructure.

Figure 3-6 shows the number of years with below-average precipitation during a five-year timeframe (2020-2024) in PLSSs where domestic wells and SSWSs are present. PLSSs in or near the City of Bishop, Tungsten Hills/Rocking K, Round Valley/Mustang Mesa, Aspendell, Keeler, Pearsonville, Tecopa/Charleston View/Sykes experienced up to two dry years.

Additionally, Big Pine/Big Pine Creek and Wilkerson have faced up to three dry years.

It should be noted that this indicator has limitations related to its scope and level of detail. The five-year timeframe, while accurate, is narrow and is not a robust predictor of future risk. Additionally, this indicator does not consider the seasonality and intensity of the rainfall, both of which are relevant to water supply management.



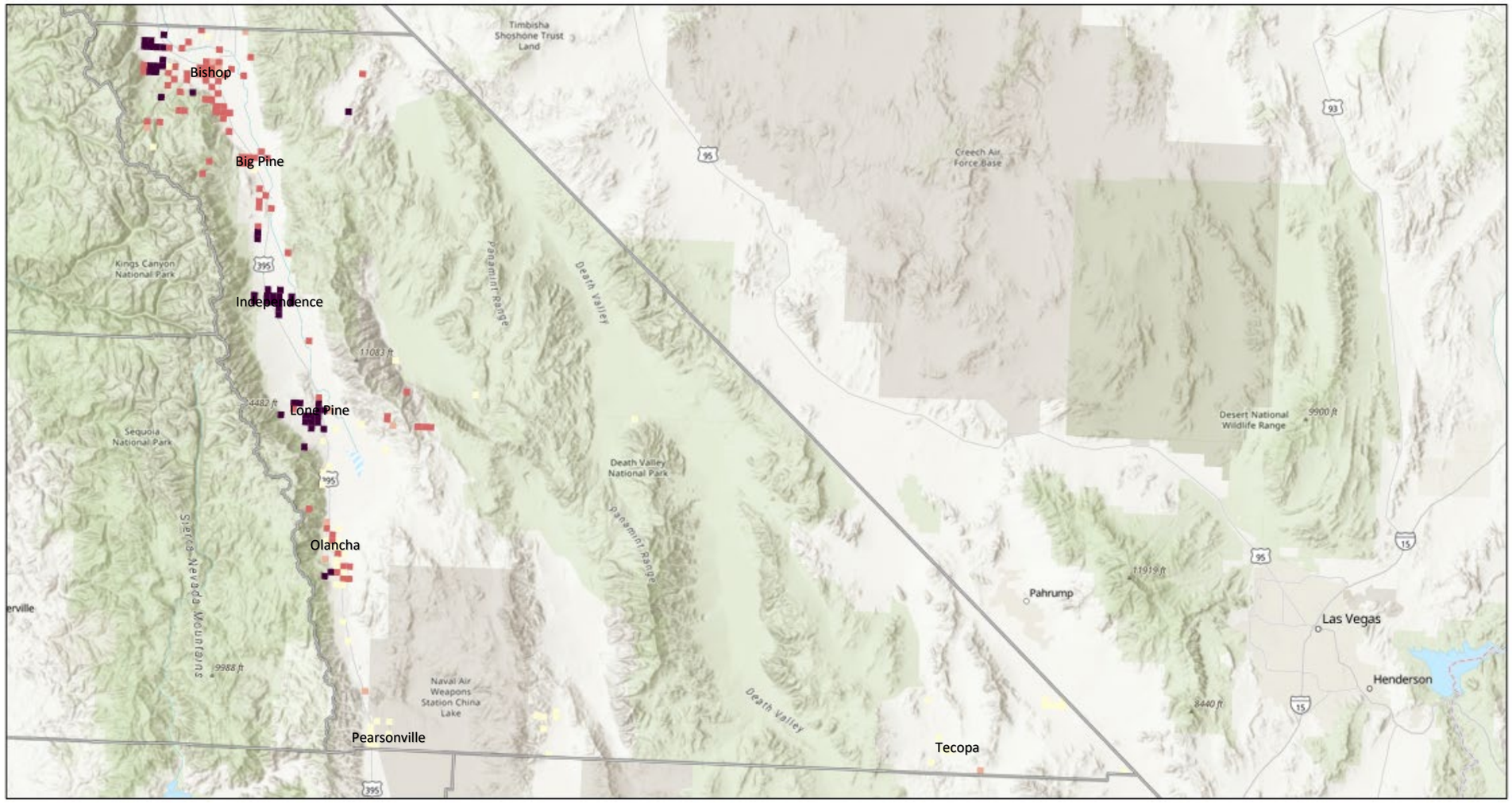
Source: WSVE Tool, https://arcg.is/1LCKGO, Accessed: 11/2025

Figure 3-5. Multiple Dry Years

3.4.1.3 Wildfire Hazard

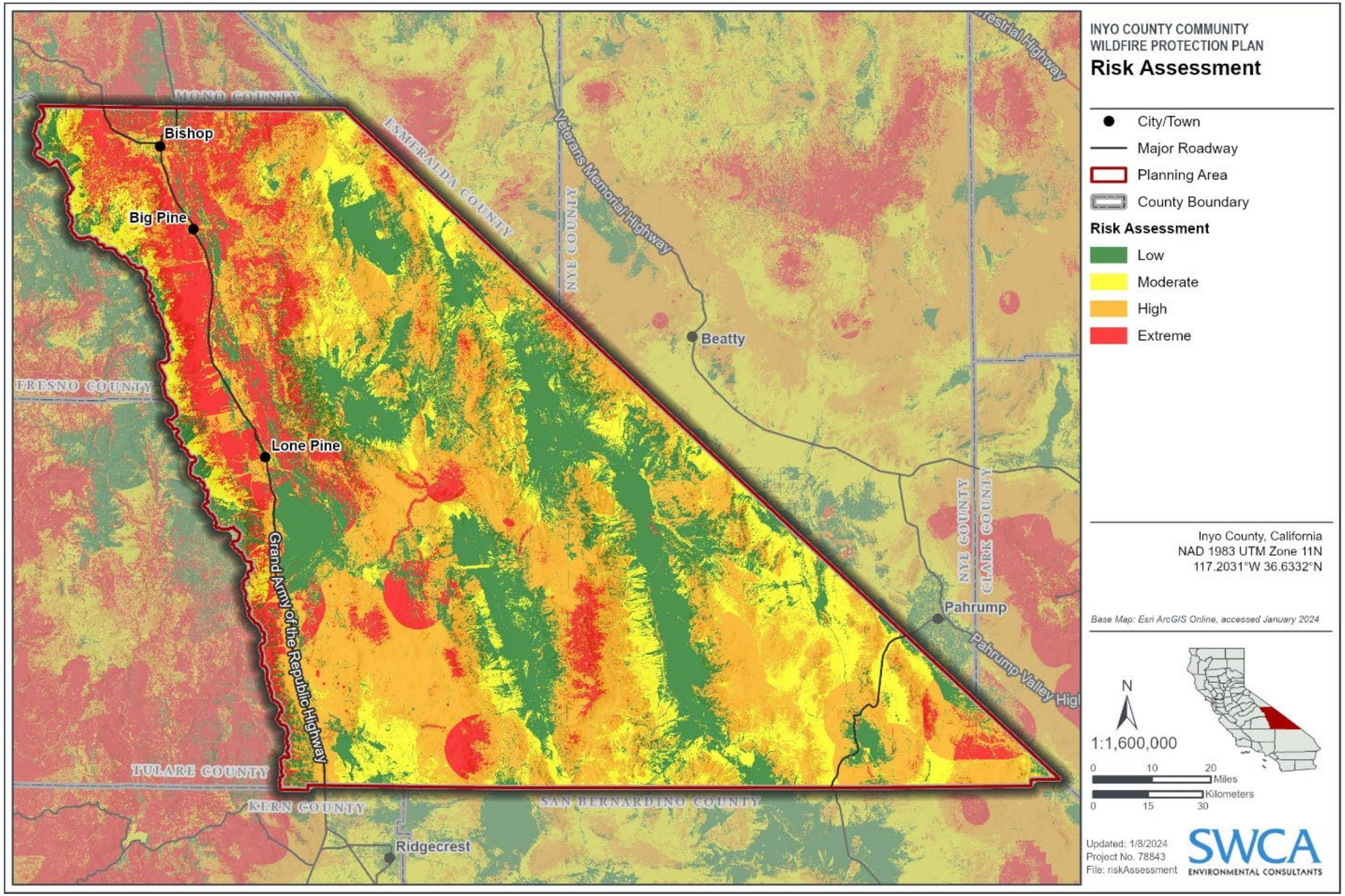
Climate change increases the frequency and severity of wildfires, which are already a major risk to California's water supply. Wildfires can damage or destroy natural infrastructure such as watersheds, and built infrastructure such as pipelines, wells, and reservoirs. The presence of domestic wells and SSWSs in these areas significantly heightens their vulnerability and the overall impact of the risk.

Figure 3-7 presents data from the United States Forest Service Fire Modeling Institute's which designated Wildfire Hazard Potential zones at the PLSS scale. This figure shows very high risk in the areas of Round Valley/Mustang Mesa, west of Tungsten Hills, Independence, Lone Pine/Alabama Hills, and south of Olancha. There is moderate to high risk in most other areas where domestic wells and SSWSs are present in the County. Figure 3-8 presents mapping that was developed as part of the Inyo County Wildfire Protection Plan updated in 2024. This mapping shows similar risk in the areas mentioned within the WSVE Tool, with risk throughout the Owens Valley.



Source: WSVE Tool, https://arcg.is/1LCKGO, Accessed: 11/2025

Figure 3-6. USFS Wildfire Hazard



Source: Inyo County Wildfire Protection Plan

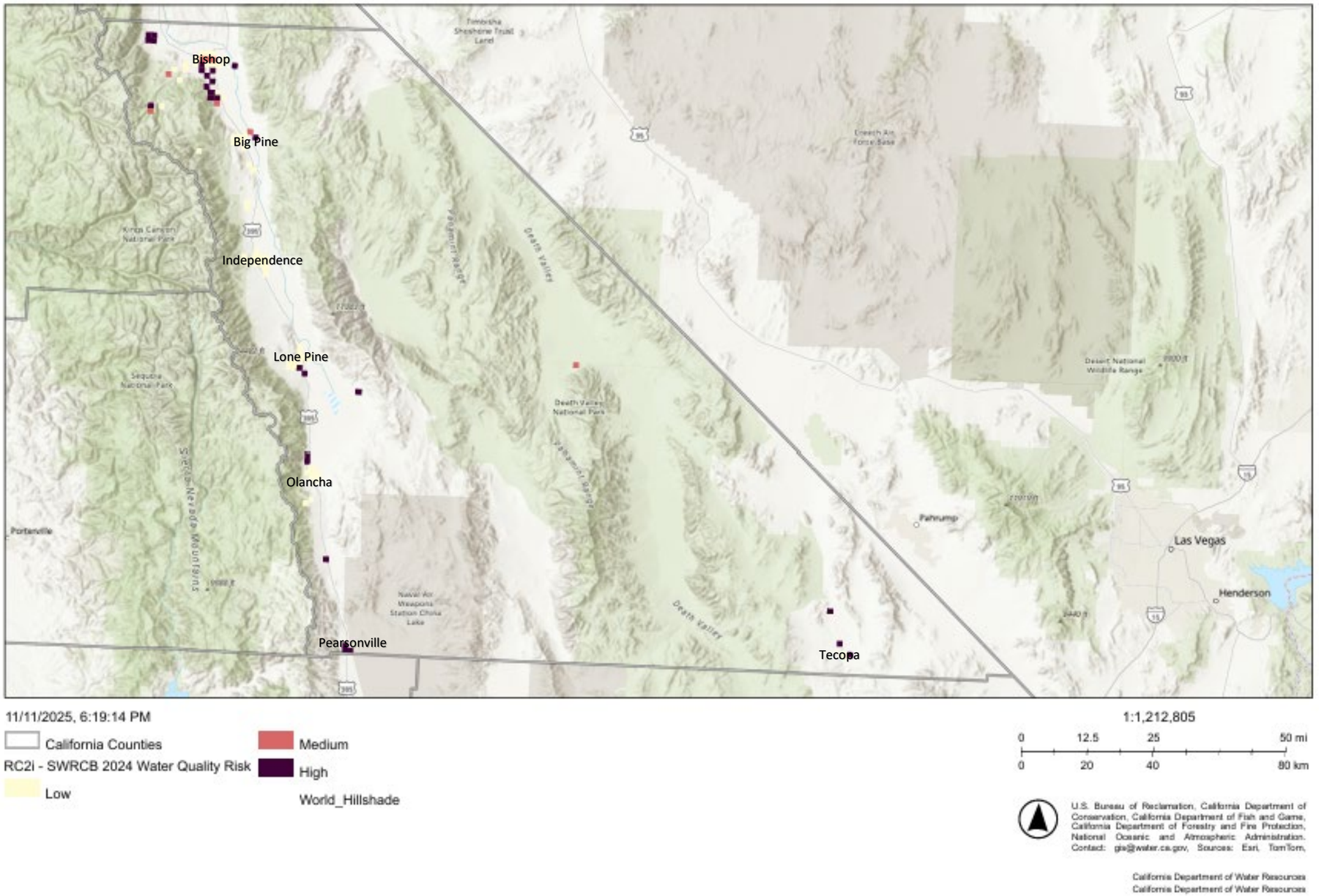
Figure 3-7. Inyo County Wildfire Risk Assessment

3.4.1.4 Water Quality Risk (Groundwater)

The presence of regulated constituents at elevated levels exceeding the prescribed thresholds increases the physical vulnerability of a water supply. Such contaminants can compromise the safety and potability of the water, rendering it unfit for human consumption and various domestic uses. The contaminants may also impact aquatic ecosystems, vegetation, and soil quality. Furthermore, they can cause infrastructure corrosion and damage, impacting the reliability and longevity of water supply systems, and can require costly repairs and maintenance efforts. These factors can all compound to render a domestic well or SSWS unable to deliver safe drinking water.

The water quality risk within the County was characterized using the 2024 Safe and Affordable Funding for Equity and Resilience (SAFER) Program's Needs Assessment results. The SAFER Needs Assessment only represents the potential risk of future water quality issues and does not reflect current or impending water quality issues. This SAFER Needs Assessment evaluated the 20-year average of groundwater quality data and the most recent reading from publicly available databases to compare concentrations of potential contaminants. The area was assigned a high water quality risk score if the long-term average or most recent reading for any potential contaminant was above the comparison concentration. The area was assigned a medium water quality risk score if the data was between 80 and 100 percent of the comparison concentration. Anything below 80 percent was assigned a low water quality risk score.

Figure 3-8 shows the 2024 SAFER Needs Assessment results for potential groundwater quality risk for PLSSs where domestic wells and SSWS are present. High potential water quality risk areas are scattered throughout in Bishop, Wilkerson, east of Big Pine, south of Lone Pine/Alabama Hills, Cartago, Round Valley, Aspendell, Keeler, Pearsonville, Tecopa, and Shoshone.



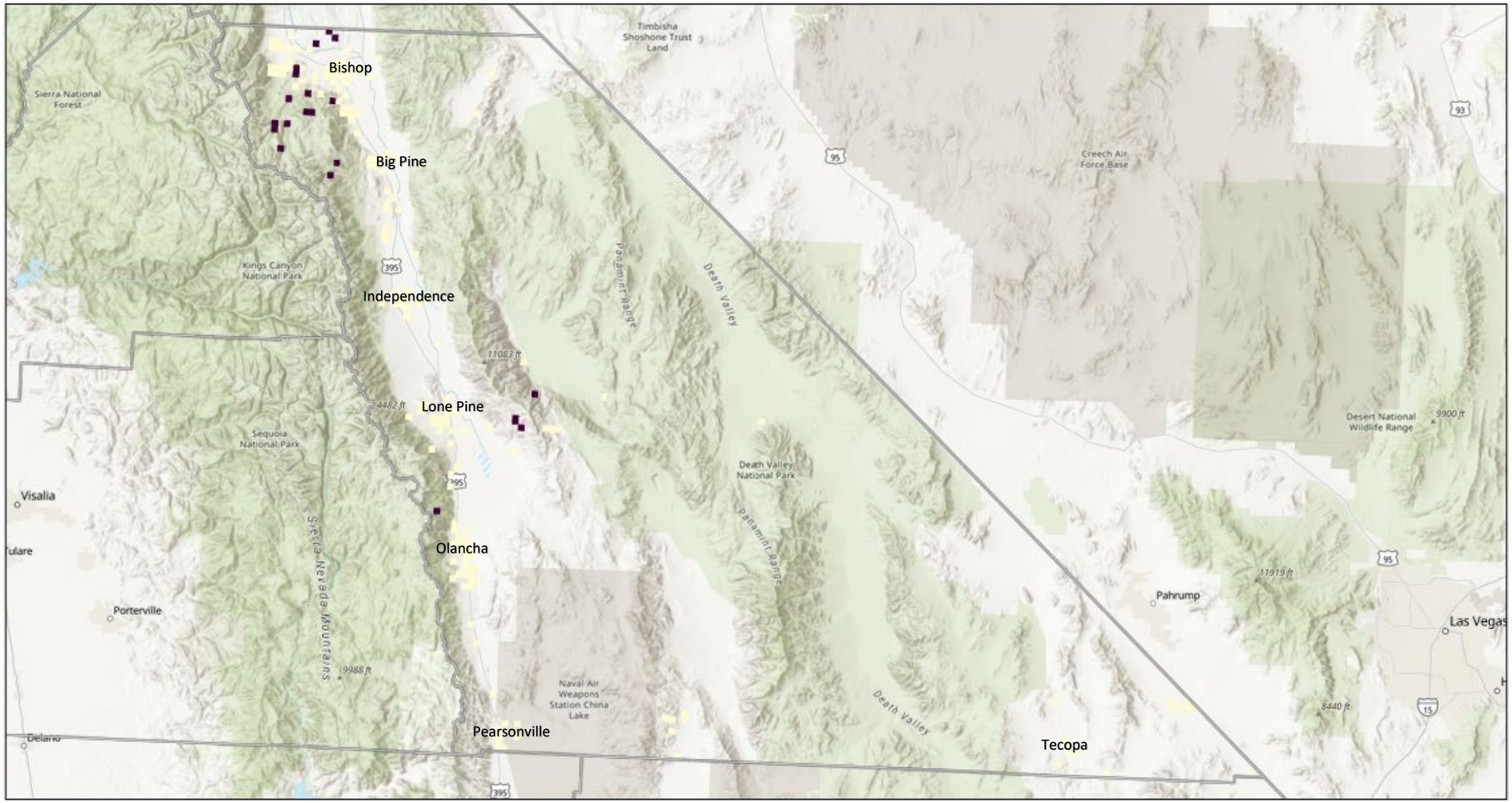
Source: WSVE Tool, https://arcg.is/1LCKGO, Accessed: 11/2025

Figure 3-8. California State Water Resources Control Board 2024 Water Quality Ris

3.4.1.5 Dry Domestic Well Susceptibility in Fractured Rock Area

The dry well susceptibility in fractured rock area indicator is based on the concentration of domestic wells within a fractured rock basin. Because water availability is more difficult to track and manage in fractured rock areas, fractured rock areas with a high density of domestic wells are at increased risk of well outages.

Figure 3-10 shows PLSSs where both fractured rock areas and domestic wells are present. Locations with a high density of domestic wells in fractured rock areas include Tungsten Hills, Aspendell, Cerro Gordo, Coats Meadow, Peterson Mill, Mustang Mesa, and Alta Mesa. There is also a small cluster of domestic wells in a fractured rock basin north of Keeler, near the Cerro Gordo Wilderness Area.



Source: WSVE Tool, https://arcg.is/1LCKGO, Accessed: 11/2025

Figure 3-9. Fractured Rock Areas overlayed with Domestic Well Locations

Table 3-3. Summary of Observed Conditions for Water Shortage Vulnerability Explorer Physical Vulnerability Indicators

Physical Vulnerability Indicator	Observed Conditions
Climate Change	
Projected Temperature Change (RC1a)	Temperature values in the County are projected to increase by 3.3°C to 4°C in most areas of the County where domestic wells and SSWSs are present. Increased temperatures could increase water supply demands from users, evapotranspiration, and others, thereby increasing vulnerability to drought and/or water shortage impacts.
Wildfire Risk (RC1c)	County projections show a 3% to 28% increase in small-area burns where domestic wells and SSWSs are present by 2064. Despite negligible fire susceptibility in most areas, the projected increase in burn frequency and size, even in small areas, warrants inclusion in the vulnerability assessment due to the inherent high risks involved. Increasing wildfire frequency and severity can increase vulnerability of water sources.
Sea Level Rise (RC1b)	The County is protected from sea level rise due to its inland location.
Current Environmental Conditions and Events	
2024 Precipitation (RC2a)	This data is based on precipitation data from 2024 and assesses whether precipitation was less than 70% of the normal levels recorded in 2023. The results indicate that 2024 precipitation levels remained above the historic average in most of the County with the exception of Peterson Mill, Aspendell, and Big Pine where below-average precipitation was recorded.
Multiple Dry Years (RC2aa)	A majority of the County has experienced at least one to two dry years. Areas with two dry years include City of Bishop, Tungsten Hills/Rocking K, Round Valley, Mustang Mesa, Aspendell, Keeler, Pearsonville, Tecopa/Charleston View/Sykes. Additionally, Big Pine/Big Pine Creek and Wilkerson have experienced up to three dry years. A higher number of recent dry years may increase the physical vulnerability of water supply conditions.
Fractured Rock Areas (RC2c)	Locations with a high density of domestic wells in fractured rock areas include Tungsten Hills, Aspendell, Cerro Gordo, Coats Meadow, Peterson Mill, Mustang Mesa, and Alta Mesa. Water availability in fractured rock areas is more difficult to monitor and, therefore, more uncertain for those relying on it as a source of water. Areas with fractured rock are considered due to high susceptibility to drought impacts.
Wildfire Hazard (RC2b)	Domestic wells and SSWSs in the County are generally located in areas designated as high to very high wildfire hazard zones. Domestic wells and SSWSs with the greatest wildfire hazard potential are located in Round Valley, Tungsten Hills, Independence, and Lone Pine.

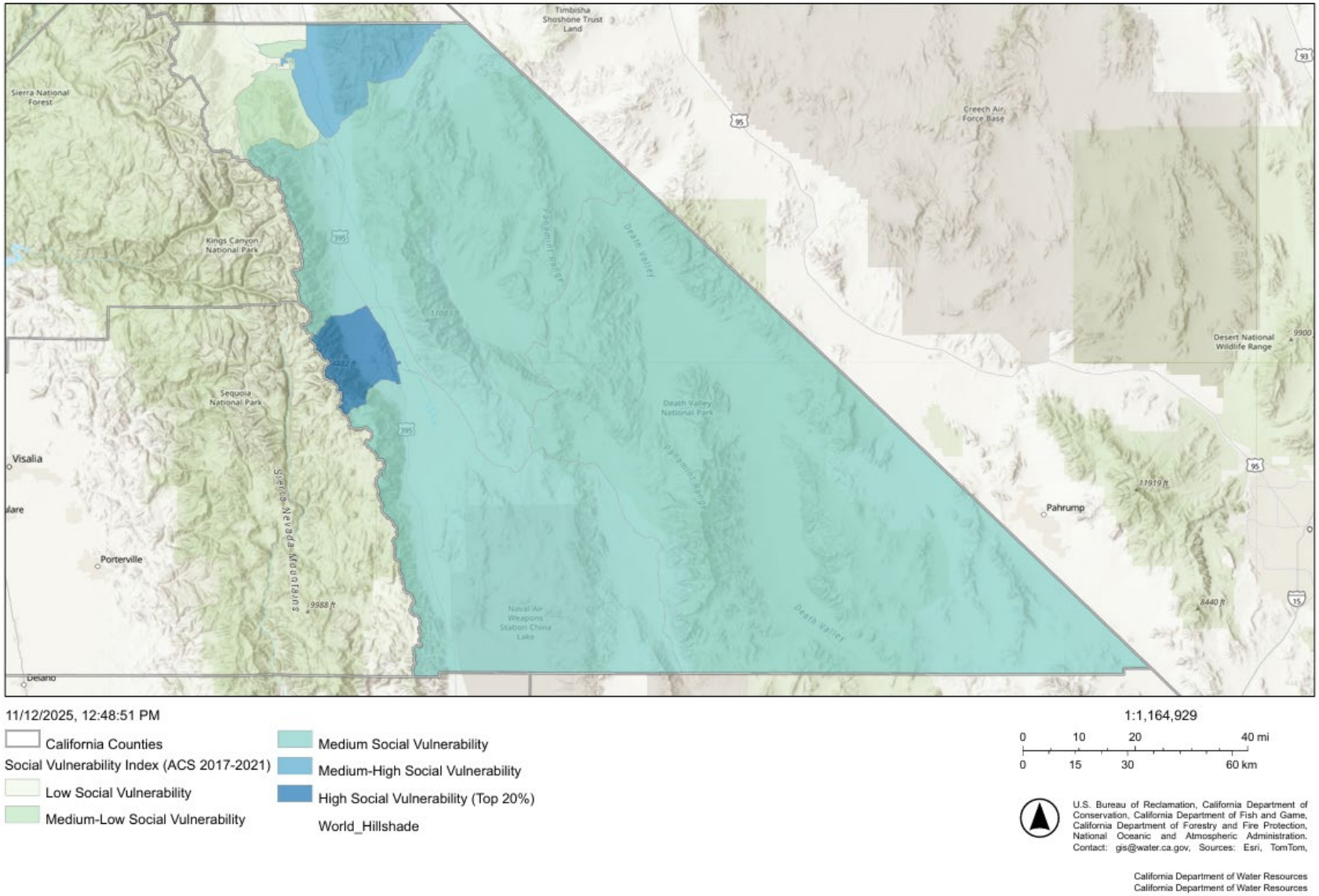
Physical Vulnerability Indicator	Observed Conditions
Water Quality Risk (RC2i)	High potential water quality risk areas are located in or near Round Valley, Bishop/Wilkerson, Aspendell, Big Pine, Lone Pine/Alabama Hills, Keeler, Cartago, Pearsonville, Tecopa, and Shoshone. This indicator illustrates where long-term or recent constituent concentrations may approach or exceed comparison thresholds and therefore signal potential vulnerability, rather than documented contamination.
Subsidence (RC2d)	Minor subsidence (0 to 0.1feet) in the County has been reported with no documentation of inelastic (irreversible) land subsidence related to groundwater pumping.
Overdrafted Basin (RC2f)	A portion of the Indian Wells Valley Groundwater Basin (6-054), which is a high-priority basin and in a state of overdraft, crosses into the very southwestern region of the County.
Groundwater Decline (RC2g)	Analysis of groundwater levels from 2004-2024 indicates that, for most areas of the County, there has been no significant chronic decline in groundwater. However, some declines have been observed over the past decade in the northern portion of the County between the areas of Big Pine and Lone Pine. Although these declines are not widespread, they still suggest increased vulnerability to groundwater supply reliability.
Amount of Irrigated Agriculture (RC2j)	The County features farmland throughout the Owens Valley, with clusters around Mustang Mesa, the City of Bishop, Big Pine/Fish Springs, Independence, Lone Pine/Alabama Hills, and Olancha. The presence of agricultural activities in these zones suggest potential competition for groundwater resources, along with concerns about water quality. These factors collectively heighten the vulnerability of domestic wells and SSWSs, particularly during dry periods when agriculture users tend to rely more heavily on groundwater. A significant risk to agriculture in the region is the potential failure of LADWP to deliver water to lessees during drought conditions. In 2015, there was a threat of such action with only three days' notice. If such actions were enacted, the lack of water delivery could disrupt cattle operations, potentially leading to financial losses through reductions in herd size. Additionally, drought conditions adversely affect the quality and quantity of grazing on non-irrigated rangeland, thus increasing the risk of fire due to the presence of more combustible material.

Physical Vulnerability Indicator	Observed Conditions
Infrastructure Susceptibility	
Dry Well Susceptibility in Basins: Alluvial Basin (RC3a)	This factor analyzes locations where wells are susceptible to going dry if the current groundwater trends in the County continue. Data shows an overall low dry well susceptibility in the County. However, the County Water Department communicated reports of dry wells in the western portion of the City of Bishop. Although most properties with dry wells re-drilled their wells to the deeper aquifer, some households still rely on the shallow aquifer access. Areas that have already experienced outages are more likely to experience it during future dry years due to combinations of aquifer fluctuations and shallow wells.
Domestic Well Density in Fractured Rock Area (RC3b)	Locations with a higher density of domestic wells in fractured rock areas include Tungsten Hills, Aspendell, Cerro Gordo, Coats Meadow, Peterson Mill, Mustang Mesa, and Alta Mesa. Water availability in fractured rock areas is more difficult to monitor and, therefore, more uncertain for those relying on it as a source of water.

Key:
CalFire = California Department of Forestry and Fire Protection
LADWP = Los Angeles Department of Water and Power

3.4.2 Total Social Vulnerability Scores

Social vulnerability is also an important factor in assessing the risk of water supply shortage and the need for mitigation through short-term response actions and long-term mitigation strategies. Total social vulnerability scores in the County are depicted in Figure 3-11, with darker shaded areas indicating higher vulnerabilities. According to the WSVE Tool, most of the County has medium social vulnerability. It is important to note that total social vulnerability scores are organized by census block groups, which can encompass multiple communities with varying social vulnerability characteristics. Additionally, the social vulnerability score does not consider geographical isolation. The County has many small, remote communities where physical access to services introduces additional social vulnerability that is not accounted for in this scoring.



Source: WSVE Tool, https://arcg.is/1LCKGO, Accessed: 11/2025

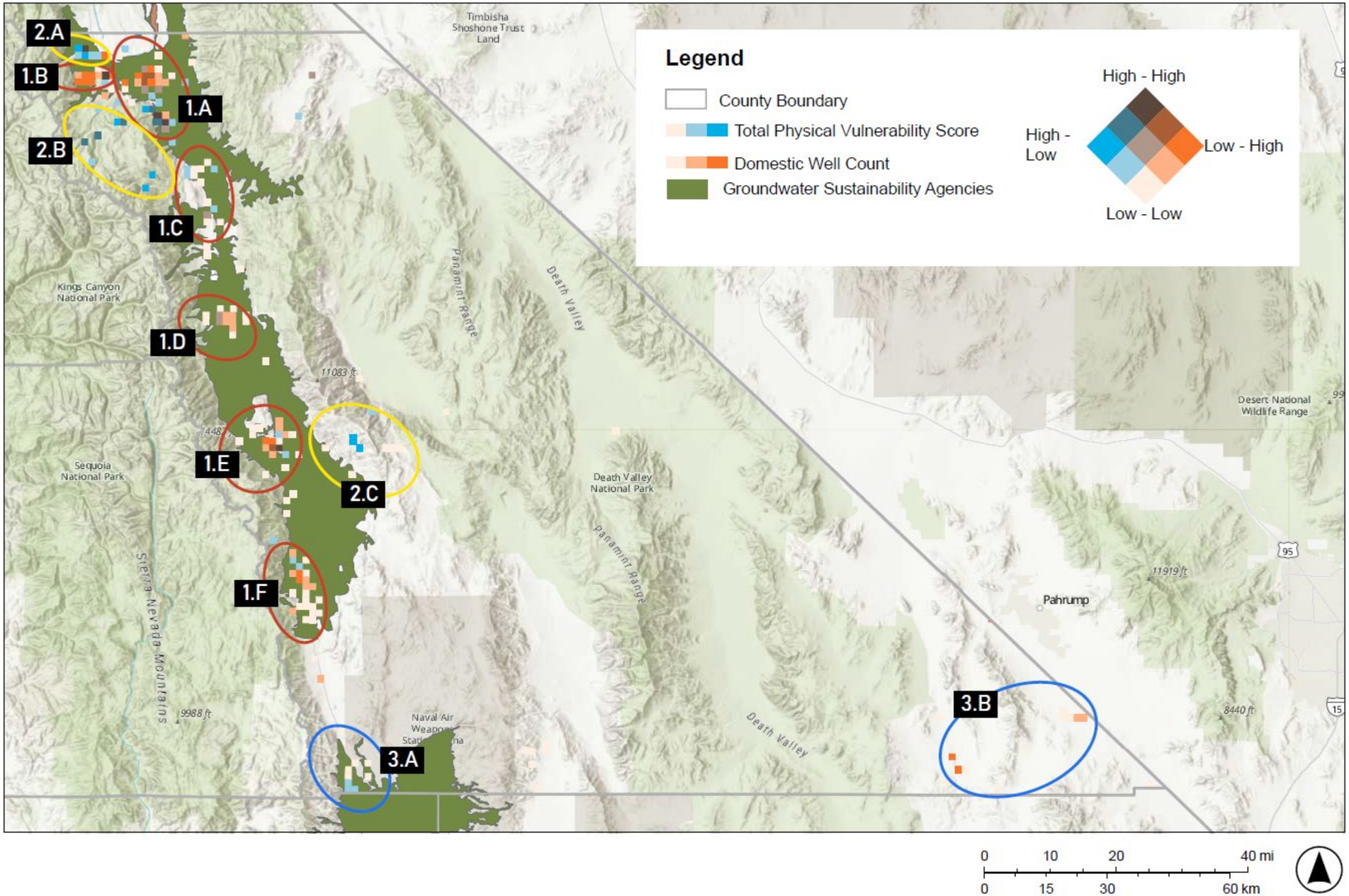
Figure 3-10. Social Vulnerability by Census Block Group in Inyo County

3.5 Risk Assessment Findings

The risk assessment determined that communities reliant upon domestic wells and SSWSs and vulnerable to water shortage can be organized into three strategic geographic focus areas: Owens Valley communities; fractured rock areas; and isolated low population domestic well communities. Specific locations within those geographic focus areas and their physical and social vulnerability findings are summarized in Table 3-4 and presented in Figure 3-10. These geographic focus areas were used by the County and its Task Force to develop short-term actions and long-term strategies for addressing water shortage risk among domestic wells and SSWSs across the County.

Table 3-4. Summary of Risk Assessment Findings in Inyo County, by Focus Area

				Physical Vulnerability Indicators					
				Proj. Temp-erature Increase	*Multiple Dry Years*	*Wildfire Hazard*	*Water Quality*	*Dry Well Susceptibility - Fractured Rock Area*	
At-Risk Focus Areas	**Label**	**Location**	*Indicator Weight*	1	2	3	3	5	**Social Vulnerability Score**
Owens Valley Communities	1.A	City of Bishop/Wilkerson		Yes	Yes	Yes	Yes	No	Low, Medium-Low, Medium, Medium-High
	1.B	Tungsten Hills/ Rocking K		Yes	Yes	Yes	No	Yes	Medium-Low
	1.C	Big Pine/Fish Springs/ Big Pine Creek		Yes	Yes	Yes	Yes	No	Medium-High
	1.D	Independence		Yes	Yes	Yes	No	No	Medium-High
	1.E	Lone Pine/Alabama Hills		Yes	Yes	Yes	Yes	No	High
	1.F	Cartago/Olancha		Yes	Yes	Yes	Yes	No	Medium
Fractured Rock Areas	2.A	Round Valley/Mustang Mesa		Yes	Yes	Yes	Yes	Yes	Medium-Low
	2.B	Aspendell/ Bishop Creek/Peterson Mill		Yes	Yes	Yes	Yes	Yes	Medium-Low, Medium-High
	2.C	Keeler/Cerro Gordo		Yes	Yes	No	Yes	Yes	Medium-High
Isolated, Low Population Domestic Well Communities	3.A	Pearsonville		Yes	Yes	No	Yes	No	Medium
	3.B	Tecopa/Charleston View/Sykes		Yes	Yes	No	Yes	No	Medium-High



Source: WSVE Tool, https://arcg.is/1LCKGO, Accessed: 11/2025

Figure 3-11. Focus Areas for At-Risk Domestic Wells and State Small Water Systems

3.6 Risk Assessment Gaps

Understanding the risk assessment gaps is important for capturing where physical and social vulnerabilities may exist that are not captured effectively using the methodology applied. These data gaps will also help identify where future efforts could be focused to improve future risk assessments. Identifying data gaps allows communities to develop long-term continuous monitoring and improvement plans. This proactive approach helps build resilience over time. The following gaps were identified by the County and Task Force during the completion of the risk assessment:

Domestic Well Data and Well Completion Reports: The County noted that the count of domestic wells on the WSVE Tool is incomplete. Because the County DRP relied on well completion report data to evaluate the vulnerability of domestic wells and SSWSs to water shortages, incomplete or inaccurate well data can limit the precision of those analyses. DWR maintains an online database of well completion reports, which includes information such as well type, depth, and location. However, the database contains known limitations, including missing or duplicate records, inaccurate coordinates, and the inclusion of abandoned or replaced wells. Online databases could be updated using digitized County forms and local knowledge. The County indicated the need for more complete and accurate data regarding the location of active domestic wells.

Dry Well Reports: The County noted that some areas surrounding and within the City of Bishop have experienced significant and ongoing challenges related to dry wells that were not indicated on the WSVE Tool at the time of this risk assessment. The County noted that such outages are primarily related to the age of the affected wells, though drought conditions may exacerbate these vulnerabilities. DWR's online dry well reporting system allows well owners to voluntarily report well failures; however, participation is limited, and as a result, the prevalence of dry wells may be underrepresented in State and regional datasets. To improve data completeness, the County has incorporated measures into its well permitting process requiring applicants to indicate whether a new well is being installed due to drought impacts. County staff also encourage or assist applicants in submitting reports to DWR's dry well reporting system.

4.0 Short-Term Response Actions

The risk assessment presented in Chapter 3 provided insight into County areas supplied by domestic wells and SSWSs that may be susceptible to droughts and water shortages, what may happen, and who may be impacted. Based on the outcomes of that assessment, the Task Force identified short-term response actions (STRA) to include in the County DRP to help address the effects of water shortage emergencies that could occur in the vulnerable regions of the County. The identified STRAs are not exhaustive and may be modified in the future. In the context of this County DRP, STRAs are defined as actions taken during and after a water shortage emergency to reduce the impacts of existing and ongoing drought and water shortage impacts, often addressing immediate and basic needs.

This section describes the STRAs included in the County DRP and the Drought and Water Shortage Emergency Response Process developed as part of the County DRP to assist with implementing STRAs.

4.1 Legislative Direction

SB 552 requires that each county develop a drought and water shortage plan that includes proposed interim solutions for SSWSs and domestic wells, per CWC Section 10609.70 (**boldface** added for emphasis as related to STRAs and this section of the County DRP):

> *(b)* ***A county shall develop a plan that includes potential drought and water shortage risk and proposed interim and long-term solutions for state small water systems and domestic wells within the county's jurisdiction.*** *The plan may be a stand-alone document or may be included as an element in an existing county plan, such as a local hazard mitigation plan, emergency operations plan, climate action plan, or general plan. A county shall consult with its drought task force or alternative coordinating process as established by this section in developing its plan. A county shall consider,* ***at a minimum****, all of the following in its plan:*
>
> *(1) Consolidations for existing water systems and domestic wells.*
>
> *(2) Domestic well drinking water mitigation programs.*
>
> ***(3) Provision of emergency and interim drinking water solutions.***
>
> *(4) An analysis of the steps necessary to implement the plan.*
>
> *(5) An analysis of local, state, and federal funding sources available to implement the plan*

4.2 Drought or Water Shortage Declarations

Risk for water shortage in the County is primarily monitored by the County Water Department with support from the County EHD. Water shortage response coordination, communication, staffing, and resourcing are overseen by the County OEM. Risk for water shortage in the County is organized into three stages:

Readiness (Stage 1): No major drought or water shortage risk is present. This stage focuses on emergency response preparedness and the implementation of long-term mitigation strategies.

Alert (Stage 2): Water supplies are at risk due to drought or other disaster. This stage focuses on STRA readiness, public communications, and coordination with emergency response partners.

Response (Stage 3): Water shortage is occurring or imminent, and a state of emergency is declared in impacted communities. This stage focuses on activating STRAs to reduce the impacts of existing and ongoing drought and water shortage impacts, often addressing immediate and basic needs.

The water shortage stages are informed by an annual water supply assessment conducted by the County Water Department with support from the County EHD. The assessment uses a predefined set of water supply, drought, and hazard indicators and indicator conditions to support a water shortage stage recommendation. Table 4-1 below details these indicators and the conditions that could trigger elevation to the Alert (Stage 2) or Response (Stage 3) stage. The information in this table is not exhaustive and is intended to describe the primary indicators the County relies upon at the time of this County DRP. Other indicators and indicator conditions may be developed by the County in the future as conditions evolve or as needs change.

The annual water supply assessment is completed each April, after winter precipitation has fallen. The County Water Department reports its findings to the Task Force at an annual meeting each May and, in instances where conditions for the Alert stage (Stage 2) or Response Stage (Stage 3) are met, the County presents a determination of geographic impact, specifying if the stage applies to only specific region(s) or the entire County. The Task Force—chaired by the County Office of Emergency Management—then oversees the implementation of STRAs and establishes a meeting schedule.

To create an enabling environment for the efficient and effective implementation of STRAs, the Task Force established key Task Force activities for each water shortage stage and the lead entities responsible for overseeing them. These activities are detailed in Table 4-2**.**

Table 4-1. Indicators and Indicator Condition for Determining Water Shortage Stages for Domestic Wells and State Small Water Systems in Inyo County

	Indicator Name	Indicator Description	Conditions Warranting Alert Stage Designation	Conditions Warranting Response Stage Designation
Overall Water Supply Indicators	**U.S. Drought Monitor**	The U.S. Drought Monitor is a map updated every Thursday that classifies drought conditions across the State into none, Abnormally Dry, Moderate, Severe, Extreme, and Exceptional. Drought status assignments are based on several climate, weather, and hydrology inputs across different time spans on the scale of 1 to 60 months. The Drought Monitor differentiates between short- and long-term drought; short-term is typically less than 6 months, whereas long-term is typically more than 6 months. The County can use this resource to understand the prevalence and severity of drought within the County.	The County should reference previous droughts to determine what drought status warrants entering the Alert stage. In the 2012–2016 drought, over 80% of the County was in Severe drought for the first 2 years. Beginning in 2014, 50% of the County was in Extreme drought. If a "Severe drought" status is assigned to areas of the County where domestic wells and SSWSs are located, the County should heighten its monitoring of other indicators and consider entering the Alert stage for the affected area.	An Extreme or Exceptional drought classification may not solely indicate that a water shortage emergency is occurring or is imminent for domestic wells or SSWSs. The County should heighten its monitoring of other indicators if Extreme or Exceptional drought exists in the County.
	Snowpack/ Precipitation	Snowpack and precipitation data from DWR's California Water Watch and LADWP snow surveys are critical indicators of water availability in the Sierra region and Owens Valley of the County.	If the snowpack is below average for the water year, the County should heighten its monitoring of other indicators.	Below-average snowpack does not solely indicate that a water shortage emergency is occurring or is imminent for domestic wells or SSWSs. The County should heighten its monitoring of other indicators if the snowpack is significantly below average.
	Public Water System Water Shortage Stage	Public Water Systems are required to maintain a water shortage contingency plan (or have one within an Urban Water Management Plan) that specifies stages of water shortage tied to projected water supply shortfalls. The water shortage stages that public water systems use may be a proxy for overall drought conditions within the County.	If a public water system begins implementing use restrictions due to drought, the County should consider the potential impact on domestic wells and SSWSs that draw from the same groundwater supplies. If a potential impact on domestic wells and SSWSs is identified, the County may consider entering the Alert stage for the impacted area.	A water shortage contingency plan must include an Emergency Stage that is only used when water supply shortages are imminent. If a public water system in the County is in an Emergency Stage, the County may consider entering the Impact stage, especially if these systems use the same groundwater supplies.
Groundwater Supply Indicators	**Groundwater Elevation**	Monitoring wells throughout the County are critical indicators of groundwater availability in Bulletin 118 groundwater basins. In the Owens Valley, the OVGA Groundwater Sustainability Agency, LADWP, and the County Water Department monitor groundwater elevation. LADWP reports on groundwater elevation findings—as well as runoff forecasts, winter precipitation received, and pumping projects for the coming year—in its annual operations plan, submitted to the County each April. IWVGA is responsible for monitoring groundwater elevation in the Indian Wells Valley Groundwater Basin and reports its findings in its annual report published each April. Groundwater elevation monitoring in the County's other basins is conducted by a variety of different users, including public water systems, private well owners, agricultural users, and others.	If groundwater elevation monitoring reports levels that are below what is considered normal or projects levels to be below normal, the County should consider the potential impact on domestic wells and SSWSs. The County may consider entering the Alert stage and heightening its monitoring of other indicators.	If groundwater elevation monitoring reports result in the implementation of response actions to avoid water shortages, the County may consider entering the Impact stage.
	Drought-Related New Well Permits	The County well permit forms ask the well owner to report if the request is drought-related. An observed increase in drought-related well permit applications (both domestic and others) is an important indicator for potential water shortage among domestic well and SSWS users.	If the County receives a drought-related well permit application, it should consider whether the cause is due to an isolated issue (i.e., shallow well, aging infrastructure). If the cause is not due to an isolated issue, the County may consider entering the Alert stage and heightening its monitoring of other indicators.	If the County receives more than 1 drought-related well permit application in a single area or groundwater basin during a single water year, this may indicate water shortage is imminent in nearby domestic wells or SSWSs. This may require entering the Impact stage.
Non-Drought Hazards		There are other hazards that could result in a water shortage, including wildfires, earthquakes, landslides, floods, and power outages (either planned or unplanned), and the County should monitor conditions following a hazardous event. Water supply impacts of some of these hazards can be worsened by drought conditions, and such events can also influence other indicators such as water quality.	Hazards that temporarily interrupt domestic wells or SSWS supplies for up to 2 days could trigger the Alert stage.	Hazards that interrupt domestic wells or SSWS supplies for an extended period (3 or more days), including public safety power shutoffs, could trigger the Impact stage.

4.3 Short-Term Response Actions

STRAs included in the County DRP are summarized in Table 4-2 and described in this section. The section begins with a description of STRAs focused on identifying the mutual aid agreements needed to enhance the efficient and effective delivery of emergency and interim drinking water supplies to domestic well and SSWS communities. Following this is a discussion of the STRAs focused on the delivery of emergency and interim water supplies via bulk water delivery, water filling stations, and packaged or bottled water, and on expedited well permitting that can be enacted during a drought or water shortage emergency. A process for STRA implementation is presented in Section 4.2, while future efforts are addressed in Chapter 6.

Table 4-2. Summary of Short-Term Response Actions During Water Shortage Emergencies

ID	STRA Type	STRA Name	STRA Description	Lead County Agency
STRA 01	Mutual Aid Agreements	Agreements with Partner Organizations	Agreements with private companies that improve the County's readiness to supply packaged and bottled water to domestic well and SSWS users in a water shortage emergency	OEM
STRA 02	Mutual Aid Agreements	Agreements with Public Water Systems	Agreements with public water systems to provide potable water directly to residents (STRA 03) or to licensed water haulers (STRA 04); County to establish mutual aid agreements with City of Bishop and Death Valley National Park to assist in providing the water supplies for bulk water distribution and the water supplies and locations for dedicated water filling stations	OEM
STRA 03	Emergency and Interim Drinking Water Supplies	Dedicated Water Filling Stations	A network of public water systems and water kiosks that could be made available as water filling stations in a water shortage emergency; includes ensuring policies and mutual aid agreements are in place for coordination with public water systems to provide temporary water supplies.	OEM
STRA 04	Emergency and Interim Drinking Water Supplies	Water Hauling to Storage Tanks	Provision of potable water to domestic well and SSWS users via temporary mobile bulk water storage tanks; includes ensuring policies and mutual aid agreements are in place for coordination with public water systems to provide temporary water supplies	OEM
STRA 05	Emergency and Interim Drinking Water Supplies	Packaged or Bottled Water	Acquisition and distribution of packaged and bottled water supplies to domestic well and SSWS users	OEM
STRA 06	Permit Streamlining and Coordination	Expedited New or Replacement Well Approval During Water Shortage	Expedited permitting for well owners whose permit request cites "drought" as the reason for the permit; additionally, permit requests that cite "life, sanitary, or water emergency" can be granted up to 72 hours after drilling work begins	EHD

Key:
EHD = Environmental Health Department
OEM = Office of Emergency Management
STRA = Short-term Response Actions

SSWS = State Small Water System

4.3.1 Mutual Aid Agreements (STRA 01 and STRA 02)

Efficient implementation of STRAs requires coordination and cooperation with other entities beyond those within the County government. A mutual aid agreement is an arrangement established before an emergency through which one or more entities provide personnel, equipment, materials, and/or associated services to restore critical operations during an emergency. A mutual aid agreement clearly describes how the involved entities would engage with each other during a water shortage emergency, along with their roles and responsibilities. Mutual aid agreements with public water systems are included in the County DRP as STRA 01 and with other community partners as STRA 02.

Mutual aid agreements recommended for efficient activation of STRAs are outlined in Table 4-3, including the entities, the nature of the mutual aid, and the principal parties that would be involved in or impacted by such an agreement.

Table 4-3. Mutual Aid Agreements Identified to Support Activation of Short-Term Response Actions, as of February 2025

Entities	Support Type	Description of Services	Involved or Impacted Parties
City of Bishop (Water System No. CA1410001)	STRA 03: Dedicated water filling station	Emergency drinking water to domestic well users in and around Wilkerson, the City of Bishop, Tungsten Hills, and Rocking K	(1) City of Bishop (2) SSWS: - Saniger Apartments - R&V Water Company - McMurray Apartments - Desiderata Estates Mutual Water Company - Steed Water System - Tooley's Mobile Home Park - Rocking K Guest Ranch (3) County, on behalf of domestic well users
Big Pine Community Services District (Water System No. CA1410006)	STRA 03: Dedicated water filling station	Emergency drinking water to domestic well users in and around Big Pine, Fish Springs, and Big Pine Creek	(1) Big Pine Community Services District (2) County, on behalf of domestic well users
Death Valley National Park Service (Water System No. CA1410505)	STRA 03: Dedicated water filling station	Dedicated water filling station for domestic well users in Death Valley National Park	(1) U.S. National Park Service (2) County, on behalf of domestic well users
China Lake Naval Air Weapons Station (Water System No. CA1510703)	STRA 03: Dedicated water filling station	Dedicated water filling station to domestic well users in and around Pearsonville	(1) U.S. Navy (2) County, on behalf of domestic well users
Crystal Geyser Water Company	STRA 05: Packaged or Bottled Water	Emergency packaged or bottled water to domestic well and SSWS users in Cartago, Olancha, and surrounding areas	(1) Crystal Geyser Water Company (2) County, on behalf of domestic well users

Key:
STRA = Short-term Response Actions
SSWS = State Small Water System

4.3.2 Dedicated Water Filling Stations (STRA 03)

During a water shortage emergency, domestic well or SSWS users could access potable water at dedicated water filling stations owned and operated by public water systems or other public agencies. These water filling stations are at established locations that would provide potable water to domestic well or SSWS users who bring a container to be filled. Dedicated water filling stations are included as an STRA in the County DRP as STRA 03.

The Task Force identified the following systems as potentially available dedicated water filling stations during a water shortage emergency:

- Lone Pine Public Water System (CA1410009) is one of two public water systems owned and operated by the County Department of Public Works. This water system could serve as a water filling station to provide emergency drinking water supplies to domestic well and SSWS users in the surrounding area in the event of a water shortage emergency.
- The Independence Public Water System (CA1410008) is one of two public water systems owned and operated by the County Department of Public Works. Like the Lone Pine Public Water System, this system could serve as a water filling station to provide emergency drinking water to domestic well and SSWS users in the surrounding area in the event of a water shortage emergency.
- The Southern Inyo Fire Protection District manages a water kiosk in Tecopa overseen by the California Department of Public Health Food and Drug Branch. The Fire District serves the southeastern corner of the County, and its service area boundary includes Death Valley, Tecopa, Shoshone, and Charleston View. Its service area boundary is illustrated below in Figure 4-1.

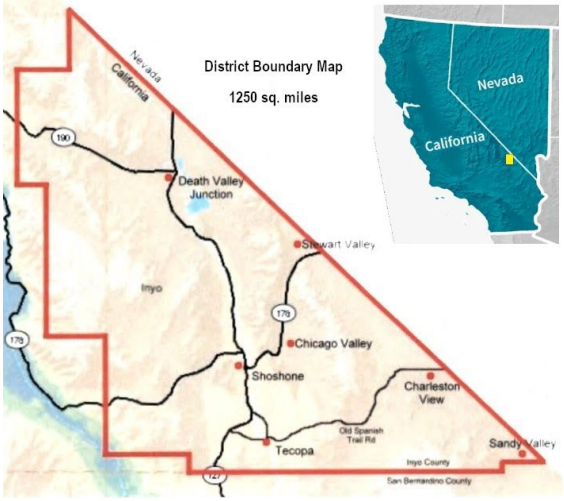


Figure 4-1. Southern Inyo Fire District Boundary

The Task Force identified three additional water systems where dedicated water filling stations may be feasible, described below. There are no existing agreements in place to establish water filling stations at these systems; however, the Task Force understands that establishing such agreements would improve resilience to water shortage emergencies. More details about these and other proposed agreements to enhance the readiness of emergency drinking water supplies in the County are provided in Section 4.3.1.

- The City of Bishop (CA1410001) produces and delivers water for consumption, irrigation, and fire suppression from three wells, and may be able to serve as a water filling station to domestic well and SSWS users in the communities of Wilkerson, Tungsten Hills, Rocking K, and the City of Bishop.
- Death Valley National Park's Furnace Creek Visitor Center is identified in the County Emergency Operations Plan as an alternate Emergency Operations Center (Inyo County 2016). The Visitor Center receives water from a community water system (CA1410505) that could be available to function as a dedicated water filling station for domestic well users in Death Valley National Park.
- Naval Air Weapons Station China Lake owns and operates a community water system (CA1510703) that produces and delivers potable water for commercial and residential use. The system is supplied by numerous wells as well as an intertie with Indian Wells Valley Water District in Kern County and may be available to function as a dedicated water filling station for domestic well users in nearby Pearsonville.

Table 4-4 provides a summary of all domestic well and SSWS communities that could benefit from water filling stations and other sources of emergency drinking water supplies described below.

4.3.3 Water Hauling to Storage Tanks (STRA 04)

Water hauling involves the bulk transportation of drinking water by tanker trucks from a safe drinking water source to a storage tank in an impacted community. There are three types of water hauling contracts; each can be structured by individual SSWS or domestic wells or by the County directly (Cal OES 2014):

- A direct purchase order and delivery of a specific amount of potable water to a specific location, community, or water system
- A transportation contract for moving potable water between water systems or sources as requested
- A service contract for a contractor to supply bulk potable water and storage capacity at the receiving location, community, or water system

Water hauling is included as a STRA in the County DRP as STRA 04.

The California Department of Public Health Food and Drug Branch (CDPH-FDB) oversees the licensing of water haulers in the State and can assist with the identification of licensed water haulers in the event of an emergency. As of February 2025, there are no licensed haulers registered in the County, and the County is not aware of any existing, safe, and accessible water storage tanks that could receive and store potable water from a hauler during a water shortage emergency. As such, the County identified the following opportunities to leverage water hauling to provide emergency and interim drinking water supplies in the event of a water shortage emergency:

- The California National Guard maintains water buffaloes (500-gallon storage tanks or trailers) that may be available in limited numbers. Due to their small capacity, the buffaloes should only be used to support evacuation efforts and immediate crises (Cal OES 2014).
- The County may establish new agreements with licensed haulers in neighboring counties or in Nevada. The CDPH-FDB database is updated regularly with contact information of licensed haulers in the State (CDPH 2025).

4.3.4 Packaged or Bottled Water (STRA 05)

In areas where the dedicated water filling stations and water hauling are not available, the County would provide packaged or bottled water (i.e., 1- to 5-gallon jugs and individual bottled waters) to affected domestic well and SSWS users. Packaged or bottled water delivery is included as a STRA in the County DRP as STRA 05.

Packaged or bottled water would be sourced from the vendors described below and distributed at County emergency operations centers in Bishop, Independence, and Death Valley (Inyo County 2016). In instances where travel to emergency operations centers is impeded or prohibitively distant, alternative points of distribution would be established by County OEM. All vendors must be approved by CDPH-FDB as commercial bottled water vendors. A list of approved commercial bottled water vendors is maintained by CDPH-FDB (CalOES 2014).

- Crystal Geyser Water Company has a water bottling plant in Olancha, in the southwestern region of the County. Crystal Geyser has volunteered emergency drinking water supplies during recent natural disasters in 2023 (Hurricane Hillary) and 2024 (the Olancha Fire), and could be a source of packaged and bottled emergency drinking water for domestic well and SSWS users in Olancha, Cartago, and the surrounding area in a water shortage emergency. There are no formal agreements between the County and Crystal Geyser, but developing one is part of the anticipated mutual aid agreements described in Section 4.3.1.
- Water in 1- and 5-gallon jugs may be purchased from local retail outlets (e.g., Grocery Outlet) and stored in County facilities.
- In instances where the State has declared a drought or water shortage emergency, the County can request urgent (12-hour) deliveries of packaged and bottled water in various sizes via the Statewide Bottled-Water Contract. The Department of General Services maintains the Statewide Bottled-Water Contract and establishes multiple suppliers for each of the six Cal OES mutual aid regions (Cal OES 2014).

4.3.5 Expedited New or Replacement Well Approval During Water Shortage (STRA 06)

As drought or water shortage conditions worsen and the production or quality of water at domestic wells or SSWSs declines, well owners may be able to install a new well or rehabilitate an existing one to ensure continued water supply reliability. Within the County's authority, streamlining the permitting process for activities such as new well construction or existing well rehabilitation for domestic well or SSWS users can provide relief during an ongoing water shortage. Permit streamlining and coordination are included in the County DRP as STRA 06.

The County has implemented an expedited permitting process for well owners and can usually approve new or rehabilitated well permit requests that cite drought as the reason for the request within a few days of submission. Additionally, permit requests that cite "life, sanitary, or water emergency" can be granted up to 72 hours after drilling work begins. This expedited process does not relax permitting criteria related to water supply, such as proximity to other wells or water quality. Not appropriately considering water supply criteria could worsen a water supply shortage for other groundwater users or exacerbate an ongoing water shortage.

One barrier to the effectiveness of this STRA in alleviating a water shortage emergency is the lack of licensed well drillers in the region. In the past, this has resulted in a multiple-month wait, which during a water shortage emergency could result in a water supply shortage. To improve the effectiveness of this STRA, the County has included increasing the number of licensed well drillers as a long-term mitigation strategy. This is discussed in Chapter 5.

Table 4-4. Summary of Local Emergency Drinking Water Supplies for Physically Vulnerable Domestic Wells and State Small Water Systems

Domestic Well/SSWS Communities with Water Shortage Vulnerability	Label	Location	Emergency Water Supply	Partnering Agency
Owens Valley Communities	1.A	City of Bishop/ Wilkerson	Dedicated water filling stations	City of Bishop
			Packaged and bottled water supplies	County OEM
			Water hauling	California National Guard water tanks
	1.B	Tungsten Hills/ Rocking K	Dedicated water filling stations	City of Bishop
			Packaged and bottled water supplies	County OEM
			Water hauling	California National Guard water tanks
	1.C	Big Pine/Fish Springs/ Big Pine Creek	Dedicated water filling stations	Inyo County PWD: Independence *or* Big Pine CSD
			Packaged and bottled water supplies	County OEM
			Water hauling	California National Guard water tanks
	1.D	Independence	Dedicated water filling stations	Inyo County PWD: Independence
			Packaged and bottled water supplies	County OEM
			Water hauling	California National Guard water tanks
	1.E	Lone Pine/Alabama Hills	Dedicated water filling stations	Inyo County PWD: Lone Pine
			Packaged and bottled water supplies	County OEM
			Water hauling	California National Guard water tanks
	1.F	Cartago/Olancha	Packaged and bottled water supplies	Crystal Geyser *or* County OEM
			Water hauling to storage tanks	Certified water hauler *or* California National Guard water tanks

Domestic Well/SSWS Communities with Water Shortage Vulnerability	Label	Location	Emergency Water Supply	Partnering Agency
Fractured Rock Areas	2.A	Round Valley/ Mustang Mesa	Dedicated water filling stations	City of Bishop
			Packaged and bottled water supplies	County OEM
			Water hauling	California National Guard water tanks
	2.B	Aspendell/ Bishop Creek/ Peterson Mill	Dedicated water filling stations	City of Bishop
			Packaged and bottled water supplies	County OEM
			Water hauling	California National Guard water tanks
	2.C	Keeler/Cerro Gordo	Packaged and bottled water supplies	Crystal Geyser *or* County OEM
			Water hauling	California National Guard water tanks
Isolated, Low Population Domestic Well Communities	3.A	Pearsonville	Dedicated water filling stations	Naval Air Weapons Station China Lake
			Packaged and bottled water supplies	Crystal Geyser or County OEM
	3.B	Tecopa/Charleston View/ Sykes	Dedicated water filling stations	Southern Inyo Fire District
			Packaged and bottled water supplies	Crystal Geyser *or* County OEM

Key:
OEM = Office of Emergency Management
PWD = Public Works Department

Table 4-5. Contact Information for Organizations Involved in Implementation of Short-Term Response Actions

Organization	Point of Contact and Information *As of May 2025* *(subject to change)*	Comment
County Office of Emergency Management	ready@inyocounty.us	Primary coordination point for emergency management activities
Inyo County Water Department	Holly Alpert, PhD Halpert@inyocounty.us	
County Environmental Health Department	Sarah Petersen, Senior REHS (760) 878-8489 spetersen@inyocounty.us	
Inyo County Public Works Department: Independence Water System	168 N. Edwards Street Independence, CA 95326 (760) 878-0208 kpaterson@inyocounty.us	Inyo County Public Works Department owns and operates this water system.
Inyo County Public Works Department: Lone Pine Water System	168 N. Edwards Street Independence, CA 95326 (760) 878-0208 kpaterson@inyocounty.us	Inyo County Public Works Department owns and operates this water system.
Southern Inyo Fire Protection District	410 Tecopa Hot Springs Road, Tecopa, CA 92389 (760) 852-4130	Maintains and manages the Tecopa water kiosk
Death Valley National Park	579 Cow Creek Road Death Valley, CA 92328 (760) 786-3261	Listed on State's certified water hauler list
CDPH-FDB	1500 Capitol Avenue, MS 7602 Sacramento, CA 95814 (800) 495-3232	Manages the State's certified water hauler list
Cal OES	3650 Schriever Avenue, Mather, CA 95655 (916) 845-8510	Provides coordination, guidance, and assistance in the planning, response, and recovery for all disasters within the State.

Key
CDPH-FDB = California Department of Public Health – Food and Drug Branch
Cal OES = California Office of Emergency Services

5.0 Long-Term Mitigation Strategies and Actions

The risk assessment presented in Chapter 3 provided insight into County areas supplied by domestic wells and SSWSs that may be susceptible to droughts and water shortages, what may happen, and who may be impacted. Using that information, the Task Force identified long-term mitigation strategies and actions (LTMSA) to reduce vulnerability to drought and water shortage events. When implemented, LTMSA can reduce the extent and cost of emergency response actions but cannot eliminate the need for emergency response actions.

The LTMSA in this County DRP are not exhaustive and may be modified in the future. The LTMSA described in this section of the County DRP will be implemented at the discretion of the County.

5.1 Legislative Direction

SB 552 requires that each county develop a drought and water shortage plan that covers long-term solutions for SSWSs and domestic wells, per CWC Section 10609.70 (**boldface** added for emphasis as related to LTMSAs and this section of the County DRP):

> *(b)* ***A county shall develop a plan that includes potential drought and water shortage risk and proposed interim and long-term solutions for SSWS and domestic wells within the county's jurisdiction.*** *The plan may be a stand-alone document or may be included as an element in an existing county plan, such as a local hazard mitigation plan, emergency operations plan, climate action plan, or general plan. A county shall consult with its drought task force or alternative coordinating process as established by this section in developing its plan. A county shall consider,* ***at a minimum,*** *all of the following in its plan:*
>
> ***(1) Consolidations for existing water systems and domestic wells.***
>
> ***(2) Domestic well drinking water mitigation programs.***
>
> *(3) Provision of emergency and interim drinking water solutions.*
>
> *(4) An analysis of the steps necessary to implement the plan.*
>
> *(5) An analysis of local, state, and federal funding sources available to implement the plan*

5.2 Long-Term Mitigation Strategies and Actions Included in the Inyo County Drought Resilience Plan

The LTMSA included in the County DRP are summarized in Table 5-1. LTMSAs included in the drinking water well mitigation program are described in Section 5.3, and consolidation opportunities for water systems and domestic wells are described in Section 5.4. The ability of regional water infrastructure investments to help address domestic well and SSWS vulnerabilities is detailed in Section 5.5. LTMSAs that address data gaps are discussed in Section 5.6. Future efforts related to LTMSA implementation and challenges are described in Chapter 6. The LTMSAs shown in this table may be updated or replaced as part of future County DRP updates.

Table 5-1. List of Long-Term Mitigation Strategies and Actions Included in the Inyo County Drought Resilience Plan

ID	LTMSA Category and Type	LTMSA Name	LTMSA Description	Leading County Agency
LTMSA 01	Drinking Water Well Mitigation Program	Well Permit Reviews	County will continue implementing and adaptively managing its well permitting review process.	EHD
LTSMA 02	Drinking Water Well Mitigation Program	Well Registration	County will continue supporting the implementation of the OVGA Well Registration Program for groundwater extraction facilities in the Owens Valley.	ICWD
LTMSA 03	Drinking Water Well Mitigation Program	Well Monitoring Outreach and Education	County will continue its well monitoring outreach and education program and pursue opportunities to expand program reach by collaborating with other County departments, GSAs, and community-based organizations.	EHD
LTMSA 04	Drinking Water Well Mitigation Program	Water Conservation Retrofits	County will continue its water conservation outreach efforts and maintain educational information on its website.	EHD
LTMSA 05	Drinking Water Well Mitigation Program	Water Storage and Power Generator Installation	County will provide education and resources to SSWS users regarding the value of bulk water and/or power generator installation for emergency preparedness.	EHD
LTMSA 06	System Consolidations	System Consolidations	County will provide information to interested systems and Technical Assistance providers as part of the consolidation evaluation process.	EHD
LTMSA 07	Regional Water Infrastructure Investment	Regional Planning Integration	County will participate when updates or modifications to regional and/or County plans are occurring and provide the perspective of domestic well and SSWS communities, and support opportunities to integrate the findings, actions, and strategies of this County DRP into the plans.	EHD
LTMSA 08	Data Gaps	Well Completion Reports	County will periodically review the well completion report dataset and coordinate with DWR and domestic well owners (if necessary) to update and correct well completion data.	EHD
LTMSA 09	Data Gaps	Dry Well Reporting	County will continue soliciting information about drought effects on its well permit application and encouraging applicants to submit a report to the online dry well reporting system.	EHD

Key:
DRP = Drought Resilience Plan
DWR = Department of Water Resources
EHD = Environmental Health Department
GSA = Groundwater Sustainability Agency
ICWD = Inyo County Water District
LTMSA = Long-Term Mitigation Strategy/Action
OVGA = Owens Valley Groundwater Authority
SSWS = State Small Water System

5.3 Drinking Water Well Mitigation Programs

SB 552 requires counties to consider a drinking water well mitigation program in its County DRP. Drinking water well mitigation programs are coordinated efforts to provide technical, financial, and informational support that reduce the vulnerability of domestic wells and SSWSs to water supply shortages. These programs generally include the following key steps:

- **Identifying Vulnerable Systems**: Locating domestic wells and SSWSs at risk of water supply shortages in a risk assessment (see Chapter 3)
- **Program Development**: Creating mitigation programs and related components (outlined in this section)
- **Program Implementation**: Executing programs in collaboration with local and State agencies, as well as the community (see Chapter 6)
- **Ongoing Coordination and Monitoring**: Maintaining interagency coordination and monitoring after implementation, including but not limited to, updates to the risk assessment (see Section 6.4)

The drought and water shortage risk assessment in Chapter 3 is the foundation of the drinking water well mitigation program. It helps define the areas and populations with domestic wells and SSWSs with higher vulnerability to water shortage. It also characterizes what conditions may be driving water shortage vulnerabilities. Both can help inform the components of a drinking water well mitigation program.

The risk assessment was used to help select the components of the drinking water well mitigation program documented in this County DRP. Of relevance to the drinking water well mitigation program, the risk assessment found that domestic wells and SSWSs in the County do not face significant risk for dry wells, with two exceptions. The first exception is the presence of shallow wells in and around the City of Bishop; the second exception is the presence of domestic wells in fractured rock areas in the communities of Tungsten Hills, Rocking K, Round Valley, Mustang Mesa, Aspendell, Bishop Creek, Peterson Mill, Keeler and Cerro Gordo. This context has informed the County's targeted and proportionate approach to fulfilling this DRP requirement. While the risk of widespread well failures is low, the County remains committed to identifying and supporting vulnerable wells through adaptive and collaborative planning.

This section provides a detailed overview of the drinking water well mitigation programs already in place in the County, and a discussion of how their continuation or expansion by the County will further improve domestic well and SSWS resilience. It also includes the addition of one new drinking water well mitigation program related to increasing water storage and power generation infrastructure among SSWSs. Taken together, these actions and strategies address water supply vulnerabilities by improving the understanding of groundwater conditions and enhancing the resilience of domestic wells and SSWSs. Together, they were designed to support proactive water management and risk mitigation across the County.

5.3.1 Well Permit Reviews (LTMSA 01)

The permitting of new wells, including replacement wells, in areas experiencing water supply vulnerabilities can further stress local groundwater conditions. Applications for new wells and well deepening permits in the County are received and reviewed by County EHD and the Water Department. The well permit application requires the applicant to disclose whether or not the application is being submitted in response to the effects of drought. For applications within the Owens Valley Groundwater

Authority boundary, permits are also reviewed by OVGA staff. The existing permit review process provides a strong foundation for oversight and accountability. If hydrogeologic conditions change, the well permitting review process may be adaptively managed to incorporate future growth or considerations that ensure groundwater resources are managed responsibly in the context of long-term community needs. Modifications to the well permit review process will also be implemented should State guidance (e.g., executive orders) require it. The continued implementation and adaptive management of this process support long-term sustainability and resilience of domestic wells and SSWSs in the County.

5.3.2 Well Registration (LTMSA 02)

In August 2022, the OVGA adopted Ordinance No. 2022-01, which requires public water systems, SSWSs, and other non–de minimis groundwater extraction facilities (defined as those pumping 2 acre-feet or more per year) located within the revised OVGA boundary to register their wells with the OVGA and report groundwater extractions annually. For domestic well owners who extract 2 acre-feet or less of groundwater per year (i.e., de minimis users), the well registration program is voluntary but encouraged (OVGA 2022). At the time this County DRP was written, approximately 25 percent of non–de minimus owners have registered their wells with the OVGA's well registration program.

The OVGA's well registration program has improved the completeness and reliability of groundwater use and condition data in the basin, and its continued implementation will support informed and proactive drought management and improved water resource sustainability.

5.3.3 Well Monitoring Outreach and Education (LTMSA 03)

County EHS currently maintains an outreach and education program focused on drinking water well maintenance and water quality. The program includes:

- Educational materials on proper well maintenance and water quality testing
- Resources to help residents locate certified water testing laboratories
- Assistance with interpretation of water quality test results using Title 22 drinking water standards

This outreach program has been in place for several years, and the County continues to promote proactive information sharing with the public. To increase awareness of and participation in the program, the County will pursue collaboration opportunities with other County departments, GSAs, and community-based organizations that work directly with well-reliant communities.

5.3.4 Water Conservation Retrofits (LTMSA 04)

Water conservation retrofits can reduce water waste and are an important element of managing water resources efficiently. Water conservation retrofits were identified as a high-priority action in the County's Multi-Jurisdictional Hazard Mitigation Plan (MJHMP) which states that, "5.1: Encourage retrofits of private homes and businesses for increased water conservation. Explore financing mechanisms such as Property Assessed Clean Energy programs to support water conservation retrofits" (Inyo County MJHMP 2017: 106). The County's website includes water conservation tips and drought preparedness resources (Inyo County OEM n.d.). The County will continue its current practice of promoting adoption of water conservation retrofits and practices.

5.3.5 Water Storage and Power Generator Installation (LTMSA 05)

Increasing onsite potable water storage capacity is a strategy that SSWS users can adopt to increase their resilience and is a particularly important consideration for SSWSs that are geographically isolated and do

not have nearby water systems. Increasing water storage capacity offers a reliable buffer against supply disruptions caused by natural disasters, infrastructure failures, power outages, or water quality issues. It ensures continued access to water by maintaining an onsite reserve, allowing systems to operate even when normal supply lines are compromised. This not only ensures continuity of operations but also supports public health, fire suppression, and overall emergency preparedness (Inyo County Office of Emergency Services 2009). In a water shortage emergency, systems without storage infrastructure are reliant on the availability of water trucks or mobile tanks that can be serviced by licensed water haulers - a limited resource in the County. Having dedicated storage onsite can reduce dependence on external deliveries during crises, allowing systems to remain more self-sufficient and responsive under stress. To advance this LTMSA, the County will provide education and resources to these areas regarding the value of bulk water and/or power generator installation for emergency preparedness.

5.4 System Consolidations (LTMSA 06)

SB 552 requires County DRPs to consider consolidations between existing water systems and domestic wells. Water system consolidations offer many potential benefits to domestic wells and SSWSs. In the context of domestic wells and SSWSs, consolidations typically involve the physical or managerial merging of two or more SSWSs, the expansion of a water system boundary to include domestic wells, or an SSWS being absorbed into a larger water system. By consolidating, systems can:

- Increase technical capacity by gaining access to certified operators, maintenance support, and modern infrastructure
- Strengthen managerial capacity through shared administrative functions, regulatory compliance, and professional staffing
- Improve financial capacity via cost-sharing, access to State and federal funding, rate stabilization, and debt management
- Achieve and maintain compliance with State and federal drinking water standards
- Offer more affordable and equitable rates, particularly for disadvantaged communities
- Enhance sustainability and resilience, especially in the face of climate change, drought, and aging infrastructure (SWRCB 2024a; EPA 2021)

This section identifies physical consolidation opportunities between community water systems—public water systems that supply water to the same population year-round—and nearby domestic wells and SSWSs. As shown in Table 5-2, approximately 214 domestic wells (25 percent of domestic wells in the County) and one SSWS are located within the boundary of a community water system. Further, 119 domestic wells and seven SSWSs are located within 1 mile of a community water system boundary (DWR 2025e). While community water systems are not required to serve domestic wells or SSWSs within their service area boundaries, understanding domestic well and SSWS proximity to community water system service area boundaries is a critical first step to considering the feasibility of consolidation. There may also be additional partnership opportunities—between domestic wells and an SSWS, for example—that do not involve a community water system. This County DRP only evaluated consolidations between domestic wells and/or SSWSs and community water systems.

Table 5-2. Distance of State Small Water Systems and Domestic Wells to Nearest Community Water System

Distance to Nearest CWS	Count of SSWS	Count of Domestic Wells[1]
Within system boundary	1	258
Less than 1 mile to system boundary	5	119

Key:
CWS = Community Water System
SSWS = State Small Water System
Source: WSVE Tool, https://arcg.is/1LCKGO, Accessed 05/2025

[1] Well location data is derived from well completion reports maintained by DWR. Well locations are approximate and not exact.

Table 5-3 lists 19 community water systems that could be part of a system consolidation with domestic wells and/or SSWSs based on their proximity to domestic wells and/or SSWSs. The table includes key information about each water system such as the number of service connections, population served, and risk status as determined by the SWRCB (2025d). Community water systems included on this list have domestic wells and/or SSWSs within their boundary or within roughly 0.38 mile of their boundary, consistent with the distance viability criteria applied by the SWRCB's Cost Assessment methodology from their Drinking Water Needs Assessment (SWRCB 2024b).

This evaluation only considered physical proximity to service area boundaries and is intended to provide an objective and initial basis for physical feasibility. Any potential consolidation or service extension would require significant community engagement, technical analysis, and financial planning in order to advance.

Table 5-3. Community Water Systems with Close Proximity[1] to Domestic Wells and/or State Small Water Systems

Risk Assess-ment Focus Area Label	Location	Community Water Systems with Domestic Wells/SSWS within System Boundaries	System Service Connections	Population Served	SAFER Status	Approx. Count of Domestic Wells within a System Boundary [2]	Count of SSWSs within a System Boundary
1.A	City of Bishop	City of Bishop (CA1410001)	1,171	3,819	Not at Risk	71	2
		Meadowcreek MWC (CA1400111)	284	764	Not at Risk		
		Meadow Lake Apartments (CA1400511)	16	22	Potentially at Risk		
		Highland MHP (CA1410007)	603	1400	Not at Risk		
		Wilson Circle MWC (CA1400135)	48	158	Potentially at Risk		
		Owens Valley Water Resources (CA1400005)	111	311	Not at Risk		
		Glenwood Mobile Estates (CA1400030)	167	468	Not at Risk		
	West Bishop	Park West Mutual Water Company (CA1400110)	67	188	Not at Risk	135	2
		Sierra Highland CSD (CA1400007)	215	600	Not at Risk		
		Brookside Estates MWC (CA1400056)	21	59	Not at Risk		
		Brookside MHP (CA1400059)	45	126	Not at Risk		
		Ranch Road Estates (CA1400031)	27	65	Not at Risk		
		Indian Creek CSD (CA1410005)	297	1,030	Not at Risk		
		Desiderata Estates MWC (CA1400108)	14	19	N/A[3]		
	Wilkerson	Rawson Creek MWC (CA1400026)	40	90	Not at Risk	41	0
		Sierra North CSD (CA1400109)	16	42	Failing		
		Valley Vista MWC (CA1400025)	25	70	Not at Risk		
		Sierra Grande Estates MWC (CA1400070)	49	138	Potentially at Risk		
1.E	Lone Pine	Inyo County Public Works Department - Lone Pine (CA1410009)	503	1,835	Potentially at Risk	11	1

Key:
CSD = Community Services District
MHP = Mobile Home Park
MWC = Municipal Water Company

[1] Domestic wells and/or SSWSs located within the community water system's established service area boundary or within roughly 0.38 mile of the service area boundary are considered to have close proximity to the community water system, and do not infer proximity to existing water delivery infrastructure.

[2] Well location data is derived from well completion reports maintained by DWR. Well locations are approximate and not exact.

[3] Desiderata Estates MWC was classified as a SSWS at the time of the last SAFER Needs Assessment and therefore has no SAFER status assigned.

Of the 19 systems listed, several have already completed or are currently conducting feasibility studies for physical consolidation with nearby systems. Neither of these studies includes consolidations with SSWSs or domestic wells.

- **Brookside Estates Mutual Water Company (CA1400056)** has two SSWSs within a quarter mile of its service area boundary. A feasibility study is underway to plan and design a possible consolidation of the Brookside Estates Mutual Water Company into the City of Bishop's water system (City of Bishop 2024). The nearby SSWS—Bishop Elk's Park (CA1400022) and Steed Water System (CA1400515)—may benefit from also joining the City's water system.
- **Sierra Highland CSD (CA1400007)** is partnered with the engineering firm Provost and Prichard to conduct a feasibility study evaluating consolidation feasibility between the CSD and nearby water systems (e.g., City of Bishop, Indian Creek Westridge CSD). As noted in Table 5-3, there are approximately 78 domestic wells with proximity to Sierra Highland CSD that may benefit from joining a nearby water system.
- Foothill Mobile Oasis (CA1400037) has performed a feasibility study to evaluate consolidation with the **County PWD–Lone Pine (CA1410009).** The nearby SSWS—Al's Mobile Home Park (CA1400104)—may benefit from also joining the County's water system.

To advance this LTMSA, the County will serve as a resource to parties involved in consolidation efforts, providing historical context, local expertise, and other information as requested by interested systems, TA providers, regulatory agencies, and domestic well communities.

5.5 Regional Water Infrastructure Investment

Regional water infrastructure projects can enhance the water supply reliability of many communities, including domestic wells and SSWSs. The LTMSAs in this section describe how the County could integrate into regional planning to help enhance the water supply reliability of domestic well and SSWS communities. Additional information on the near-term integration into regional planning is included in Section 6.3.

5.5.1 Regional Planning Integration (LTMSA 07)

Many regional and County planning efforts intersect with the County DRP. Coordination by the County within these other regional and County planning efforts will help ensure these plans consider domestic wells and SSWSs. Table 5-4 details the relevant regional planning efforts, their current status, and their relevance to domestic wells and SSWSs in the County. For LTMSA 07, the County will participate when updates or modifications to the plans are occurring and provide the perspective of domestic well and SSWS communities. Additional information on the timing and County roles/responsibilities for these efforts is presented in Section 6.2.1.

Table 5-4. Summary of Relevant Regional Planning Efforts

Planning Effort	Current Status	Relevance to Domestic Well Communities and SSWS
2021 Owens Valley Groundwater Basin Groundwater Sustainability Plan	Determined Incomplete by DWR April 2025	Describes, among other things, the projects and management actions committed to by the OVGA to maintain sustainable conditions in the basin for 20 years after plan adoption (OVGA 2021). As of May 2025, 30% of domestic wells and 69% of SSWSs in the County are located on lands subject to the Owens Valley Groundwater Basin GSP.
2020 Indian Wells Valley Groundwater Sustainability Plan	Approved by DWR January 2022	Describes, among other things, the projects and management actions committed to by the Indian Wells Valley Groundwater Authority to maintain sustainable conditions in the basin for 20 years after plan adoption (IWVGA 2020). As of May 2025, there are at least 7 domestic wells located on lands subject to the Indian Wells Valley GSP.
2017 Inyo County and City of Bishop Multi-Jurisdictional Hazard Mitigation Plan	FEMA Approved 2017	The Multi-Jurisdictional Hazard Mitigation Plan for the County and the City of Bishop establishes a strategy for the County and the City of Bishop, California, to reduce hazard impacts (Inyo County MJHMP 2017). The plan area encompasses all domestic wells and SSWSs in the County. Future updates to the plan can integrate this County DRP's risk assessment findings, STRA, and LTMSA.
Inyo–Mono Integrated Regional Water Management Plan: 2019 Update	Update adopted September 2019	The Integrated Regional Water Management Plan (IRWMP) covers all of the County, as well as neighboring Mono County and parts of Kern and San Bernardino Counties. The IRWMP includes current and future water needs, supply reliability, contingency planning, and demand management (Inyo–Mono RWMG 2019). The plan can be used to address drought and water shortage hazard mitigation on a regional scale, and integration of the actions in this County DRP will allow the plan to continue to foster drought and water shortage resiliency in future years.

Planning Effort	Current Status	Relevance to Domestic Well Communities and SSWS
Inyo County General Plan	Adopted 2001	The General Plan is the main long-range policy and planning document guiding physical development, conservation, and enhancement in the County. It identifies the overarching policies and programs that affect land use, public services, housing, natural resources, and safety, among other items (Inyo County 2024). Updates to the General Plan can include information and mitigation actions identified in this County DRP.
LADWP 2020 Urban Water Management Plan	Adopted May 2021	The LADWP 2020 Urban Water Management Plan describes current and planned water supplies to meet anticipated demands for the City of Los Angeles over a 25-year planning period. The plan includes projected annual deliveries for the Los Angeles Aqueduct System, which is supplied in part by the Owens Valley Basin and governed by the 1991 Inyo/Los Angeles Long-Term Water Agreement and Green Book (LADWP 2021; Inyo County Water Department 1989).
City of Bishop 2008 Water Master Plan	Published February 2008	The City's Water Master Plan guides the development and operation of the City's water system and informs the development of the City's Capital Improvements Plan. The time horizon for the Master Plan is 20 years (2008–2027) (City of Bishop 2008). While the capital improvements included in this plan do not include domestic well annexation or SSWS consolidation plans, updates to the Master Plan may encompass this.

Key:
DRP = Drought Resilience Plan
DWR = Department of Water Resources
FEMA = Federal Emergency Management Agency
GSP = Groundwater Sustainability Plan
IRWMP = Integrated Regional Water Management Plan
IWVGA = Indian Wells Valley Groundwater Agency
LADWP = Los Angeles Department of Water and Power
LTMSA = Long-Term Mitigation Strategies/Actions
MJHMP = Multi-Jurisdictional Hazard Mitigation Plan
OVGA = Owens Valley Groundwater Authority
RWGM = Regional Water Groundwater Management
SSWS = State Small Water System
STRA = Short-Term Response Actions

5.6 Data Gaps

The County DRP relied on well completion report data in its (1) evaluation of the vulnerability of domestic wells and SSWSs to water shortages, and (2) development and alignment of effective STRAs and LTMSAs. Access to new or more accurate/complete well completion report data would help improve this planning process in the future. This section details the LTMSA identified by the County DRP that would provide new or improved data for use in future planning efforts.

5.6.1 Well Completion Reports (LTMSA 08)

DWR maintains an online public database of well completion reports submitted to the State by well drillers. This database includes type, location, well depth, year of installation, and address, among other information (DWR 2025e); it played a critical role in the development of this County DRP. However, there are both gaps and limitations in the database. Known issues include: missing and duplicate records, missing values (missing on the original report or not entered into the database), incorrect values (e.g., latitude, longitude, record type), and limited spatial resolution (i.e., the majority of reports have been spatially registered to the center of the PLSS where the well is located) (DWR 2025b). Domestic wells that have been replaced or abandoned may still appear in the database. To help address this data gap, the County will periodically review the well completion report dataset and coordinate with DWR and domestic well owners (if necessary) to update and correct well completion data. This coordinated review and update of well-related information will help maintain a more reliable and complete understanding of active domestic well locations in the County.

5.6.2 Dry Well Reporting (LTMSA 09)

DWR established an online dry well reporting system for domestic well communities to report problems with their wells that impact their water supplies (DWR 2025c). The reporting system is voluntary but plays a crucial role in helping the State and local agencies monitor and respond to drought impacts. Due to its voluntary nature, current use of this reporting system among domestic well owners and SSWS users is neither widespread nor consistent. Oftentimes, well owners may drill a new, deeper well without reporting the previously dry well. As a result, the actual prevalence of dry wells in the State is not fully understood.

The County has already taken steps to address the impact of this data gap in its jurisdiction. As noted in Section 5.3.1, the County's well permit application currently requires the applicant to disclose whether the application is being submitted in response to the effects of drought. For applications that cite drought effects, County EHD encourages the well owner to submit a report to the online dry well reporting system and offers to submit one on the owner's behalf. Such ongoing efforts by the County to improve participation in the online reporting system will improve the reliability and completeness of this important indicator.

6.0 Implementation Considerations

The STRAs and LTMSAs identified and described in Chapters 4 and 5 represent a broad range of in-progress and proposed activities. Implementation of these STRAs and LTMSAs often (1) falls under the authorities and jurisdictional responsibilities of separate County departments and other local and State public agencies, and (2) requires the involvement of other interested parties. To implement these STRAs and LTMSAs, and contribute to the continued improvement of water supply reliability for domestic well and SSWS communities, this chapter describes the implementation steps designed to assist the County with:

- Ongoing water supply monitoring and interagency collaboration in support of implementation
- Outlining STRA and LTMSA implementation responsibility, status, and resource needs
- Identifying opportunities to align the County DRP with other County policy and County and regional planning documents
- Adaptive management
- Identifying funding opportunities

6.1 Legislative Direction

SB 552 requires that the County DRPs outline actionable steps for implementation and identify available funding sources to support those efforts, per CWC Section 10609.70 (**boldface** added for emphasis as related to plan implementation and this section of the County DRP):

> *(b) A county shall develop a plan that includes potential drought and water shortage risk and proposed interim and long-term solutions for state small water systems and domestic wells within the county's jurisdiction. The plan may be a stand-alone document or may be included as an element in an existing county plan, such as a local hazard mitigation plan, emergency operations plan, climate action plan, or general plan. A county shall consult with its drought task force or alternative coordinating process as established by this section in developing its plan. A county shall consider, **at a minimum**, all of the following in its plan:*
>
> *(1) Consolidations for existing water systems and domestic wells.*
>
> *(2) Domestic well drinking water mitigation programs.*
>
> *(3) Provision of emergency and interim drinking water solutions.*
>
> ***(4) An analysis of the steps necessary to implement the plan.***
>
> ***(5) An analysis of local, state, and federal funding sources available to implement the plan***

6.2 Implementation Roadmap

This County DRP describes existing and proposed STRAs and LTMSAs that, when executed, help the County meet its objectives under CWC Section 10609.70 (b) (1), (b) (2), and (b) (3). To create an enabling environment for the efficient and effective implementation of STRAs, the County established key implementation activities for each water shortage stage and the lead entities responsible for overseeing them. These activities are detailed in Table 6-1.

Table 6-1. Key Implementation Activities by Water Shortage Stage

Consideration	Responsible Organization(s)	Activities
Stage 1: Information		
Coordination	OEM (Lead) EHD ICWD	• Schedule annual Task Force meetings to occur each May. • Update contact information for public water systems, GSAs, SSWSs, emergency response partners, and others as needed (see Table 4-5). • Delegate duties and responsibilities related to the implementation of LTMSAs.
Tracking and Monitoring	ICWD (Lead) EHD	• Collect and analyze data for water shortage indicators each April after winter precipitation has occurred, LADWP Annual Operations Report has been submitted, and GSAs have submitted their annual reports. See Table 4-1 Inyo County Water Shortage Indicators for a description of indicators and stage thresholds. o In instances where thresholds for Alert or Response stages are met, the County presents a determination of geographic impact, specifying if the stage applies to only a specific region(s) or to the entire County, to the Task Force at the annual meeting.
Public Outreach	OEM (Lead) EHD	• Establish or confirm up-to-date contacts at local news media outlets (TV, radio, online news, local newspapers, community newsletters). • Establish or confirm points of contact for using County-owned communication channels (email, social media, website).
Resources	OEM	• Plan what staff and/or funding could be made available, if necessary, to support increased monitoring activities.
Stage 2: Alert		
Coordination	OEM (Lead) EHD ICWD	• Schedule as-needed Task Force meetings. • Coordinate with Drought Task Force Representatives, public information officers, and water suppliers to promote water conservation measures. • Coordinate with Task Force, GSA, and others to plan and disseminate public communications, sharing outreach resources and materials as appropriate. • Communicate with emergency water supply partners regarding readiness, verifying that agreements and processes are up to date and ready.
Tracking and Monitoring	ICWD (Lead) EHD	• Continue to monitor water shortage indicators, increasing the frequency as needed. • Prepare new assessment reports as conditions change. • Communicate findings with Task Force and others (municipalities, water utilities, elected officials) about local conditions, concerns, and any changes to the status of water supply.
Public Outreach	OEM (Lead) EHD GSAs Task Force	• Disseminate information, guidance, and alerts to local news media. • Leverage County and Task Force communication channels (email, social media, website) to disseminate information and resources to domestic well and SSWSs. o Update Ready Inyo website with guidance, advisories, and resources as they are made available.

Consideration	Responsible Organization(s)	Activities
		○ Promote awareness of dry well reporting systems and contact forms. ○ Promote participation in County notification systems.
Resources	OEM	• Communicate with appropriate State agencies regarding the potential need for support and confirm that emergency response resources are available. • Plan what staff and/or funding could be made available, if necessary, to support increased monitoring and response activities, including technical assistance to vulnerable water systems.
Stage 3: Response		
Coordination	OEM (Lead) EHD ICWD	• Schedule as-needed Task Force meetings. • Coordinate with Drought Task Force Representatives, public information officers, and water suppliers to promote water conservation measures. • Coordinate with Task Force, GSAs, and others to plan and disseminate public communications, sharing outreach resources and materials as appropriate. • Oversee the activation of emergency water supply distribution for impacted area(s).
Tracking and Monitoring	ICWD (Lead) EHD	• Continue to monitor water shortage indicators. • Prepare new assessment reports as conditions change. • Communicate findings with the Task Force and others (municipalities, water utilities, elected officials) about local conditions, concerns, and any changes to the status of water supply.
Public Outreach	OEM (Lead) EHD GSAs Task Force	• Disseminate information, guidance, and alerts to local news media. • Leverage County and Task Force communication channels to disseminate information to domestic wells and SSWSs. ○ Update the Ready Inyo website with guidance, advisories, and resources as they are made available. ○ Promote awareness of dry well reporting systems and contact forms. ○ Promote participation in County notification systems. • Outreach to local news media to disseminate information, guidance, and alerts (TV, radio, online news, local newspapers, community newsletters).
Resources	OEM (Lead) EHD	• Secure staffing and funding for response activities, including emergency water supply distribution and emergency technical assistance to domestic wells and SSWSs.

Key:
DRP = Drought Resilience Plan
EHD = Environmental Health Department
GSA = Groundwater Sustainability Agency
ICWD = Inyo County Water Department
LADWP = Los Angeles Department of Water and Power
OEM = Office of Emergency Management
SSWS = State Small Water System

6.2.1 Oversight, Responsibilities, Priorities, and Resource Needs

Individual STRAs and LTMSAs identified in this County DRP have been assigned to individual County departments and agencies pursuant to each agency's regulatory and policy authorities. County OEM, as the lead agency of the County DRP, shall provide administrative oversight for all implementation actions.

Table 6-2 details the priority status, the current implementation status, and the lead agency responsible for implementing individual STRAs and LTMSAs. While activities have been assigned a near-, mid-, and long-term priority status in this County DRP, each status assignment is subject to modification and will be influenced by various drivers such as new regulations, climate conditions, and funding availability. "Priority" is classified as:

- Near-term (in the next 2 years)
- Mid-term (within 2 to 5 years)
- Long-term (5 or more years in the future)

"Status" is classified as:

- Available (for those already implemented)
- In progress (for those currently being implemented)
- Proposed (for those that require additional resources for progress to be made)

The "Resource Requirement" columns specify if the STRA/LTMSA would require additional staff time or budget beyond what the County currently has available. The additional budget could be addressed by external funding such as grants, financing, federal funding, and future State funding to support DRP implementation. See Section 6.5 for additional information about external funding opportunities

Beyond these implementation activities, County OEM will coordinate with the entities listed in Table 6-2 on mid-term and long-term priorities. The status of these mid- and long-term priorities, as well as the information in this table, will be reviewed at least annually in coordination with the Task Force meeting.

Table 6-2. Inyo County Drought Resilience Plan Short-Term Response Action and Long-Term Mitigation Strategy and Action Implementation Summary

STRA and/or LTMSA	Lead Agency	Coordinating Agency	Priority	Status	Resource Requirement	
					Additional Staff Time	Additional Budget
STRA 01: Agreements with Partner Organizations	OEM	EHD ICWD	Mid-Term	Proposed	Yes	No
STRA 02: Agreements with Public Water Systems	OEM	EHD ICWD	Mid-Term	Proposed	Yes	No
STRA 03: Dedicated Water Filling Stations	OEM	EHD ICWD	Long-Term	Proposed	Yes	Yes
STRA 04: Water Hauling to Storage Tanks	OEM	EHD ICWD	Mid-Term	Proposed	Yes	Yes
STRA 05: Packaged or Bottled Water	OEM	EHD ICWD	Near-Term	Available	Yes	Yes
STRA 06: Expedited Well Approval During Water Shortage	EHD	OEM ICWD	Near-Term	Available	Yes	No
LTMSA 01: Well Permit Reviews	EHD	OEM ICWD	Near-Term	Available	No	No
LTMSA 02: Well Registration	ICWD	EHD OEM	Near-Term	Available	No	No
LTMSA 03: Well Monitoring Outreach and Education	EHD	OEM ICWD	Near-Term	Available	No	No
LTMSA 04: Water Conservation Retrofits	EHD	OEM ICWD	Mid-Term	Available	Yes	Yes
LTMSA 05: Water Storage and Power Generator Installation	EHD	OEM ICWD	Mid-Term	Proposed	Yes	Yes
LTMSA 06: System Consolidations	EHD	OEM ICWD	Long-Term	Available	Yes	Yes

STRA and/or LTMSA	Lead Agency	Coordinating Agency	Priority	Status	Resource Requirement	
					Additional Staff Time	Additional Budget
LTMSA 07: Regional Planning Integration	ICWD	EHD OEM	Near-Term	In Progress	Yes	No
LTMSA 08: Well Completion Reports	EHD	OEM ICWD	Near-Term	In Progress	Yes	No
LTMSA 09: Dry Well Reporting	EHD	OEM ICWD	Near-Term	Available	Yes	No

Key:
EHD = County Environmental Health Department
GSA = Groundwater Sustainability Agency
ICWD = Inyo County Water Department
LTMSA = Long-Term Mitigation Strategy and Actions
OEM = Office of Emergency Management
SSWS = State Small Water System
STRA = Short-Term Response Action

6.3 Policy Alignment and Integration

While this County DRP is a stand-alone document, the information and actions it details provide mutual benefits towards realizing goals and objectives of other County and regional planning efforts associated with domestic well and SSWS communities. **Table 6-3** describes recommended policy alignment and/or integration actions that promote delivery of STRA and LTMSA actions identified in this County DRP through coordinated efforts with other related County and regional planning efforts.

Table 6-3. Inyo County Drought Resilience Plan Policy Alignment and Integration

Related Planning Effort	Release Date	Lead Agency	Relation to County DRP	Policy/Integration Action	Status
2021 Owens Valley Groundwater Basin Groundwater Sustainability Plan (OVGA 2021)	December 2021	OVGA	Risk assessment, groundwater monitoring and management, drinking water well mitigation	County to continue close coordination with overlaying GSAs for management of shared groundwater supplies. County to review GSPs for consistency to County DRP and General Plan pursuant to California Government Code Section 65352.5.	Determined Incomplete by DWR April 2025
2020 Indian Wells Valley Groundwater Sustainability Plan (IWVGA 2020)	January 2020	Indian Wells Valley Groundwater Agency			Approved by DWR January 2022
Inyo County and City of Bishop Multi-Jurisdictional Hazard Mitigation Plan (County of Inyo & City of Bishop 2017)	December 2017	OEM	Attention to drought and water shortage impacts to vulnerable water users	Review components of risk assessment to MJHMP Risk Assessment process, integrate content from County DRP.	Adopted and FEMA approved 2019
Inyo-Mono Integrated Regional Water Management Plan: 2019 Update (IRWMP 2019)	September 2019	Inyo–Mono Integrated Regional Water Management Group	Regional water supply planning	Review drought and water shortage emergencies for domestic and SSWS communities as a component of IRWMP.	Update adopted September 2019
Inyo County General Plan (Inyo County Planning Department 2024)	December 2001	County	Regional water supply planning	Review risk assessment and consider STRA/LTMSA during future plan updates.	Several amendments since December 2001 release. Update in progress.

Related Planning Effort	Release Date	Lead Agency	Relation to County DRP	Policy/Integration Action	Status
Los Angeles Department of Water and Power 2020 Urban Water Management Plan (LADWP 2021)	May 2021	LADWP	Regional water supply planning	Review risk assessment and consider STRAs/LTMSAs during future plan updates.	Adopted May 2021
City of Bishop 2008 Water Master Plan (City of Bishop 2008)	February 2008	City of Bishop Department of Public Works	Regional water supply planning	Review risk assessment and consider STRAs/LTMSAs during plan development.	Published February 2008
Inyo County Emergency Operations Plan (EOP) (Inyo County 2016)	May 2016	OEM	Risk assessment and STRA/LTMSA support during OEP activation	Integrate STRAs as a component of EOP.	Adopted May 2016

Key
DRP = Drought Resilience Plan
DWR = Department of Water Resources
EOP = Emergency Operations Plan
FEMA = Federal Emergency Management Agency
GSA = Groundwater Sustainability Agency
GSP = Groundwater Sustainability Plan
IRWMP = Integrated Regional Water Management Plan
IWVGA = Indian Wells Valley Groundwater Agency
LADWP = Los Angeles Department of Water and Power
LTMSA = Long-Term Mitigation Strategies/Actions
MJHMP = Multi-Jurisdictional Hazard Mitigation Plan
OEM = Office of Emergency Management
OVGA = Owens Valley Groundwater Authority
STRA = Short-Term Response Actions

6.4 Adaptive Management

The County DRP will be reviewed and updated periodically or in response to new information or changing conditions to ensure that findings, STRAs, and LTMSAs are appropriate and relevant. This County DRP will be reviewed and updated by County staff as needed—following "Alert (Stage 2)" or "Response (Stage 3)" water shortage stage declarations, changes in GSA status, or when new data, strategies, policies, or

requests from the Task Force arise. County OEM is responsible for initiating and coordinating the County DRP update.

Updates to the County DRP will include: (1) reviewing the Risk Assessment findings in light of new and improved information that characterizes water supply vulnerability, (2) evaluating progress on STRA and LTMSA implementation, (3) updating any communications and outreach materials and information, (4) updating Task Force details, and (5) revising the County DRP content to incorporate any changes. During this update, County OEM will report on these updates to the Task Force to ensure transparent communication and coordination.

In the future, the County DRP's risk assessment may be enhanced by incorporating more detailed analyses within identified vulnerable areas. This includes refining the analytical approach used to evaluate both physical and social vulnerabilities and expanding assessments to include non-drought hazards. A more thorough evaluation of individual SSWS vulnerabilities such as well depth, infrastructure age, source capacity, and population vulnerability would improve the County's ability to prioritize and implement mitigation actions. The County could also track service capacity issues such as the availability of licensed well drillers and water haulers to assess whether mitigation actions remain implementable. If conditions worsen or improve, this may inform updates to the DRP. These refinements will be considered in future DRP updates as part of the County's ongoing efforts to ensure that risk assessment findings, STRAs, and LTMSAs remain relevant and actionable.

6.5 Funding Opportunities and Assistance Programs

As described in Table 6-2, the County DRP includes a variety of proposed activities that may require appropriation of additional funds or other resources, as approved by the County Board of Supervisors or through other State or federal sources. A combination of funding sources could be used to support County DRP implementation, including generated revenue (such as rates and assessments), grants, loans, agency staff time, and services provided by others (such as in-kind work or technical or training assistance through a State or federal agency). Securing and administering these sources will require dedicated staff capacity to monitor funding availability, prepare applications, and track progress. The County and its partners must also be prepared to manage the administrative workload that accompanies grant-funded projects, which can often be significant.

The availability and reliability of internal and external funding sources will directly impact the success and timeliness of DRP implementation. Many State and federal programs are competitive, often include income-based eligibility criteria, and may shift over time due to political or policy changes. This poses a particular challenge for the County as well as for domestic well and SSWS owners, who often have limited staffing, technical expertise, and financial reserves. Agencies and entities may find that it is cost- and resource-prohibitive to implement STRAs and LTMSAs independently. Moreover, proposed solutions frequently require participation or collaboration across multiple entities, increasing the need for coordination. Support from the County and other agencies will be essential to help overcome administrative and capacity-related barriers.

Given these challenges, this DRP includes an investigation and analysis of potential funding sources for implementation, shown in Table 6-4. This analysis forms the basis for developing future funding strategies and is not intended to be exhaustive. Funding availability, timing, and eligibility criteria are dynamic and should be reassessed periodically to ensure the County remains responsive to current opportunities.

Additionally, the effectiveness and competitiveness of STRAs and LTMSAs may vary depending on changing conditions such as climate variability, population trends, and regional priorities. To improve the likelihood of securing funding, proposed actions should be tailored to match the evaluation criteria of specific funding programs. Collaborating with partner agencies and participation by the Task Force can further enhance grant proposals by demonstrating alignment with broader regional goals and cross-jurisdictional coordination.

Table 6-4. Funding Opportunities and Assistance Programs for Drought Resilience Plan Implementation

Resource	Funding Agency	Description
General Fund	County	The County General Fund includes revenues such as sales and property taxes. Use of these funds are discretionary and subject to approval by the Board of Supervisors.
Proposition 4: Safe Drinking Water, Wildfire Prevention, Drought Preparedness, and Clean Air Bond Act of 2024	Multiple State agencies	Major categories with potential support for domestic and SSWS communities include: • Safe Drinking Water, Drought, Flood, and Water Resilience • Wildfire and Forest Resilience
Sustainable Groundwater Management Grant Program (DWR 2025a)	DWR	This program provides GSAs with assistance and engagement support for preparation and implementation of GSPs.
Small Community Drought Relief (DWR 2025d)	DWR	This program provides financial and technical assistance to community water systems that are not served by an urban water supplier (meaning systems that deliver drinking water to fewer than 3,000 service connections *and* less than 3,000 acre-feet per year). Eligible projects include both temporary solutions, like bottled water, and long-term infrastructure improvements.
Countywide and Regional Funding Program (SWRCB 2025a)	SWRCB	This program provides direct funding to support SSWSs and domestic wells serving disadvantaged communities and low-income households. Community outreach, domestic well testing, and interim and long-term solutions are eligible to receive funds (DWR 2020).
Drinking Water State Revolving Fund (SWRCB 2025b)	SWRCB	This fund provides low-cost loans for planning, design, and construction of drinking water improvements to water systems. It can be used to support system consolidation.
Technical Assistance Funding Program (SWRCB 2025d)	SWRCB	This program provides technical assistance for small disadvantaged communities to develop, fund, and implement eligible drinking water solutions, including system consolidation support.

Resource	Funding Agency	Description
Water and Environmental Programs (WEP); Rural Utilities Service Water and Environmental Programs (United States Department of Agriculture, Rural Development 2025)	USDA	These programs provide funding support to construct water and wastewater facilities for communities with populations of 10,000 or less. Such programs could support annexation of SSWS and domestic well communities as part of a multi-benefit project led by a WEP-eligible public water system.
California Grants Portal (California State Library 2023)	California State Library	This is a searchable portal listing State-administered grant and loan opportunities, including water, drought, and resilience programs. It is useful for tracking new or updated funding aligned with SSWS, domestic well, and drought response initiatives.
Grants.gov and SAM.gov (Grants.gov, n.d.)	Multiple Federal Agencies	These are the central portals for finding and applying to federal funding opportunities (e.g., FEMA, USDA, EPA). SAM.gov is required for entity registration. They are applicable for federal drought, infrastructure, and emergency funding sources.

Key
CWS = Community Water System
County = Inyo County
DWR = California Department of Water Resources
ECWAG = Emergency Community Water Assistance Grants
EPA = U.S. Environmental Protection Agency
FEMA = Federal Emergency Management Agency
GSA = Groundwater Sustainability Agency
GSP = Groundwater Sustainability Plan
SSWS = State Small Water System
SWRCB = State Water Resources Control Board
USDA = United State Department of Agriculture
WEP = Water and Environmental Program

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8.0 Appendices

8.1 Appendix A

INYO COUNTY

DROUGHT AND WATER SHORTAGE TASK FORCE

CHARTER

PURPOSE

The purpose of this Inyo County Drought and Water Shortage Task Force Charter is to describe the purpose of the Drought and Water Shortage Task Force (Task Force) and establish procedures, requirements, and protocols for the members of the Task Force and the conduct of Task Force business.

LEGISLATIVE DIRECTION

In September 2021, Governor Gavin Newsom signed into law SB 552 (Hertzberg) which assigned new responsibilities and requirements at the state and local levels to help state small water systems and private well users reduce their risks of inadequate water supply amid a water shortage event. A water shortage event could be caused by droughts or other emergencies such as wildfires, earthquakes, floods, and other local emergencies. In accordance with SB 552, counties are required to prepare a County Drought Resilience Plan (County DRP) to achieve meaningful and long-term improvements in water resilience for their residents.

To ensure that the County DRP is prepared and implemented through active collaboration with interested parties and the public, SB 552 requires counties to establish a long-standing Task Force. Composition of the Task Force is guided through California Water Code Section 10609.70 (a)(1) and (2):

(a)(1) A county shall establish a standing county drought and water shortage task force to facilitate drought and water shortage preparedness for state small water systems and domestic wells within the county's jurisdiction, and shall invite representatives from the State and other local governments, including GSAs, and community-based organizations, local water suppliers, and local residents, to participate in the task force.

(2) In lieu of the task force required by paragraph (1), a county may establish an alternative process that facilitates drought and water shortage preparedness for state small water systems and domestic wells within the county's jurisdiction. The alternative process shall provide opportunities for coordinating and communicating with the State and other local governments, community-based organizations, local water suppliers, and local residents on a regular basis and during drought or water shortage emergencies.

The Inyo County Task Force has been established pursuant to CWC Section 10609.70(a)(1) and intends to satisfy the requirements of Senate Bill 552 (SB 552) in the development of the County DRP.

BACKGROUND

The Task Force was established by the Inyo County Office of Emergency Management (OEM) in May 2024. The Task Force consists of representatives from local government agencies and community organizations that have roles in well permitting, regulatory oversight of state small water systems, water supply and drought monitoring, emergency services, hazard assessment, planning, operations, communications, or water resources management. Task Force membership is voluntary.

The purpose of the Task Force is to:

- Strengthen drought and water shortage preparedness for SSWS and domestic wells in the county.
- Serve as a coordinating body for regular communication with State agencies, local governments, community-based organizations, water suppliers, and residents, with increased engagement during drought or water emergencies.
- Facilitate drought and water shortage plan development for domestic wells and SSWS within the County's jurisdiction.
- Facilitate regular coordination and communication among staff of relevant County departments, local water agencies, local water suppliers, Groundwater Sustainability Agencies (GSA), and others representing the concerns of domestic wells and SSWS users.
- Lead and guide development and adaptive management of the County DRP and long-term implementation strategies.
- Support and advise on the implementation of drought and water shortage actions as identified in the County DRP.

ORGANIZATIONAL STRUCTURE

The decision-making structure for the development and implementation of the Inyo County DRP is designed to ensure that all relevant stakeholders are involved and that input is collected from various perspectives and governing bodies. These groups work together to ensure that the plan is comprehensive, effective, and aligned with the needs of the County, its residents, and relevant County regulations. Below are the key components of the decision-making structure for the Inyo County DRP.

Inyo County Board of Supervisors

The County Board of Supervisors adopts the County DRP and approves implementation actions requiring board-level decisions and funding actions. The Board of Supervisors also reviews recommendations provided by the PCT and the Task Force.

Project Coordination Team

The PCT is comprised of County offices and departments responsible for the preparation, revision, and implementation of the County DRP. The PCT is led by Inyo County OEM. Additional participating County departments include Inyo County EHD & ICWD.

Unless otherwise agreed upon, County OEM leads engagement efforts with the Board of Supervisors. The PCT may be supported by additional entities as needed.

The responsibilities of the PCT are as follows:

- Oversee the development, implementation, and future updates to the County DRP, ensuring the plan reflects current drought indicators, agency roles, and local conditions.
- Provide opportunities for public participation in the development, implementation, and updates of the DRP through community outreach and communication efforts.
- Support the Task Force by ensuring annual meetings are held each May and that emergency meetings are scheduled and facilitated when needed.
- Collaborate with and respond to the informational needs of the Task Force by coordinating data collection, monitoring efforts, and sharing timely updates on drought conditions and impacts.
- Lead and coordinate the implementation of the DRP by assigning responsibilities to County departments and partner agencies, monitoring progress, and facilitating communication among all stakeholders involved in drought planning and response.

Task Force

Task Force is an advisory and consultative entity to the Board of Supervisors and the PCT and is chaired by the Inyo County OEM. The Task Force does not have decision-making authority.

Pursuant to CWC Section 10609.70, Task Force members serve as representatives to one or more of the following interest groups:

- State and other local government entities, including groundwater sustainability agencies
- Community-based organizations
- Local water suppliers
- Local residents, including operators of domestic wells and state small water systems

The responsibilities of the Task Force are as follows:

- Attend calendared Task Force meetings to review progress on the development of the DRP and its implementation.
- Provide input and share information on current water supply conditions and potential risk factors.
- Help develop, implement, and adaptively manage short-term response actions and long-term mitigation strategies that reduce the impact and likelihood of water shortage among domestic wells and state small water systems.
- Disseminate Task Force findings and recommendations related to drought and water shortage planning efforts to their respective agencies, seeking feedback that can be shared during Task Force meetings and working sessions.

Figure A-1 illustrates the decision-making framework of the Task Force in relation to the County Board of Supervisors and County staff.

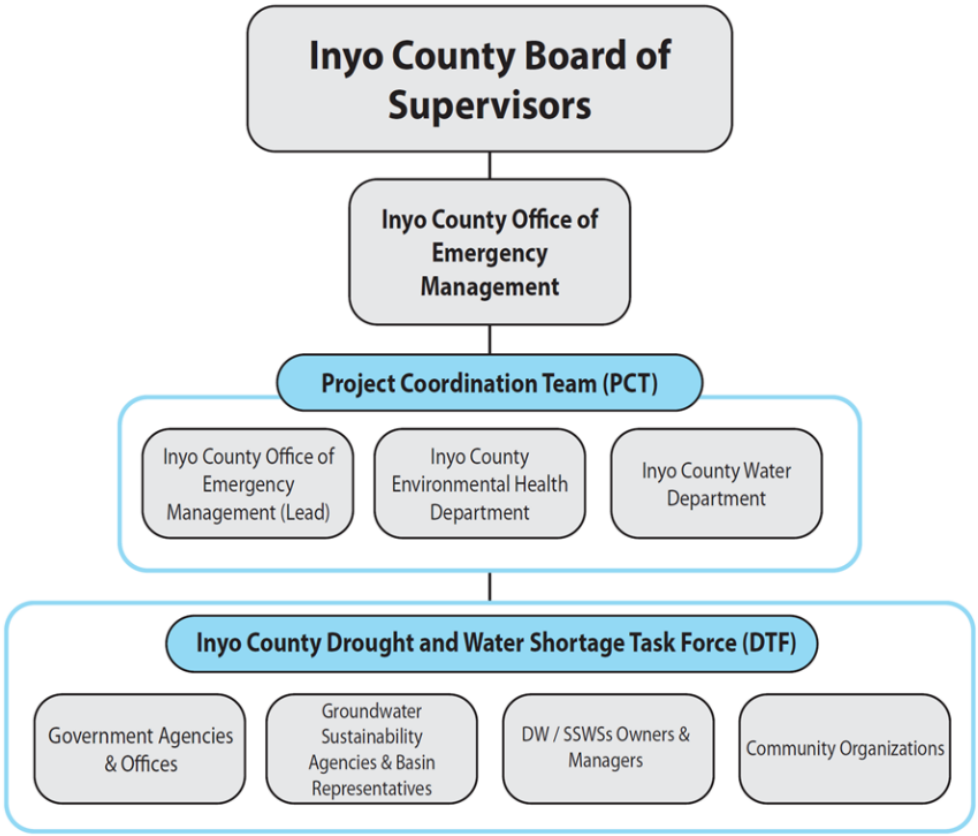

Figure A-1. Organizational Framework of the Task Force

MEETINGS

The Task Force will meet annually unless drought conditions necessitate more frequent meetings for action planning, coordination, collaboration, or problem-solving needs.

Annual meetings will be organized and facilitated by the PCT with advance notification to Task Force members. Inyo County staff will distribute agendas and related materials for review in advance of each meeting.

Attendance at all meetings is expected, or Task Force members can designate someone to attend in their place if the alternate is aware of all Task Force developments and can productively engage in discussions and provide input on behalf of their respective agency.

Task Force meetings will be open to the public, with meeting materials posted to the County website prior to the meeting. Notification of annual meetings will be posted to the County website for a minimum of three business days prior to the meeting date. Emergency meetings may be held with one-day notification. A quorum of members is desired for each meeting but is not required.