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KERN WATER COLLABORATIVE

MANAGEMENT ZONE EARLY ACTION PLAN

Executive Summary

PREPARED FOR

KERN WATER COLLABORATIVE

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EXECUTIVE SUMMARY

E.S. 1. Background

The Central Valley Regional Water Quality Control Board (Central Valley Water Board) has begun implementing the Nitrate Control Program in the Central Valley designed to achieve three nitrate management goals:

- *Goal 1* – Ensure a safe drinking water supply;
- *Goal 2* – Reduce nitrate loading so that ongoing discharges neither threaten to degrade high-quality waters absent appropriate findings by the Central Valley Water Board nor cause or contribute to exceedances of nitrate water quality objectives; and
- *Goal 3* – Implement long-term, managed restoration of impaired water bodies.

The Kern Water Collaborative (KWC) was established to achieve these three goals for its Management Zone (**Figure ES-1**). As required by the Nitrate Control Program, the KWC prepared this Early Action Plan (EAP), which identifies the initial actions that will be carried out to address drinking water being used by residences in the Priority 2 areas of the Management Zone with levels exceeding the Maximum Contaminant Level (MCL) of 10 mg/L as nitrogen (N) (**Figure ES-2**).

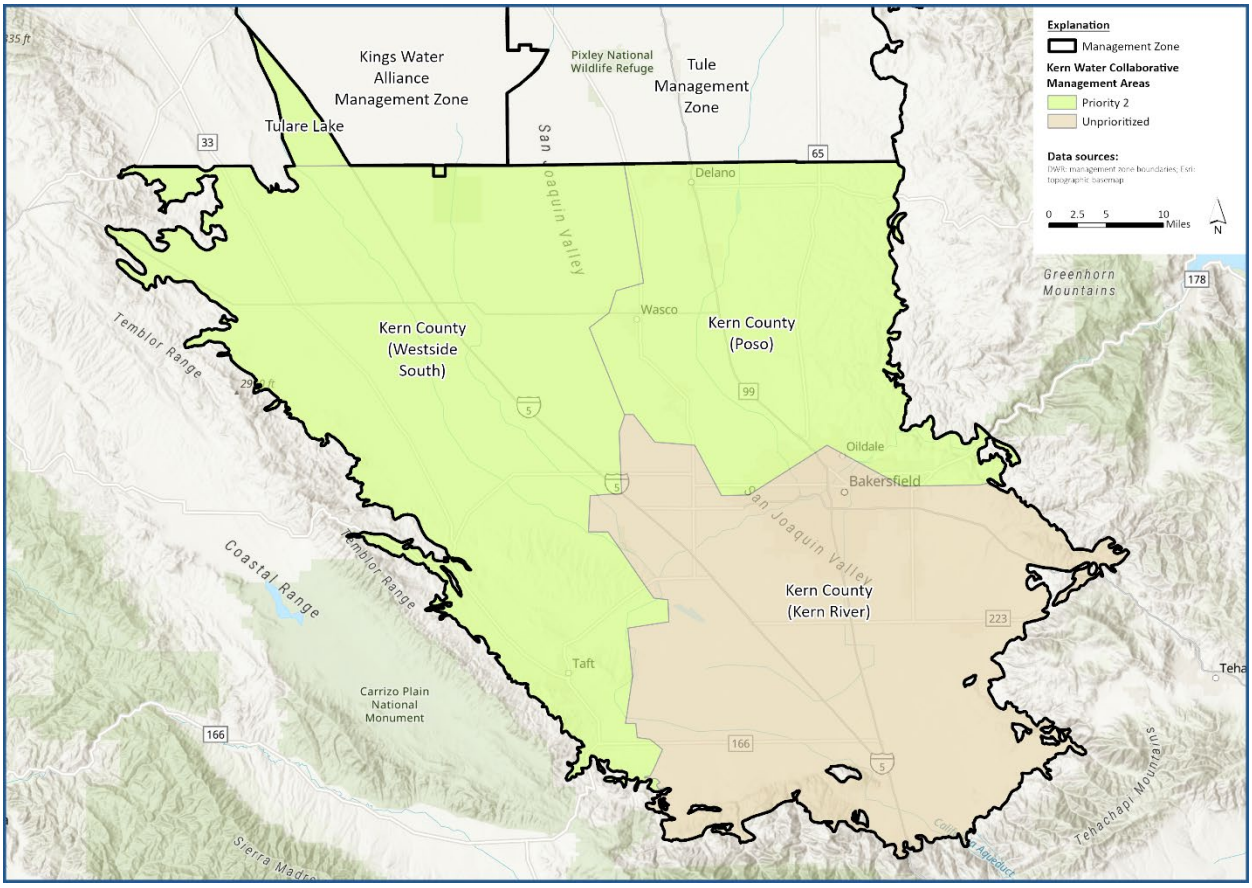

Figure ES-1. Kern Water Collaborative Management Zone

The key element of this EAP, which was developed in collaboration with the community, is the Interim Replacement Water Program. This Program provides immediate alternative sources of drinking water for residences that depend on groundwater from domestic wells for drinking and cooking purposes where that groundwater contains unsafe levels of nitrate (water with more than 10 milligrams per liter nitrate as nitrogen (mg/L-N)).

Figure ES-2. Scale Showing Nitrate Safe and Unsafe Levels

E.S. 2. Identification of Nitrate-Impacted Areas

As described in more detail within the Preliminary Management Zone Proposal, nitrate groundwater data were requested, downloaded, and compiled using various publicly available sources and complemented by data requested from Kern County and the Kern County Subbasin GSAs. The compiled nitrate

groundwater data were categorized into depth zones, following previously developed Central Valley Salinity Alternatives for Long-term Sustainability (CV-SALTS) best management practices. Wells constructed in the Upper Zone of the groundwater system and with nitrate data since the year 2010 were used to determine recent average ambient nitrate concentrations. The best readily available groundwater nitrate dataset compiled and analyzed included sample results for wells in the Upper, Lower, and Below Lower Zones from January 2010 to October 2025. These nitrate data were used in determining ambient nitrate conditions in the Upper Zone of the groundwater system for the Priority 2 KWC Management Zone areas (i.e., the Tulare Lake Subbasin portion of Kings County that is located within the Dudley Ridge Water District Boundaries and exists within the boundaries of the Westside Water Quality Coalition's boundaries, Kern County Subbasin (Westside South) area, and Kern County Subbasin (Poso) area).

The Upper Zone average nitrate concentrations were used to produce a map showing the spatial interpolation (kriging using a search radius of 1.5 miles) of ambient nitrate conditions within the Management Zone for conditions between 2010 and 2025. As illustrated in **Figure ES-3a** and **Figure ES-3b**, several nitrate-impacted areas occur within the Priority 2 areas of the Management Zone. These areas are defined by average recent nitrate concentrations in the Upper Zone that exceed the drinking water Maximum Contaminant Level (MCL) of 10 milligrams per liter nitrate as nitrogen. Inherent uncertainty exists for the preliminary estimate of ambient nitrate conditions. As more Upper Zone nitrate data become available (through EAP implementation of well testing or other monitoring programs associated with the Irrigated Lands Regulatory Program, Groundwater Sustainability Agencies, or other entities), the ambient nitrate analysis will be repeated, and the ambient nitrate concentrations map will be updated prior to the Management Zone Implementation Plan submittal date. The ambient nitrate Upper Zone map is not intended to be a substitute for well testing or interim water replacement requirements.

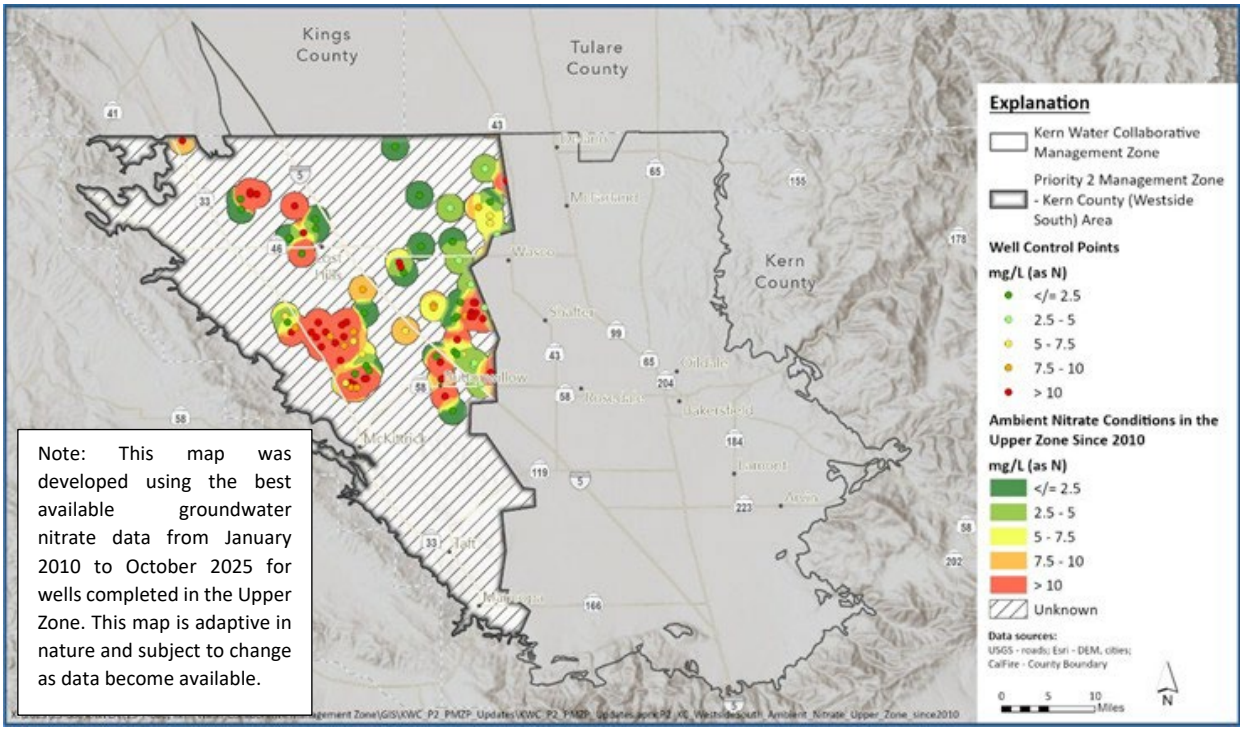

Figure ES-3a. Ambient Nitrate Conditions in the Upper Zone since 2010 (Kern County (Westside South) Area

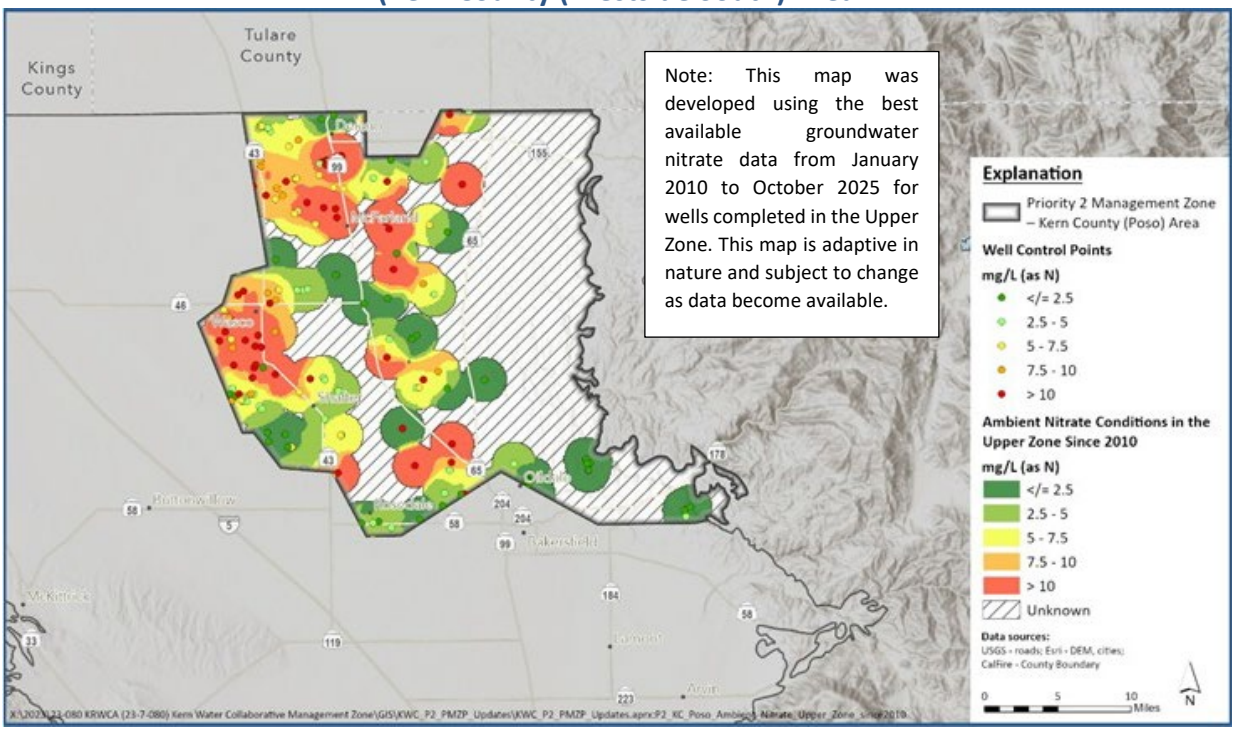

Figure ES-3b. Ambient Nitrate Conditions in the Upper Zone since 2010 (Kern County (Poso) Area

In addition to the maps that show areas potentially impacted by nitrate in groundwater in the Upper Zone, the groundwater nitrate data compilation also contains all available public water system supply well nitrate sample results. From the available records downloaded from the State Division of Drinking Water[1]; it appears that 74 public supply wells located within the Priority 2 Areas of the KWC Management Zone have exceeded the nitrate MCL at some time. Thirty-one (31) of those wells were considered to have an "active" status, as listed by the Drinking Water Watch.[2] Five public water systems in the Priority 2 areas of the KWC Management Zone are currently (as of December 2025) out of compliance due to elevated nitrate plus one or more other contaminants (typically 1,2,3-Trichloropropane (1,2,3-TCP), coliform, or manganese or arsenic).

The ambient nitrate conditions map for the Upper Zone was overlain with known public water system boundaries and approximate domestic well locations to identify potentially impacted residents. An estimated 86 domestic wells located outside of known public water system boundaries are located within mapped areas with estimated Upper Zone ambient nitrate above the safe drinking water standard (of 10 milligrams per liter nitrate as nitrogen) (17 in the Westside South Area and 69 in the Poso Area of Kern County Subbasin; zero (0) in the Tulare Lake Subbasin portion). Using census block data from the 2020 U.S. Census and updating populations using county-provided annual growth rate percentages, the estimated 2024 population of residents living outside known public water system boundaries and within mapped areas with potentially unsafe drinking water (estimated Upper Zone ambient nitrate above the MCL) is approximately 1,512 (347 in the Westside South Area, 1,165 in the Poso Area, and 0 in the Tulare Lake Subbasin portion)..

E.S. 3. Identification of Potentially Affected Areas

A key component of the EAP is the identification of residents or other entities in the Management Zone that may be obtaining their drinking water from a well impacted by nitrate levels that exceed 10 mg/L-N. Some KWC outreach efforts will target those identified as being most likely impacted by elevated nitrate (here elevated nitrate is indicated by nitrate levels in groundwater that are greater than three-quarters of the MCL, or 7.5 mg/L as N). This targeted outreach will occur at the same time; the KWC is implementing general community outreach activities for the entire Management Zone. The process to identify residents or other entities in potentially affected areas will continue as the EAP implementation continues, using the steps described. This effort will include collaborating with public water systems (PWSs) in areas that are not in compliance with nitrate drinking water standards.

E.S. 4. Community Outreach Program

The KWC has and will continue to engage the community during EAP implementation, including the Interim Replacement Water Program with the overall objective to create a level of engagement and

[1] Public Supply Well nitrate data was acquired from the Division of Drinking Water (https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/EDTlibrary.html) accessed December 2025.

[2] Public Water System information was acquired from the State's Safe Drinking Water Information System (SDWIS) Drinking Water Watch online database (https://sdwis.waterboards.ca.gov/PDWW/) accessed December 2025.

awareness with community residents and stakeholders that establishes trust and robust participation. The stated goals of the community outreach program are to 1) educate the public about the development and implementation of the EAP and opportunities for participation, 2) engage a diverse group of community members and non-dischargers representing differing social, cultural, and economic elements of the population, and 3) provide easy-to-understand, timely information on the development and implementation of short- and long-term drinking water solutions.

The community outreach program goals guided outreach during EAP development. The KWC conducted a series of community outreach events beginning in June 2024 to obtain input on EAP development. Webinars included opportunities to ask questions and provide comments to KWC staff and its consultants. Webinar polling was conducted to solicit input on demographics, communications preferences, and drinking water solutions.

This EAP reflects the input received from the public. General community outreach will continue during EAP implementation through a variety of communication mediums, including virtual and in-person community meetings, sharing information through the KWC's website, sharing regular updates via email to the interested persons email list, direct mail pieces, and/or information distribution through entities that are locally collaborating with the KWC's efforts to provide safe drinking water. In addition to ongoing broad community outreach, this EAP includes a program to reach out directly to residences in areas most likely to have domestic wells contaminated by nitrate.

E.S. 5. Interim Replacement Water

The Interim Replacement Water Program provides an immediate solution for those currently experiencing unsafe levels of nitrate in their drinking water source. However, these solutions are only temporary and will eventually be replaced by long-term, permanent solutions.

There are three key options to obtain safe water now at no cost to a resident located in the Management Zone: (a) delivered or non-delivered home bottled water; (b) installation of a Point-of-Use (POU) treatment system in your home; or (c) utilizing water fill stations strategically located within the Management Zone. Regarding the first two options, a residence may receive these alternative water options if the resident can answer yes to the following three statements:

1. My home is in the KWC Management Zone;
    a. For residents requesting service that receives drinking water from a Public Water System (PWS) that is non-compliant with the nitrate drinking water standard, where appropriate, the KWC will prioritize and target those that rely on domestic wells, and for the PWSs, will evaluate on a case-by-case basis the role of the Management Zone.
2. I am willing to sign an agreement with the Management Zone's service provider; and
3. My well has unsafe nitrate levels (> 10 mg/L-N) (see Figure ES-1) as determined by a water quality analysis conducted by a certified laboratory.

People who do not know if their well water has unsafe nitrate levels may contact the KWC (https://kwcmz.org/) to request that their well be sampled at no cost. Results from the nitrate test, which will be provided to you, will be used to determine the next steps. Most importantly, if a resident's nitrate

levels are unsafe, the KWC will work with them immediately to obtain a safe source of drinking water. If nitrate levels are high (> 7.5 mg/L-N) but safe, the KWC will offer the opportunity to have the well tested again at no cost in the future.

Finally, based on the needs of the community, the KWC may also install water fill stations in the Management Zone. This decision will be community-based and may be developed through the implementation of this EAP. Through this program, the community will be made aware of the availability of water fill station(s) if developed.

E.S. 6. Early Action Plan Implementation

The KWC began implementing this EAP on February 26, 2025, after the Central Valley Water Board conditionally approved the EAP submitted on December 30, 2024. KWC launched an email campaign on February 26, 2025 to kick off the program and inform residents regarding how to participate in the Interim Replacement Water Program. This EAP has been updated as part of the development of the KWC Management Zone's FMZP.