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**KINGS WATER ALLIANCE MANAGEMENT ZONE
FINAL MANAGEMENT ZONE PROPOSAL
ADDENDUM (FOR PRIORITY 2 TULARE LAKE
SUBBASIN AREA)**

PREPARED FOR



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Attachment D*	Early Action Plan Addendum [See Separate EAP Document File]
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LIST OF ACRONYMS

Acronym	Definition
1,2,3 TCP	1,2,3-Trichloropropane
AGR	Agricultural Supply
AR Difference	Difference Between Nitrogen Applied and Nitrogen Removed
A-R	Difference between Nitrogen Applied and Nitrogen Removed
A/R Ratio	Ratio of Nitrogen Applied to Nitrogen Removed
Basin Plans	Water Quality Control Plans for the Sacramento River and San Joaquin River Basins and the Tulare Lake Basin
BOD	Biochemical Oxygen Demand
BPA	Basin Plan Amendment
CDP	Census Designated Place
Central Valley Water Board	Central Valley Regional Water Quality Control Board
CETHP	California Environmental Health Tracking Program
CIWQS	California Integrated Water Quality System
Coalition	Kings River Water Quality Coalition
CVDRMP	Central Valley Dairy Representative Monitoring Program
CVHM2	Central Valley Hydrologic Model 2.0
CV-SALTS	Central Valley Salinity Alternatives for Long-term Sustainability
CVSC	Central Valley Salinity Coalition
CVWB	Central Valley Water Board
CSD	Community Services District
CWD	Community or County Water District

Acronym	Definition
CWS	Community Water System
DAC	Disadvantaged Community
DAU	Detailed Analysis Unit
DDW	Division of Drinking Water
DUC	Disadvantaged Unincorporated Community
DWR	California Department of Water Resources
DWW	Drinking Water Watch
EAP	Early Action Plan
EC	Electrical Conductivity
ESJWQC	East San Joaquin Water Quality Coalition
FMZP	Final Management Zone Proposal
GAMA	Groundwater Ambient Monitoring and Assessment
GAR	Groundwater Quality Assessment Report
GIS	Geographic Information Systems
gpd	gallons per day
GQMP	Groundwater Quality Management Plan
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
HCM	Hydrologic Conceptual Model
ILRP	Irrigated Lands Regulatory Program
IND	Industrial Service Supply
INMP	Irrigation and Nitrogen Management Plan
INMPSR	Irrigation and Nitrogen Management Plan Summary Report
IRWM	Integrated Regional Water Management
IX	Ion Exchange
KRCD	Kings River Conservation District
KWA	Kings Water Alliance
LAA	Land Application Area
lbs	pounds
LSWS	Local Small Water System
MCL	Maximum Contaminant Level
mgd	million gallons per day
mg/L	milligrams per liter
mg/L as N	milligrams per liter as nitrogen
mgd	million gallons per year
MHI	Median Household Income
MPEP	Management Practice Evaluation Program
MPIR	Management Practices Implementation Report
MUN	Municipal and Domestic Supply
MZ	Management Zone

Acronym	Definition
MZIP	Management Zone Implementation Plan
N	Nitrogen
NMP	Nutrient Management Plan
NO ₃ -N	Nitrate as Nitrogen
NOA	Notice of Applicability
NRCS	California Natural Resource Conservation Service
NTC	Notice to Comply
NWIS	National Water Information System
OAL	Office of Administrative Law
OWTS	Onsite Waste Treatment System
P2	Priority 2 (Nitrate Control Program prioritization)
PMZP	Preliminary Management Zone Proposal
POU	Point of Use
PRO	Industrial Process Supply
PWS	Public Water System
RO	Reverse Osmosis
SDAC	Severely Disadvantaged Communities
SDWIS	Safe Drinking Water Information System
SGMA	Sustainable Groundwater Management Act
SNMP	Salt and Nitrate Management Plan
sq. mi	square mile
SSWS	State Small Water System
State Water Board	State Water Resources Control Board
TDS	Total Dissolved Solids
TKN	Total Kjeldahl Nitrogen
USGS	United States Geological Survey
WDR	Waste Discharge Requirements
WMP	Waste Management Plan
WWTF	Wastewater Treatment Facility
WWTP	Wastewater Treatment Plant

EXECUTIVE SUMMARY

ES.1. Management Zone Overview

The Kings Water Alliance (KWA) initiated the formation of the KWA Management Zone to comply with the Central Valley Regional Water Quality Control Board (Central Valley Water Board or CVWB) Nitrate Control Program requirements. To address the growing needs of this large region of California to solve the nitrate problem in groundwater, representatives from local growers, dairies, and other permitted dischargers in the Kings and Tulare Lake Subbasins formed the KWA. The KWA elected to pursue Path B to comply with the Nitrate Control Program, which meant forming a Management Zone.

The KWA Management Zone includes the Kings Groundwater Subbasin, the Tulare Lake Groundwater Subbasin, a portion of the Kaweah Groundwater Subbasin, and smaller areas of other neighboring groundwater subbasins (**Figure ES-1**). Due to differences in nitrate groundwater conditions within the subbasins of the Central Valley, the CVWB assigned priorities based on the urgency of addressing nitrate problems in each groundwater subbasin. The Kings and Kaweah Subbasins and four other subbasins were deemed the highest priority, Priority 1, which means that their compliance with the Nitrate Control Program is on a fast track compared to the Priority 2 subbasins, including Tulare Lake Subbasin and seven other subbasins.

The overarching management goals of the Nitrate Control Program are (Central Valley Water Board, 2020):

1. Ensure safe drinking water supply;
2. Reduce salt and nitrate loading so that ongoing discharges neither threaten to degrade high-quality waters absent appropriate findings by the CVWB nor cause or contribute to exceedances of water quality objectives; and
3. Implement long-term, managed restoration of impaired water bodies as reasonable and feasible.

Kings Water Alliance Management Zone
 Final Management Zone Proposal Addendum
 Priority 2 Tulare Lake Subbasin Area

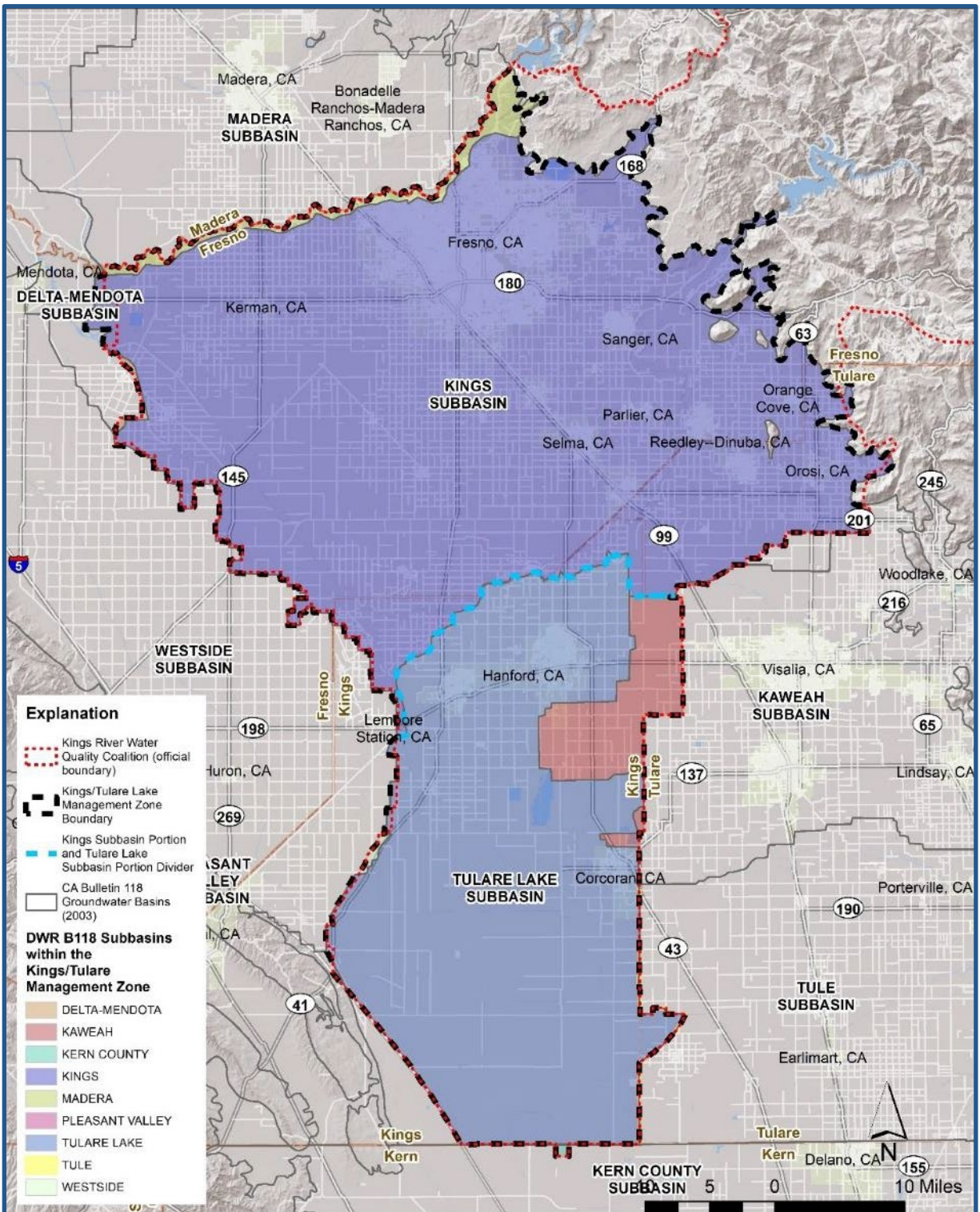


Figure ES-1. Kings Water Alliance Management Zone

The KWA worked collaboratively with permittees to form a Management Zone to achieve these goals. The formation of the KWA Management Zone (Path B) to comply with the Nitrate Control Program allows an exception from the nitrate drinking water standard compared to Path A. Path A is for Individual Permitting and imposes requirements to the discharger that may be difficult and expensive (potentially including making significant upgrades to a discharger's facility, conducting extensive monitoring of discharge and local groundwater, providing replacement drinking water to local residents, etc.). The Path B option encourages partnerships and teamwork among its discharging members to solve the nitrate problem within their Management Zone boundary.

Several documents are required to comply with Path B of the Nitrate Control Program. The first was the Preliminary Management Zone Proposal (PMZP), including a key companion document, the Early Action Plan. For Priority 1 subbasins, these were submitted to the CVWB within 270 days of dischargers receiving a Notice to Comply. The KWA submitted these documents to the Regional Board on March 8, 2021. Implementation of the Early Action Plan began within 60 days of submittal, on May 8, 2021. The Final Management Zone Proposal (FMZP) was submitted on August 29, 2022, 180 days after public comment and the CVWB's review of the Preliminary Management Zone Proposal. The Management Zone Implementation Plan was due 180 days after public comment and the CVWB's review of the Final Management Zone Proposal; KWA submitted its Management Zone Implementation Plan for the Priority 1 Kings Subbasin and a portion of the Kaweah Subbasin on September 5, 2023.

Although the KWA's PMZP and FMZP incorporated the Priority 2 Tulare Lake Subbasin, this document, the Final Management Zone Proposal Addendum, along with one of its main attachments, the Early Action Plan Addendum, is the next step to complying with the Nitrate Control Program and continuing the process of solving the nitrate problems that occur within the Management Zone boundary, particularly for the Priority 2 Tulare Lake Subbasin portion. One of the most important components of the development of the Preliminary and Final Management Zone Proposals and Early Action Plan is public outreach and community engagement. California State law (AB 685) declares that "every person in the state has a right to clean, safe, and affordable drinking water." This policy is commonly referred to as the Human Right to Water. To promote this effort, the KWA has been engaging the community through various outlets (including but not limited to mailings, flyers, radio announcements, advertisements, emails, public webinars, public surveys) to empower residents within the Management Zone to become engaged and involved in the decision-making process associated with solving their local nitrate problems.

This Final Management Zone Proposal Addendum document is designed to address the Priority 2 Tulare Lake Subbasin area, which is also part of the Kings River Water Quality Coalition area.

ES.2. Updated Sections of the KWA Preliminary Management Zone Proposal Addendum for the Priority 2 Tulare Lake Subbasin Portion

The contents of this Final Management Zone Proposal Addendum include updated sections of the original PMZP and FMZP submitted in March 2021 and August 2022, as well as the Preliminary Management Zone Proposal Addendum submitted in December 2024, that require updating to specifically address the Final Management Zone Proposal requirements for the Priority 2 Tulare Lake Subbasin area. The selection of sections included in this Addendum were discussed and agreed upon by the Regional Board through meetings and email communications in January 2024 through April 2024 and again in November and December 2025 (see **Attachment J**):

Section 1: Management Zone Overview

- Section 1.3.1 Priority 1 and Priority 2 Requirements and Timeline: This section is updated to reflect the timing and requirements associated with the Priority 1 and Priority 2 deadlines.
- Section 1.4.5 Public Participation Addendum for Priority 2 Tulare Lake Subbasin: This section provides an overview of the public outreach and engagement activities associated with the Priority 2 Tulare Lake Subbasin area of the KWA Management Zone.
- Section 1.5 Updated List of Participants in the Proposed Management Zone: This section is updated to reflect additional participants in the KWA Management Zone, including participants from the Priority 2 Tulare Lake Subbasin area.
- Section 1.5.2 Tulare Lake Subbasin Initial List of Participants: This section is updated to reflect additional participants in the KWA Management Zone, including participants from the Priority 2 Tulare Lake Subbasin area.

Section 3: Tulare Lake Subbasin Characterization and Initial Assessment of Groundwater Conditions

- Section 3.1.5 Drinking Water Systems: This section is updated to reflect public water systems in the Priority 2 Tulare Lake Subbasin portion of the KWA Management Zone.
- Section 3.1.6 Disadvantaged and Severely Disadvantaged Communities: This section is updated to reflect the most recent information on disadvantaged communities in the Priority 2 Tulare Lake Subbasin portion of the KWA Management Zone.

- Section 3.1.7 Land Use: This section is updated to reflect the most recent information on land use for the Priority 2 Tulare Lake Subbasin portion of the KWA Management Zone.
- Section 3.2.2 Groundwater Elevations and Flow: This section is updated to reflect the most recent groundwater contour data and flow directions for the Priority 2 Tulare Lake Subbasin portion of the KWA Management Zone.
- Section 3.2.2.1 Areas of Potential Contribution: This section is updated to reflect the most recent groundwater contour data and flow directions as they pertain to potential areas of contribution outside of the Priority 2 Tulare Lake Subbasin portion of the KWA Management Zone.
- Section 3.2.5 Updated Nitrate Water Quality Data and Analysis for Priority 2 Tulare Lake FMZP Addendum: This section is updated to reflect the most recent publicly available groundwater nitrate quality dataset used for the analysis of groundwater nitrate conditions including ambient mapping of recent nitrate concentrations in depth-specific aquifer zones and nitrate trends analyses (parametric, recent, long-term, and recent).
- Section 3.2.6 Existing Ambient Conditions: This section is updated to reflect the most recently publicly available groundwater nitrate quality dataset used for ambient mapping of recent nitrate concentrations for the Upper, Lower, and Below Lower Zones.
- Section 3.2.7 Groundwater Nitrate Trends Analysis: This section is updated to reflect the most recently available groundwater nitrate quality dataset used for parametric and non-parametric trends analyses on wells of all depth zones for the full record of measurements and the more recent time frame.
- Section 3.2.8 Inactive Drinking Water Supply Wells: This section is updated to reflect the most recent nitrate conditions with respect to inactive drinking water supply wells.
- Section 3.2.9 De-Designated Areas Discussion: This section includes a description of the de-designated area in the Priority 2 Tulare Lake Subbasin area of the KWA Management Zone.
- Section 3.3 Management Zone Participants: This section is updated to reflect participants in the Priority 2 Tulare Lake Subbasin area of the KWA Management Zone.
- Section 3.3.1 Permitted Dischargers: This section is updated to reflect permitted dischargers that received a Notice to Comply (NTC) in the Priority 2 Tulare Lake

Subbasin area of the KWA Management Zone, with attention to any intersection of the de-designated area.

- Section 3.3.1.1 Irrigated Lands Regulatory Program: This section was updated to reflect the Irrigated Lands Regulatory Program participation in the Priority 2 Tulare Lake Subbasin area.
- Section 3.3.1.2 Concentrated Animal Feeding Operations: This section was updated to reflect the Concentrated Animal Feeding Operations participants in the Priority 2 Tulare Lake Subbasin area.
- Section 3.3.1.3 Individually Permitted Dischargers: This section was updated to reflect the participation of Individually Permitted Dischargers in the Priority 2 Tulare Lake Subbasin area.
- Section 3.3.2 Non-Discharger/Stakeholder Participation: This section was updated to reflect the participation of non-dischargers and stakeholders in the Priority 2 Tulare Lake Subbasin area.
- Section 3.4.3 Individual Permitted Dischargers: This section was updated to reflect the current nitrate treatment and control efforts or management practices for individual permitted dischargers.

Section 4: Early Action Plan Development

- Section 4.1.1 Identification of Public Water Supplies and Domestic Wells Potentially Exceeding Nitrate Water Quality Objective: This section is updated to reflect the development of the Early Action Plan Addendum for the Priority 2 Tulare Lake Subbasin area.
- Section 4.1.1.1 Nitrate-Impacted Areas: This section is updated to reflect the development of the Early Action Plan Addendum for the Priority 2 Tulare Lake Subbasin area.
- Section 4.1.1.2 Potentially Impacted Public Supply Wells: This section is updated to reflect the development of the Early Action Plan Addendum for the Priority 2 Tulare Lake Subbasin area.
- Section 4.1.1.3 Potentially Impacted Domestic Wells: This section is updated to reflect the development of the Early Action Plan Addendum for the Priority 2 Tulare Lake Subbasin area, with attention to any domestic wells in de-designated areas.
- Section 4.2 Community Outreach: This section is updated to reflect the development of the Early Action Plan Addendum for the Priority 2 Tulare Lake Subbasin area.

Attachment B: Permitted Milk Cow Dairies, Confined Bovine Feeding Operations, and Poultry Operations in the Management Zone

- This Attachment was updated to reflect Management Zone participation in the Priority 2 Tulare Lake Subbasin area.

Attachment C: Outreach Records for Development of FMZP; Public Draft Comments and Response Log

- This Attachment was updated to reflect outreach and public input pertaining to the Priority 2 Tulare Lake Subbasin area.

Attachment D: Early Action Plan

- This Attachment was updated for the Priority 2 Tulare Lake Subbasin area as the Early Action Plan (EAP) Addendum

Attachment F: Kings Water Alliance Management Zone Participation Agreement

- This Attachment was updated to reflect the Priority 2 participation agreement for the KWA Management Zone.

Attachment J: KWA PMZP and FMZP Addendum Approach Communications with CVWB

- This Attachment was updated to reflect communications held with CVWB during preparation of this FMZP Addendum.

This document is an Addendum to the original FMZP developed for the KWA, and as such the numbering and sequence of sections contained in this document follow the list above. For more information about the Priority 1 areas within the KWA Management Zone, readers are encouraged to refer to the previously submitted and accepted PMZP and FMZP documents available online (<https://www.cvsalinity.org/resources/management-zone-development/>).

The following table lists the Nitrate Control Program requirements for the Preliminary Management Zone Proposal and where these requirements are addressed within this document (**Table ES-1**).

Table ES-1. Preliminary Management Zone Proposal Requirements	
FMZP Requirement	Location in FMZP Addendum
Initial and updated identification of public water supplies or domestic wells within the Management Zone areas with nitrate concentrations exceeding the water quality objective	Summary in Section 1; detailed information in EAP Addendum (see Attachment D)

Table ES-1. Preliminary Management Zone Proposal Requirements	
FMZP Requirement	Location in FMZP Addendum
An EAP to address drinking water needs for those that rely on public water supply or domestic wells with nitrate levels exceeding the water quality objective.	Summary in Section 4; complete proposed Priority 2 Management Zone EAP in Attachment D
Documentation of the process utilized to identify affected residents and the outreach utilized to ensure that they are given the opportunity to participate in the development of an EAP.	Summary in Section 4; Section 2 in the EAP Addendum (see Attachment D)
Identification of areas within or adjacent to the Management Zone that overlap with other management areas/activities	Section 2.1
Any constituents of concern that the individual discharger/group of dischargers intend to address besides nitrate (not required but is an option available)	Section 5 of the EAP Addendum (see Attachment D) discusses the use of Safe and Affordable Funding for Equity and Resilience (SAFER) funding to augment the well sampling program.
Documentation of actions to implement the EAP	Section 4
Proposed timeline for: Identifying additional participants; Further defining boundary areas; Developing proposed governance and funding structure for administration of the Management Zone; Additional evaluation of groundwater conditions across the Management Zone boundary area, if necessary; and, Preparing and submitting a Final Management Zone Proposal (FMZP) Addendum and Management Zone Implementation Plan (MZIP)	Sections 4 and 5

Source: Central Valley Water Board, 2020

ES.3. Early Action Plan Addendum Development

The establishment of a Management Zone requires the preparation of an Early Action Plan (EAP) that identifies actions the KWA has initiated to address sources of drinking water with unsafe nitrate levels. The key element of the 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 those who depend on groundwater with unsafe levels of nitrate for their drinking and cooking needs, that is, water with more than 10 mg/L as nitrogen (N).

The FMZP Addendum includes a summary of the key elements of the EAP, a brief overview of key EAP elements such as community outreach, the interim replacement water options (e.g., bottled water delivery, point-of-use treatment systems, and water fill stations), a well-testing program to support EAP implementation, and a general schedule for implementation. The EAP Addendum for the Priority 2 Tulare Lake Subbasin area, which includes more comprehensive information, is attached to this FMZP Addendum as **Attachment D**.

RESUMEN EJUCTIVO

R.E. 1. Descripción Peneral de la Zona de Manejo Preliminar

Kings Water Alliance (KWA) inició la formación de la Zona de Manejo de KWA para cumplir con los requisitos del Programa de Control de Nitratos de la Junta Regional de Control de Calidad del Agua del Valle Central (Central Valley Water Board o CVWB). Para abordar las crecientes necesidades de esta gran región de California de resolver el problema de los nitratos en las aguas subterráneas, los representantes de los productores locales, las lecherías y otros vertedores autorizados en las subcuencas de los lagos Kings y Tulare formaron KWA. KWA decidió seguir la vía B para cumplir con el Programa de Control de Nitratos, lo que significó la formación de una Zona de Manejo.

La Zona de Manejo de KWA incluye la Subcuenca de Agua Subterránea de Kings, la Subcuenca de Agua Subterránea del Lago de Tulare, una porción de la Subcuenca de Agua Subterránea de Kaweah y áreas más pequeñas de otras subcuencas de agua subterránea vecinas (Figura ES-1). Debido a las diferencias en las condiciones de las aguas subterráneas con nitratos dentro de las subcuencas del Valle Central, el CVWB asignó Prioridades en función de la urgencia de abordar los problemas de nitratos en cada subcuenca de aguas subterráneas. Las subcuencas Kings y Kaweah y otras cuatro subcuencas se consideraron de máxima Prioridad, Prioridad 1, lo que significa que su cumplimiento con el Programa de Control de Nitratos avanza rápidamente en comparación con la subcuenca del Lago de Tulare (y otras siete subcuencas), que se consideró una cuenca de Prioridad 2.

Los objetivos administrativos generales del Programa de Control de Nitratos son (Junta de Agua del Valle Central, 2020):

1. Garantizar el suministro de agua potable;
2. Reducir la carga de sal y nitrato de modo que las descargas en curso no amenacen con degradar aguas de alta calidad a menos que el CVWB haga las constataciones adecuadas ni provoquen o contribuyan a que se superen los objetivos de calidad del agua; y
3. Implementar la restauración gestionada a largo plazo de los cuerpos de agua deteriorados cuando sea razonable y factible.

Kings Water Alliance Management Zone
Final Management Zone Proposal Addendum
Priority 2 Tulare Lake Subbasin Area

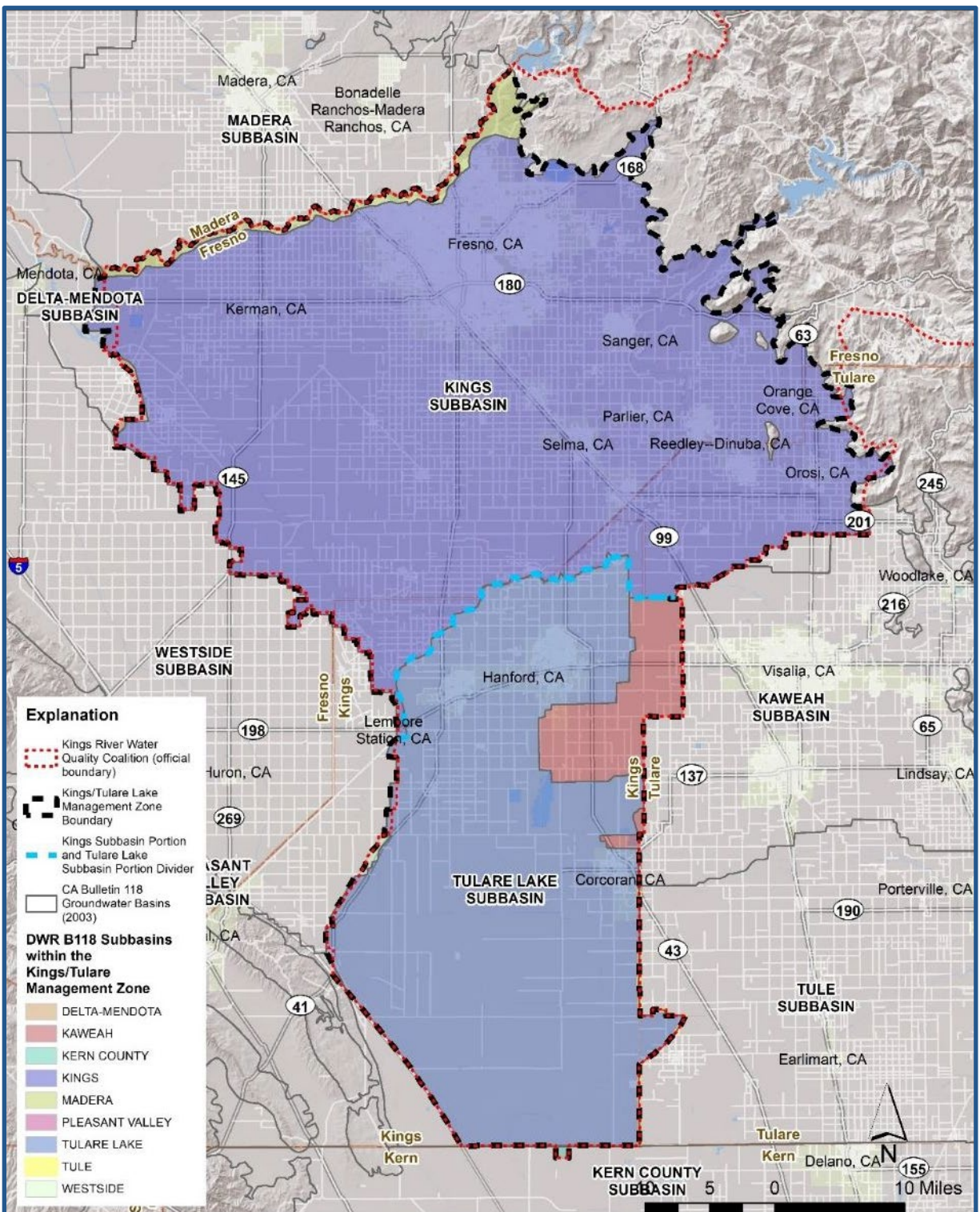


Figura ES-1. Zona de Manejo de Kings Water Alliance

Kings Water Alliance trabajó en colaboración con los titulares de permisos para formar una Zona de Manejo para alcanzar estos objetivos. La formación de la Zona de Manejo de KWA (Ruta B) para cumplir con el Programa de Control de Nitratos permite una excepción del estándar de nitratos en comparación con la Ruta A. La Ruta A es para Permisos Individuales e impone requisitos al descargador que pueden ser difíciles y costosos (potencialmente incluyendo la realización de mejoras significativas en las instalaciones de descarga, la realización de un monitoreo exhaustivo de la descarga y del agua subterránea local, el suministro de agua potable de reemplazo a los residentes locales, etc.). La opción Ruta B fomenta la asociación y el trabajo en equipo entre sus miembros descargadores para resolver el problema de los nitratos dentro de los límites de su Zona de Manejo.

Se requieren varios documentos para cumplir con la Ruta B del Programa de Control de Nitratos. La primera fue la Propuesta Preliminar de Zona de Manejo, que incluía un documento complementario clave, el Plan de Acción Temprana. Para las subcuencas de Prioridad 1, estos deben presentarse a la Junta Regional de Aguas del Valle Central (Central Valley Water Board o CVWB) dentro de los 270 días posteriores a que los descargadores reciban un Aviso de Cumplimiento. Estos dos documentos complementarios de la Zona de Manejo de KWA se presentaron a la Junta Regional el 8 de marzo de 2021. La implementación del Plan de Acción Temprana comenzó dentro de los 60 días posteriores a su presentación, el 8 de mayo de 2021. La Propuesta Final de la Zona de Manejo se presentó el 29 de agosto de 2022., que fue 180 días después del comentario público y la revisión por parte de CVWB de la propuesta preliminar de Zona de Manejo. El Plan de Implementación de la Zona de Manejo vencía 180 días después del comentario público y la revisión por parte del CVWB de la Propuesta Final de la Zona de Manejo y se presentó el 5 de septiembre de 2023.

Aunque el PMZP y FMZP de KWA incorporaron la Subcuenca del Lago de Tulare de Prioridad 2, este documento, el Anexo a la Propuesta de Zona de Manejo Preliminar, junto con uno de sus principales anexos, el Anexo al Plan de Acción Temprana, es el próximo paso para cumplir con el Programa de Control de Nitratos y continuar el proceso de solución de los problemas de nitratos que ocurren dentro de los límites de la Zona de Manejo, particularmente para la parte de la Subcuenca del Lago de Tulare de Prioridad 2. Uno de los componentes más importantes del desarrollo de las propuestas preliminares y finales de la Zona de Manejo y el plan de acción temprana es la divulgación pública y la participación de la comunidad. La ley estatal de California (AB 685) declara que “toda persona en el estado tiene derecho a agua potable limpia, segura y asequible”. Esta política se conoce comúnmente como el derecho humano al agua. Para promover este esfuerzo, la Zona de Manejo de KWA ha estado involucrando a la comunidad a través de varios medios (incluidos, entre otros, correos, folletos, anuncios de radio, anuncios, correos electrónicos, seminarios de web y encuestas públicos) con el fin de empoderar a los residentes dentro de la Zona de Manejo para que se involucren en el proceso de toma de decisiones asociado con la solución de sus problemas locales de nitratos.

Este documento de adenda de propuesta de Zona de Manejo preliminar está diseñado para abordar el área de la subcuenca del Lago de Tulare de Prioridad 2, que también forma parte del área de la Coalición para la Calidad del Agua del Río Kings.

R.E. 2. Secciones Actualizadas del Anexo de la Propuesta Preliminar de la Zona de Manejo de KWA para la Parte Prioritaria 2 de la Subcuenca del Lago de Tulare

El contenido de este Anexo a la Propuesta de Zona de Manejo Preliminar incluye secciones actualizadas del PMZP y FMZP originales presentados en marzo de 2021 y agosto de 2022, respectivamente, que requieren actualización para abordar específicamente los requisitos de la Propuesta de Zona de Manejo Preliminar para el área de la Subcuenca del Lago P2 Tulare. La selección de secciones incluidas en este Anexo fue discutida y acordada por la Junta Regional a través de reuniones y comunicaciones por correo electrónico entre enero de 2024 y abril de 2024 (**ver Anexo J**):

Sección 1: Descripción General de la Zona de Manejo Preliminar

- Sección 1.3.1 Requisitos y Cronograma de las Prioridades 1 y 2: Esta sección se actualiza para reflejar los plazos y los requisitos asociados con las fechas límite de las Prioridad 1 y Prioridad 2.
- Sección 1.4.5 Anexo de Participación Pública para El Lago de Tulare P2: Esta sección proporciona una descripción general de las actividades de participación y divulgación pública asociadas con el área del Lago de Tulare de Prioridad 2 de la Zona de Manejo de KWA.
- Sección 1.5 Lista Actualizada de Participantes en la MZ propuesta: Esta sección se actualiza para reflejar participantes adicionales en la Zona de Manejo de KWA, incluidos los participantes del área del Lago de Tulare de Prioridad 2.
- Sección 1.5.2 Lista Inicial de Participantes de la Subcuenca del Lago de Tulare: Esta sección se actualiza para reflejar participantes adicionales en la Zona de Manejo de KWA, incluidos los participantes del área del Lago de Tulare de Prioridad 2.

Sección 3: Caracterización de la subcuenca del Lago de Tulare y Evaluación Inicial de las Condiciones de las Aguas Subterráneas

- Sección 3.1.5 Sistemas de Agua Potable: Esta sección se actualiza para reflejar los sistemas públicos de agua en la porción de la subcuenca del Lago de Tulare de Prioridad 2 de la Zona de Manejo de KWA.
- Sección 3.1.6 Comunidades Desventajosas y Severamente Desventajosas: Esta sección se actualiza para reflejar la información más reciente sobre las comunidades desventajosas en la parte de la subcuenca del Lago de Tulare de Prioridad 2 de la Zona de Manejo de KWA.

- Sección 3.1.7 Uso de la Tierra: Esta sección se actualiza para reflejar la información más reciente sobre el uso de la tierra para la parte de la subcuenca del Lago de Tulare de Prioridad 2 de la Zona de Manejo de KWA.
- Sección 3.2.2 Elevaciones y Flujo de las Aguas Subterráneas: Esta sección se actualiza para reflejar los datos de contorno de las aguas subterráneas y las direcciones de flujo más recientes para la parte de la subcuenca del Lago de Tulare de Prioridad 2 de la Zona de Manejo de KWA.
- Sección 3.2.2.1 Áreas de Contribución Potencial: Esta sección se actualiza para reflejar los datos de contorno de las aguas subterráneas y las direcciones de flujo más recientes en lo que respecta a las áreas potenciales de contribución fuera de la parte de la subcuenca del Lago de Tulare de Prioridad 2 de la Zona de Manejo de KWA.
- Sección 3.2.5 Datos y Análisis Actualizados de la Calidad del Agua con Nitratos para el Anexo P2 FMZP del Lago de Tulare: esta sección se actualiza para reflejar el conjunto de datos de calidad de nitratos de aguas subterráneas más reciente disponible al público que se utiliza para el análisis de las condiciones de nitratos de aguas subterráneas, incluido el mapeo ambiental de los niveles recientes de nitratos en zonas de acuíferos específicos de la profundidad y los análisis de tendencias de nitratos (paramétricos, recientes, a largo plazo y recientes).
- Sección 3.2.6 Condiciones Ambientales Existentes: esta sección se actualiza para reflejar el conjunto de datos de calidad de nitratos de aguas subterráneas más reciente disponible al público que se utiliza para el mapeo ambiental de los niveles recientes de nitratos para las zonas superior, inferior y por debajo de la inferior.
- Sección 3.2.7 Análisis de Tendencias de Nitratos de Aguas Subterráneas: esta sección se actualiza para reflejar el conjunto de datos de calidad de nitratos de aguas subterráneas más reciente disponible que se utiliza para los análisis de tendencias paramétricas y no paramétricas en pozos de todas las zonas de profundidad para el registro completo de mediciones y el marco de tiempo más reciente.
- Sección 3.2.8 Pozos de Suministro de Agua Potable Inactivos: esta sección se actualiza para reflejar las condiciones de nitrato más recientes con respecto a los pozos de suministro de agua potable inactivos.
- Sección 3.2.9 Discusión Sobre Áreas no Designadas: esta sección incluye una descripción del área no designada en el área de la subcuenca del Lago de Tulare P2 de la Zona de Manejo de KWA.
- Sección 3.3 Participantes de la Zona de Manejo: Esta sección se actualiza para reflejar a los participantes en el área de la subcuenca P2 del Lago de Tulare de la Zona de Manejo de KWA.

- Sección 3.3.1 Descargadores Autorizados: Esta sección se actualiza para reflejar a los descargadores autorizados que recibieron un Aviso de Cumplimiento (NTC) en el área de la subcuenca P2 del Lago de Tulare de la Zona de Manejo de KWA, con atención a cualquier intersección con áreas no designadas.
- Sección 3.3.1.1 Programa de Regulación de Tierras de Regadío: Esta sección se actualizó para reflejar la participación en el Programa de Regulación de Tierras de Regadío en el área de la subcuenca P2 del Lago de Tulare.
- Sección 3.3.1.2 Operaciones Concentradas de Alimentación de Animal: Esta sección se actualizó para reflejar a los participantes de las operaciones concentradas de alimentación para animales en el área de la subcuenca P2 del Lago de Tulare.
- Sección 3.3.1.3 Descargadores Autorizados Individualmente: Esta sección se actualizó para reflejar la participación de los descargadores autorizados individualmente en el área de la subcuenca P2 del Lago de Tulare.
- Sección 3.3.2 Participantes sin Descarga y las Partidos Interesados: Esta sección se actualizó para reflejar la participación que no descargan y los partidos interesados en el área de la subcuenca P2 del Lago de Tulare.
- Sección 3.4.3 Descargadores Autorizados Individuales: Esta sección se actualizó para reflejar los esfuerzos de tratamiento y control de nitratos o las prácticas de gestión para los descargadores autorizados individuales.

Sección 4: Desarrollo del Plan de Acción Temprana

- Sección 4.1.1 Identificación de Suministros Públicos de Agua y Pozos Domésticos que Potencialmente Excedan el Objetivo de Calidad del Agua en Términos de Nitratos: esta sección se actualiza para reflejar el desarrollo del Anexo del Plan de Acción Temprana para el área de la subcuenca P2 del Lago de Tulare.
- Sección 4.1.1.1 Áreas Afectadas por Nitratos: esta sección se actualiza para reflejar el desarrollo del Anexo del Plan de Acción Temprana para el área de la subcuenca P2 del Lago de Tulare.
- Sección 4.1.1.2 Pozos de Suministro Público Potencialmente Afectados: esta sección se actualiza para reflejar el desarrollo del Anexo del Plan de Acción Temprana para el área de la subcuenca P2 del Lago de Tulare.
- Sección 4.1.1.3 Pozos Domésticos Potencialmente Afectados: esta sección se actualiza para reflejar el desarrollo del Anexo del Plan de Acción Temprana para el área de la subcuenca P2 del Lago de Tulare, con atención a los pozos domésticos en áreas no designadas.
- Sección 4.2 Difusión Comunitaria: Esta sección se actualiza para reflejar el desarrollo del Anexo del Plan de Acción Temprana para el área de la subcuenca del Lago de Tulare P2.

Anexo B: Lecherías de Vacas, Operaciones de Granaderas Confinadas y Operaciones Avícolas Permitidas en la Zona de Manejo

- Este anexo se actualizó para reflejar la participación en la Zona de Manejo en el área de la subcuenca del Lago de Tulare P2.

Anexo C: Registros de divulgación para el desarrollo del FMZP; registro de comentarios y respuestas del borrador público

- Este anexo se actualizó para reflejar la difusión y los aportes públicos relacionados con el área de la subcuenca del Lago de Tulare P2.

Anexo D: Plan de Acción Temprana

- Este anexo se actualizó para el área de la subcuenca del Lago de Tulare P2 como Anexo del Plan de Acción Temprana (EAP)

Anexo F: Acuerdo de participación en la Zona de Manejo de Kings Water Alliance

- Este anexo se actualizó para reflejar el acuerdo de participación de Prioridad 2 para la Zona de Manejo KWA.

Este documento es un anexo al FMZP original desarrollado para KWA y, como tal, la numeración y la secuencia de las secciones contenidas en este documento siguen la lista anterior. Para obtener más información sobre las áreas de Prioridad 1 dentro de la Zona de Manejo de KWA, se recomienda a los lectores que consulten los documentos PMZP y FMZP presentados y aceptados anteriormente, disponibles en línea.

(<https://www.cvsalinity.org/resources/management-zone-development/>).

La siguiente tabla enumera los requisitos del Programa de Control de Nitratos para la Propuesta Preliminar de Zona de Manejo y dónde se abordan estos requisitos dentro de este documento (**Tabla RE-1**).

Tabla RE-1. Requisitos de la Propuesta Preliminar de Zona de Manejo	
FMZP Requisitos	Ubicación en el Anexo FMZP
Identificación inicial y actualizada de suministros públicos de agua o pozos domésticos dentro de las áreas de la Zona de Manejo con concentraciones de nitratos que exceden el objetivo de calidad del agua.	Resumen en la Sección 1; información detallada en el Apéndice E del Anexo EAP (ver Anexo D)
Un EAP para abordar las necesidades de agua potable de quienes dependen del suministro público de agua o de pozos domésticos con niveles de nitrato que exceden el objetivo de calidad del agua.	Summary in Section 4; complete proposed P2 Management Zone EAP in Attachment D

Tabla RE-1. Requisitos de la Propuesta Preliminar de Zona de Manejo	
FMZP Requisitos	Ubicación en el Anexo FMZP
Documentación del proceso utilizado para identificar a los residentes afectados y la extensión utilizada para garantizar que tengan la oportunidad de participar en el desarrollo de un EAP.	Resumen en la Sección 4; Sección 2 en el Anexo del EAP (ver Anexo D)
Identificación de áreas dentro o adyacentes a la Zona de Manejo que se superponen con otras áreas/actividades de manejo	Sección 2.1
Cualquier componente de interés que el descargador individual o el grupo de descargadores pretenda abordar además del nitrato (no es obligatorio, pero es una opción disponible)	Sección 5 del Anexo del EAP (ver Anexo D) analiza el uso del financiamiento seguro y asequible para la equidad y la resiliencia (SAFER) para ampliar el programa de pozos.
Documentación de acciones para implementar el EAP.	Sección 4
Cronograma propuesto para: Identificar participantes adicionales; Definir con más detalle las áreas limítrofes; Desarrollar una propuesta de estructura de gobernanza y financiamiento para la administración de la Zona de Manejo; Evaluación adicional de las condiciones del agua subterránea a lo largo del área límite de la Zona de Manejo, si es necesario; y, Preparar y presentar un Anexo a la Propuesta Final de Zona de Manejo (FMZP) y un Plan de Implementación de la Zona de Manejo (MZIP)	Sección 4 y 5

Source: Central Valley Water Board, 2020

R.E. 3. Desarrollo de la Adenda del Plan de Acción Temprana

El establecimiento de una Zona de Manejo requiere la preparación de un plan de acción temprana (EAP) que identifique las acciones que KWA ha iniciado para abordar las fuentes de agua potable con niveles peligrosos de nitrato. El elemento clave del EAP, que se desarrolló en colaboración con la comunidad, es el Programa de Reemplazo de Agua Provisional. Este programa proporciona fuentes alternativas inmediatas de agua potable para quienes dependen de aguas subterráneas con niveles peligrosos de nitrato para sus necesidades de bebida y cocina, es decir, agua con más de 10 mg/L como N.

El Anexo del FMZP incluye un resumen de los elementos clave del EAP, una breve descripción general de los elementos clave del EAP, como la extensión comunitaria, las opciones de agua de reemplazo provisionarias (por ejemplo, entrega de agua embotellada, sistemas de tratamiento en el punto de uso y estaciones de llenado de agua), un programa de prueba de pozos para respaldar la implementación del EAP y un cronograma general para la implementación. El Anexo del EAP para el área P2 de la subcuenca del Lago de Tulare, que incluye información más completa, se adjunta a este Anexo del FMZP como **Anexo D**.

1. MANAGEMENT ZONE OVERVIEW

1.1. Introduction and Document Roadmap

The Kings Water Alliance (KWA) initiated the formation of the Kings Water Alliance Management Zone to comply with the Central Valley Regional Water Quality Control Board (Central Valley Water Board or CVWB) Nitrate Control Program requirements. The Kings and Kaweah Subbasins were determined by the Central Valley Water Board to be Priority 1 basins, which meant that their compliance with the Nitrate Control Program was on a fast track compared to the Tulare Lake Subbasin, which was deemed a Priority 2 basin. To address the growing needs of this large region of California to solve the nitrate problem in groundwater, representatives from local growers and dairies and other permitted dischargers in the Kings and Tulare Lake Subbasins formed the KWA. The KWA elected to pursue Path B to comply with the Nitrate Control Program, which meant forming a Management Zone. The boundary of the Management Zone is largely an intersection of the Kings River Water Quality Coalition boundary and the California Department of Water Resources (DWR) Bulletin 118 basin boundaries as published in 2003 for the Kings and Tulare Lake Subbasins. As explained in this document, the proposed Management Zone also includes small areas of other subbasins.

Due to the large geographical area covered by the KWA Management Zone, the original KWA PMZP and FMZP documents were divided into chapters that address: 1) the Northern Portion of the KWA Management Zone (Kings Subbasin Priority 1) and 2) the Southern Portion of the KWA Management Zone (Tulare Lake Subbasin Priority 2 and a small area of the Priority 1 Kaweah Subbasin). Although there were sections within these two chapters that present the same information, this approach enabled the KWA, who has elected to represent Priority 1 and Priority 2 subbasins, to comply with the two different regulatory deadlines associated with the Nitrate Control Program for Path B (that entails forming the proposed Management Zone). Chapter 2 of the original KWA's PMZP and FMZP contained the Management Zone requirements for the Northern Portion (Kings Subbasin area) of the KWA Management Zone. Chapter 3 contained the Management Zone requirements for the Priority 1 Kaweah Subbasin portion that is adjacent to the Priority 2 Tulare Lake Subbasin and Southern Portion of the KWA Management Zone.

1.1.1. FMZP Addendum Description

The contents of this Final Management Zone Proposal Addendum include updated sections of the original PMZP and FMZP submitted in March 2021 and August 2022, as well as the PMZP Addendum submitted in December 2024, that require updating to specifically address the Final Management Zone Proposal requirements for the Priority 2 Tulare Lake Subbasin area. The selection of sections included in this Addendum were discussed and agreed upon by the

Regional Board through meetings and email communications in January 2024 through April 2024 and again in December 2025 (see **Attachment J**).

This document is an Addendum to the original Final Management Zone Proposal document submitted by KWA in August 2022. The purpose of this document is to provide information pertinent to the Priority 2 Tulare Lake Subbasin portion of the KWA Management Zone and address the requirements put forth for the Priority 2 areas of the Central Valley. This document provides updated information for the Priority 2 Tulare Lake area of the KWA Management Zone on the following topics:

- Section 1: Management Zone Overview
 - Section 1.3.1 Priority 1 and Priority 2 Requirements and Timeline: This section is updated to reflect the timing and requirements associated with the Priority 1 and Priority 2 deadlines.
 - Section 1.4.5 Public Participation Addendum for Priority 2 Tulare Lake: This section provides an overview of the public outreach and engagement activities associated with the Priority 2 Tulare Lake area of the KWA Management Zone.
 - Section 1.5 Updated List of Participants in the Proposed Management Zone: This section is updated to reflect additional participants in the KWA Management Zone, including participants from the Priority 2 Tulare Lake Subbasin area.
 - Section 1.5.2 Tulare Lake Subbasin Initial List of Participants: This section is updated to reflect additional participants in the KWA Management Zone, including participants from the Priority 2 Tulare Lake Subbasin area.
- Section 3: Tulare Lake Subbasin Characterization and Initial Assessment of Groundwater Conditions
 - Section 3.1.5 Drinking Water Systems: This section is updated to reflect public water systems in the Priority 2 Tulare Lake Subbasin portion of the KWA Management Zone.
 - Section 3.1.6 Disadvantaged and Severely Disadvantaged Communities: This section is updated to reflect the most recent information on disadvantaged communities in the Priority 2 Tulare Lake Subbasin portion of the KWA Management Zone.
 - Section 3.1.7 Land Use: This section is updated to reflect the most recent information on land use for the Priority 2 Tulare Lake Subbasin portion of the KWA Management Zone.

- Section 3.2.2 Groundwater Elevations and Flow: This section is updated to reflect the most recent groundwater contour data and flow directions for the Priority 2 Tulare Lake Subbasin portion of the KWA Management Zone.
- Section 3.2.2.1 Areas of Potential Contribution: This section is updated to reflect the most recent groundwater contour data and flow directions as they pertain to potential areas of contribution outside of the Priority 2 Tulare Lake Subbasin portion of the KWA Management Zone.
- Section 3.2.5 Updated Nitrate Water Quality Data and Analysis for Priority 2 Tulare Lake FMZP Addendum: This section is updated to reflect the most recent publicly available groundwater nitrate quality dataset used for the analysis of groundwater nitrate conditions, including ambient mapping of recent nitrate concentrations in depth-specific aquifer zones and nitrate trends analyses (parametric, recent, long-term, and recent).
- Section 3.2.6 Existing Ambient Conditions: This section is updated to reflect the most recently publicly available groundwater nitrate quality dataset used for ambient mapping of recent nitrate concentrations for the Upper, Lower, and Below Lower Zones.
- Section 3.2.7 Groundwater Nitrate Trends Analysis: This section is updated to reflect the most recently available groundwater nitrate quality dataset used for parametric and non-parametric trends analyses on wells of all depth zones for the full record of measurements and the more recent time frame.
- Section 3.2.8 Inactive Drinking Water Supply Wells: This section is updated to reflect the most recent nitrate conditions with respect to inactive drinking water supply wells.
- Section 3.2.9 De-Designated Areas Discussion: This section includes a description of the de-designated area in the Priority 2 Tulare Lake Subbasin area of the KWA Management Zone.
- Section 3.3 Management Zone Participants: This section has been updated to reflect the participants in the Priority 2 Tulare Lake Subbasin area of the KWA Management Zone.
- Section 3.3.1 Permitted Dischargers: This section is updated to reflect permitted dischargers that received a Notice to Comply (NTC) in the Priority 2 Tulare Lake Subbasin area of the KWA Management Zone, with attention to any intersection of the de-designated area.

- Section 3.3.1.1 Irrigated Lands Regulatory Program: This section was updated to reflect the Irrigated Lands Regulatory Program participation in the Priority 2 Tulare Lake Subbasin area.
- Section 3.3.1.2 Concentrated Animal Feeding Operations: This section was updated to reflect the Concentrated Animal Feeding Operations participants in the Priority 2 Tulare Lake Subbasin area.
- Section 3.3.1.3 Individually Permitted Dischargers: This section was updated to reflect the participation of Individually Permitted Dischargers in the Priority 2 Tulare Lake Subbasin area.
- Section 3.3.2 Non-Discharger/Stakeholder Participation: This section was updated to reflect the participation of non-dischargers and stakeholders in the Priority 2 Tulare Lake Subbasin area.
- Section 3.4.3 Individual Permitted Dischargers: This section was updated to reflect the current nitrate treatment and control efforts or management practices for individual permitted dischargers.
- Section 4: Early Action Plan Development
 - Section 4.1.1 Identification of Public Water Supplies and Domestic Wells Potentially Exceeding Nitrate Water Quality Objective: This section is updated to reflect the development of the Early Action Plan Addendum for the Priority 2 Tulare Lake Subbasin area.
 - Section 4.1.1.1 Nitrate-Impacted Areas: This section is updated to reflect the development of the Early Action Plan Addendum for the Priority 2 Tulare Lake Subbasin area.
 - Section 4.1.1.2 Potentially Impacted Public Supply Wells: This section is updated to reflect the development of the Early Action Plan Addendum for the Priority 2 Tulare Lake Subbasin area.
 - Section 4.1.1.3 Potentially Impacted Domestic Wells: This section is updated to reflect the development of the Early Action Plan Addendum for the Priority 2 Tulare Lake Subbasin area, with attention to any domestic wells in de-designated areas.
 - Section 4.2 Community Outreach: This section is updated to reflect the development of the Early Action Plan Addendum for the Priority 2 Tulare Lake Subbasin area.
- Attachment B: Permitted Milk Cow Dairies, Confined Bovine Feeding Operations, and Poultry Operations in the Management Zone

- This Attachment was updated to reflect Management Zone participation in the Priority 2 Tulare Lake Subbasin area.
- Attachment C: Outreach Records for Development of FMZP; Public Draft Comments and Response Log
 - This Attachment was updated to reflect outreach and public input pertaining to the Priority 2 Tulare Lake Subbasin area.
- Attachment D: Early Action Plan
 - This Attachment was updated for the Priority 2 Tulare Lake Subbasin area as the Early Action Plan (EAP) Addendum
- Attachment F: Kings Water Alliance Management Zone Participation Agreement
 - This Attachment was updated to reflect the Priority 2 participation agreement for the KWA Management Zone.

1.2. Nitrate Control Program

The Central Valley Water Board adopted Amendments to the Water Quality Control Plans for the Sacramento River and San Joaquin River Basins and the Tulare Lake Basin (Basin Plans) to incorporate a Central Valley-wide Salt and Nitrate Control Program (Resolution R5-2018-0034) on May 31, 2018 (Central Valley Water Board, 2018). The State Water Resources Control Board (State Water Board) and the Office of Administrative Law (OAL) approved these amendments to the Central Valley Water Board Basin Plans (Central Valley Water Board, 2015, 2016) on October 16, 2019 (Resolution 2019-0057) and January 15, 2020 (OAL Matter Number: 2019-1203-03), respectively. The portions of these Basin Plan amendments (BPA) that established the Nitrate Control Program became effective January 17, 2020.

The State Water Board's Resolution approving the Nitrate Control Program required targeted revisions to the new Salt and Nitrate Management Program. The CVWB adopted these revisions on December 10, 2020 (Resolution R5-2020-0057). The State Water Board approved the revisions on June 1, 2021 (Resolution 2021-0019), and they became effective on November 10, 2021 (Office of Administrative Law Matter Number: 2021-0929-05S). The nitrate management goals and compliance requirements described herein, are based on the approved revisions of the Nitrate Control Program.

The overarching management goals of the Salt and Nitrate Control Program are (Central Valley Water Board, 2020):

1. Ensure safe drinking water supply;
2. Reduce salt and nitrate loading so that ongoing discharges neither threaten to degrade high-quality waters absent appropriate findings by the CVWB nor cause or contribute to exceedances of water quality objectives and

3. Implement long-term, managed restoration of impaired water bodies.

The schedule for implementation of the Central Valley Nitrate Control Program is based on the priority designation of Central Valley Region groundwater basins/subbasins. These groundwater basins/subbasins, which are designated as Priority 1, Priority 2 or “Remaining Areas” (not currently prioritized), are prioritized based on existing ambient nitrate concentrations in the upper portion of the groundwater system. The Nitrate Control Program designates the Tulare Lake Subbasin as a Priority 2 basin (see Figure N-1 and Table N-1, Central Valley Water Board, 2020).

1.3. Notice to Comply

The CVWB sent out NTCs to permitted dischargers in Priority 1 groundwater basins/subbasins on May 29, 2020. NTCs were sent out to permitted dischargers in Priority 2 groundwater basins/subbasins on December 29, 2023. Following receipt of the NTC, permitted dischargers must choose between two compliance pathways to meet the requirements of the Nitrate Control Program:

- **Path A: Individual Permitting Approach** – This is the default permitting compliance pathway. Under this approach, the permittee must comply with all Nitrate Control Program requirements as an individual discharger or as a third-party group subject to a General Order that chooses to be permitted under this approach.
- **Path B: Management Zone Approach** – Permitted dischargers that elect to comply using the compliance Path B work cooperatively with other dischargers and local stakeholders to implement all requirements of the Nitrate Control Program.

A Management Zone is defined as follows (Central Valley Water Board, 2020):

- A Management Zone is a discrete and generally hydrologically contiguous area for which permitted discharger(s) participating in the Management Zone collectively work to meet the goals of the SNMP [Salt and Nitrate Management Plan] and for which regulatory compliance is evaluated based on the permittees’ collective impact, including any alternative compliance programs, on a defined portion of the aquifer. Where Management Zones cross groundwater basin or subbasin boundaries, regulatory compliance is assessed separately for each basin or subbasin. Management Zones must be approved by the CVWB.
- The establishment of a Management Zone creates a collective approach to nitrate management that maximizes resources and provides a more integrated approach to developing local solutions to achieve the goals of the Program. **Table 1-1** summarizes the intent and purpose for the establishment of a Management Zone (Central Valley Water Board, 2020).

Table 1-1. Intent and Purpose of a Management Zone	
Characteristics	
<ul style="list-style-type: none"> • A defined area that incorporates a portion of a large groundwater basin(s)/subbasin(s) • Encompasses all groundwater for those permittees that discharge nitrate to said groundwater that have selected to comply with the Nitrate Control Program through participation in the defined Management Zone. • Voluntarily proposed by those regulated permittees located within the proposed Management Zone boundary that have decided to work collectively and collaboratively to comply with the Nitrate Control Program. 	
Intent and Purposes	
<ul style="list-style-type: none"> • Defined area that serves as a discrete regulatory compliance unit for multiple permittees complying with the Nitrate Control Program. • Basis for the establishment of local management plans to manage nitrate within the Management Zone's boundary. 	
<ul style="list-style-type: none"> • Participants work collectively to implement Salt and Nitrate Control Program Management Goals: (1) safe drinking water, (2) reduced nitrate loading so that ongoing discharges do not cause or contribute to exceedances of water quality objectives, and (3) restoring groundwater basins/subbasins (where reasonable, feasible and practicable) across the Management Zone. • Where groundwater within the Management Zone boundary, and groundwater impacted by those permittees within the Management Zone boundary, is being used as a drinking water supply, and where those drinking water supplies are impacted by nitrates and exceed or are likely to exceed nitrate drinking water standards in the foreseeable future, Management Zone participants will ensure the provision of safe drinking water to all residents in the area adversely affected by those dischargers of nitrates from those that are participating in the Management Zone. 	
<ul style="list-style-type: none"> • Ensure the provision of safe drinking water for the Management Zone through stakeholder coordination and cooperation. • Work towards better resource management through appropriate allocation of resources. 	
<ul style="list-style-type: none"> • Central Valley Water Board imposes reasonable provisions collectively for the Management Zone and its permittee participants that recognize the need to prioritize nitrate management activities over time for compliance with the Salt and Nitrate Control Program Management Goals. 	

Source: Adapted from Table N-4 in the Nitrate Control Program (Central Valley Water Board, 2020)

The CVWB sent out NTCs to permitted dischargers in the Kings and Kaweah Subbasins on May 29, 2020, and NTCs were sent out to permitted dischargers in the Tulare Lake Subbasin on December 29, 2023. These NTCs activated the following schedule of deliverables for permitted dischargers that elected to comply under Path B – Management Zone Approach in the Kings and Kaweah Subbasins (see **Table N-5.B**, Summary Schedule for Implementation; Central Valley Water Board, 2020):

- Priority 1:
 - Submit a Preliminary Management Zone Proposal to the CVWB (including an Early Action Plan) by March 8, 2021.
 - Initiate implementation of the Early Action Plan within 60 days following submittal of the Plan, unless the CVWB objects to the Plan.
 - Submit a Final Management Zone Proposal within 180 days of the receipt of comments from the CVWB on the Preliminary Management Zone Proposal (August 2022).
 - Submit a Management Zone Implementation Plan six (6) months after the Final Management Zone Proposal is accepted by the CVWB’s Executive Officer (September 2023).
- Priority 2:
 - Submit a Preliminary Management Zone Proposal to the CVWB (including an Early Action Plan) by December 28, 2024.
 - Initiate implementation of the Early Action Plan within 60 days following submittal of the Plan (February 26, 2025), unless the CVWB objects to the Plan.
 - Submit a Final Management Zone Proposal within 180 days of the receipt of comments from the CVWB (February 16, 2026) on the Preliminary Management Zone Proposal.
 - Submit a Management Zone Implementation Plan six (6) months after the Final Management Zone Proposal is accepted by the CVWB’s Executive Officer.

This document contains the components that complement the original KWA FMZP to provide Addendum components required for the Final Management Zone Proposal (FMZP or Proposal) for the management of nitrates within the Priority 2 Tulare Lake Subbasin within the KWA Management Zone. This Proposal Addendum, which is an update of the FMZP submitted August 29, 2022, fulfills the requirements of the Nitrate Control Program as prescribed by the CVWB (2020) for the Priority 2 Tulare Lake Subbasin portion of the KWA Management Zone. **Table 1-2** summarizes these requirements and where they are addressed in the FMZP.

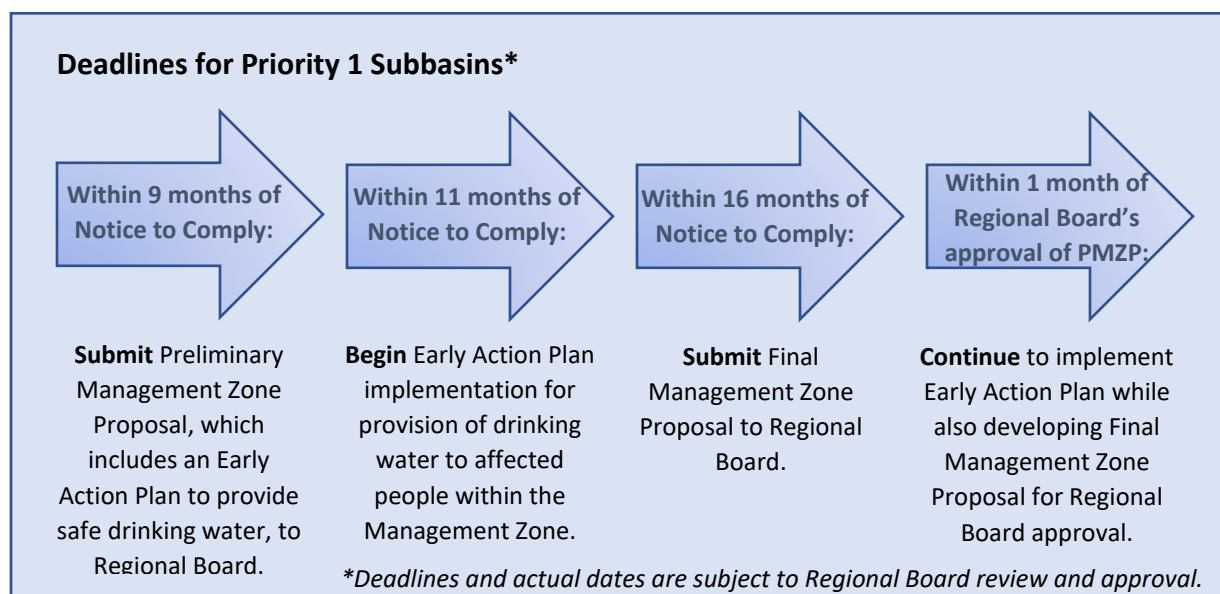
Table 1-2. Final Management Zone Proposal Requirements	
FMZP Requirement	Location in FMZP Addendum
Proposed preliminary boundaries of the Management Zone area	Section 1
Identification of Initial Participants/Dischargers	Section 1
Identification of other dischargers and stakeholders in the Management Zone area that the initiating group is in contact with regarding participation in the Management Zone	Section 4
Initial assessment of groundwater conditions based on readily available existing data and information	Section 3
Identification/summary of current treatment and control efforts, or management practices	Section 3
Initial identification of public water supplies or domestic wells within the Management Zone area with nitrate concentrations exceeding the water quality objective	Early Action Plan Addendum, Attachment D
An Early Action Plan to address drinking water needs for those that rely on public water supply or domestic wells with nitrate levels exceeding the water quality objective	Summary in Section 4; complete Early Action Plan Addendum in Attachment D
Documentation of process utilized to identify affected residents and the outreach utilized to ensure that they are given the opportunity to participate in development of an Early Action Plan	Early Action Plan Addendum, Attachment D
Identification of areas within or adjacent to the Management Zone that overlap with other management areas/activities	Section 3
Proposed timeline for: <ul style="list-style-type: none"> Identifying additional participants; Further defining boundary areas; Developing proposed governance and funding structure for administration of the Management Zone; Additional evaluation of groundwater conditions across the Management Zone boundary area, if necessary; and, Preparing and submitting a Management Zone Implementation Plan (MZIP). 	Section 4 and 5

Source: Central Valley Water Board, 2020

1.3.1. Priority 1 and Priority 2 Requirements and Timeline

The Nitrate Control Program began with Priority 1 groundwater subbasins, which include: Kaweah, Turlock, Chowchilla, Tule, Modesto, and Kings. The CVWB sent NTCs on May 29, 2020, giving the permitted dischargers in these areas time to choose between two compliance pathways. Path A indicates that dischargers would proceed with the Nitrate Control Program requirements under an individual permit. Path B indicates multiple dischargers in a region will come together and form a Management Zone, which is an alternative means of nitrate compliance that offers the opportunity to work cooperatively to manage nitrate discharges more cost-effectively and to provide safe drinking water to adversely affected residents. There are several benefits to choosing Path B and forming a Management Zone: it establishes local control, more flexibility, the ability to adapt management to local conditions, the opportunity to share resources, funding, and knowledge across different industries, etc.

The deadlines for Priority 1 Subbasins, including the Kings and Kaweah Subbasins, are illustrated in **Figure 1-1**.



Source: Adapted from cvsalinity.org

Figure 1-1. Deadlines for Priority 1 Subbasins

Priority 2 Subbasins include: Yolo, Merced, Kern County (Westside South), Tulare Lake, Kern County (Poso), Delta Mendota, Eastern San Joaquin, and Madera Subbasins. The schedule for implementation of the Nitrate Control Program for Path B Priority 2 Basins/Subbasins is described here. The submittal of Preliminary Management Zone Proposals for Priority 2 Subbasins (e.g., the Tulare Lake Subbasin) is required to be 1 year after receiving the NTC, on

December 28¹, 2024. The Early Action Plan would be submitted at the same time, 1 year after receiving the NTC, with an initiation of the Early Action Plan within 60 days of submittal if no objection is received by the CVWB (no later than February 26, 2025). The Final Management Zone Proposal for the Tulare Lake Priority 2 Subbasin is required 180 days after receiving comments from the CVWB on the Preliminary Management Zone Proposal (February 16, 2026). The Management Zone Implementation Plan would be due six months after the Final Management Zone Proposal is accepted by the Executive Officer of the CVWB.

The Tulare Lake Subbasin dischargers received NTCs in December 2023, so the Kings Water Alliance has prepared this FMZP Addendum to complement the previously submitted KWA Preliminary and Final Management Zone Proposal (and accompanying Early Action Plan) documents that initially addressed the Tulare Lake Subbasin in combination with KWA's main effort for the P1 Kings and Kaweah Subbasins via the formation of the KWA Management Zone.

1.4. Management Zone Formation

This section was not updated for this FMZP Addendum; please refer to the original PMZP And FMZP documents available online (<https://www.cvsalinity.org/resources/management-zone-development/>) for the full description of the Management Zone formation.

1.4.1. Management Zone Boundary

This section was not updated for this FMZP Addendum; please refer to the original PMZP And FMZP documents available online (<https://www.cvsalinity.org/resources/management-zone-development/>) for the full description of the Management Zone boundary.

¹ Since December 28, 2024 falls on a Saturday, the submittal date for the PMZP and EAP was Monday December 30, 2024.

1.4.2. Consistency with Required Management Zone Characteristics

This section was not updated for this FMZP Addendum; please refer to the original PMZP And FMZP documents available online (<https://www.cvsalinity.org/resources/management-zone-development/>) for the full description of how the KWA Management Zone boundary is consistent with the required Management Zone characteristics as set forth by the CVWB.

1.4.3. Management Zone Governance

The Management Zone is governed by the Kings Water Alliance, a non-profit public benefit corporation that filed for non-profit status on November 17, 2020. **Attachment E** provides the Articles of Incorporation and Bylaws of the Kings Water Alliance. The Board of Directors currently has seven seats that can be expanded to 11 as needed. The current Board members and seats they will hold are as follows:

- Kings River Water Quality Coalition (Irrigated Lands Regulatory Program) – Three representatives
- Dairy and Confined Bovine Operations – Two representatives
- Poultry Industry – One representative
- Wine Industry – One representative

1.4.4. Process to Establish Proposed Management Zone

The KWA Management Zone was established through the original PMZP and FMZP process. Therefore, this section of the Addendum was not updated. Please refer to the original PMZP And FMZP documents available online (<https://www.cvsalinity.org/resources/management-zone-development/>) for the full description of the process followed to establish the KWA Management Zone

1.4.5. Public Participation Addendum for Priority 2 Tulare Lake

Similar to the community outreach efforts conducted for the KWA Priority 1 Subbasins and portions of Subbasins (Kings, Kaweah and Tule), regular meetings were held to seek input from stakeholders and the public throughout the development of the PMZP/EAP Addendum and FMZP/EAP Addendum for the Priority 2 Subbasins (Tulare Lake). Phase 2 implementation focused community outreach meetings included a combination of in-person and virtual meeting options. Four community outreach meetings were held during Phase 2 EAP development:

- *August 27, 2024, Zoom Webinar* – The meeting presented information on the following key topics: (a) Why do we care about nitrate? (b) What is the new Nitrate Control Program? (c) Who needs to be involved? (d) Where is drinking water affected? In addition to answering these questions, the EAP was introduced to the community as the mechanism to implement early actions or short-term solutions to address areas where

drinking water is impacted by nitrate contamination. Additionally, the draft interim replacement water program planned for implementation through the EAP, including bottled water delivery, Point-of-Use (POU) treatment system installation and water fill stations, was presented.

- *September 24, 2024, Hanford, CA* – The meeting presented information on the following key topics: (a) Why do we care about nitrate? (b) What is the new Nitrate Control Program? (c) Who needs to be involved? (d) Where is drinking water affected? In addition to answering these questions, the EAP was introduced to the community as the mechanism to implement early actions or short-term solutions to address areas where drinking water is impacted by nitrate contamination. Additionally, the draft interim replacement water program planned for implementation through the EAP, including bottled water delivery, Point-of-Use (POU) treatment system installation and water fill stations, was presented.
- *December 4, 2024, Lemoore, CA* – This meeting presented: (a) general information to inform the public regarding nitrate concerns in the area; (b) updated information on nitrate water quality conditions in the KWA area and areas where domestic wells are most likely impacted by nitrate; (b) the draft interim replacement water program planned for implementation through the EAP, including bottled water delivery, Point-of-Use (POU) treatment system installation and water fill stations; and (c) how the public may comment on the draft EAP that is available for public review and continue to participate in the program during EAP implementation.
- *December 12, 2024 Hanford, CA* – This meeting presented: (a) general information to inform the public regarding nitrate concerns in the area; (b) updated information on nitrate water quality conditions in the KWA area and areas where domestic wells are most likely impacted by nitrate; (b) the draft interim replacement water program planned for implementation through the EAP, including bottled water delivery, Point-of-Use (POU) treatment system installation and water fill stations; and (c) how the public may comment on the draft EAP that is available for public review and continue to participate in the program during EAP implementation.
- *November 19, 2024, Zoom* – A virtual office hour’s opportunity was held to solicit feedback from the community and answer questions. KWA staff were available during the hour.
- *November 22, 2024, Zoom* – A virtual office hour’s opportunity was held to solicit feedback from the community and answer questions. KWA staff were available during the hour.

Attachment C contains more information about outreach efforts conducted for the PMZP and FMZP Addendums. The KWA released a draft PMZP with EAP (Addendum) to the public for review and comment on November 25, 2024. Community residents were given the same opportunity to comment on the draft documents as were other stakeholders in the Management Zone. A table of comments and KWA's response to comments are provided in **Attachment C**.

Similar review opportunities were available for the FMZP with EAP Addendum. Public notifications began on January XX, 2026, to inform the public that the FMZP with EAP was available for review and comment; comments to the KWA were due by January XX, 2026, in order to be included in the submittal due to the Central Valley Water Board (CVWB) by February 16, 2026. Comments and KWA responses to comments are provided in Attachment C.

1.5. List of Participants in the Priority 2 Tulare Lake Area of the KWA Management Zone

1.5.1. Kings and Kaweah Subbasin List of Participants

Please refer to the list of participants in the Priority 1 areas of the KWA Management Zone as provided in the KWA Management Zone Implementation Plan (MZIP) available online: <https://www.cvsalinity.org/resources/management-zone-development/>

1.5.2. Priority 2 Tulare Lake Subbasin Initial List of Participants (Addendum)

This section identifies the Priority 2 permitted dischargers within the KWA Southern Portion (Tulare Lake Subbasin Area) of the proposed Management Zone that have elected already to comply with the Nitrate Control Program through participation in a Management Zone:

- Growers enrolled under ILRP General Order R5-2013-0120-09 (“Waste Discharge Requirements General Order for Growers within the Tulare Lake Basin Area that are Members of the Third-Party Group”).
- Dairies regulated under General Order R5-2013-0122 (“Reissued Waste Discharge Requirements General Order for Existing Milk Cow Dairies”) or other WDRs and enrolled as a member of the CVDRMP.
- Confined bovine feeding operations regulated under General Order R5-2017-0058 (“Waste Discharge Requirements General Order for Confined Bovine Feeding Operations”) or other WDRs and enrolled as a member in the CVDRMP.
- Poultry operations regulated under General Order R5-2016-0087-01 (“Waste Discharge Requirements General Order for Poultry Operations”).
- Individual permitted dischargers, as summarized in **Table 1-7**.

Table 1-7. List of Individual Permitted Dischargers Participating in the KWA Southern Portion (Tulare Lake Subbasin Area) of the Management Zone				
CV-SALTS ID	Facility Name	Order No.	Permittee/Facility Address	Authorized Representative
<i>Southern Portion (Tulare Lake Subbasin)</i>				
1784	Armona Community Services District Wastewater Treatment Facility	92-017	Armona Community Services District, 13545 Hume Avenue, Hanford, CA 93230	Kelly Granger, kelly@grangerwater.com
2111	Baker Commodities Hanford Facility	R5-2005-0177	Baker Commodities, Inc., 7480 Hanford Armona Road, Hanford, CA 93230	Doug Fletcher, DFletcher@BakerCommodities.com
2112	Central Valley Meat Hanford Facility	R5-2023-0028	Central Valley Meat Company, 10431 8 ¼ Avenue, Hanford, CA 93230	Brian Coelho brian@centralvalleymeat.com
2658	Corcoran Wastewater Treatment Facility	R5-2021-0025	City of Corcoran, 895 Pueblo Avenue, Corcoran, CA, 93212	Joseph Faulkner joe.faulkner@cityofcorcoran.ca.gov
51	Morais Goat Dairy	Pending	Morais Goat Dairy, 16152 West Hanford Armona Road, Lemoore, CA 93245	Diana Morais, moraisgoatdairy@gmail.com
3613	Sandridge Cattle Plant	R5-2024-0043	Sandridge Partners, LP, 19668 Jackson Avenue, Lemoore, CA 93245	Matthew Maxson, matwilmax82@gmail.com
2682	Stratford Wastewater Treatment Facility	2014-0153-DWQ	Stratford Public Utility District, Southeast 1/4 of Section 17, Township 20 South, Range 20 East Mount Diablo Base & Meridian, Stratford, CA 93266	Kelly Grange, kelly@grangerwater.com
59	Summer Hill Goat Dairy	Pending	Summer Hill Goat Dairy, 5784 6th Avenue, Hanford, CA, 93230	Pending
2609	Warmerdam Packing Facility	Pending	Warmerdam Packing Facility, 15650 Excelsior, Hanford, CA, 93230	maria@warmerdampacking.com

Table 1-7. List of Individual Permitted Dischargers Participating in the KWA Southern Portion (Tulare Lake Subbasin Area) of the Management Zone				
CV-SALTS ID	Facility Name	Order No.	Permittee/Facility Address	Authorized Representative
<i>Southern Portion (Kaweah Subbasin)</i>				
2321	Nichols Pistachios	R5-2013-0007	Nichols Pistachio, 13762 First, Hanford, CA 93230	Mark Luplow mluplow@nicholsfarms.com

2. KWA NORTHERN PORTION (KINGS SUBBASIN AREA) OF THE MANAGEMENT ZONE

For information on the Kings Subbasin and other Priority 1 areas, please refer to the previously submitted PMZP and FMZP documents found online here:

<https://www.cvsalinity.org/resources/management-zone-development/>

3. KWA SOUTHERN PORTION (TULARE LAKE SUBBASIN AND SMALL PART OF KAWEAH SUBBASIN) OF THE MANAGEMENT ZONE

Chapter 3 contains the Preliminary Management Zone Proposal requirements for the Southern Portion of the Kings Water Alliance Management Zone, including the Priority 2 Tulare Lake Subbasin.

3.1. Characterization of Proposed Management Zone

Several subsections below were updated for the FMZP Addendum to address the Priority 2 Tulare Lake Subbasin area of the KWA Management Zone: Drinking Water Systems, Disadvantaged and Severely Disadvantaged Communities, and Land Use. The remaining subsections were not updated and for a full description of them, please refer to the publicly available PMZP and FMZP documents online:

<https://www.cvsalinity.org/resources/management-zone-development/>.

3.1.1. Geography

The geography of the KWA Management Zone did not change from the FMZP. Please refer to the publicly available PMZP and FMZP documents online:

<https://www.cvsalinity.org/resources/management-zone-development/> for more information on this subject.

3.1.2. Jurisdictions

The jurisdictions within the KWA Management Zone have not changed since the submittal of the FMZP. Please refer to the publicly available PMZP and FMZP documents online:

<https://www.cvsalinity.org/resources/management-zone-development/> for more information on this subject.

3.1.3. Groundwater Sustainability Agencies

The Groundwater Sustainability Agencies have not changed since the submittal of the KWA FMZP. Please refer to the publicly available PMZP and FMZP documents online:

<https://www.cvsalinity.org/resources/management-zone-development/> for more information on this subject.

3.1.4. Water Management Entities

The water management entities have not changed since the submittal of the KWA FMZP. Please refer to the publicly available PMZP and FMZP documents online:

<https://www.cvsalinity.org/resources/management-zone-development/> for more information on this subject.

3.1.5. Drinking Water Systems

Section 2.1.5 contains the full descriptions of Drinking Water Systems as they pertain to the KWA Management Zone. To reduce repetition within this Final Management Zone Proposal Addendum, the following sections summarize the contents of **Section 2.1.5**.

Table 3-2 summarizes how residential water systems are classified in California. Systems are categorized by use, connections, and duration of service over a one-year period. Public Water Systems can be regulated by both the state’s Division of Drinking Water (DDW) and local primacy agencies, and these systems are required to monitor and comply with Title 22 drinking water standards.

Table 3-2. Classification of Drinking Water Systems by Constituency, Connections, and Duration of Service per Year								
Duration of Service	Connections:		< 5	5 +	< 15	15 +	< 200	200 +
	Persons Served:		< 25			25 +		
N/A	Small Water System (SWS) ¹	Classification Defined By	Connections					
< 60 days/year	Local Small Water System		Connections & (persons, duration)					
< 60 days/year	State Small Water System			Connections & (persons, duration)				
>= 60 days/year	Community Public Water System (PWS) ²					Connections or (persons, duration)		

Source: Adapted from Boyle et al. 2012

¹. Classification as a SWS does not preclude classification as any of the other types. SWS may be regulated by DDW or by Local Primary Agency county.

². A PWS is a system for the provision of water for human consumption that has 15 or more service connections OR regularly serves at least 25 individuals at least 60 days per year.

Public Water Systems

PWS are defined as systems that provide drinking water to: (1) 15 or more service connections; or (2) regularly serves at least 25 individuals daily for at least 60 days per year (see **Table 3-2**). PWS, which are regulated by DDW, are required to submit water samples of their raw and delivered water for a broad suite of regulated constituents on various schedules that depend on the constituent and the source water context. All PWS data on water quality, source locations, service areas, and historical data are publicly available on the State Water Board website². The California Environmental Health Tracking Program (CEHTP) maintains a dataset of PWS boundaries in California. These data are provided to CEHTP by the water systems.

As presented in the original KWA FMZP (available at <https://www.cvsalinity.org/resources/management-zone-development/>), there were 225 Public Water Systems with known GIS boundary data in the KWA Management Zone. Ten of these systems are located within some portion of the Southern Portion (Tulare Lake Subbasin and a small portion of the Kaweah Subbasin) of the proposed KWA Management Zone. Not all of these systems are currently active, according to the State Water Board's Drinking Water Watch (<https://sdwis.waterboards.ca.gov/PDWW/>, as accessed in July 2022)³. **Figure 3-4** focuses on the Priority 2 Tulare Lake Subbasin area of the KWA Management Zone, where 11 Public Water Systems with known GIS boundary data are presented (accessing the SWB's Drinking Water Watch website in December 2025).

State Small Water Systems

State Small Water Systems (SSWS) are defined as systems serving at least five but not more than 14 service connections. Typically, SSWSs are regulated by county environmental health departments; regulatory oversight of these systems varies by county. Typically, counties require submission of water quality samples annually (at most) for a smaller set of constituents than monitored by a PWS. SSWS data are public; however, most counties in the state do not have these data compiled in any easily accessible format (many counties require a fee for data retrieval for these systems). Most counties do not have maps of SSWS service areas; in most cases, the only way to locate the service area of a SSWS is to use the address recorded on the permit. Some SSWS are included in the PWS boundary data maintained by CEHTP, described above, but this is irregular. Kings, Fresno, and Tulare County Environmental Health Departments were contacted to obtain available SSWS address data for the Management Zone area. To determine if the SSWS is within the Management Zone boundary, the addresses would need to be geocoded or plotted on a map.

² <https://data.ca.gov/dataset/drinking-water-public-water-system-information>

³ See Section 2 and Appendix E in the Early Action Plan (Attachment D to this FMZP) for more information on Public Water Systems in the Management Zone.

Local Small Water Systems

Local Small Water Systems (LSWS) include residential systems serving two to four households. LSWSs are typically permitted by County Environmental Health Departments. Most counties regulate LSWS as if they were simply private wells – that is, they are unregulated except for the requirements associated with the drilling permit. Neither Fresno, Kings, nor Tulare Counties had records of any LSWS in the KWA Management Zone area.

3.1.6. Disadvantaged Communities and Severely Disadvantaged Communities

In 2025, the Department of Water Resources (DWR) provides a Disadvantaged Communities Mapping Tool (<https://gis.water.ca.gov/app/dacs/>, accessed December 2025) that is an interactive map application to help locate disadvantaged communities. Disadvantaged Communities (DACs) and Severely Disadvantaged Communities (SDACs) are qualified using Median Household Income values (MHI) from census surveys. DACs represent a MHI between \$57,800 - \$77,067, and SDACs represent areas with MHI less than \$57,800 based on 2023 American Community Survey data.

The populations provided in **Tables 3-4a** and **3-4b** represent the estimated population of the DAC/SDAC that lies within the Priority 2 Tulare Lake Subbasin portion of the KWA Management Zone based on the proportion the community overlaps with the Management Zone for this FMZP Addendum. Population data for the DACs and SDACs are from the Department of Water Resources (DWR) Disadvantaged Communities Mapping Tool (<https://gis.water.ca.gov/app/dacs/>, accessed December 2025); GIS coverage of DAC and SDAC census places within the proposed Priority 2 Management Zone were prepared using 2020 census block data adjusted using county-specific annual growth rates to estimate 2024 population values.

There are two DACs and two SDACs in the Tulare Lake area of the KWA Management Zone. **Table 3-4a** summarizes the population of DACs and SDACs, and **Figure 3-5** shows the locations of DACs and SDACs within and adjacent to the Tulare Lake area of the KWA Management Zone. **Table 3-4b** summarizes the characteristics of DACs and SDACs in the Tulare Lake area of the KWA Management Zone.

Table 3-4a. Population of DACs and SDACs Located in the Proposed Kern County (Poso) Area of the KWC Management Zone			
Approximate Location/Community	Type (DAC or SDAC) (DWR, 2020 Census Place)	DAC Population (calculated by fraction of DAC area in Management Zone) (2024 population estimate)	DAC Area in Management Zone (Acres)
Armona	Disadvantaged Community	4,273	1,314
Corcoran	Severely Disadvantaged Community	22,363	4,623
Home Garden	Severely Disadvantaged Community	1,652	283
Kettleman City	Disadvantaged Community	1,242	135

Source: DWR, 2020

NOTE: DWR used the US Census American Community Survey data for its Disadvantaged Communities (DAC) data

Table 3-4b. DAC and SDAC Characteristics in the Tulare Lake Area of the KWA Management Zone					
Category	Number of Locales	Acres in Management Zone	Population in Management Zone	Total DAC and SDAC Acres	Total DAC and SDAC Population Estimate
DACs	2	1,449	5,515	6,355	29,530
SDACs	2	4,906	24,015		

3.1.7. Land Use

The land use analysis was updated for this FMZP Addendum in 2025 to address land use in the Tulare Lake area of the KWA Management Zone, using provisional 2023 agricultural land use coverage from DWR (<https://data.cnra.ca.gov/dataset/statewide-crop-mapping>, accessed December 2025). **Table 3-5b** and **Figure 3-6b** provide the land use characteristics of the Tulare Lake area of the KWA Management Zone associated with agricultural activity (based on provisional 2023 DWR land use designations). Land use is predominantly made up of Field Crops (20%).

Table 3-5. Land Use Summary for the Tulare Lake Area of the KWA Management Zone			
Land Use Designation	Area (sq. mi.)	Area (Acres)	Percent of Total Management Zone Area
C - Citrus and Subtropical	3.5	2,261	0.45%
D - Deciduous Fruits and Nuts	111.3	71,251	14.10%
F - Field Crops	132.8	84,978	16.82%
G - Grain and Hay Crops	45.5	29,102	5.76%
I – Idle	89.1	57,009	11.28%
P – Pasture	18.0	11,497	2.28%
T - Truck Nursery and Berry Crops	15.8	10,114	2.00%
U – Urban	26.2	16,762	3.32%
UL - Urban Landscape	0.4	233	0.05%
V – Vineyard	5.9	3,789	0.75%
X – Unclassified	94.0	60,182	11.91%
YP - Young Perennial	1.2	742	0.15%
Total Mapped Land Use Area	543.6	347,920	68.86%
Unmapped	245.8	157,313	31.14%
TOTAL	789.4	505,233	100.00%

Kings Water Alliance Management Zone
Final Management Zone Proposal Addendum
Priority 2 Tulare Lake Subbasin Area

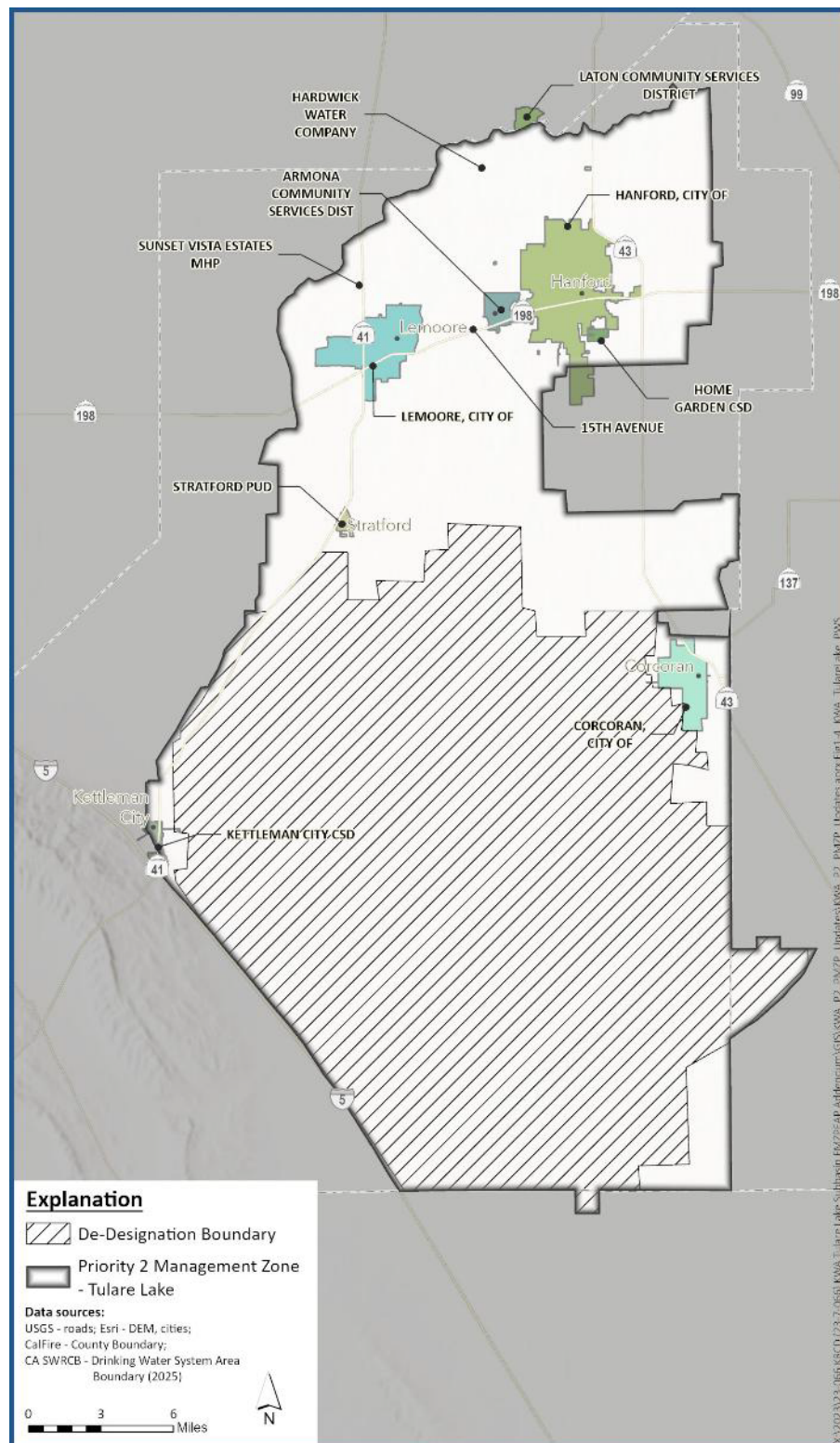


Figure 3-4. Public Water System Boundaries Within and Adjacent to the Tulare Lake Area of the KWA Management Zone

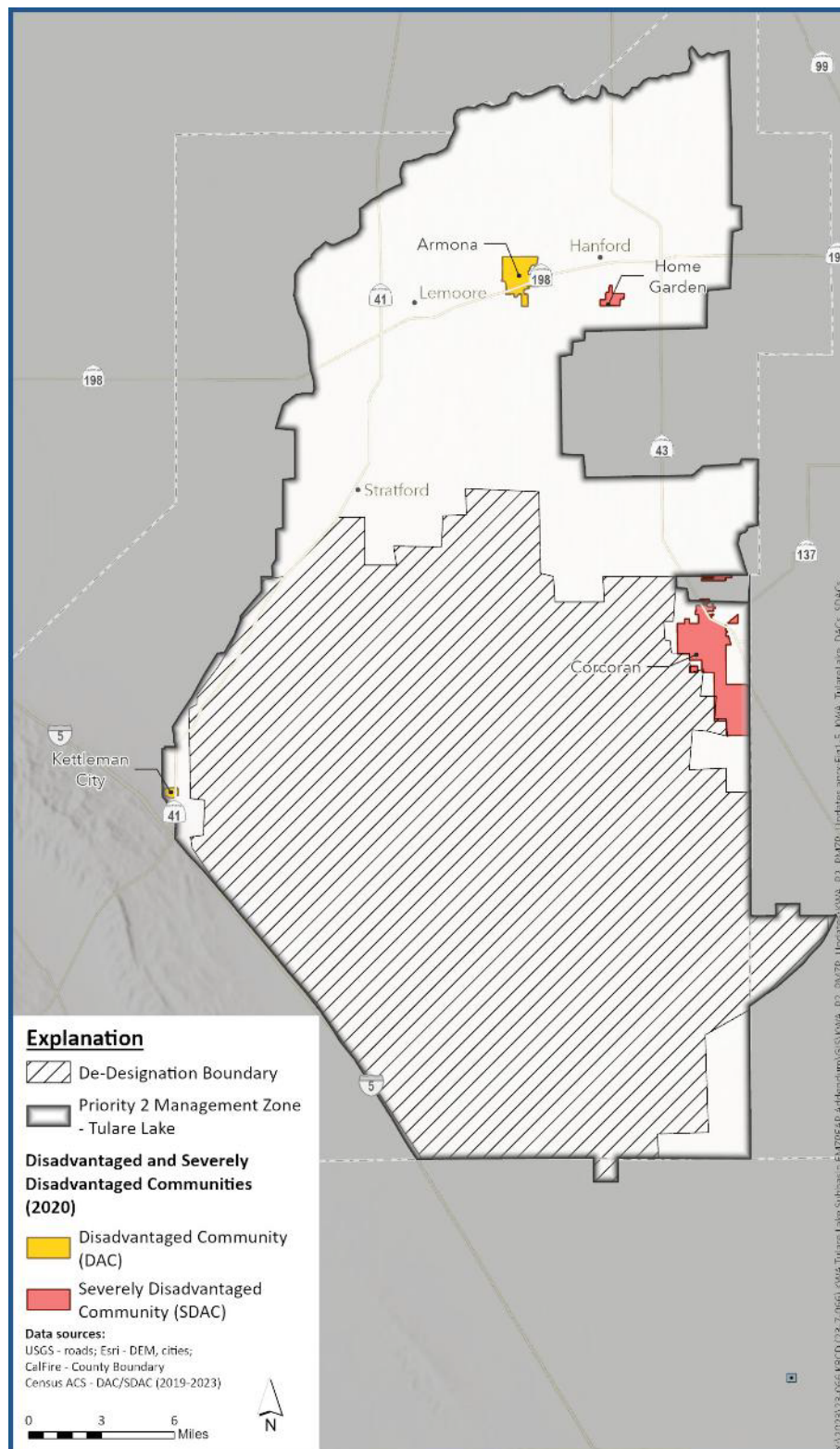


Figure 3-5. Location of DACs and SDACs within and adjacent to the Tulare Lake Area of the KWA Management Zone

Kings Water Alliance Management Zone
 Final Management Zone Proposal Addendum
 Priority 2 Tulare Lake Subbasin Area

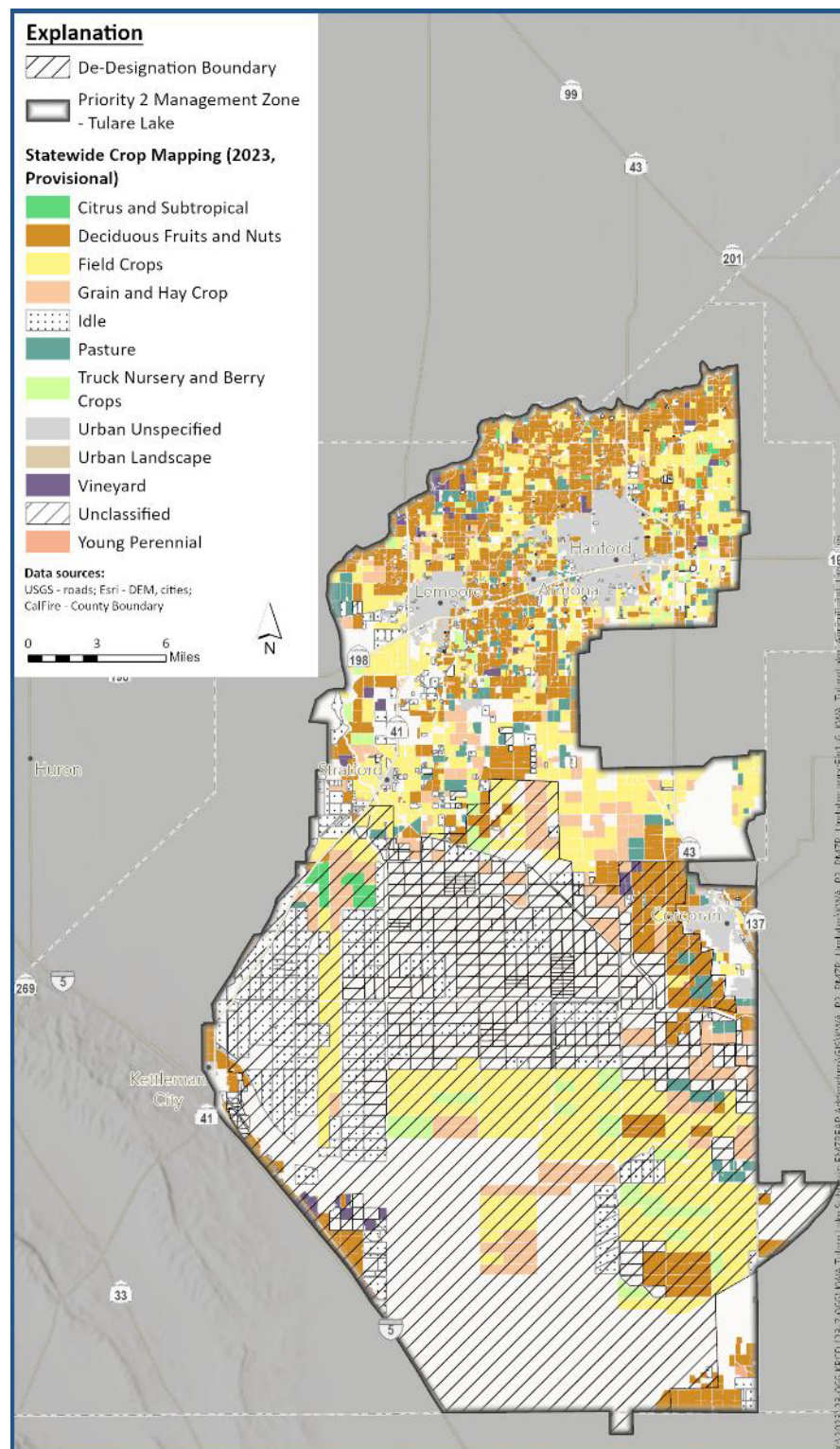


Figure 3-6. Agricultural Land Use in the Tulare Lake Area of the KWA Management Zone

3.2. Initial Assessment of Groundwater Conditions

The initial assessment of nitrate groundwater conditions for the original Preliminary Management Zone Proposal was based on readily available existing data and information (collected between August and December 2020). Where possible, information from the Central Valley SNMP (CV-SALTS 2016a) was used and updated with more recent groundwater quality data from publicly available sources. The initial assessment of groundwater conditions has been updated following the direction of the CVWB and is included in this section of the FMZP Addendum. Groundwater conditions, including the hydrogeology of the Priority 2 Tulare Lake Subbasin area of the KWA Management Zone, were not updated and can be found in the original PMZP and FMZP documents available online (<https://www.cvsalinity.org/resources/management-zone-development/>)

3.2.1. Hydrogeology

Please find the complete description of the Tulare Lake Subbasin's hydrogeology in the original PMZP and FMZP document available online (<https://www.cvsalinity.org/resources/management-zone-development/>).

3.2.2. Groundwater Elevations and Flow

Regional groundwater generally flows from the Sierra Nevada mountains towards the low point of the valley, following the regional dip of basement rock and sedimentary units. Groundwater elevation contour data and corresponding groundwater elevation point data were updated for this FMZP Addendum in 2025, using groundwater elevation data downloaded from the DWR Sustainable Groundwater Management Act (SGMA) Data Viewer (DWR, 2025). The data summarized correspond to groundwater elevation contours of the water table (unconfined to semi-confined) aquifer and point data from Spring 2025 (**Figure 3-9**). A groundwater depression in the center of the Tulare Lake area of KWA Management Zone directs the flow of the unconfined portion of groundwater inward toward the middle of the Tulare Lake area. In the unconfined aquifer, groundwater levels are highest in the northeast, with elevations about 200 feet. The groundwater depression located in the center of the Tulare Lake area exhibits groundwater elevations as low as -140 feet in the west. The focus of the Nitrate Control Program is on the Upper Zone as described in Section 3.2.3 below. The description of groundwater movement in this document focuses primarily on the unconfined portion of the groundwater aquifer, which may not represent the movement of all groundwater present in deeper zones within the Management Zone.

Areas of Potential Contribution (Addendum)

This section evaluates potential impacts to groundwater associated with downgradient migration of nitrate from the Priority 2 Tulare Lake portion of the KWA Management Zone. The

potential areas of contribution were updated in 2024 for the Tulare Lake area of the KWA Management Zone in this FMZP Addendum. The only area adjacent to the Tulare Lake area of the KWA Management Zone not already covered under the purview of other Management Zones is the western border with the Westside Subbasin, which is not prioritized according to the Nitrate Control Program. The northern border of the Tulare Lake area borders the P1 Kings Subbasin area of the KWA Management Zone, and the eastern border of the Tulare Lake area borders other P1 Management Zones (Kaweah Water Foundation Management Zone and the Tule Subbasin Management Zone). Therefore, this updated analysis of potential areas of contribution outside the Tulare Lake area of the KWA Management Zone only applies to the western border adjacent to the Westside Subbasin.

Table 3-7 lists the direction of groundwater flow and indicates whether the flow is entering (in) or exiting (out) of the Tulare Lake area of the KWA Management Zone (or flowing parallel to the boundary line) based on Spring 2025 contours of equal groundwater elevation developed and publicly available from DWR. The area of potential contribution associated with nitrate originating from the proposed Management Zone corresponds with spatial areas along the Tulare Lake border where groundwater elevation contours indicate that groundwater flows out of the proposed Management Zone and into the adjacent Westside Subbasin. The western border of the Tulare Lake area of the KWA Management Zone is characterized as one main segment based on similar characteristics of the direction and magnitude of the hydraulic gradient. The contour lines along the entire western border, which are adjacent to the non-prioritized Westside Subbasin, suggest that groundwater is migrating into the Tulare Lake area of the KWA Management Zone. Nitrate concentrations are low when known, below 2.5 mg/L as N in the Upper Zone.

The KWA recognizes that there is uncertainty with the updated quantification of the areas of potential contribution described above for the Priority 2 Tulare Lake area of the KWA Management Zone, due to hydraulic gradients calculated from specific seasons and years, the portion of the groundwater system represented by the groundwater elevation contours, and the existing data available to prepare the ambient nitrate map. The KWA also recognizes that this analysis represents a snapshot in time, as represented by DWR's Spring 2025 groundwater elevation contours and the currently available nitrate concentration data. As additional information is developed, including groundwater flow assessments performed for groundwater sustainability plan implementation purposes, the areas of potential nitrate contribution will be revisited for future work for the Nitrate Control Program, especially the Management Zone Implementation Plan. Coordination efforts between the KWA and the groundwater sustainability agencies in their area are underway.

Table 3-7. Quantification of Areas of Potential Nitrate Contribution (Tulare Lake Area of the KWA Management Zone)					
Description of Area Along Proposed MZ Border	Approximate Hydraulic Gradient (ft/ft)	GWE Contour Data Source	GW Flow Direction (In/Out of Proposed Management Zone)	Ambient Post-2010 Nitrate Level (mg/L as N)	Adjacent Subbasin and Priority
Western border from the intersection of the Tulare Lake Subbasin/Kings Subbasin/Westside Subbasin boundaries (Avenal Cutoff Rd area) south to south of Nevada Ave (west and mostly parallel to State Route 41)	0.0019 to 0.013	Spring 2025 (DWR)	Northeast to -southeast (In)	Unknown or <2.5 mg/L as N	Westside Subbasin (Not Prioritized)
All other boundaries	NA	NA	NA	NA	Priority 1 Subbasins covered by approved FMZPs

3.2.3. Upper Zone Delineation

The delineation of the Upper Zone is fully described in the original PMZP and FMZP, including descriptions and maps of the depth to the bottom of the Upper Zone and how that depth was developed. Please refer to the original KWA PMZP and FMZP documents for the complete description of this section, as no update was necessary for this FMZP Addendum (<https://www.cvsalinity.org/resources/management-zone-development/>).

3.2.4. Nitrate Water Quality

Table 3-9 summarizes the groundwater quality data that were readily available for use to develop the original Preliminary Management Zone Proposal. These datasets include data previously developed for CV-SALTS and additional data obtained between August and December 2020. This FMZP Addendum document includes an update of this nitrate water quality assessment in the next section (**Section 3.2.5**). The original PMZP and FMZP nitrate water quality assessment is available online:

<https://www.cvsalinity.org/resources/management-zone-development/>

3.2.5. Updated Nitrate Water Quality Data and Analysis for Priority 2 Tulare Lake FMZP Addendum

The nitrate water quality data and analysis have been updated from the previous sections (Sections 3.2.4 above) to reflect refined methodologies and updated nitrate groundwater quality datasets available since the previous analysis in 2020.

To characterize nitrate concentrations in groundwater beneath and adjacent to the Tulare Lake area of the KWA Management Zone, available groundwater data were compiled, organized, and used to determine ambient conditions and trends that indicate where nitrate conditions are improving or degrading. This section describes:

- Groundwater nitrate data sources,
- Data quality control procedures,
- Organization of the nitrate data by groundwater depth horizon, and
- Data analysis methodologies for characterizing ambient conditions and trends.

Data Collection

Groundwater nitrate data have been collected and compiled from publicly available sources through the State Water Board's Groundwater Ambient Monitoring and Assessment Program (GAMA) groundwater information system for the Priority 2 Tulare Lake Subbasin area, including a 3-mile buffer. The main sources of nitrate data in the bulk download from GAMA included:

- DDW (State Water Board Division of Drinking Water);
- DWR (Department of Water Resources);
- GAMA_DOM, GAMA_SP_STUDY, and GAMA_USGS (GAMA program specific groundwater monitoring sites for domestic wells, special studies, and joint efforts with the USGS);
- LOCALGW (GAMA data from local water agencies and well owners);
- UCD_NO3 (this source contains nitrate data from the University of California Davis nitrate study associated with the State Water Board Report to the Legislature [Boyle et al. 2012]);
- USGS_NWIS (U.S. Geological Survey's National Water Information System, NWIS);
- WB_CLEANUP (State Water Board data from regulated facilities database, also known as GeoTracker); and
- WB_ILRP (State Water Board data from ILRP drinking water wells on grower parcels and groundwater quality trend monitoring (GQTM) wells)

Other data were requested and acquired from local entities, including county departments and groundwater sustainability agencies. These data were requested to use for analysis of groundwater conditions in the proposed Management Zones and were supplemented by

domestic well nitrate test results from Management Zone implementation of the Early Action Plan.

Table 3-12 summarizes the readily available groundwater quality data used to develop the nitrate water quality analysis for the proposed Priority 2 Management Zone areas. These datasets include data previously developed for CV-SALTS and additional data obtained in October 2025. Using the sources listed in this table, nitrate measurements and well data were compiled for the proposed Priority 2 Management Zone.

Table 3-12. Groundwater Quality Data Sources for Proposed KWA Priority 2 Management Zone Areas	
Data Category	Data Sources
The Phase II CV-SALTS Conceptual Model nitrate groundwater database developed for the High-Resolution Mapping project (CVSALTS 2016)	<ul style="list-style-type: none"> • Formerly California Department of Public Health, now State Water Board DDW • DWR • Central Valley Water Board WDR data per the Dairy General Order • Central Valley Water Board Regulated Sites • State Water Board/USGS GAMA Program • USGS
Geotracker GAMA ⁴ (Note: Not all entities had nitrate data from within the proposed Management Zones)	<ul style="list-style-type: none"> • Department of Pesticide Regulation • DWR • GAMA – Domestic Wells; Special Studies, and Priority Basin Projects • Local Groundwater Projects • Monitoring Wells (Central Valley Water Board Regulated Sites) • ILRP Upper Zone Wells • DDW PWS Wells (Actual Locations) • USGS NWIS
University of California, Davis SBX2 1 Nitrate Study	<ul style="list-style-type: none"> • California Spatio-Temporal Information on Nitrate in Groundwater (CASTING) database
Kings County ⁴	<ul style="list-style-type: none"> • Nitrate tests associated with well permits and/or state small water systems

⁴ Kings County Community Development Agency and Department of Public Health were contacted and KWA was directed to the publicly available datasets listed above.

Compilation and Standardization

All public data (and locally derived requested data, as available and permitted to be shared with the public) are compiled to standardize naming, formatting, and measurement units. The nitrate data undergo a cursory quality assurance/quality control (QA/QC) process prior to being utilized to characterize groundwater conditions. This process includes removing duplicate entries and marking questionable sample results that appeared to be misreported (typically from incorrect measurement units reported or anomalous/incorrect entries).

Identification of Outliers and Imputation for Left-Censored Data

Groundwater nitrate data are assessed for statistical outliers prior to performing ambient concentration and temporal analyses. Outliers are data points in which the measured value does not represent the actual value due to instrument or other errors. Outliers are detected with the right-tailed Grubbs' outlier test, which detects single outliers in normally distributed datasets (Grubbs, 1969; Stefansky, 1972). The outlier assessment is only performed for wells with four or more data points and less than 25% of their measurements were non-detectable, as smaller sample sizes often misidentify nonoutliers as outliers (Thompson and Lowthian, 2011). For wells with four or more data points and less than 25% of their measurements were non-detectable, the following methodology is used to identify outliers:

The maximum value is considered an outlier if the null hypothesis of no outliers in the dataset is rejected. The null hypothesis is rejected if the Grubbs test statistic G ^[2] exceeds the upper critical value at a high significance level ($\alpha = 0.001$).

Identified outliers are removed from the dataset, and the removed data are replaced by imputation^[3]. The natural cubic spline method^[4] is used for the imputation of removed outliers. This method generates a smooth line connecting points on either side of the missing data using a third-degree polynomial determined by the data in the vicinity. If the imputed result is inaccurate (i.e., zero or negative), the nearest neighbor method is used instead. The Grubbs' test is again performed on the datasets with imputed values to confirm no remaining statistically significant outliers remain in the dataset after imputation.

Additional imputations are performed where applicable on left-censored data. Left-censored data are data with an unknown value but known to be below a certain value. In groundwater nitrate datasets, these are non-detect values in which a measurement cannot be made below a certain threshold. The detection threshold depends on the measuring device or analytical methodology and varies in the dataset. Left-censored data (non-detects) were imputed using regression on order statistics (ROS), which replaces non-detects using a probability plot of the detected values (Helsel and Cohn, 1988; Shumway et al., 2002). ROS is used on wells with four or more data points and no more than 25 percent non-detects. Imputed values depend on the distribution of detected values and may exceed detection limits. These values are used only in the calculation of means and ambient conditions.

Well Depth Zone Assignment

The ambient nitrate concentration and trends analyses consider wells categorized into the “Upper Zone,” “Lower Zone,” and “Below Lower Zone” depth categories. This depth designation is based on the following criteria:

- Well depth and bottom of screened interval depth
- Well type
- Estimated well depth based on DWR’s Well Completion Report (WCR) spatial representation of statistics
- Comparison of the well’s actual or estimated depth with the CV-SALTS delineation of the bottom of the Upper Zone

Wells from the publicly available nitrate dataset do not always have available depth information. The well type may serve as a proxy for wells from this dataset that do not have well depths or screened interval data reported. In this case, all domestic wells are categorized into the Upper Zone (as the depths of domestic wells are what the CV-SALTS’ studies relied on most heavily for developing the depth of the Upper Zone). Other well types were assigned an estimated depth based on DWR’s WCR spatial representation of well depth statistics, as available. DWR provides a one-mile grid mapping (based on Public Land Survey System (PLSS) sections) of the general statistics of well depths based on well types (well types include domestic, industrial, irrigation, municipal, and monitoring). However, this coverage has limitations (e.g., data and application are subject to change, attribute tables may include missing and duplicate records, incorrect values, and limited spatial resolution). The estimated depth is assigned based on the well type and DWR WCR statistics of mean well depth for the PLSS section that the well falls within. Assigned well depths are compared to the GIS coverage of the depth to the bottom of the Upper and Lower Zones, as defined by CV-SALTS and placed in their appropriate well depth category.

Once all the nitrate data are categorized by depth, the groundwater concentration sample data are further scrutinized and standardized. As described above, the publicly sourced data undergo a QA/QC process. This process improves the quality of the dataset (removing erroneous data from the dataset that could potentially skew the spatial interpolation incorrectly). Beyond this QA/QC process, however, the methodology of reporting non-detects varies between the various public entities reporting data to the GAMA database. Multiple methods have been used to represent non-detect nitrate sample results. Sometimes this has involved the use of the reporting limit value within the “value” field with a qualifier to denote “less than” entered as “<”; other times, there are non-detects in the public record listed with a value of “0” with or without a reporting limit (RL) in the “RL” field. Non-detect nitrate sample entries were standardized and quantified for purposes of data utility. Imputed values were developed using the ROS approach described above to replace left-censored (non-detect) concentrations where possible.

Public Posting of Nitrate Groundwater Data

The nitrate groundwater quality datasets for the proposed Priority 2 Management Zone will be posted on the CV-SALTS website (<https://www.cvsalinity.org/resources/management-zone-development/>) to be publicly available for download. The dataset contains a README tab which describes the fields and contents within the dataset; another tab provides well information (WellInfo) including location, source, and depth categories; the last tab provides the actual nitrate data (NitrData) used for the FMZP analyses described below. The nitrate data include wells sampled for Nitrate or Nitrate+Nitrite within three miles of the proposed Priority 2 Management Zone.

Nitrate Groundwater Quality Analysis Methodology

The spatial interpolation process known as kriging was used for the analysis of ambient nitrate concentrations within the Management Zone. Spatial interpolation is a way to construct estimated values based on the range of a dataset (actual data); in this case, the method was used for the analysis of ambient nitrate concentrations in the Upper Zone. The specific method of interpolation used is known as kriging. This method relies on numerical nitrate values for the calculations; excluding non-detect nitrate levels could result in artificially higher interpolated ambient nitrate concentrations. A sample that returned a non-detect nitrate level should not be discarded simply because its actual low concentration is not quantified. Because non-detect samples are also informative, the method of utilizing imputed values was adopted. Laboratory and U.S. Environmental Protection Agency analytical methods for measuring nitrate concentrations in water samples have not changed significantly in the last 20 years, which supports quantifying non-detect samples with a low value for recent nitrate data (post-2010 data as used in the updated Priority 2 Management Zone analyses).

Groundwater quality data for each well were temporally summarized to produce one average annual value to represent post-2010 concentrations. Annual averages for each well for each year and an average of post-2010 years with data were calculated. This approach provides one value for each well location with post-2010 data that can then be used for kriging.

Several parameters associated with the geostatistical kriging approach were used to represent the spatial distribution of ambient nitrate concentrations in groundwater. The regional variability of nitrate in groundwater has been mapped within the Management Zone with a method that precludes introducing inappropriate or inaccurate representations of nitrate concentrations when wells used for kriging computations are spatially quite distant from one another. To constrain the distance each data control point can have, a 1.5-mile search radius was employed. This means that if no other well with nitrate data within the analysis period is located within 1.5 miles of the control point, the spatial interpolation stops its expansion and does not assign a value of ambient nitrate past 1.5 miles from that control point. The selection of this parameter can result in areas of unknown ambient nitrate concentrations. Spherical

ordinary kriging was employed on the depth-dependent datasets for this Management Zone, which fits a spherical variogram to the spatial patterns associated with changes in nitrate concentration. Weights derived from the structure of the variogram are used to interpolate concentrations at locations without measurements based on separation distances from known concentrations. Other parameters, such as grid spacing (0.1-mile spacing), were assigned to be small enough to allow for high resolution of the interpolated product. Additionally, nitrate data within a buffer zone of three miles outside the boundary of the Management Zone were used to maximize the understanding and estimation of ambient nitrate conditions along the Management Zone boundary. Variograms were calculated within ESRI ArcPro software using the Kriging tool and a spherical empirical semivariogram model (Oliver, 1990) using the projected coordinate system NAD 1983 California (Teale) Albers (in US feet). The minimum number of data points required (minimum neighbors) per kriged value is one (1) within the 1.5-mile search radius. There is no limit (maximum neighbors) for data points incorporated per kriged value. While kriging maintains the geostatistical information recorded in the original dataset, it does not invoke fluid transport mechanics and may produce rapid changes in concentration in regions with varied measurements. A spatial median filtering algorithm was applied to the interpolated dataset to smooth any particularly rapid changes in concentration.

Temporal Trends in Nitrate

Characterization of groundwater conditions in the Management Zone also includes analysis of temporal trends in nitrate concentrations. Individual wells and regions with multiple groundwater quality measurements through time provide insights into past and future groundwater conditions. Two main approaches to trend analysis are recommended, including parametric and non-parametric statistical analyses of trends.

Parametric statistical analyses of trends assume a defined numerical relationship between the measured quantity and time, as well as normally distributed errors between the modeled and measured data. Parametric trends are estimated using a linear regression model in all wells with five or more data points (not including multiple measurements occurring on the same day, in which case a single median value is used). Five data points are the minimum sample size to attain a p-value less than 0.05 when performing a t-test for a normal distribution (Curtis et al., 2015). The slope hypothesis test is conducted for all linear trends, and only wells with a 95% confidence or greater (p less than 0.05) in the presence of a slope in the data were considered to have linear trends. The coefficient of determination (R^2) is also calculated for all trends to assess the linear regression model's fit to the data. R^2 values range from 0 to 1, with values closer to 1 representing better model fits. Linear trends with R^2 values less than 0.5 are not considered. Water quality changes can be seasonal, rapid, or otherwise not captured by a linear regression model, so these trends are only an approximation of changes in concentration over the period of record. Trends are analyzed over two periods of record, with long-term trends in wells with data preceding 2010 and recent trends considering post-2010 data only.

Both Mann-Kendall and Theil-Sen non-parametric analyses are additionally performed to characterize trends. Non-parametric analyses are performed on wells with five or more data points and over the same long-term and recent records as the parametric analysis. Mann-Kendall analyses determine whether statistically significant increasing or decreasing monotonic trends exist (Mann, 1945; Kendall, 1975). Wells are considered to have a significant trend if the trend confidence exceeds 95% (i.e., p-value less than 0.05). Significant trends with a negative S-value are decreasing, while positive S-values are increasing. Once a significant trend is identified, a Theil-Sen slope analysis is performed to quantify the magnitude of the trend. The Theil-Sen analysis calculates the slope between all possible pairs of points and uses the median slope to estimate the trend magnitude (Theil, 1950; Sen, 1968; Gilbert, 1987). While the Mann-Kendall and Theil-Sen analyses determine whether statistically significant trends exist and estimate the trend magnitudes, the non-parametric methods do not test whether the data fit a particular model and are less suitable for making projections compared to parametric (e.g., linear) methods.

Results from the Updated Nitrate Water Quality Analyses

To update the characterization of nitrate concentrations in groundwater beneath and adjacent to the Tulare Lake area of the KWA Management Zone for this FMZP Addendum, available groundwater quality data were compiled, organized, and used to determine ambient conditions and trends that indicate where nitrate conditions are improving, degrading, or where there is no significant trend. This section describes groundwater nitrate data sources (**Table 3-13**), existing ambient nitrate conditions, nitrate trends analyses, and an evaluation of inactive drinking water wells.

Table 3-13. Summary of Wells with Nitrate Data Located in the Tulare Lake Area of the KWA Management Zone by Source (All Well Depths)			
Source ¹¹	All Well Depth Categories		
	Wells with Nitrate Data	Wells with Post-2010 Nitrate Data	Wells with Post-2010 Nitrate MCL Exceedance
Division of Drinking Water ⁵	126	85	3
DWR ⁶	152	0	0
GAMA ⁷	16	12	0
Irrigated Lands ⁸	258	258	19
Regulated Facilities ⁹	68	40	19
UC Davis Nitrate ¹⁰	941	13	3
USGS ¹¹	128	27	2
Management Zone ¹²	74	73	10
County ¹³	0	0	0
Total	1,763	508	56

⁵ These wells are from Public Water Systems with data from GAMA.

⁶ DWR conducts groundwater sampling and is provided by GAMA.

⁷ GAMA data originates from the GAMA Program, which sampled private domestic wells, as well as other supply wells and monitoring wells.

⁸ These are drinking water wells tested as required by the Irrigated Lands Regulatory Program (ILRP), with data made available through GAMA.

⁹ These are mostly monitoring wells from Water Board regulated facility cleanup and permitted sites with data made available through GAMA.

¹⁰ The UC Davis Nitrate dataset is from the UC Davis Report for the State Water Resources Control Board (SWRCB) Senate Bill X2 1 Report to the Legislature (2012) (<https://groundwaternitrate.ucanr.edu/>), as made available through GAMA.

¹¹ These data come from the USGS National Water Information System (NWIS), as made available through GAMA.

¹² These are domestic wells sampled by the Management Zone since implementation of the Early Action Plan.

¹³ Nitrate data were requested from county entities in the Management Zone and represent nitrate data from well permit samples or State Small Water System samples, when available.

3.2.6. Existing Ambient Conditions

Nitrate measurements and well data were compiled for the Tulare Lake area of the KWA Management Zone from publicly available data sources and complemented by data requests to counties and local groundwater sustainability agencies. Nitrate data were summarized by data source, depth, and recent nitrate exceedances in **Table 3-14**. There are 508 wells with recent nitrate measurements (since January 2010) in the proposed Management Zone, and 11 percent of them have had a nitrate measurement that exceeds the drinking water MCL.

Figure 3-15 shows the spatial distribution of wells with nitrate measurements by depth category. Wells were categorized into an appropriate depth category (Upper Zone, Lower Zone, Below Lower Zone, and Unknown) to produce GIS coverages of the wells with nitrate data. There are many more Upper Zone wells compared to Lower and Below Lower Zone wells with nitrate data. Upper Zone wells occur in the northern portion of the Tulare Lake area of the KWA Management Zone. Deeper wells completed in the Lower or Below Lower Zones are mainly located near the community of Hanford. **Figure 3-16** shows the locations of all Upper Zone wells with nitrate measurements since 2010. This figure also illustrates the locations of Upper Zone wells that have had at least one nitrate sample that exceeded the MCL. Upper Zone wells with data since 2010 show several nitrate exceedances located in the northern portion of the proposed Tulare Lake area of the KWA Management Zone.

High resolution spatial analyses of nitrate in the Upper Zone, Lower Zone, and Below Lower Zone were performed using the nitrate dataset described above. The Upper Zone remains the focus of the Nitrate Control Program Management Zone work, but analyses of deeper aquifer zones were completed to provide insight into conditions throughout the entire groundwater aquifer system as data are available. This includes the following steps:

Annual average nitrate concentrations were calculated for each well for the years 2010-2025 to yield one average nitrate concentration representing recent conditions.

Wells with nitrate data outside the proposed Priority 2 areas of the Management Zone and within a buffer zone of three miles around the Priority 2 areas of the Management Zone boundaries were compiled and used in the high resolution analysis because nitrate occurrence does not cease at the border of the Management Zone.

Geospatial interpolation (kriging) of the well point data from each individual well depth category (Upper, Lower, and Below Lower Zones) was performed using a search radius of 1.5 miles.

Gap areas were shown to exist where post-2010 nitrate well data in a specific depth zone (Upper, Lower, and Below Lower Zones) were insufficient to produce the spatial interpolation using the 1.5 mile search criterion.

Figure 3-17a illustrates the average post-2010 nitrate concentrations for all Upper Zone wells in the Tulare Lake area of the KWA Management Zone. This figure also shows the interpolated ambient Upper Zone post-2010 nitrate as well as the gap areas where insufficient Upper Zone nitrate data exist. High nitrate concentrations exist in several relatively small spatial areas throughout the northern area of the Tulare Lake area of the KWA Management Zone, including areas near the community of Lemoore, and surrounding the community of Hanford. Insufficient recent Upper Zone nitrate data are available throughout the southern area and within the de-designated area. **Figures 3-17b** and **3-17c** provide the average post-2010 nitrate concentrations for the Lower and Below Lower Zones, respectively. There are fewer recent nitrate groundwater data available for the Lower Zone compared to the Below Lower Zone, but the dataset available for this time period indicates nitrate levels are relatively low in the Lower and Below Lower Zones, with the exception of a small area northeast of the community of Corcoran which exhibits elevated nitrate levels in the Lower and Below Lower Zones.

To test if the ambient average post-2010 nitrate presented in **Figure 3-17a** is potentially underestimating conditions in the Upper Zone, the maximum post-2010 nitrate concentration from each well (point data) is overlain atop the interpolated ambient Upper Zone nitrate in **Figure 3-18**. This map provides a comparison between the shaded colors representing the average annual post-2010 nitrate and the colored dots that represent the maximum measured nitrate in individual wells since 2010. The maximum post-2010 nitrate concentration is presented for the Upper Zone wells in the Management Zone to verify that the identification of areas with potentially elevated nitrate is not underestimated from wells that may have more recently begun to exceed the nitrate MCL. There is good agreement between the ambient post-2010 average-based interpolated Upper Zone nitrate to the maximum Upper Zone nitrate concentrations in individual wells, with very few exceptions. There are several individual wells that plot on top of or very close to another well with different maximum concentrations despite both assumed to be completed in the Upper Zone. This is a testament to the heterogeneity and variability inherent to groundwater quality conditions, as well as the availability and quality of the dataset. Nitrate data for Upper Zone wells may have a maximum nitrate concentration exceeding the MCL but are located adjacent to other wells that have no measured nitrate concentrations above the MCL during the same or similar time period. The KWA recognizes that there is some inherent uncertainty associated with this analysis and also recognizes that the recent ambient nitrate coverage is subject to refinement as additional Upper Zone groundwater nitrate data become available.

3.2.7. Groundwater Nitrate Trends Analysis

The refined methodology used to perform updated temporal trends analyses on the groundwater nitrate data in the Tulare Lake area of the KWA Management Zone is provided above. The groundwater nitrate trends analysis includes parametric and non-parametric trends analyses for the full record of measurements for a particular well as well as a more recent view,

utilizing data records since 2010. Trends analyses are only performed for wells with at least five measurements in the time period of interest. Identified trends are categorized by magnitude of concentration change annually. The magnitude of change in concentration is equivalent to the best fitting linear slope for parametric trends and the Theil-Sen slope for non-parametric trends. Slopes are calculated for wells with statistically significant trends. Trends in nitrate that are changing more than 1 mg/L/yr (i.e., 1/10th the MCL for nitrate annually) are considered “increasing” or “decreasing” depending on trend direction. Trends that are changing less than or equal to 1 mg/L/yr but more than 0.1 mg/L/yr are considered “slightly increasing” or “slightly decreasing”. Trends changing less than or equal to 0.1 mg/L/yr are considered “neutral” and represent small but statistically significant upward or downward changes in concentration. Parametric trends are summarized by depth zone, trend period, and trend magnitude in **Table 3-15a**. Non-parametric trends are summarized in **Table 3-15b**.

Wells with trend analysis results are mapped and symbolized with different colors denoting trend results and different shapes denoting well depth. Upper Zone wells are circles, Lower Zone wells are squares, Below Lower Zone wells are triangles, and wells in unknown depth zones are diamonds. Trends increasing at rates exceeding 1 mg/L/yr are red, and slightly increasing trends are orange. Neutral trends with rates less than or equal to 0.1 mg/L/yr are yellow. Decreasing trends are shades of green with darker shades representing rates exceeding 1 mg/L/yr. Trends not meeting minimum criteria are grey. Trends not meeting minimum criteria are not necessarily stable but do not meet conditions for statistical significance.

Long-term trends are analyzed only in wells with at least one data point prior to 2010. Long-term parametric and non-parametric trends are displayed in **Figures 3-19a** and **3-19b**. The recent trend analysis considers only measurements taken after 2010. Recent parametric and non-parametric trends are displayed in **Figures 3-20a** and **3-20b**. Although most wells with nitrate data do not meet the conditions for estimating parametric (linear) or non-parametric trends, many of those wells that do meet the conditions show both increasing or decreasing trends. Spatially, the wells with increasing trends are mostly located in the north, east, and northeastern part of the area in areas with elevated ambient nitrate in the Upper Zone.

**Table 3-14 Wells with Nitrate Measurements
in the Tulare Lake Area of the KWA
Management Zone by Depth Category**

Depth Category	All Wells with Nitrate Data	Wells with Post-2010 Nitrate Data	Wells with Post-2010 Nitrate > 10 mg/L-N	Percent of Wells with Post-2010 Nitrate Data > 10 mg/L-N
All	3	1	0	0%
Upper	1,135	319	34	11%
Upper and Lower	1	1	0	0%
Lower	20	11	0	0%
Lower and Below Lower	2	1	0	0%
Below Lower	76	43	2	5%
Outside Central Valley Floor	524	130	20	15%
Unknown	2	2	0	0%
Total	1,763	508	56	11%

**Table 3-15a Parametric (Linear) Trends in Nitrate Concentrations in Wells
within the Tulare Lake Area of the KWA Management Zone**

Depth Zone	Trend Period	Number of Wells						
		Tested for Linear Trend	Not Meeting Conditions for Linear Trend	Decreasing Significantly (>1 mg/L/yr)	Decreasing (>0.1 mg/L/yr)	Stable (<0.1 mg/L/yr)	Increasing (>0.1 mg/L/yr)	Increasing Significantly (>1 mg/L/yr)
All	Long Term	0	0	0	0	0	0	0
	Recent	0	0	0	0	0	0	0
Upper	Long Term	20	14	0	1	2	2	1
	Recent	12	9	0	0	1	1	1

Table 3-15a Parametric (Linear) Trends in Nitrate Concentrations in Wells within the Tulare Lake Area of the KWA Management Zone								
Depth Zone	Trend Period	Number of Wells						
		Tested for Linear Trend	Not Meeting Conditions for Linear Trend	Decreasing Significantly (>1 mg/L/yr)	Decreasing (>0.1 mg/L/yr)	Stable (<0.1 mg/L/yr)	Increasing (>0.1 mg/L/yr)	Increasing Significantly (>1 mg/L/yr)
Upper and Lower	Long Term	0	0	0	0	0	0	0
	Recent	0	0	0	0	0	0	0
Lower	Long Term	1	0	0	0	0	1	0
	Recent	0	0	0	0	0	0	0
Lower and Below Lower	Long Term	0	0	0	0	0	0	0
	Recent	0	0	0	0	0	0	0
Below Lower	Long Term	7	5	0	0	1	1	0
	Recent	9	7	0	0	1	1	0
Unknown	Long Term	16	15	0	1	0	0	0
	Recent	11	9	0	1	0	0	1
Outside Central Valley Floor	Long Term	0	0	0	0	0	0	0
	Recent	0	0	0	0	0	0	0
All Wells with Nitrate Data	Long Term	44	34	0	2	3	4	1
	Recent	32	25	0	1	2	2	2

Table 3-15b. Non-Parametric Trends in Nitrate Concentrations in Wells within the Tulare Lake Area of the KWA Management Zone								
Depth Zone	Trend Period	Number of Wells						
		Tested for Non-Parametric Trend	Not Meeting Conditions for Non-Parametric Trend	Decreasing Significantly (>1 mg/L/yr)	Decreasing (>0.1 mg/L/yr)	Stable (<0.1 mg/L/yr)	Increasing (>0.1 mg/L/yr)	Increasing Significantly (>1 mg/L/yr)
All	Long Term	0	0	0	0	0	0	0
	Recent	0	0	0	0	0	0	0
Upper	Long Term	20	16	0	1	1	1	1
	Recent	12	10	0	0	1	1	0
Upper and Lower	Long Term	0	0	0	0	0	0	0
	Recent	0	0	0	0	0	0	0
Lower	Long Term	1	0	0	0	0	1	0
	Recent	0	0	0	0	0	0	0
Lower and Below Lower	Long Term	0	0	0	0	0	0	0
	Recent	0	0	0	0	0	0	0
Below Lower	Long Term	7	4	0	1	1	1	0
	Recent	9	6	0	0	2	1	0
Unknown	Long Term	16	15	0	0	0	1	0
	Recent	11	8	0	1	0	0	2
Outside Central Valley Floor	Long Term	0	0	0	0	0	0	0
	Recent	0	0	0	0	0	0	0
All Wells with Nitrate Data	Long Term	44	35	0	2	2	4	1
	Recent	32	24	0	1	3	2	2

3.2.8. Inactive Drinking Water Supply Wells

The Management Zone received comments from the Regional Board on the PMZP, one of which involved a concern about inactive drinking water supply wells creating such a potential bias towards ambient Upper Zone nitrate analysis. In order to address this concern, the location of inactive supply wells that have had nitrate exceedances are compared to the ambient nitrate map. The DDW's online public water system database website was used in conjunction with the GAMA database to identify supply wells that are no longer used within the Management Zone. The DDW website provides database files that include a file containing public water system well identification numbers and well status codes.¹⁴ The wells from the DDW website are not accompanied by location coordinates, but these wells can be linked (using their primary station code ID) to nitrate groundwater quality data from the GAMA dataset which does provide well location coordinates. Wells within the KWA Southern Portion (Tulare Lake Subbasin and small part of Kaweah Subbasin) that have a current status (as provided by DDW, which was last updated in August 2021) of "AB" for abandoned, "DS" for destroyed, "IR" for inactive raw, "IT" for inactive treated, and "IU" for inactive unused, are considered to be no longer actively used for drinking water.

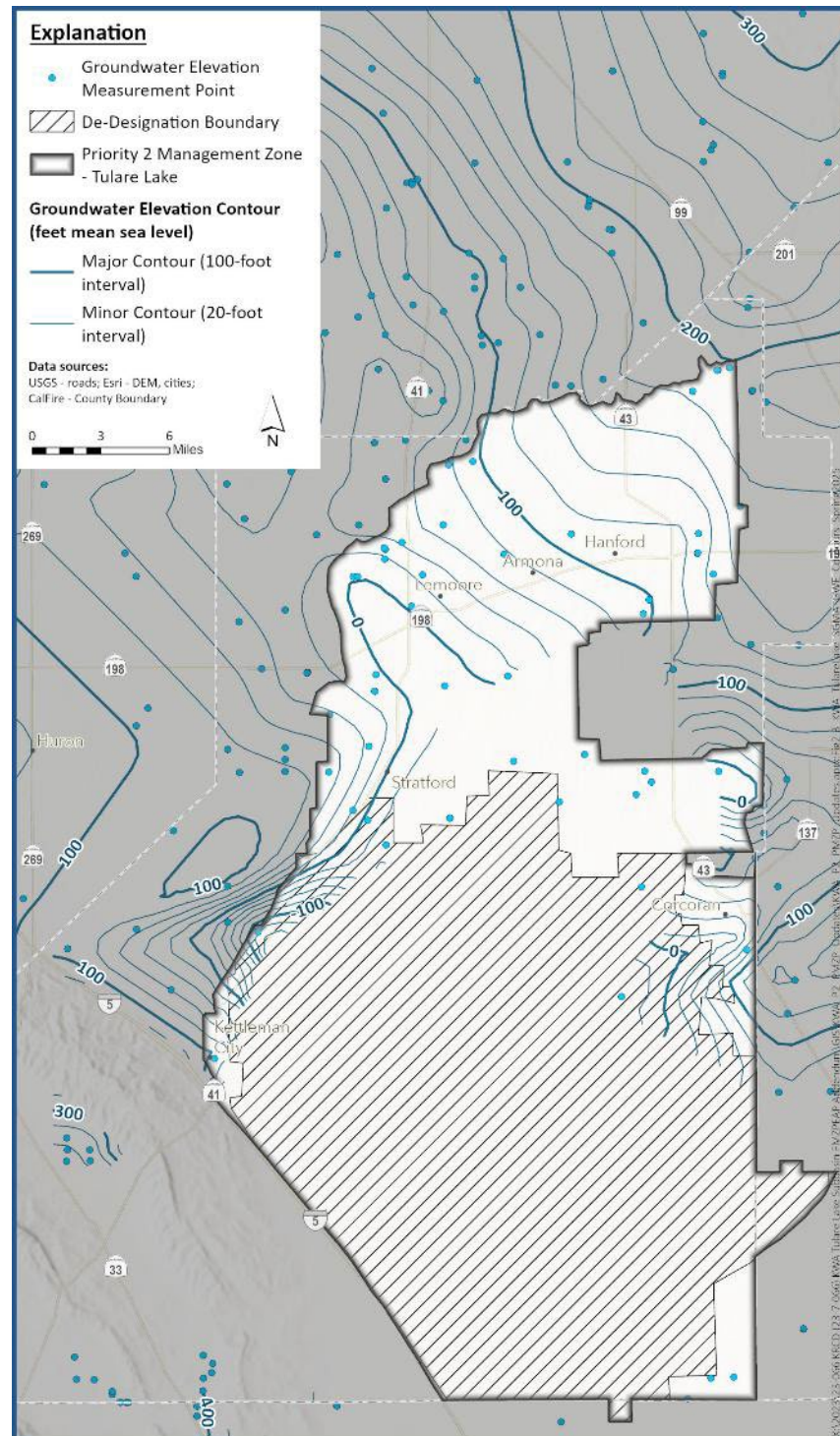
The previous KWA FMZP assessment of inactive drinking water supply wells within the KWA Southern Portion (Tulare Lake Subbasin and small part of Kaweah Subbasin) indicated that a total of 42 supply wells were not currently being used for drinking water according to DDW (5 are abandoned, 27 are destroyed, and 10 are inactive). These wells were all less than 9,229 feet from the nearest Upper Zone well with post-2000 nitrate data, with an average proximity of 4,298 feet from the nearest Upper Zone well with post-2000 nitrate data. Most of the wells not being used for drinking water supply (according to DDW) fell within ambient Upper Zone concentrations less than 7.5 mg/L as N (25 out of 42 wells). The remaining 17 wells fell within the ambient Upper Zone concentration reflective of MCL exceedances.

For this FMZP Addendum, four public supply wells recorded a nitrate exceedance and all four have a well status of "AR", or "Active Raw". Zero wells with inactive (or destroyed or abandoned) status have records of nitrate exceedances in this Priority 2 area. The four active public supply wells are associated with the City of Corcoran's community public water system, which appears to have nitrate treatment capabilities according to well names (through blending).

¹⁴ Water quality database files are publicly accessible here https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/EDTlibrary.html (accessed December, 2025), including the supporting database file SITELOC, which contains primary station codes (well identification numbers) and well status codes that can be used to determine if a well has been abandoned, destroyed, or deemed inactive.

3.2.9. Discussion of De-Designated Areas

As illustrated in **Figure 3-9**, there are areas within the Priority 2 Tulare Lake Subbasin portion of the KWA Management Zone that have been de-designated for beneficial MUN (municipal and domestic drinking water) use. These areas are not subject to the Nitrate Control Program, which means that any discharger within the de-designated area are not subject to comply or participate in the KWA Management Zone activities. Any domestic wells located within the de-designated area are currently being investigated to determine if the wells are screened below the de-designated portion of the subsurface (the designated clay unit based on the de-designation) and may be eligible to participate in the Early Action Plan.



Source: DWR

Figure 3-9. Spring 2025 Contours of Equal Groundwater Elevation for the Tulare Lake Subbasin

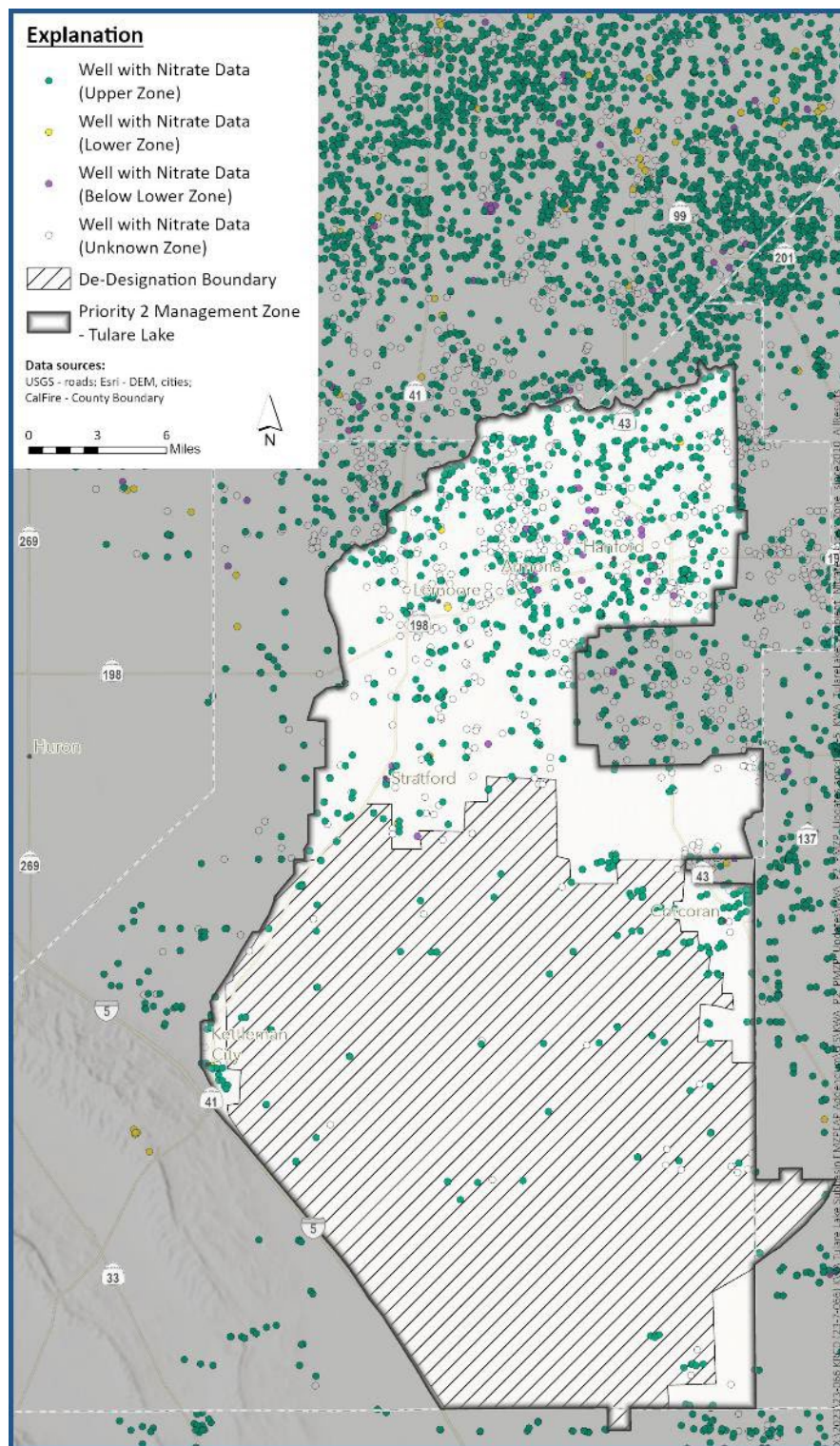


Figure 3-16. Wells with Nitrate Data within the Tulare Lake Area of the KWA Management Zone by Depth Category

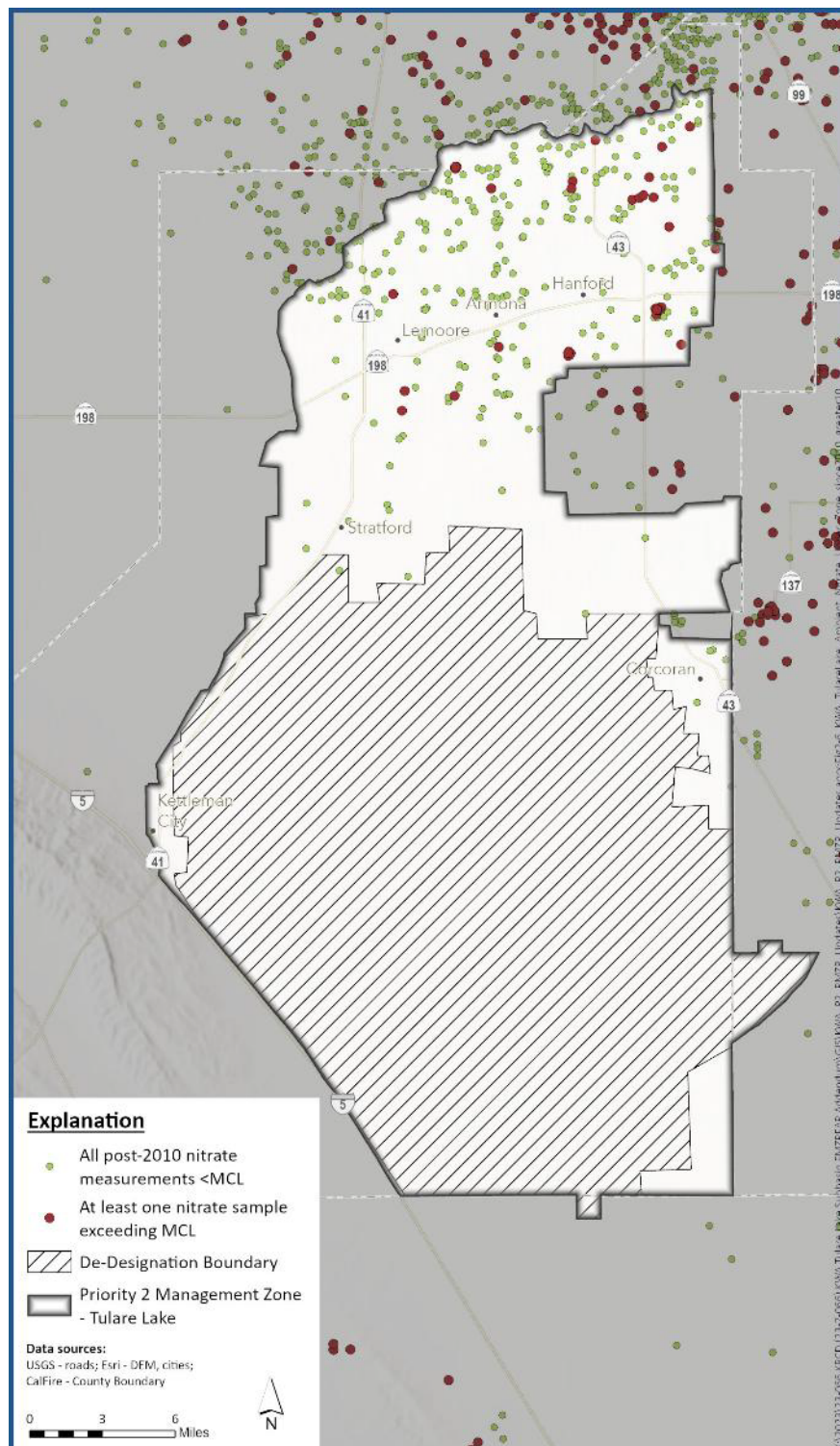
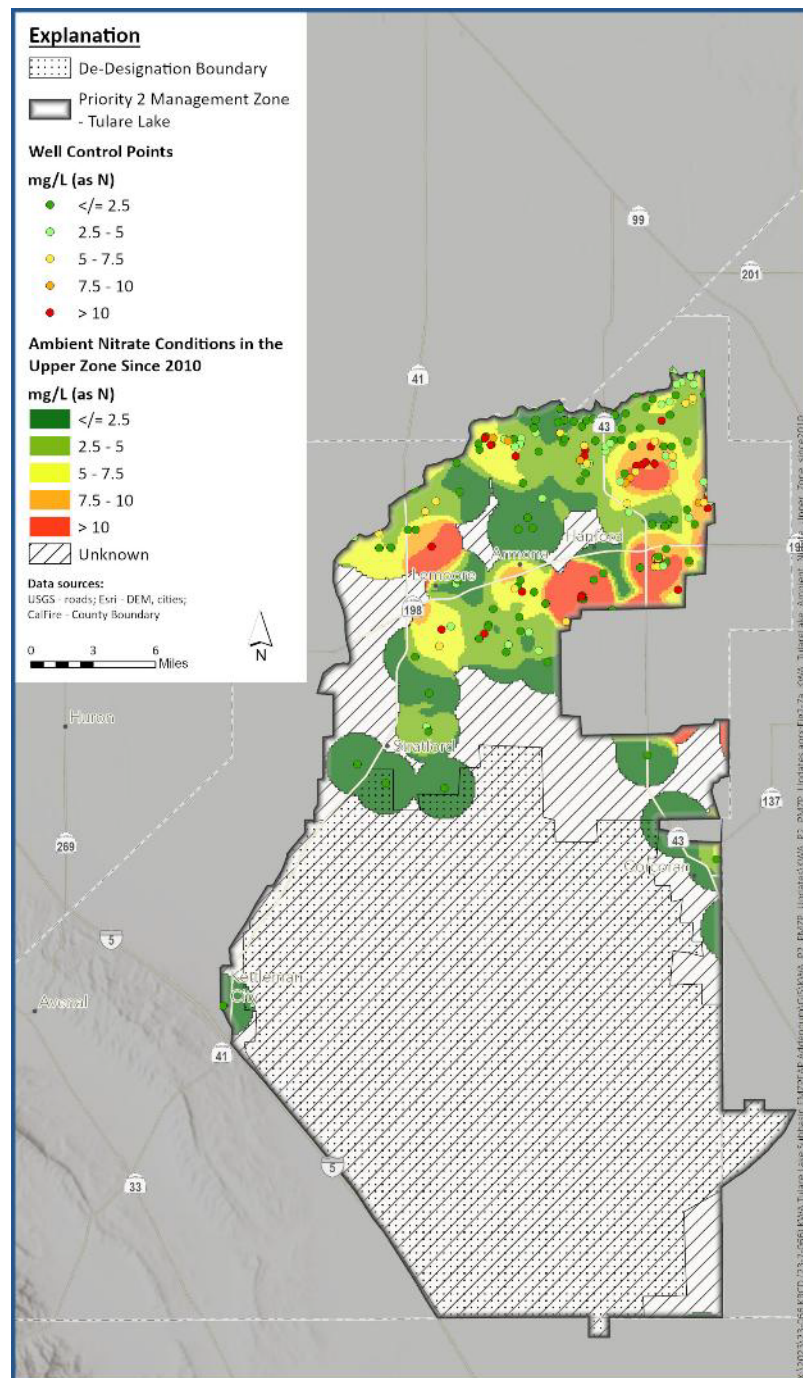


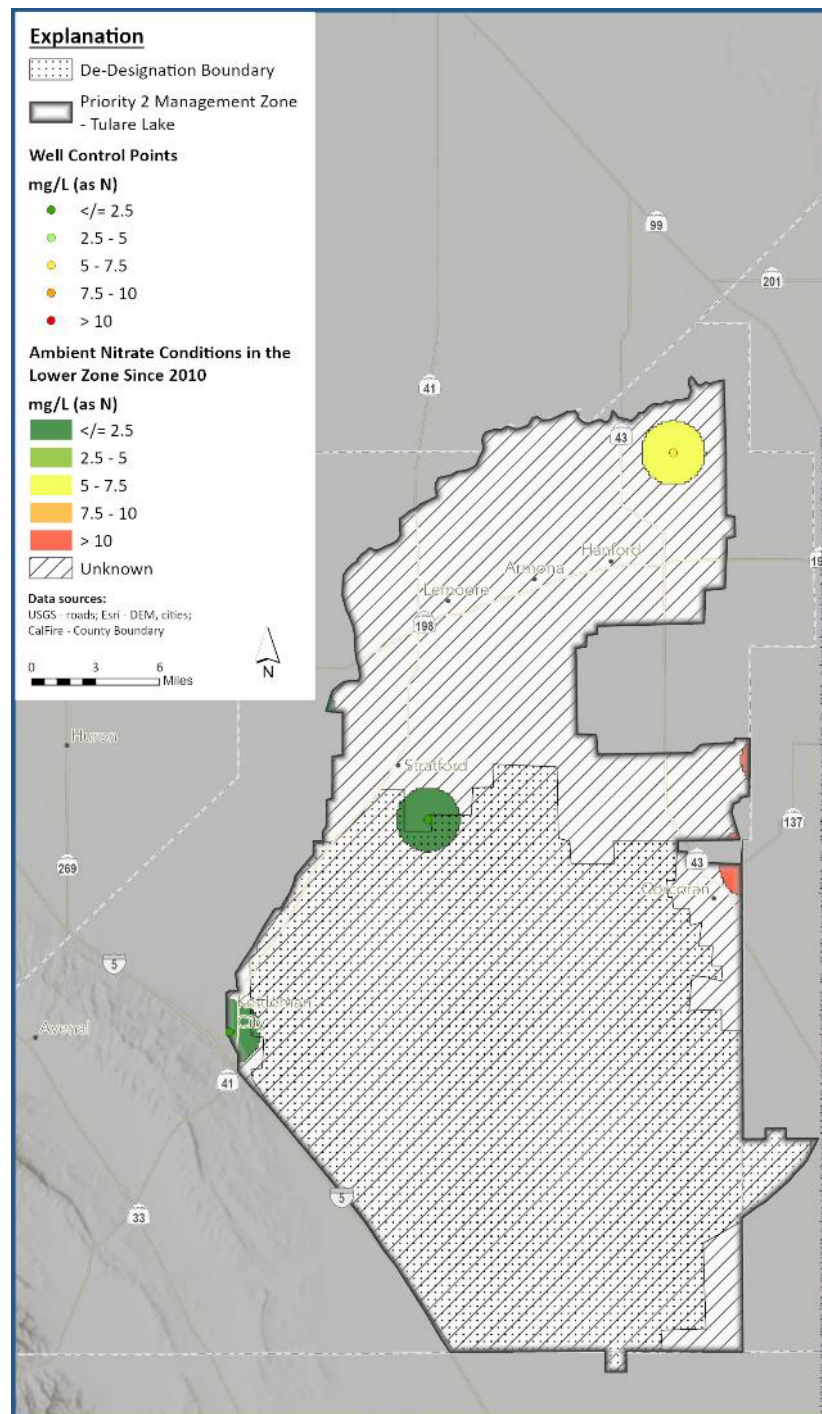
Figure 3-17. Upper Zone Wells with Nitrate Data and Nitrate Concentrations > 10 mg/L-N (Post-2010) in the Tulare Lake Area of the KWA Management Zone



Note: This map was developed using the best available groundwater nitrate data from January 2010 to October 2025 for wells completed in the Upper Zone. This map is subject to refinement as additional data becomes available

Figure 3-17a. Ambient Post-2010 Nitrate Concentrations in the Upper Zone of Groundwater Underlying the Tulare Lake Area of the KWA Management Zone

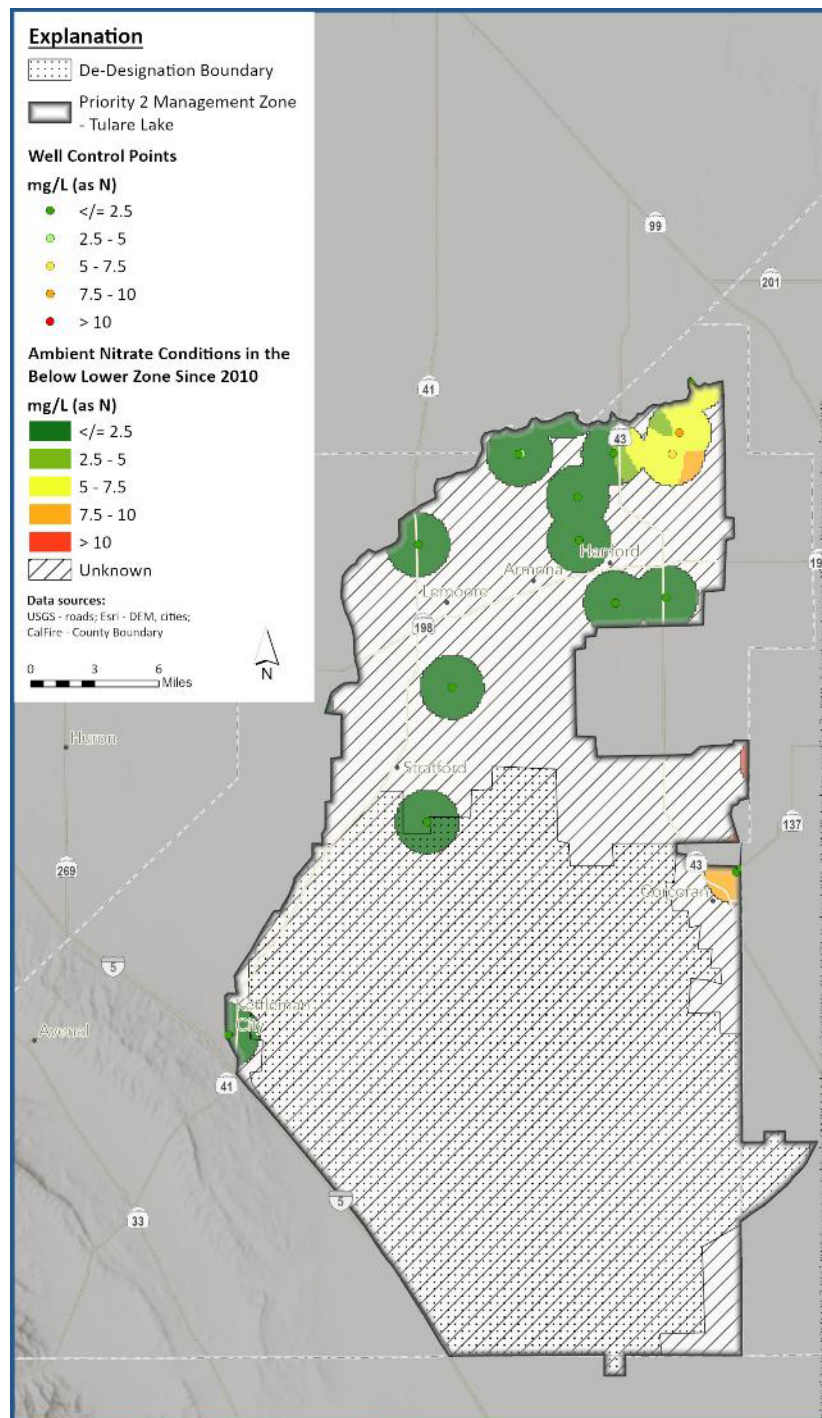
Kings Water Alliance Management Zone
Final Management Zone Proposal Addendum
Priority 2 Tulare Lake Subbasin Area



Note: This map was developed using the best available groundwater nitrate data from January 2010 to October 2025 for wells completed in the Lower Zone. This map is subject to refinement as additional data becomes available

Figure 3-17b. Ambient Post-2010 Nitrate Concentrations in the Lower Zone of Groundwater Underlying the Tulare Lake Area of the KWA Management Zone

Kings Water Alliance Management Zone
Final Management Zone Proposal Addendum
Priority 2 Tulare Lake Subbasin Area



Note: This map was developed using the best available groundwater nitrate data from January 2010 to October 2025 for wells completed in the Lower Zone. This map is subject to refinement as additional data becomes available

Figure 3-17c. Ambient Post-2010 Nitrate Concentrations in the Below Lower Zone of Groundwater Underlying the Tulare Lake Area of the KWA Management Zone

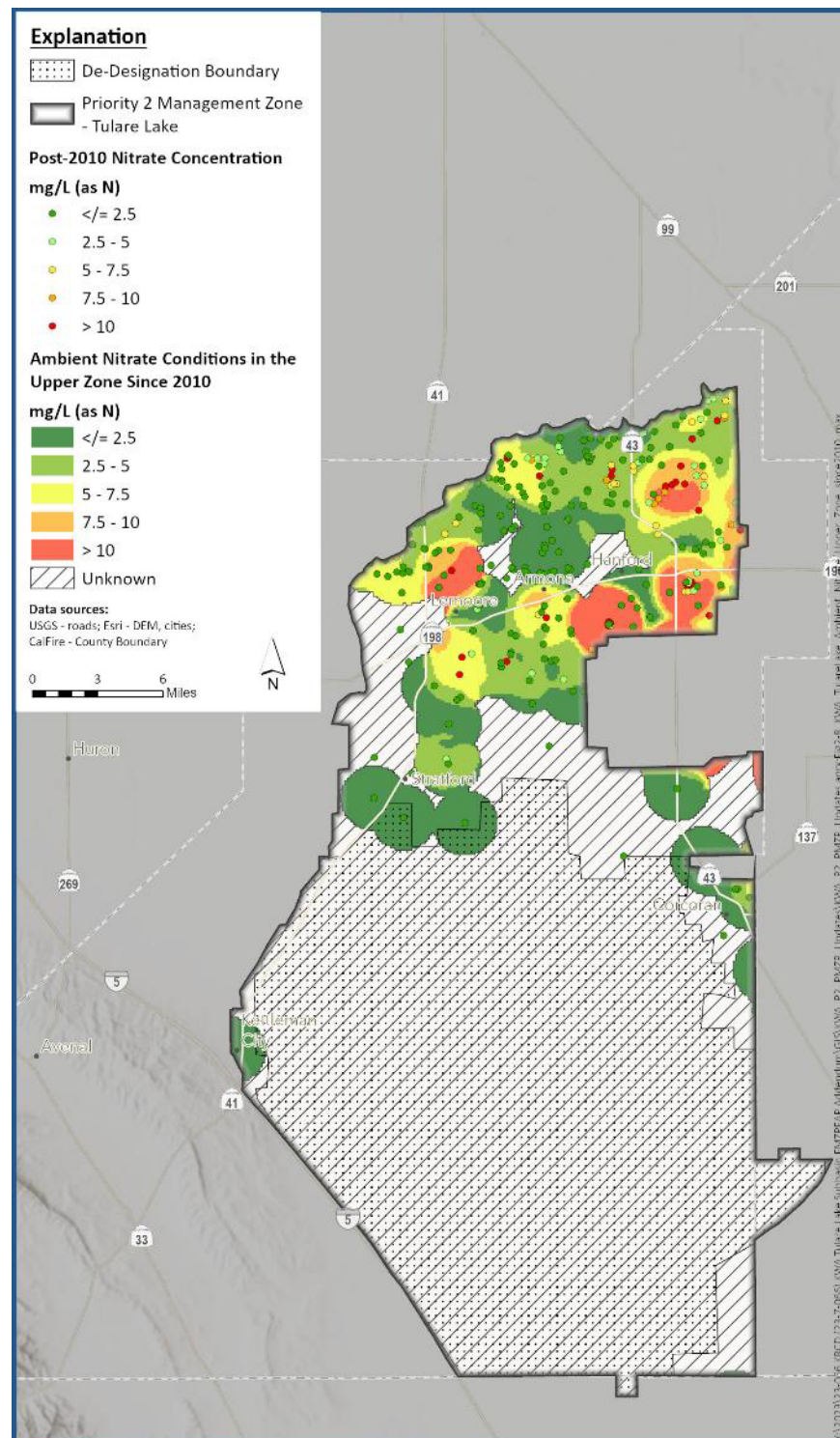


Figure 3-18. Maximum Post-2010 Nitrate in Wells Completed in the Upper Zone with Ambient Groundwater Underlying the Tulare Lake Area of the KWA Management Zone

Kings Water Alliance Management Zone
Final Management Zone Proposal Addendum
Priority 2 Tulare Lake Subbasin Area

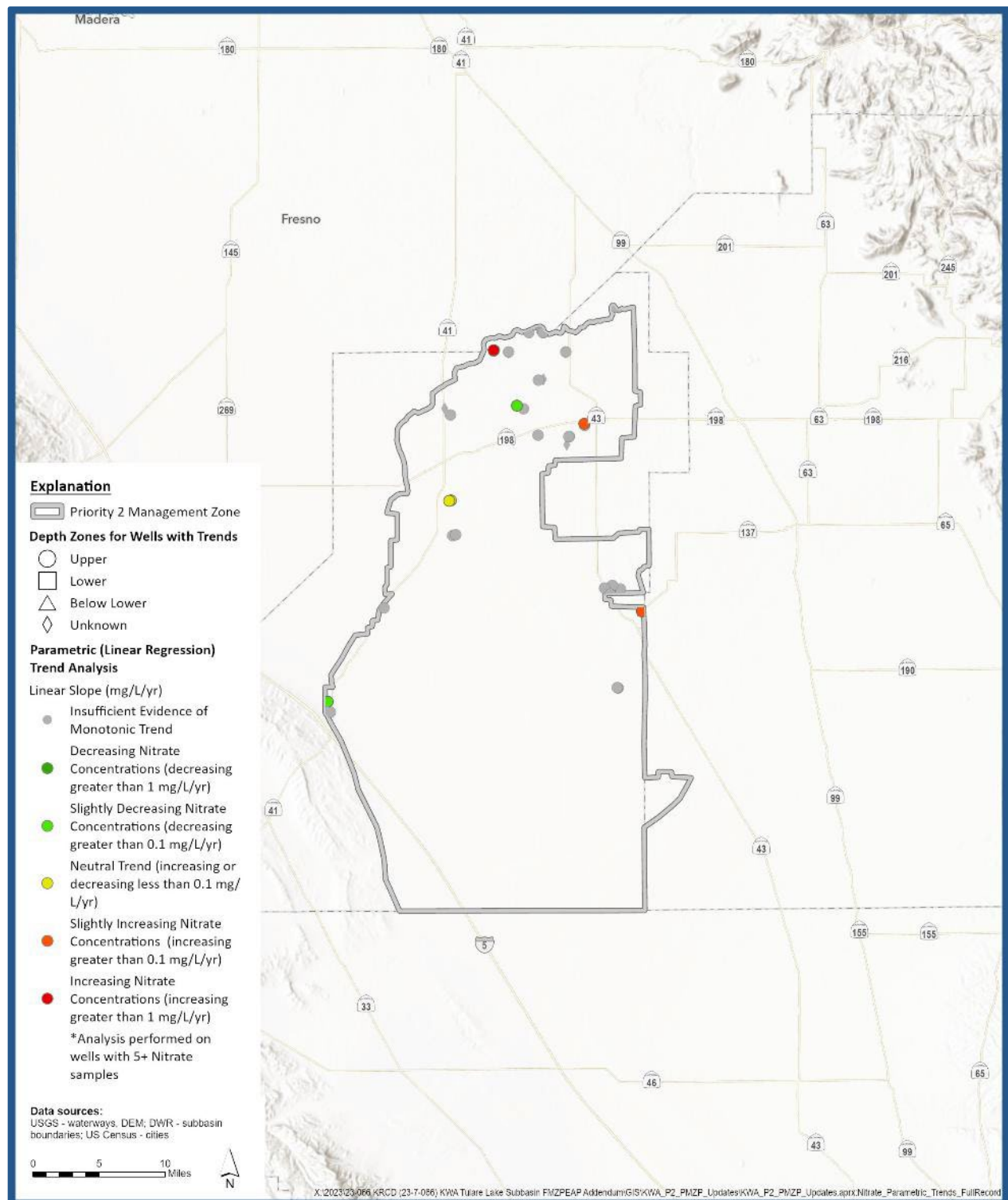


Figure 3-19a. Historical (Long-Term) Parametric Trends in Nitrate

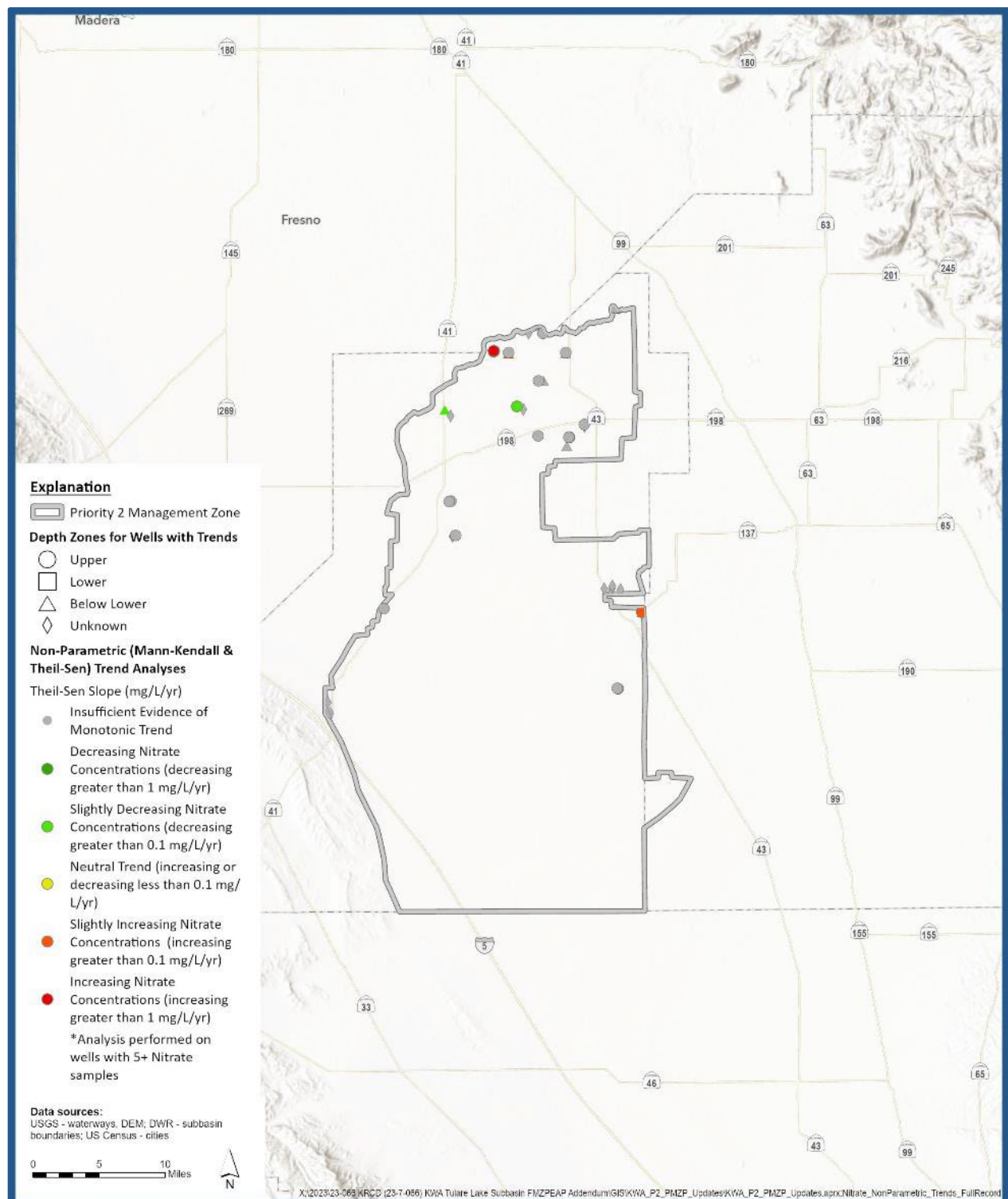


Figure 3-19b. Historical (Long-Term) Non-Parametric Trends in Nitrate

Kings Water Alliance Management Zone
Final Management Zone Proposal Addendum
Priority 2 Tulare Lake Subbasin Area

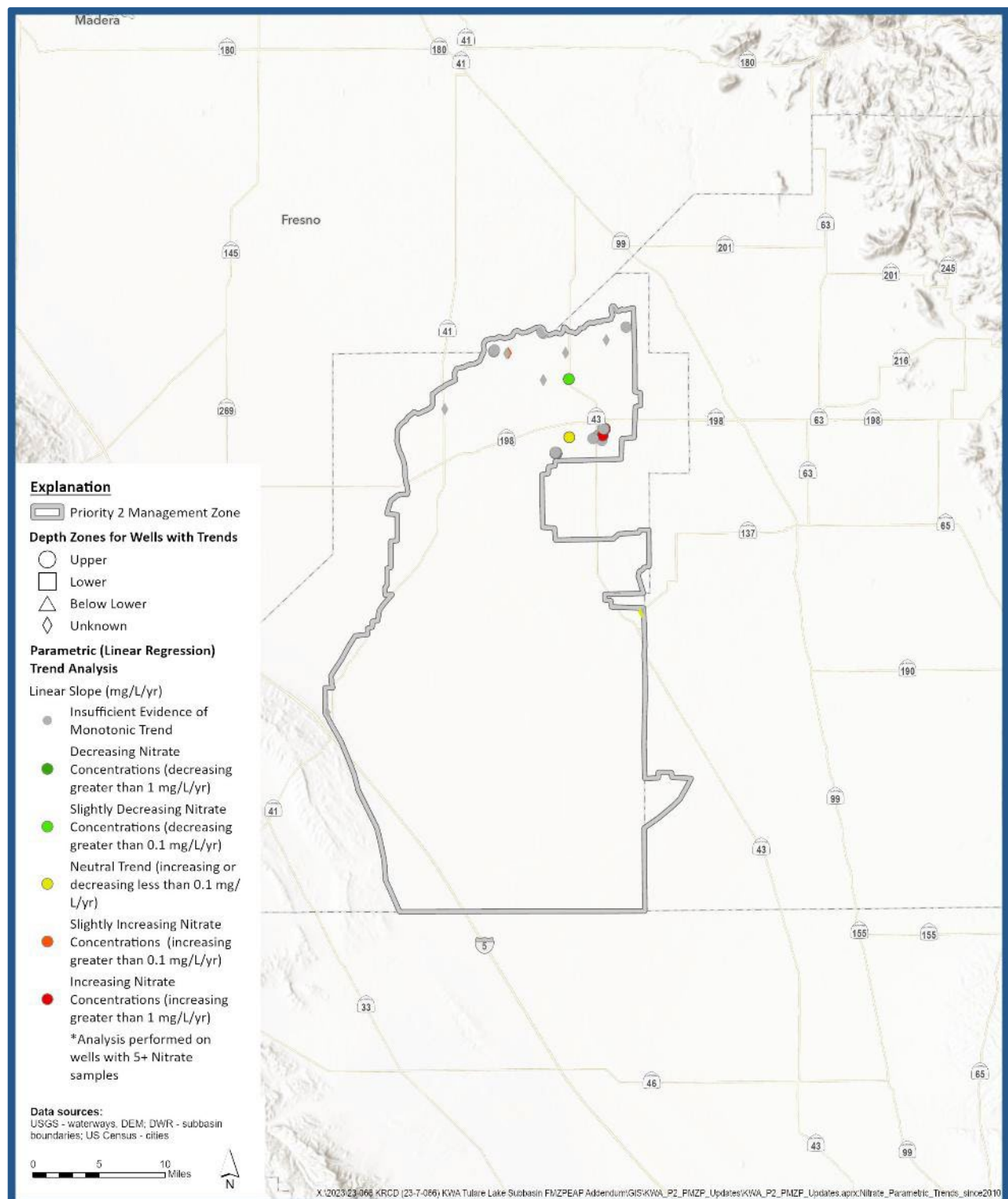


Figure 3-20a. Recent (Post-2010) Parametric Trends in Nitrate

Kings Water Alliance Management Zone
Final Management Zone Proposal Addendum
Priority 2 Tulare Lake Subbasin Area

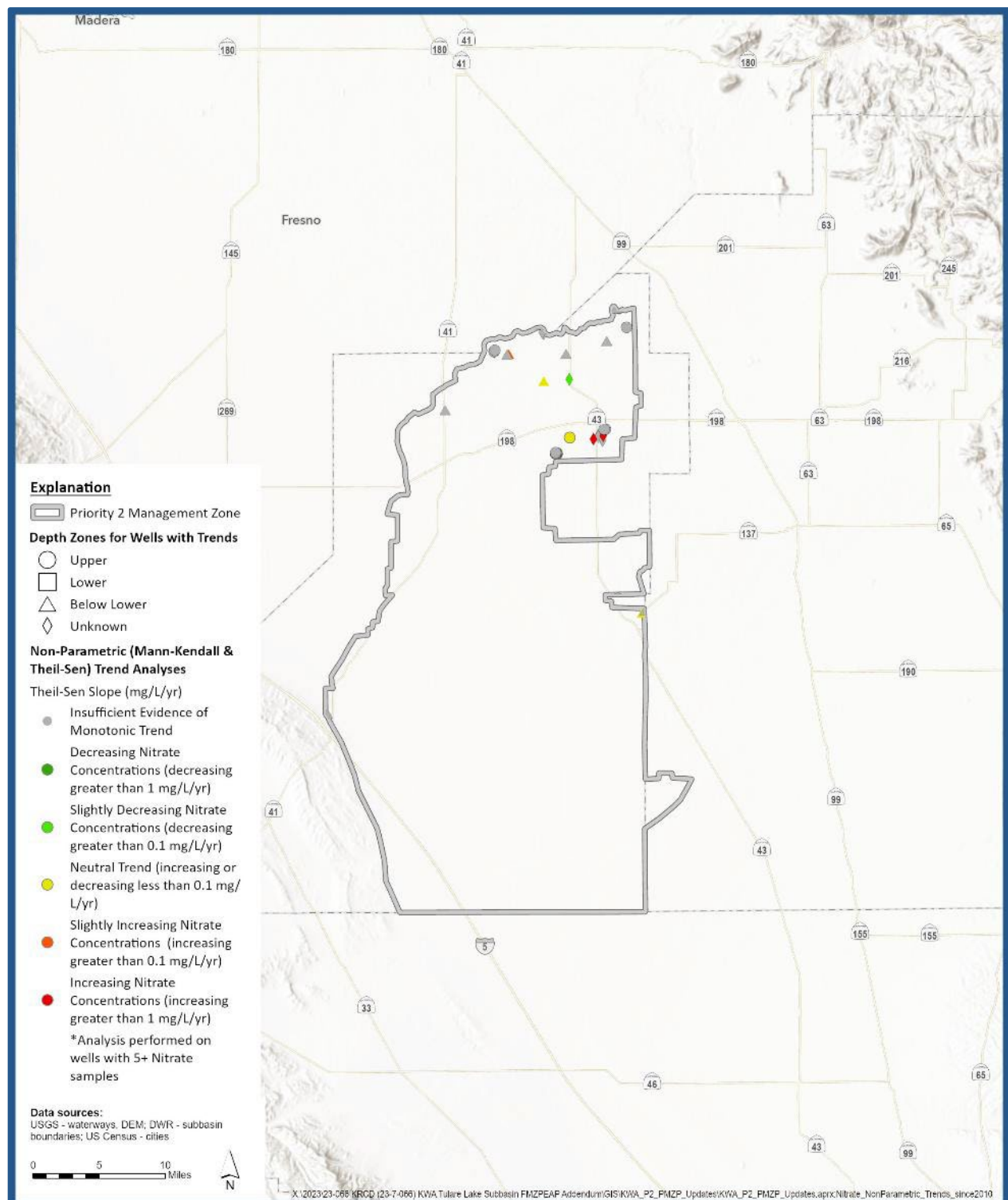


Figure 3-20b. Recent (Post-2010) Non-Parametric Trends in Nitrate

3.3. Addendum Management Zone Participants

Management Zone participants may include both permitted dischargers subject to the requirements of the Nitrate Control Program and non-dischargers working collaboratively with the permitted dischargers to support implementation of the Program in general and the EAP specifically. The following sections summarize the permitted dischargers and non-dischargers in the Management Zone located within the following subbasins: Tulare Lake, Kaweah, Westside, Pleasant Valley, Tule and Kern County (as of the submittal of this FMZP Addendum).

3.3.1. Permitted Dischargers

CVWB sent a NTC to permitted dischargers in the Priority 2 groundwater subbasin areas on December 29, 2023. To facilitate coordination with NTC letter recipients, the KWA requested and received the list of permitted dischargers that were sent the NTC via certified mail. The KWA then worked with the CVWB staff to refine the list as needed. The following sections summarize the permitted dischargers in the Priority 2 Management Zone areas within the KWA by permit type and the status of their participation. There are dischargers located within areas of the Tulare Lake Subbasin where MUN and AGR beneficial uses have been de-designated. These facilities are not subject to the Nitrate Control Program and will not receive a NTC (based on communication with the CVWB staff). Accordingly, facilities located in de-designated areas are not included in this FMZP.

Irrigated Lands Regulatory Program

Growers are permitted to discharge under the ILRP, which works to prevent runoff from agricultural operations from impairing surface waters and groundwater. Implementation of the ILRP occurs through water quality coalitions. A coalition (sometimes referred to as a “third-party”) collectively represents growers within its respective jurisdiction to assist them in their efforts to comply with ILRP requirements. The Kings River Water Quality Coalition (“Coalition”) represents the growers in the proposed Management Zone including both Priority 1 and 2 areas. General Order R5-2013-0120-09 (“Waste Discharge Requirements General Order for Growers within the Tulare Lake Basin Area that are Members of the Third-Party Group”) establishes the regulatory requirements applicable to growers within the Coalition. The NTC with the Nitrate Control Program was sent to the Coalition on December 29, 2023. On behalf of the growers enrolled under the General Order, the Coalition will comply with the Program as a participant in the KWA.

Concentrated Animal Feeding Operations

CAFOs are authorized to discharge under various General Orders based on the type of animal feeding operation. Participation in the KWA by the dischargers authorized to discharge under these General Orders is discussed in the sections below.

Milk Cow Dairies

Most milk cow dairies located in the KWA are regulated under General Order R5-2013-0122 (“Reissued Waste Discharge Requirements General Order for Existing Milk Cow Dairies”). The NTC with the Nitrate Control Program was sent to each permitted milk cow dairy within the Kaweah Subbasin on May 29, 2020, and in the Tulare Lake Subbasin on December 29, 2023. **Attachment B, Tables 2 and 4** list the milk cow dairies in the Kaweah and Tulare Lake Subbasins, respectively, that are members of the CVDRMP and, therefore, are participating in the KWA.

Confined Bovine Feeding Operations

Confined bovine feeding operations located within the KWA are regulated under General Order R5-2017-0058 (“Waste Discharge Requirements General Order for Confined Bovine Feeding Operations”). The NTC with the Nitrate Control Program was sent to the confined bovine feeding operations within the Kaweah Subbasin on May 29, 2020, and in the Tulare Lake Subbasin on December 29, 2023. **Attachment B, Tables 2 and 4** list the confined bovine feeding operations in the Kaweah and Tulare Lake Subbasins, respectively, that are members of the CVDRMP and, therefore, are participating in the KWA.

Poultry Operations

Poultry operations located within the KWA are regulated under General Order R5-2016-0087-01 (“Waste Discharge Requirements General Order for Poultry Operations”) (Poultry General Order). There are no poultry facilities located within the Kaweah Subbasin. The NTC with the Nitrate Control Program was sent to poultry facilities in the Tulare Lake Subbasin on December 29, 2023. **Attachment B, Table 8** lists the poultry facilities within the Tulare Lake Subbasin that received an NTC. These permitted dischargers are collectively participating in the KWA and are being outreached to and coordinated with by representatives of the poultry industry, including the California Poultry Federation and Foster Poultry Farms. Under the Poultry General Order poultry operations are categorized as either Low Threat Operations or Full Coverage Operations. All poultry facilities in the KWA are Low Threat Operations.

Individually Permitted Dischargers

Table 3-15 lists the permitted facilities authorized to discharge waste under individual WDRs within the Tulare Lake and Kaweah Subbasins. **Figure 3-21** illustrates the location of each of these permitted facilities within the Southern Portion (Tulare/Kaweah Subbasin Areas) of the KWA (map numbers in **Figure 3-21** correspond to the map numbers provided in the first column in **Table 3-15**).

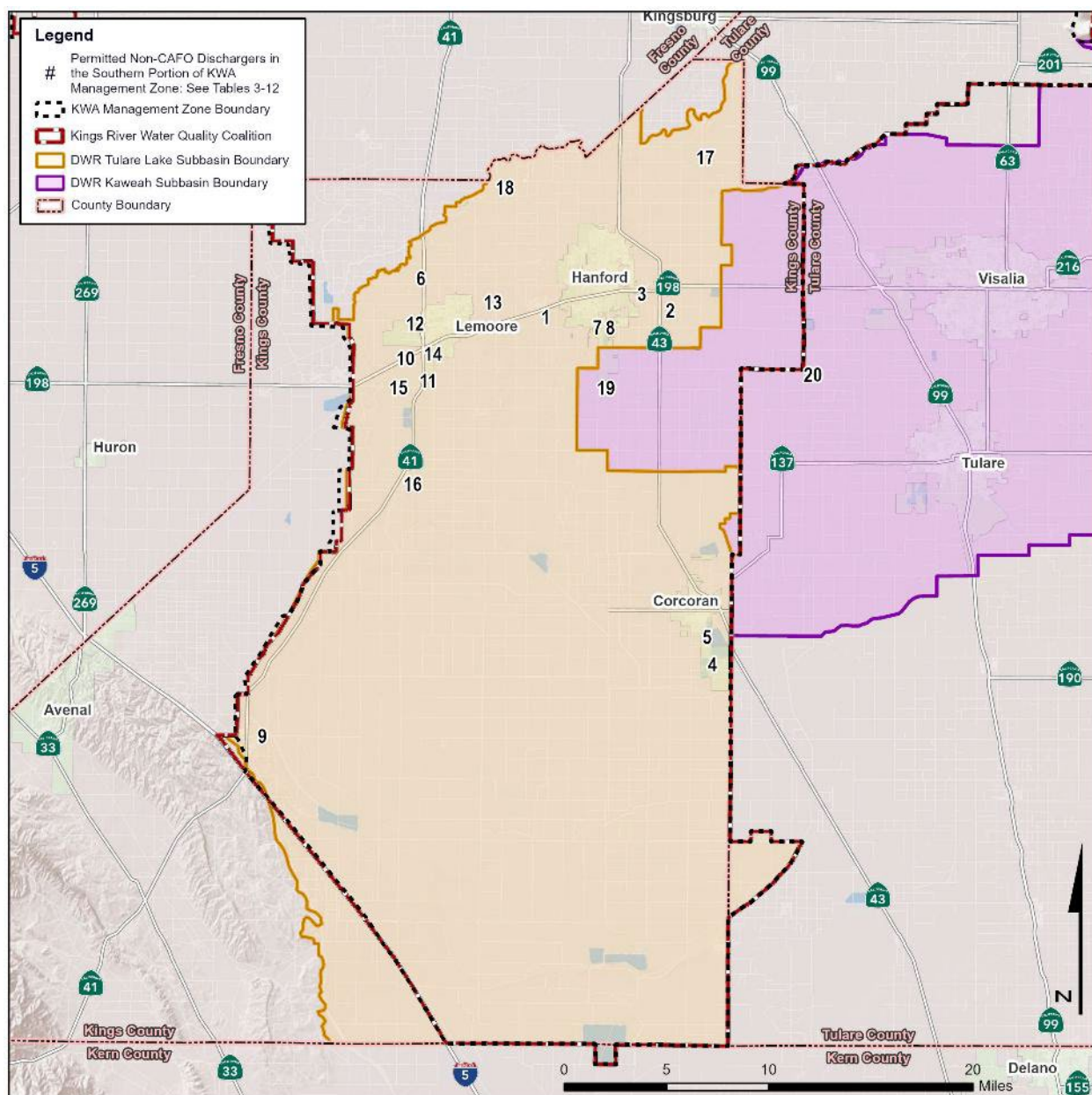
Table 3-15. Individual Permitted Dischargers within the Southern Portion (Tulare Lake and Kaweah Subbasin) of the Kings Water Alliance Management Zone						
Map ID.	Facility Name	Facility Type	Permittee/Facility Address	County	Order No.	CV-SALTS ID
<i>Tulare Lake Subbasin</i>						
1	Armona Community Services District Wastewater Treatment Facility	Non15	Armona Community Services District, 13545 Hume Avenue, Hanford, CA, 93230	Kings	92-017	1784
2	Baker Commodities Hanford Facility	Non15	Baker Commodities, Inc., 7480 Hanford Armona Road, Hanford, CA 93230	Kings	R5-2005-0177	2111
3	Central Valley Meat Hanford Facility	Non15	Central Valley Meat Company, 10431 8 ¼ Avenue, Hanford, CA 93230	Kings	R5-2023-0028	2112
4	Corcoran State Prison Wastewater Treatment Facility	Non15	California Department of Corrections and California Prison Industry Authority, 4001 King Avenue, Corcoran, CA, 93212	Kings	R5-2016-0027	1932
5	Corcoran Wastewater Treatment Facility	Non15	City of Corcoran, 895 Pueblo Avenue, Corcoran, CA, 93212	Kings	R5-2021-0025	2658
6	El Dorado Mobile Home Park Wastewater Treatment Facility	Non15	Robinson/McClory Properties, 9630 Highway 41, Lemoore, CA, 93245	Kings	96-028	1994
7	Hanford Master Reclamation Project	Non15	City of Hanford, 10555 Houston Avenue, Hanford, CA, 93230	Kings	5-00-223	1758
8	Hanford Wastewater Treatment Facility	Non15	City of Hanford, 10555 Houston Avenue, Hanford, CA, 93230	Kings	5-01-153	2667

**Table 3-15. Individual Permitted Dischargers within the Southern Portion
(Tulare Lake and Kaweah Subbasin) of the Kings Water Alliance Management Zone**

Map ID.	Facility Name	Facility Type	Permittee/Facility Address	County	Order No.	CV-SALTS ID
9	Kettleman City Wastewater Treatment Facility	Non15	Kettleman City Sanitary District, 2000 Racine Avenue, Kettleman City, CA, 93239	Kings	79-143	2715
10	Lemoore Naval Air Station Wastewater Treatment Facility	Non15	United States Naval Air Station Lemoore, Highway 198, Lemoore, CA, 93245	Kings	R5-2002-0062	2210
11	Lemoore Recycled Water Project	Non15	City of Lemoore, 1805 S. 19th Avenue, Lemoore, CA, 93245	Kings	2016-0068-DDW	3636
12	Leprino Sludge Discharge	Non15	Leprino Foods Company, 351 Bell Haven Dr., Lemoore, CA 93245	Kings	R5-2019-0008	2789
13	Morais Goat Dairy	CAFO - Dairy	Morais Goat Dairy, 16152 West Hanford Armona Road, Lemoore, CA 93245	Kings	Pending	51
14	Olam Tomato Processing Lemoore Plant	Non15	Olam Tomato Processors, Inc., and Westlake Farms, Inc., 1175 South 19th Avenue, Lemoore, CA, 93245	Kings	R5-2012-0120	2504
15	Sandridge Cattle Plant	Non15	Sandridge Partners, LP, 19668 Jackson Avenue, Lemoore, CA 93245	Kings	R5-2024-0043	3613
16	Stratford Wastewater Treatment Facility	Non15	Stratford Public Utility District, Southeast 1/4 of Section 17, Township 20 South, Range 20 East Mount Diablo Base & Meridian, Stratford, CA 93266	Kings	2014-0153-DWQ	2682

Table 3-15. Individual Permitted Dischargers within the Southern Portion (Tulare Lake and Kaweah Subbasin) of the Kings Water Alliance Management Zone						
Map ID.	Facility Name	Facility Type	Permittee/Facility Address	County	Order No.	CV-SALTS ID
17	Summer Hill Goat Dairy	CAFO - Dairy	Summer Hill Goat Dairy, 5784 6th Avenue, Hanford, CA, 93230	Kings	Pending	59
18	Warmerdam Packing Facility	Non15	Warmerdam Packing Facility, 15650 Excelsior, Hanford, CA, 93230	Kings	Pending	2609
<i>Kaweah Subbasin</i>						
19	Del Monte Foods, Inc., Hanford Plant #24	Non15	Del Monte Foods, Inc., Hanford Plant #24, 10652 Jackson, Hanford, CA 93230	Kings	R5-2014-0116	1951
20	Nichols Pistachio	Non15	Nichols Pistachio, 13762 First, Hanford, CA 93230	Kings	R5-2013-0007	2321

Note: Map ID refers to Figure 3-21



Note: See Table 3-15 to identify permitted dischargers

Figure 3-21. Location of Individually Permitted Dischargers in the Southern Portion (Tulare Lake and Kaweah Subbasin Areas) of the Kings Water Alliance Management Zone

KWA has conducted outreach to each individually permitted discharger in the Tulare Lake/Kaweah Subbasin areas to discuss the Nitrate Control Program requirements and the opportunity to participate in the KWA. **Tables 1-6** and **1-7** identify the permitted dischargers in

the Kaweah Subbasin areas (Priority 1) and Tulare Lake Subbasin areas (Priority 2), respectively that have opted to participate in the KWA.

3.3.2. Non-Discharger/Stakeholder Participation

Active participation by non-dischargers can facilitate the efforts of the KWA to achieve the goals of the Nitrate Control Program. This is especially critical to EAP development and implementation which requires the KWA to establish a process to coordinate with others to facilitate efforts to provide interim replacement water. In addition, participation by non-dischargers with roles or interests in land use planning, management of drinking water and wastewater and community engagement will benefit long-term efforts to manage nitrate in the KWA.

Since work began to establish the KWA, the KWA has sought to identify key non-dischargers to invite them to participate in the development of the Management Zone. Appendix A in the EAP (Attachment D of this document) lists all interested parties, including non-dischargers, currently receiving information about the KWA, including invitations to participate in stakeholder meetings. This list was developed through: (a) local area knowledge of project proponents; (b) direct request from entities to be added to the KWA's outreach list; (c) addition of entities recommended by participants; and (d) others identified as potentially interested parties through the KWA characterization process, e.g., county agencies, water districts or community service districts. All the interested parties will receive regular communication about KWA activities, including EAP implementation, and will be provided the opportunity to comment on KWA's deliverables. The KWA will continue to add entities to the interested party outreach list to increase opportunities for collaboration in meeting Nitrate Control Program goals.

3.4. Addendum Current Nitrate Treatment and Control Efforts or Management Practices

The Nitrate Control Program requires the FMZP to identify and summarize current nitrate treatment and control efforts or management practices being implemented by permitted dischargers participating in a Management Zone. Nitrate control practices for each General Order describe the minimum or baseline nitrate management requirements applicable to all permittees covered by their respective General Order. The requirements of each of these General Orders are applicable to permittees in the KWA. Dischargers permitted under individual WDRs typically have site-specific requirements for the management of nitrate or nitrogen-related constituents. The following subsections summarize existing nitrate treatment and control efforts or management practices being implemented by: (a) permittees under the ILRP and CAFO permit programs; and (b) Management Zone participants with an individual WDR.

3.4.1. Irrigated Lands Regulatory Program

General Order R5-2013-0120-09 establishes the current treatment and control requirements applicable to members of the Kings River Water Quality Coalition within the KWA. The ILRP groundwater nitrate management program includes elements that address evaluation of current nitrate contamination, monitoring of groundwater quality, development and evaluation of management practices to reduce the leaching of nitrate to groundwater, metrics of grower performance that reflect their potential leaching of nitrate to groundwater, performance goals, and measures used to evaluate grower progress in reducing leaching. Section 2.4.1 summarized the key reporting and monitoring elements associated with the protection of groundwater under the ILRP. These elements also apply to the Tulare Lake/Kaweah Subbasin areas within the KWA. To reduce repetition in this FMZP, please see Section 2.4.1 for further details about the ILRP's components.

3.4.2. Concentrated Animal Feeding Operation General Order

Dairy Program

Dairy General Order R5-2013-0122 establishes the current treatment and control efforts of member dairies. These activities are the same as already described in **Section 2.4.2.1**. Please see **Section 2.4.2.1** for more information about the Dairy Program.

Confined Bovine Feeding Operations

Bovine General Order R5-2017-058 establishes the current treatment and control efforts for Full Coverage Operations. These activities are the same as already described in **Section 2.4.2.2**. For more information on the Confined Bovine Feeding Operations, please refer to **Section 2.4.2.2**.

Poultry Farms

Poultry General Order R5-2016-0087-01 establishes the current treatment and control efforts for poultry operations in the Tulare Lake/Kaweah Subbasin areas of the KWA. These activities are the same as already described in **Section 2.4.2.3**.

3.4.3. Individual Permitted Dischargers

The following subsections summarize the current nitrate treatment and control efforts, or management practices being implemented by facilities that have already indicated they will be a KWA participant within the Priority 2 Tulare Lake and the Priority 1 Kaweah subbasin areas as required by their individual WDRs.

Armona Community Services District Wastewater Treatment Facility

Facility Description (CV-SALTS ID: 1784)

Armona Community Services District is authorized to discharge under WDR Order 92-017. This facility is in Section 4, Township 19S, Range 21E, Mount Diablo Base and Meridian (MDB&M). Beneficial uses applicable to the underlying groundwater include MUN, AGR, and IND.

The existing treatment plant consists of a Parshall flume, a comminutor, an Imhoff tank, an aeration pond, and three evaporation-percolation ponds in series. The Armona Community Services District Wastewater Treatment Facility (WWTF) currently discharges about 0.27 million gallons per day (mgd), which is the hydraulic capacity of the existing WWTF. The Discharger's Report of Waste Discharge included a geotechnical investigation and technical report proposing to expand the capacity of the existing WWTF to 0.4 mgd. The expansion project includes abandonment of the existing headworks and Imhoff tank, and reconstruction of the existing evaporation/percolation ponds into one aeration and two stabilization ponds. The discharger purchased 54 acres of farmland adjacent to the WWTF for wastewater reclamation and storage. Roughly 20 acres of this land will be used for reclamation by surface irrigation of peach and plum trees and the remaining land will be used to construct two additional evaporation-percolation ponds.

Nitrate Management Requirements

Table 3-16 summarizes the nitrate management-related requirements in this facility's WDR.

Table 3-16. Summary of Key Armona Community Services District Wastewater Treatment Facility WDR Nitrate Management-Related Requirements	
Category	Summary of Requirements
Discharge Prohibitions	<ul style="list-style-type: none"> Prohibits the discharge of waste to surface waters and to surface water drainage courses.
Discharge Specifications	<ul style="list-style-type: none"> Monthly average daily discharge flow from the WWTF to the lagoons shall not exceed 0.4 mgd.
Groundwater Limitations	<ul style="list-style-type: none"> Discharge, in combination with other sources, shall not cause underlying groundwater to contain waste constituents in concentrations statistically greater than receiving water limits or background water quality.
Monitoring & Reporting	<ul style="list-style-type: none"> Groundwater monitoring including quarterly grab sample for nitrate as N.

Baker Commodities Hanford Facility

Facility Description (CV-SALTS ID: 2111)

The Baker Commodities, Inc., Hanford Skinning and Hide Curing Facility is authorized to discharge under WDR Order R5-2005-0177. This facility is located at 7480 Hanford Armona Road, Hanford, CA 93230. The facility is authorized to discharge waste to a designated land application area (LAA) within Detailed Analysis Unit (DAU) 238 in the Kings Basin hydrologic unit. Beneficial uses applicable to the underlying groundwater include MUN, AGR, IND and PRO.

Hide skinning wastewater is generated during the skinning and rinsing process, by washing down truck beds, facility floors, and equipment, and from the rinsing of carcasses and hides. Hide skinning wastewater is discharged to three lined lagoons. The water in these lagoons is pumped and blended with other water sources and delivered to irrigate crops in the LAA.

Nitrate Management Requirements

Table 3-17 summarizes the nitrate management-related requirements in this facility's WDR.

Table 3-17. Summary of Key Baker Commodities Hanford Facility WDR Nitrate Management-Related Requirements	
Category	Summary of Requirements
Discharge Prohibitions	<ul style="list-style-type: none"> Prohibits the discharge of waste to surface waters and to surface water drainage courses
Discharge Specifications	<ul style="list-style-type: none"> Monthly average daily discharge flow from the facility to the lagoons shall not exceed 0.035 mgd. The 124-acre LAA shall be double cropped and irrigated at the reasonable hydraulic rate that meets crop demand.
Groundwater Specifications	<ul style="list-style-type: none"> No waste constituent shall be released through the composite liner of the three lined lagoons in a concentration or mass that will cause groundwater to be degraded more than approved by the Regional Board pursuant to Title 27, section 20400(b)
Management Plans	<ul style="list-style-type: none"> Nutrient Management Plan that annually provides: Crop information, wastewater analysis, irrigation analysis, field information crop water needs, nutrient application and removal record per field, summary of nitrogen rations per field and crop and a nutrient budget summary
Monitoring & Reporting	<ul style="list-style-type: none"> Lagoon water blended with irrigation water representative of land-applied discharge which includes nitrate nitrogen, Total Kjeldahl Nitrogen (TKN), ammonia and total nitrogen Groundwater monitoring which includes nitrate nitrogen Supply water for the facility which includes nitrate nitrogen

Central Valley Meats Hanford Facility

Facility Description (CV-SALTS ID: 2112)

Central Valley Meat Company is authorized to discharge under WDR Order R5-2023-0028. This facility is located at 10431 8 3/4 Avenue in Hanford, CA. Beneficial uses of underlying groundwater are MUN, AGR, IND, PRO, REC-1, and WILD.

Hanford Beef Processing Facility is a slaughterhouse and beef processing facility. Cattle are kept in holding pens to provide a continuous supply of animals for processing. Wastewater generated from various processes within the facility include live cattle washing, kill floor, tripe processing, carcass washes, condensers, boning room, truck washes, plant sanitation, stormwater, and other processing activities. All wastewater is collected in drains and various sumps throughout the facility and then to a central aerated collection sump (Central Sump). From the Central Sump the wastewater is treated and placed in one of two concrete-lined settling ponds. From the settling ponds wastewater is discharged to two double-lined wastewater storage ponds before being sent to the various LAAs for irrigation of crops via surface irrigation. Crops grown in the LAA are irrigated with a combination of wastewater, groundwater, and surface water from the Lakeside Irrigation District.

Nitrate Management Requirements

Table 3-18 summarizes the nitrate management-related requirements in this facility's WDR.

Table 3-18. Summary of Key Central Valley Meat Hanford Facility WDR Nitrate Management-Related Requirements	
Category	Summary of Requirements
Discharge Prohibitions	<ul style="list-style-type: none"> Waste constituents shall not be discharged or otherwise released from the facility in a manner that results in violations of the Groundwater Limitations of this Order, or a condition of nuisance or pollution as defined per Water Code Section 13050. Discharge of wastes other than the facility's treated process wastewater at the locations and in the manner described in the Findings and authorized herein is prohibited. Except as otherwise expressly authorized in this Order, waste shall not be discharged to surface waters or surface water drainage courses. Waste shall not be discharged from the facility in a manner other than as described in this Order. Discharge of domestic wastewater to the process wastewater treatment system, lined ponds, and/or LAA fields is prohibited.
Flow Limitations	<ul style="list-style-type: none"> Effluent discharged from the facility to the LAAs shall not exceed a total annual discharge of 365 million gallons.

Table 3-18. Summary of Key Central Valley Meat Hanford Facility WDR Nitrate Management-Related Requirements	
Category	Summary of Requirements
Discharge Specifications	<ul style="list-style-type: none"> • Discharge shall remain within the permitted waste treatment/containment structures and LAAs at all times. • All systems and equipment shall be operated to optimize discharge quality.
Groundwater Limitations	<ul style="list-style-type: none"> • Release of waste constituents from any treatment or storage component associated with the discharge shall not cause or contribute to groundwater containing constituent concentrations in excess of natural background quality or nitrate (as N) of 10 mg/L, whichever is greater.
Land Application Area Specifications	<ul style="list-style-type: none"> • Crops shall be grown on the LAAs and be selected based on nutrient uptake, consumptive use of water, and irrigation requirements to maximize crop uptake. • Application of waste constituents shall be at reasonable agronomic rates to preclude creation of a nuisance or degradation of groundwater, considering the crop, soil, climate, and irrigation management system. The annual nutritive loading to the LAAs, including the nutritive value of organic and chemical fertilizers and of the wastewater, shall not exceed the annual crop demand. • Hydraulic loading of wastewater and irrigation water shall be at reasonable agronomic rates designed to minimize the percolation of wastewater and irrigation water below the root zone (i.e., deep percolation). • Wastewater shall be distributed uniformly on adequate acreage to preclude the creation of nuisance conditions.
Monitoring & Reporting	<ul style="list-style-type: none"> • Pond influent monitoring including monthly 24-hr composite for nitrate as N, ammonia (as $\text{NH}_3\text{-N}$), TKN and total nitrogen. • Pond effluent monitoring including monthly grab for nitrate as N, nitrite (as $\text{NO}_2\text{-N}$), TKN and total nitrogen. • Groundwater monitoring including quarterly grab for nitrate as N, nitrite as $\text{NO}_2\text{-N}$, TKN and total nitrogen. • LAA monitoring: (a) Wastewater and Supplemental Irrigation flow and hydraulic wastewater loading; (b) BOD loading rates; and (c) monthly nitrogen loading from wastewater, supplemental irrigation water, and fertilizer.

Corcoran Wastewater Treatment Facility

Facility Description (CV-SALTS ID: 2658)

The City of Corcoran (Discharger) owns and operates the Corcoran WWTF and is authorized to discharge under WDR Order R5-2021-0025-01. The WWTF is located at the corner of King Avenue and Pueblo Avenue, Corcoran, CA. Beneficial uses applicable to the underlying groundwater include MUN, AGR, IND, PRO, REC-1, and WILD.

The Corcoran WWTF serves the City of Corcoran and receives wastewater from residential and commercial sources. Currently, there is no significant industrial wastes being discharged, and/or proposed for discharge, to the WWTF. The WWTF consists of a headworks, two primary clarifiers, one clay aeration pond, one anaerobic digester, sludge drying beds, five evaporation/percolation ponds and City Use Area.

The City of Corcoran is proposing to make improvements to the WWTF. The improvements include replacing the sludge/scum pumps, replacing the primary effluent pumps, and converting the existing west pond (currently unused) into a lined aeration pond (60-mil high density polyethylene liner). The proposed improvements will not result in an increase in flows. The purpose of the additional aeration pond is to provide redundancy for when an aeration pond needs to be taken out of service for maintenance or when the aeration pond needs to be dewatered to remove sludge.

Nitrate Management Requirements

Table 3-19 summarizes the nitrate management-related requirements in this facility's WDR.

Table 3-19. Summary of Key Sandridge Cattle Plant WDR Nitrate Management-Related Requirements	
Category	Summary of Requirements
Discharge Prohibitions	<ul style="list-style-type: none"> Waste constituents shall not be discharged or otherwise released from the facility (including during treatment and storage activities) in a manner that results in violations of the Groundwater Limitations of this Order or Conditions of "nuisance" or "pollution," as defined per Water Code section 13050. Discharge of wastes other than the facility's treated process wastewater at the locations and in the manner described in the Findings of the Order is prohibited.
Flow Limitations	<ul style="list-style-type: none"> Effluent discharged from the facility to Pond No. 1 (or any other pond receiving wastewater from the facility) shall not exceed a monthly daily average of 0.055 mgd or a total annual discharge of 14.0 million gallons.

Table 3-19. Summary of Key Sandridge Cattle Plant WDR Nitrate Management-Related Requirements	
Category	Summary of Requirements
Discharge Specifications	<ul style="list-style-type: none"> Waste discharges shall remain within the permitted waste treatment/containment structures and LAAs at all times. All treatment systems and equipment shall be operated to optimize discharge quality. Discharge of groundwater from dewatering operations conducted at the effluent storage ponds shall remain onsite, must infiltrate/evaporate within 72-hours, and shall not cause water quality impacts or nuisance conditions.
Land Application Area Specifications	<ul style="list-style-type: none"> Crops shall be grown on the LAAs. Crops shall be selected based on nutrient uptake, consumptive use of water, and irrigation requirements to maximize uptake of nutrients. Application of waste constituents to the LAAs shall be at reasonable agronomic rates to preclude creation of a nuisance or unreasonable degradation of groundwater, considering crop, soil, climate and irrigation management system. Annual nutritive loading of the LAAs, including nutritive value of organic and chemical fertilizers, and the wastewater, shall not exceed the annual crop demand. Hydraulic loading of wastewater and irrigation water shall be at reasonable agronomic rates designed to minimize the percolation of wastewater and irrigation water below the root zone. Wastewater shall be distributed uniformly on adequate acreage to preclude the creation of nuisance conditions.
Groundwater Limitations	<ul style="list-style-type: none"> Release of waste constituents from any portion of the facility shall not cause or contribute to groundwater containing constituent concentrations in excess of natural background quality or nitrate as N of 10 mg/L, whichever is greater.
Solid Disposal Specifications	<ul style="list-style-type: none"> Any handling and storage of residual solids shall be temporary and controlled and contained in a manner that minimizes leachate formation and precludes infiltration of waste constituents into soils in a mass or concentration that will violate the groundwater limitations of this Order.
Monitoring & Reporting	<ul style="list-style-type: none"> Influent monitoring including monthly grab sample for total nitrogen. Effluent monitoring including monthly grab sample for nitrate as N, ammonia as N, TKN, and total nitrogen. Source monitoring including yearly grab sample for nitrate as N. Irrigation system monitoring including yearly grab sample for nitrate as N.

Table 3-19. Summary of Key Sandridge Cattle Plant WDR Nitrate Management-Related Requirements	
Category	Summary of Requirements
	<ul style="list-style-type: none"> LAA monitoring including daily hydraulic wastewater and supplemental irrigation application loading calculations. Monthly nitrogen loading calculations. Groundwater monitoring including bi-annual grab sample for nitrate as N, ammonia as N, TKN, and total nitrogen.

Morais Goat Dairy

Facility Description (CV-SALTS ID: 51)

At the time of this FMZP submittal the WDR permit is pending from the Central Valley Regional Water Quality Control Board. Facility description and Nitrate Management Requirements will be updated in the Management Zone Implementation Plan (MZIP).

Sandridge Cattle Plant

Facility Description (CV-SALTS ID: 3613)

Sandridge Cattle Plant is authorized to discharge under WDR Order R5-2024-0043. This facility is located at 19668 Jackson Avenue, Lemoore, CA, 93245. Beneficial uses applicable to the underlying groundwater include MUN, AGR, IND and PRO.

Sandridge Cattle Plant proposed to construct a cattle processing plant that will produce processed beef for sale to consumers and when operational will harvest up to 210 cattle per day and operate five days per week or 255 days per year. Most of the waste stream generated will primarily be wash water from disinfecting the processing equipment and cutting floor from beef cutting and processing areas and the slaughter floor.

Wastewater will be generated from three general areas: the holding pens, the beef processing and cutting area, and the slaughter floor. Wastewater will be routed to area drains with screens to remove hair and solids. Wastewater generated from the holding pens will be treated to remove solids using a sand lane, while wastewater generated at the slaughter floor and the beef cutting and production area will be routed through a wastewater treatment system. Wastewater routed to the wastewater treatment system will go through a rotary drum screen and then will be discharged into an equalization tank that allows for a constant flow of wastewater to the flocculator. The treatment process will use sodium hydroxide and sulfuric acid to adjust the pH of the wastewater and Coagulant 185 and Floc 265 to increase coagulation and flocculation. Once the treated water enters Pond No. 1, it will be further aerated to reduce the BOD concentrations in the wastewater prior to land application.

Cattle will be brought to the facility by truck and kept in concrete lined holding pens prior to processing. Wastewater generated from the holding pens will include cow urine, water spillage, and cattle and pen washdown water. Concrete floors will be sloped to channel wastewater into a drainage swale that flows to a screened area drain. Pens will be rinsed daily and the washdown water/effluent will flow to the area drains, then pumped into a concrete sand lane, which will allow solids to settle out, and then the effluent will gravity flow via pipeline to the first of two double lined effluent storage ponds (Pond No. 1) equipped with aerators. Wastewater will then flow into Pond No. 2, also equipped with aerators to assist in controlling odors, where it will be stored for eventual use as a supplemental source of irrigation for the crops grown in the LAAs. The solids that settle out in the sand lane will be hauled to the onsite manure stacking pad.

Wastewater generated at the slaughterhouse will contain a composition of fats, fibers, organic content, and pathogens. Blood will be collected in holding tanks in a refrigerated area, which is picked up by a licensed rendering company and taken offsite. Washdown water flows into floor drains with screens to remove solids. The solids will be routed to a holding tank and the wastewater to an influent sump prior to treatment. Solids in the holding tank will be picked up by Baker Commodities for processing at their rendering site.

Nitrate Management Requirements

Table 3-20 summarizes the nitrate management-related requirements in this facility’s WDR.

Table 3-20. Summary of Key Sandridge Cattle Plant WDR Nitrate Management-Related Requirements	
Category	Summary of Requirements
Discharge Prohibitions	<ul style="list-style-type: none"> Waste constituents shall not be discharged or otherwise released from the facility (including during treatment and storage activities) in a manner that results in violations of the Groundwater Limitations of this Order or Conditions of “nuisance” or “pollution,” as defined per Water Code section 13050. Discharge of wastes other than the facility’s treated process wastewater at the locations and in the manner described in the Findings of the Order is prohibited.
Flow Limitations	<ul style="list-style-type: none"> Effluent discharged from the facility to Pond No. 1 (or any other pond receiving wastewater from the facility) shall not exceed a monthly daily average of 0.055 mgd or a total annual discharge of 14.0 million gallons.
Discharge Specifications	<ul style="list-style-type: none"> Waste discharges shall remain within the permitted waste treatment/containment structures and LAAs at all times. All treatment systems and equipment shall be operated to optimize discharge quality.

Table 3-20. Summary of Key Sandridge Cattle Plant WDR Nitrate Management-Related Requirements	
Category	Summary of Requirements
	<ul style="list-style-type: none"> Discharge of groundwater from dewatering operations conducted at the effluent storage ponds shall remain onsite, must infiltrate/evaporate within 72-hours, and shall not cause water quality impacts or nuisance conditions.
Land Application Area Specifications	<ul style="list-style-type: none"> Crops shall be grown on the LAAs. Crops shall be selected based on nutrient uptake, consumptive use of water, and irrigation requirements to maximize uptake of nutrients. Application of waste constituents to the LAAs shall be at reasonable agronomic rates to preclude creation of a nuisance or unreasonable degradation of groundwater, considering crop, soil, climate and irrigation management system. Annual nutritive loading of the LAAs, including nutritive value of organic and chemical fertilizers, and the wastewater, shall not exceed the annual crop demand. Hydraulic loading of wastewater and irrigation water shall be at reasonable agronomic rates designed to minimize the percolation of wastewater and irrigation water below the root zone. Wastewater shall be distributed uniformly on adequate acreage to preclude the creation of nuisance conditions.
Groundwater Limitations	<ul style="list-style-type: none"> Release of waste constituents from any portion of the facility shall not cause or contribute to groundwater containing constituent concentrations in excess of natural background quality or nitrate as N of 10 mg/L, whichever is greater.
Solid Disposal Specifications	<ul style="list-style-type: none"> Any handling and storage of residual solids shall be temporary and controlled and contained in a manner that minimizes leachate formation and precludes infiltration of waste constituents into soils in a mass or concentration that will violate the groundwater limitations of this Order.
Monitoring & Reporting	<ul style="list-style-type: none"> Influent monitoring including monthly grab sample for total nitrogen. Effluent monitoring including monthly grab sample for nitrate as N, ammonia as N, TKN, and total nitrogen. Source monitoring including yearly grab sample for nitrate as N. Irrigation system monitoring including yearly grab sample for nitrate as N. LAA monitoring including daily hydraulic wastewater and supplemental irrigation application loading calculations. Monthly nitrogen loading calculations.

Table 3-20. Summary of Key Sandridge Cattle Plant WDR Nitrate Management-Related Requirements	
Category	Summary of Requirements
	<ul style="list-style-type: none"> Groundwater monitoring including bi-annual grab sample for nitrate as N, ammonia as N, TKN, and total nitrogen.

Stratford Wastewater Treatment Facility

Facility Description (CV-SALTS ID: 2682)

Stratford Public Utility District is authorized to discharge wastewater under State Water Board General WDR for Small Domestic Wastewater Treatment Systems (Order No. 2014-0153-DWQ). Per the Notice of Applicability (NOA), this facility is assigned Order No. 2014-0153-DWQ-R5288. This facility is located at the southeast corner of Empire Street and 5th Avenue in Kings County. Beneficial uses applicable to the underlying groundwater include MUN, AGR, and IND.

The existing WWTF consisted of three aeration tanks, one secondary clarifier, and 20 acres of evaporation/percolation ponds. Proposed upgrades to the WWTF includes a new headworks, four facultative ponds, two storage ponds, and five evaporation/percolation ponds. Based on data from 2015 through 2017, flows at the WWTF average about 60,000 gallons per day (gpd), and range from 10,000 gpd to 123,000 gpd.

Nitrate Management Requirements

Table 3-21 summarizes the nitrate management-related requirements in this facility's WDR.

Table 3-21. Summary of Key Stratford Wastewater Treatment Facility WDR Nitrate Management-Related Requirements	
Category	Summary of Requirements
Discharge Prohibitions	<ul style="list-style-type: none"> In accordance with Section B.1 of the General Order, wastewater discharged to the WWTF's headworks shall not exceed 100,000 gpd as a monthly average. Direct or indirect discharge of any wastewater to surface waters or surface water drainage courses is prohibited. Treatment, storage, and/or disposal of waste in or at the wastewater system shall not cause or contribute to a condition of pollution, contamination, or nuisance as defined in Water Code Section 13050. Discharge of wastewater other than domestic wastewater is prohibited. Bypass or overflow of treated or untreated waste is prohibited.

Table 3-21. Summary of Key Stratford Wastewater Treatment Facility WDR Nitrate Management-Related Requirements	
Category	Summary of Requirements
	<ul style="list-style-type: none"> Discharge of waste to land not owned, operated, or controlled by the Discharger is prohibited.
Groundwater Limitations	<ul style="list-style-type: none"> Discharge shall not: <ul style="list-style-type: none"> Pollute groundwater or surface waters. Adversely affect beneficial uses of groundwater or cause an exceedance of any applicable Basin Plan water quality objectives for groundwater or surface water
Effluent Limitations	<ul style="list-style-type: none"> Discharge shall not exceed a total nitrogen concentration of 10 mg/L.
Monitoring & Reporting	<ul style="list-style-type: none"> Influent monitoring including monthly grab sample for total nitrogen. Effluent monitoring including monthly grab sample for total nitrogen. Groundwater monitoring including semiannual grab sample for nitrate as N and total nitrogen.

Summer Hill Goat Dairy

Facility Description (CV-SALTS ID: 59)

At the time of this FMZP submittal the WDR permit is pending from the Central Valley Regional Water Quality Control Board. Facility description and Nitrate Management Requirements will be updated in the MZIP.

Warmerdam Packing Facility

Facility Description (CV-SALTS ID: 2609)

At the time of this FMZP submittal the WDR permit is pending from the Central Valley Regional Water Quality Control Board. Facility description and Nitrate Management Requirements will be updated in the MZIP.

Nichols Pistachio

Facility Description (CV-SALTS ID: 2321)

Nichols Pistachio is authorized to discharge under WDR Order R5-2013-0007. This facility is located at 13762 First, Hanford, CA 93230. The facility is authorized to discharge waste to a designated LAA within DAU 242 in the Kaweah Basin hydrologic unit. Beneficial uses applicable to the underlying groundwater include MUN, AGR, IND and PRO. Nichols Pistachio processes and packs pistachio nuts for export and sale. Pistachio processing season takes place over 30 to

40 days during the six to eight week period between late August and the middle of October when the pistachios are harvested.

During the pistachio harvest, the facility may operate 24 hours a day seven days a week. Pistachios brought in from the fields are cleaned and processed to remove the hulls. Wastewater generated from the cleaning and hulling process is screened to remove solids and discharged into four lined temporary retention basins. The four temporary retention basins are lined with a 36-mil scrim-reinforced polypropylene synthetic liner, and operated in series with a combined capacity of about two million gallons. The retention basins provide 12 to 24 hours of temporary storage in case of upsets. Wastewater is applied as irrigation water on about 675 acres of farmland. Wastewater is applied via flood, sprinkler or drip irrigation depending on crop type. To remove fine solids and minimize clogging of the drip and irrigation lines the wastewater is pumped through a series of sand filters prior to entering the irrigation system.

Nitrate Management Requirements

Table 3-22 summarizes the nitrate management-related requirements in this facility's WDR.

Table 3-22. Summary of Key Nichols Pistachio Facility WDR Nitrate Management-Related Requirements	
Category	Summary of Requirements
Discharge Prohibitions	<ul style="list-style-type: none"> Discharge of waste, including storm water containing waste, to surface waters or surface water drainage courses is prohibited
Discharge and Solids Disposal Specifications	<ul style="list-style-type: none"> Discharge shall not exceed a maximum daily flow of 5 million gallons or an average daily flow for the season of 2.4 mgd No waste constituent shall be released, discharged, or placed where it will be released or discharged, in a concentration or in a mass that causes violation of Groundwater Limitations of this Order Wastewater treatment, storage, and disposal shall not cause pollution or a nuisance as defined by Water Code section 13050 Any handling and storage of residual solids on property of the Discharger shall be temporary, and controlled and contained in a manner that minimizes leachate formation and precludes infiltration of waste constituents into soils in a mass or concentration that will violate the groundwater limitations of this Order Hulls and other solids shall be removed from sumps, screens, wastewater ponds, etc. as needed to ensure optimal operation and adequate hydraulic capacity. Solids drying operations, if any, shall be designed and operated to prevent leachate generation.

Table 3-22. Summary of Key Nichols Pistachio Facility WDR Nitrate Management-Related Requirements

Category	Summary of Requirements
Land Application Area	<ul style="list-style-type: none"> • Cycle average BOD loading rate to the LAA shall not exceed 100 lbs/acre/day. • Crops shall be grown on the LAA. Crops shall be selected based on nutrient uptake, consumptive use of water, and irrigation requirements to maximize crop uptake. • Hydraulic loading of wastewater and irrigation water shall be at reasonable agronomic rates designed to minimize the percolation of wastewater and irrigation water below the root zone (i.e., deep percolation). • Application of waste constituents shall be at reasonable agronomic rates to preclude creation of a nuisance or degradation of groundwater, considering the crop, soil, climate, and irrigation management. The annual nutritive loading to the LAA, including the nutritive value of organic and chemical fertilizers and of the wastewater, shall not exceed the annual crop demand, except for potassium, which may be applied at rates exceeding crop demand, due to the fact that the crops grown in the LAA can take up more potassium than that which is required with no decrease in yield. • Any handling and storage of residual solids on property of the Discharger shall be temporary, and controlled and contained in a manner that minimizes leachate formation and precludes infiltration of waste constituents into soils in a mass or concentration that will violate the groundwater limitations of this Order.
Groundwater Specifications	<ul style="list-style-type: none"> • Release of waste constituents from any treatment, reclamation, or storage component associated with the discharge shall not cause or contribute to groundwater nitrate as N greater than 10 mg/L or background quality, whichever is greater.
Management Plans	<ul style="list-style-type: none"> • Nutrient and Wastewater Management Plan that includes at a minimum: (a) procedures for monitoring the LAA including daily records of wastewater applications and acreages; (b) action plan to deal with objectionable odors and/or nuisance conditions; (c) discussion on blending of wastewater and supplemental irrigation water; (d) supporting data and calculations for monthly and annual water and nutrient balances; and (e) management practices that will ensure wastewater, irrigation water, and commercial fertilizers are applied at agronomic rates, except for potassium. For potassium, the Plan must describe how potassium loading to the Reuse Area will not impact groundwater quality over the long term.

Table 3-22. Summary of Key Nichols Pistachio Facility WDR Nitrate Management-Related Requirements	
Category	Summary of Requirements
Monitoring & Reporting	<ul style="list-style-type: none"> • Effluent monitoring including nitrate (as N), TKN and total nitrogen • Soils monitoring that includes TKN and nitrate (as N) • LAA monitoring: (a) Wastewater flow and loading; supplemental Irrigation flow; total hydraulic loading; (b) BOD loading rates; (c) nitrogen loading from wastewater and fertilizer

4. EARLY ACTION PLAN ADDENDUM DEVELOPMENT

The Nitrate Control Program requires establishment of an EAP for the KWA. Per the regulations, the EAP is required to include the following (Central Valley Water Board, 2020):

- A process to identify affected residents and the outreach utilized to ensure that impacted groundwater users are informed of and given the opportunity to participate in the development of proposed solutions;
- A process for coordinating with others that are not dischargers to address drinking water issues, which must include consideration of coordinating with impacted communities, domestic well users and their representatives, the State Water Board's Division of Drinking Water, Local Planning Departments, Local County Health Officials, groundwater sustainability agencies and others as appropriate;
- Specific actions and a schedule of implementation that is as short as practicable to address the immediate drinking water needs of those initially identified within the Management Zone, that are drinking groundwater that exceeds nitrate standards and that do not otherwise have interim replacement water that meets drinking water standards; and
- A funding mechanism for implementing the EAP, which may include seeking funding from Management Zone participants, and/or local, state and federal funds that are available for such purposes.

In general, the EAP identifies specific activities, and a schedule for implementing those activities, to ensure immediate access to safe drinking water for those who are dependent on groundwater from wells that exceed the nitrate drinking water standard. However, the establishment and implementation of the EAP to provide interim replacement water does not create a presumption of liability for the cause of the elevated nitrate concentrations in the groundwater. **Attachment D** to this FMZP provides the complete EAP Addendum for the KWA that is consistent with the above requirements. The sections below provide a high-level overview of the key elements associated with the development and content of the EAP Addendum.

4.1. Development Approach

The EAP Addendum was developed as part of the public outreach process implemented to develop the KWA. Because the KWA includes both Priority 1 and 2 areas that have different implementation schedules under the Nitrate Control Program, this Management Zone has phased implementation of the EAP:

- *Phase 1* - EAP implementation began on May 8, 2021 in the Priority 1 areas of the KWA that include all or part of the Kings, Kaweah, and Tule Subbasins and the very small adjacent Priority 2 areas in the Delta Mendota and Madera Subbasins. Phase

1's EAP has now been incorporated into KWA's Management Zone Implementation Plan (MZIP) where it will continue to guide community outreach efforts, provide free well testing to residents and, where needed, offer emergency and interim drinking water to residents while the KWA implements its long-term drinking water program (Kings Water Alliance, 2023).

- *Phase 2* - EAP implementation began on February 26, 2025 in the Priority 2 Tulare Lake Subbasin and very small adjacent Priority 2 areas in the Westside, Pleasant Valley, and Kern County Subbasins.

The following sections describe how the groundwater data and community outreach activities were coordinated to develop the EAP Addendum.

4.1.1. Identification of Public Water Supplies and Domestic Wells Potentially Exceeding Nitrate Water Quality Objective

Nitrate-Impacted Areas

Section 2.2.4 and Section 3.2.4 above summarize sources of nitrate groundwater quality data available for the KWA (e.g., see **Table 2-9** and **Table 3-9**) and describe how these data were used to assess existing nitrate water quality conditions. The Upper Zone average nitrate concentration data for wells in the KWA were used to produce a geospatial analysis of estimated average ambient groundwater quality conditions across the Management Zone (**Figure 2-14** and **Figure 3-13**).

For the KWA Northern Portion (Kings Subbasin Area), groundwater quality data for wells completed in the Upper Zone were prevalent throughout the entire region, with slightly less well coverage in the west. **Figure 2-14** shows that several smaller local nitrate-impacted areas exist within the Upper Zone in the KWA (defined as having average recent nitrate concentrations exceeding the MCL of 10 mg/L nitrate as N). The largest nitrate-impacted area is in the southeast area of the Northern Portion (Kings Subbasin Area) of the KWA, as well as some smaller pockets throughout the remainder of the Management Zone.

For the KWA Southern Portion (Tulare Lake Subbasin and small part of Kaweah Subbasin), groundwater quality data for wells completed in the Upper Zone were mainly available in the northern region and along the eastern side of the area, with less well coverage in the south and west. **Figure 3-13** shows that several local nitrate-impacted areas exist within the Upper Zone in the Management Zone (defined as having average recent nitrate concentrations exceeding the MCL of 10 mg/L nitrate as N). There are small nitrate-impacted areas that occur within the Tulare Lake Subbasin portion of the KWA. The largest nitrate-impacted areas exist in the vicinity of Lemoore, south Hanford, and northwestern Remnoy (east of Hanford).

The KWA recognizes that the map of ambient nitrate in the Upper Zone has inherent uncertainty and is adaptive in nature. 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 map will be updated (and potentially changed) prior to the Final Management Zone Proposal submittal date.

Potentially Impacted Public Supply Wells

Section 2.1.5 and **Section 3.1.5** above describe how residential water systems are classified in California and summarize the types of water systems present within the KWA. The following sections further develop this information by evaluating, to the extent data are available, the nitrate water quality characteristics associated with public supply wells within these water systems. Where appropriate, information may be summarized here, and the reader will be directed to the EAP Addendum in **Attachment D** for more detailed information.

Public Supply Wells in the Management Zone

The State Water Board's Drinking Water Source and Water Systems identification documentation was accessed from DDW to understand how many systems have active versus inactive wells that have nitrate (as N) exceeding the MCL. This documentation provides a status code for each well, as well as a population served and number of connections for each water system. Wells with any measurement of raw untreated water having nitrate exceeding the MCL were extracted from the database to determine if the wells are considered to be actively providing water to the water system or have been abandoned, destroyed, or inactive.

Elevated nitrate concentrations have been found in many PWS wells in the KWA area. The State Water Board's Drinking Water Source and Water Systems identification documentation was accessed via the internet¹⁵ to provide water system information that complements water quality data from the DDW. Together, these two sources provide information on how many systems have active versus inactive wells that have nitrate (as N) exceeding the MCL. This documentation provides a status code for each well, as well as a population served and number of connections for each water system.

Wells with any measurement of raw untreated water having nitrate exceeding the MCL were extracted from the database to determine if the wells are considered to be actively providing water to the water system or have been abandoned, destroyed, or inactive.

For the Priority 2 Tulare Lake area of the KWA Management Zone, an updated analysis of public water supply wells and public water systems is provided in the EAP Addendum Appendix D.

¹⁵ <https://sdwis.waterboards.ca.gov/PDWW/>

Public Water System Delivered Water Treatment Status

There are a small number of active wells that have been tested for nitrate with results indicating nitrate concentrations exceeding the MCL of 10 mg/L nitrate as N, many PWS have treatment facilities to remove nitrate prior to the water being delivered to consumers. Using the best information readily available, it is possible to find DDW sources of water for PWS that are categorized as “treated”. This includes the following potential DDW-defined well status categories:

- AT – Active Treated: An active source which is sampled after any treatment.
- CT – Combined Treated: Combined sources which are treated.
- DT – Distribution System Sample Point, Treated: Sample point within the distribution system after treatment.
- IT – Inactive Treated: A source which is not in service for periods of one year or greater and which provides treated water to a system.
- ST – Standby Treated: A source which is used less than 15 calendar days per year, with periods not to exceed five consecutive days and which provides raw water which is sampled after treatment.

Even when a water system has a documented treated source according to DDW, this does not ensure that the water system treats its water for nitrate (a treated source may mean chlorination prior to being distributed, or possible treatment for other contaminants such as organic chemicals). PWS’ typically treat elevated nitrate by using blending, reverse osmosis (RO; membrane technology), ion exchange (IX), or biological or chemical nitrate removal via denitrification (less common).

For the Priority 2 Tulare Lake area of the KWA Management Zone, an updated analysis of public water supply wells and public water systems is provided in the EAP Addendum Appendix D. Table E-4 in Appendix E of the EAP - Addendum (**Attachment D**) lists all of the PWS’ in the KWA and lists the compliance status and whether or not the system is out of compliance due to being impacted by elevated nitrate conditions.

Potentially Impacted Domestic Wells

Figure 4-1a illustrates the locations of potentially impacted domestic wells and areas of elevated nitrate (7.5 mg/L to 10 mg/L nitrate as N, and > 10 mg/L nitrate as N) for the KWA FMZP submitted in 2022. These areas were used along with DWR spatial coverage of domestic well locations based on Well Completion Reports (WCRs) recorded by DWR¹⁶. In the Northern Portion

¹⁶ Several domestic well locations provided by DWR’s Well Completion Report database may not be exact locations, but rather plot in the center of a 1-square mile township/range-section area. Therefore, several

(Kings Subbasin Area) of the KWA Management Zone, there are approximately 4,858 domestic wells within the PWS residential service areas. In the Southern Portion (Tulare Lake Subbasin and small part of Kaweah Subbasin) of the KWA Management Zone, there are approximately 216 domestic wells within the PWS residential service areas. It is unknown whether any of these wells are still being used even though they are potentially in a PWS area. The number of domestic wells outside of PWS service areas far outweighs those of unknown use status within PWS service areas. Smaller Public Water Systems do not have a mappable service area associated with them, simply a physical address and number of connections. The domestic wells that may be located within these smaller PWS that do not have a documented service area mapped boundary readily available to the public are conservatively counted in the domestic well count in the category of domestic wells outside known PWS boundaries.

To estimate the number of wells potentially impacted by elevated nitrate, domestic wells were placed into six groups:

- Group 1 - Groundwater in the Upper Zone with nitrate as N at or below 2.5 mg/L;
- Group 2 - Groundwater in the Upper Zone with nitrate as N above 2.5 mg/L and at or below 5.0 mg/L;
- Group 3 - Groundwater in the Upper Zone with nitrate as N above 5.0 mg/L and at or below 7.5 mg/L;
- Group 4 - Groundwater in the Upper Zone with nitrate as N above 7.5 mg/L and at or below the MCL of 10 mg/L;
- Group 5 - Nitrate as N exceeding the MCL of 10 mg/L in the Upper Zone; and
- Group 6 - Unknown category because the domestic well(s) are located where insufficient nitrate data exist in the Upper Zone to perform the spatial interpolation of ambient nitrate conditions.

The total number of domestic wells outside PWS boundaries was compared to the number of wells in each nitrate category to provide an estimate of the percent of domestic wells potentially impacted by elevated nitrate in the groundwater in the 2022 FMZP (**Table 4-1a**).

For the 2022 KWA FMZP, an estimation of the population relying on potentially impacted groundwater with elevated nitrate in their domestic wells was produced using 2010 census block data that were mapped and joined with the ambient Upper Zone ambient nitrate concentrations occurring outside of PWS boundaries. The population was summed for census blocks outside PWS boundaries and within the proposed Management Zone for those areas with nitrate concentrations in the Upper Zone (using the six categories of nitrate concentration described above). **Table 4-1a** summarizes the results of the 2022 analysis.

domestic wells may plot at the same location, and their locations are accurate up to one mile. Also the map of ambient nitrate is adaptable and subject to change as more Upper Zone nitrate data become available.

This methodology was performed for the Priority 2 Tulare Lake area of the KWA Management Zone for this FMZP Addendum with one modification: county-specific annual growth rates were applied to the 2020 census block population data to produce estimates for 2024 population values. About 88 percent of the total number of domestic wells (1,897 out of 2,166 domestic wells) in the Priority 2 Tulare Lake area of the KWA Management Zone are located outside of PWS boundaries. Approximately 378 domestic wells are located outside of PWS boundaries and in areas with estimated nitrate levels considered to be elevated (above three-quarters of the MCL, or above 7.5 mg/L as N). According to 2024 population estimates, a population of approximately 2,450 residents reside in areas outside PWS boundaries (and outside the designated boundary) and in areas with estimated nitrate levels above 7.5 mg/L as N.

For the Priority 2 Tulare Lake area of the KWA Management Zone, an updated analysis of domestic wells and population potentially impacted by elevated nitrate is provided in the EAP Addendum Appendix D. Also, Table 4-1b and Figure 4-1b are provided in this FMZP Addendum section below using updated nitrate mapping and 2024 population estimates.

Table 4-1a. Summary of Domestic Wells and Population with Estimated Upper Zone Nitrate Area Categories										
Estimated Upper Zone Ambient Nitrate (2000-2020)**	DWR Domestic Wells Located Outside PWS Boundaries						DWR Dom. Wells Within PWS Boundaries Total Domestic Wells in MZ Within PWS	2010 Census Block Analysis (outside PWS service areas)		
	Northern Portion (Kings Subbasin Area) of Domestic Wells Outside PWS Boundaries	% of Total Northern Portion Domestic Wells Outside PWS	Southern Portion of Domestic Wells Outside PWS Boundaries	% of Total Southern Portion Domestic Wells Outside PWS	Within De-Designation Boundary Areas	Total Domestic Wells in MZ Outside PWS		Northern Portion (Kings Subbasin Area) Population Outside PWS Boundaries	Southern Portion Population Outside PWS Boundaries	Total MZ Population Outside PWS Boundaries
Group 1: ≤2.5 mg/L as N	1,685	13.7%	513	25.7%	3	2,198	870	12,257	21,633	33,890
Group 2: >2.5 – 5.0 mg/L as N	1,611	13.1%	219	11.0%	0	1,830	1,203	12,555	2,886	15,441
Group 3: >5.0 – 7.5 mg/L as N	1,748	14.2%	156	7.8%	0	1,904	765	11,873	764	12,637
Group 4: >7.5 – 10.0 mg/L as N	1,598	13.0%	88	4.4%	0	1,686	736	9,688	823	10,511
Group 5: >10.0 mg/L as N	5,491	44.7%	935	46.8%	3	6,426	1,457	38,416	9,238	47,654
Group 6: Unknown*	156	1.3%	85	4.3%	14	241	43	669	893	1,562
Total (Outside PWS Boundaries)	12,289	100.0%	1,996	100.0%	20	14,285	5,074	85,458	36,236	121,695

*Domestic wells or Census Blocks are located in a “Gap Area” where insufficient Upper Zone nitrate data exist to do a spatial interpolation of ambient nitrate conditions.

** Ambient nitrate levels are based on the best available groundwater nitrate data meticulously vetted at the time of analysis and is based on Upper Zone nitrate data from January 2000 to August 2020. These mapped nitrate levels are subject to change and are therefore adaptable, as new data become available.

Table 4-1b. Summary of Domestic Wells and Population with Estimated Upper Zone Nitrate Area Categories (Priority 2 Tulare Lake Subbasin KWAMZ)								
Estimated Upper Zone Ambient Nitrate (2010-2025)**	DWR Domestic Wells Located Outside PWS Boundaries		DWR Dom. Wells Within PWS Boundaries	DWR Total Domestic Wells in Management Zone	Domestic Wells in De-Designation Boundary		2025 Estimated Census Block Analysis (Outside PWS service areas)	
	Domestic Wells Outside PWS Boundaries	% of Total Domestic Wells Outside PWS	Total Domestic Wells in Priority 2 Tulare Lake Subbasin portion of KWAMZ Within PWS Boundaries	All Domestic Wells in Management Zone	DWR Domestic Wells Outside of PWS Boundary and Within De-Designation Boundary	DWR Domestic Wells Within PWS Boundary and Within De-Designation Boundary	Population Outside PWS Boundaries	Population Outside PWS Boundaries and Within De-Designation Boundary
Group 1: ≤2.5 mg/L as N	521	89.7%	60	581	16	0	9,274	16
Group 2: >2.5 – 5.0 mg/L as N	537	84.8%	96	633	0	0	2,603	0
Group 3: >5.0 – 7.5 mg/L as N	354	95.2%	18	372	0	0	2,187	0
Group 4: >7.5 – 10.0 mg/L as N	145	98.6%	2	147	0	0	1,008	0
Group 5: >10.0 mg/L as N	233	88.3%	31	264	0	0	1,442	0
Group 6: Unknown*	107	63.3%	62	169	353	0	3,626	750
Total	1,897	87.6%	269	2,166	369	0	20,140	766

*Domestic wells or Census Blocks are located in a “Gap Area” where insufficient Upper Zone nitrate data exist to do a spatial interpolation of ambient nitrate conditions.

**Ambient nitrate levels are based on best available groundwater nitrate data meticulously vetted at the time of analysis and are based on Upper Zone nitrate data from January 2010 to October 2025. These mapped nitrate levels are subject to change and are therefore adaptable, as new data become available.

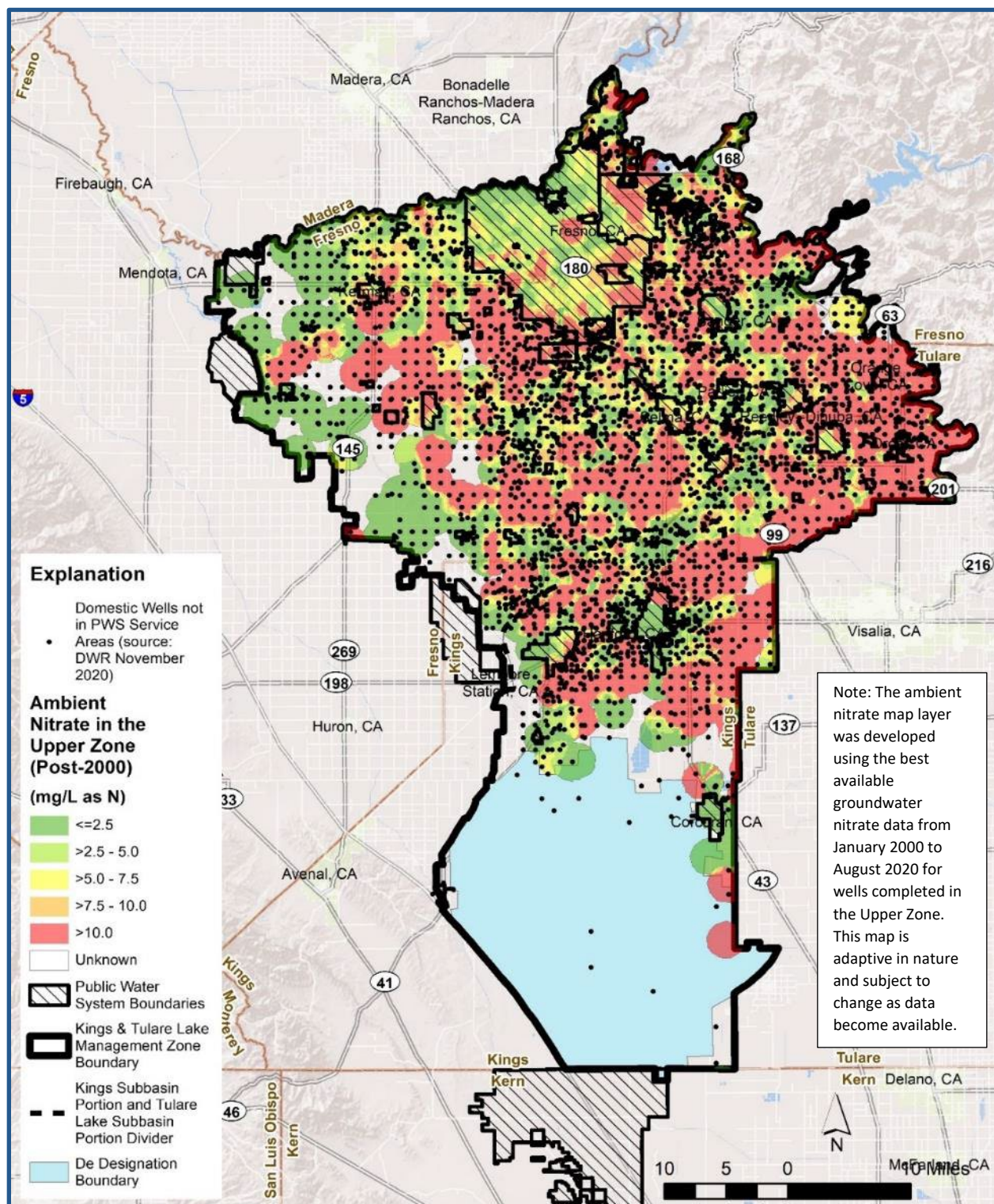


Figure 4-1a. Domestic Wells Located Outside Public Water System Areas in the Kings Water Alliance Management Zone.

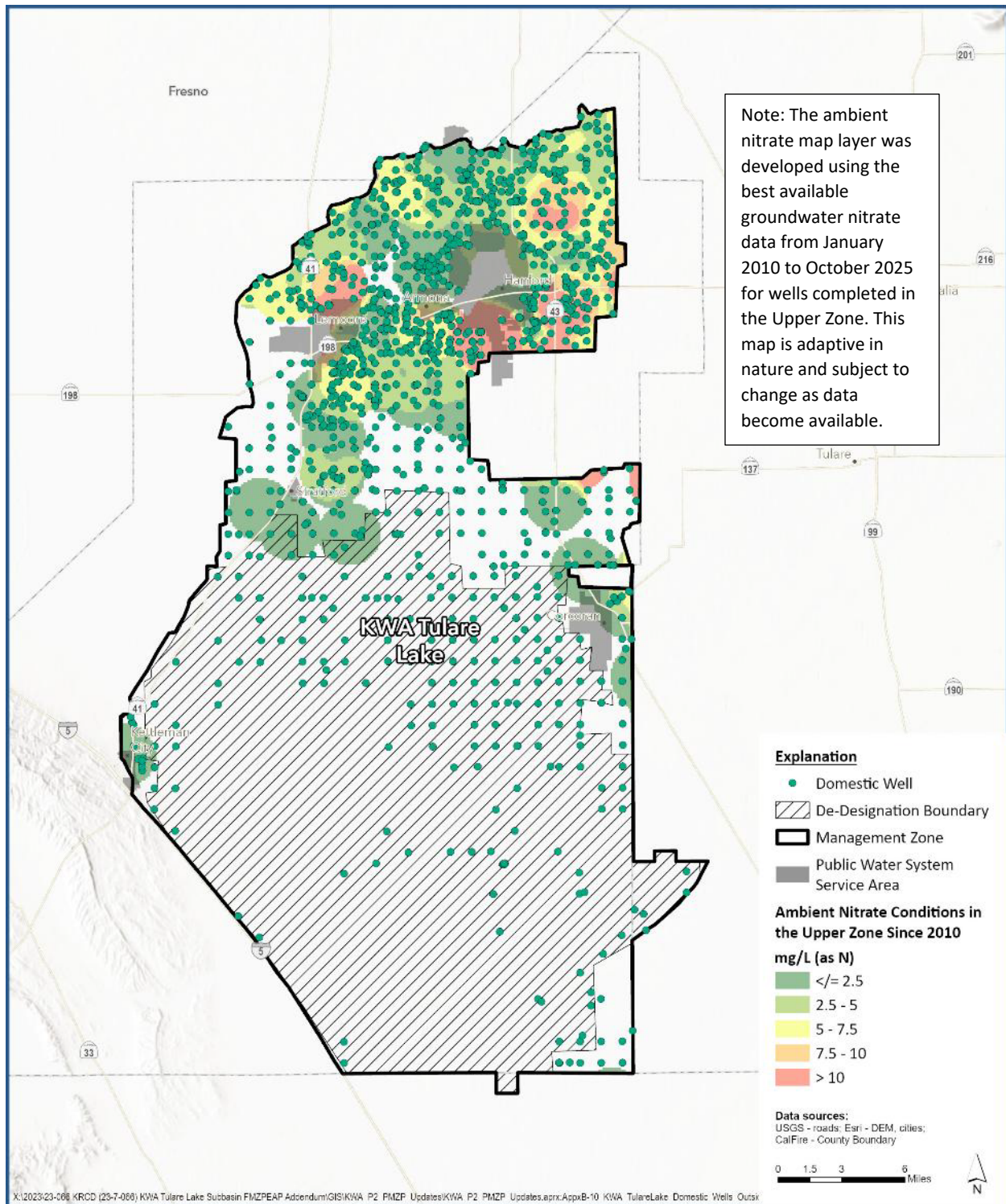


Figure 4-1b. Domestic Wells Located Outside Public Water System Areas in the Priority 2 Tulare Lake Area of the Kings Water Alliance Management Zone.

4.2. Community Outreach

The KWA implemented a community outreach program to support development of the EAP. Section 1.4.5 above summarized the community outreach activities completed during the development of the EAP submitted with the FMZP for Phase 1 and the PMZP/EAP Addendum for Phase 2. Section 1.2 of the EAP Addendum and the associated attachments in the EAP appendices provide additional information regarding those outreach efforts.

4.3. Key Early Action Plan Elements

This section provides a summary of the key elements of the KWA's EAP, which is being implemented in two phases:

- *Phase 1* - EAP implementation began on May 8, 2021 in the Priority 1 areas of the KWA that include all or part of the Kings, Kaweah, and Tule Subbasins and the very small adjacent Priority 2 areas in the Delta Mendota and Madera Subbasins. Phase 1's EAP has now been incorporated into KWA's Management Zone Implementation Plan (MZIP) where it will continue to guide community outreach efforts, provide free well testing to residents and, where needed, offer emergency and interim drinking water to residents while the KWA implements its long-term drinking water program (Kings Water Alliance, 2023).
- *Phase 2* - EAP implementation began on February 26, 2025 in the Priority 2 Tulare Lake Subbasin and very small adjacent Priority 2 areas in the Westside, Pleasant Valley, and Kern County Subbasins.

Attachment D should be consulted to review the details associated with the implementation of each of these elements:

- *Process to Identify Affected Residents* – EAP Addendum Section 3 describes the approach the KWA will implement to identify residents most likely to be relying on a domestic well with nitrate > 7.5 mg/L-N (e.g., see **Figure 2-14** above). This method, which will be implemented in both phases, is designed to obtain the addresses of residents in impacted areas so that the KWA can reach out directly to let them know of the availability of an interim replacement water program to address nitrate contamination concerns. Even though these residents are targeted for outreach based on the water quality findings described above, anyone in the Management Zone can request to have their well tested to be sure they are not drinking nitrate-contaminated water.
- *Community Outreach during EAP Implementation* – EAP Addendum Section 4 describes community outreach activities that are being implemented under the EAP. Outreach is occurring through regular community meetings and other means of communication (website, flyers, email, etc.). Outreach initiated in Phase 1 will continue into Phase 2.

- *Interim Replacement Water Program* – The EAP Addendum includes options for obtaining safe drinking water that targets areas where the Upper Zone groundwater most likely has nitrate concentrations that exceed 10 mg/L-N. These options include:
 - *Bottled Water Delivery or Point-of-Use Treatment Systems (“POU System”)* – The KWA has implemented bottled water delivery and POU System programs for residents that meet specific criteria under Phase 1 and Phase 2. These criteria include: (a) residence is on a domestic well within the KWA; (b) resident is willing to establish the necessary agreements to establish requested replacement water services; and (c) the residence receives its drinking water from a source that has nitrate that exceeds 10 mg/L-N.
 - *Water Fill Stations* – The KWA currently has three operational fill stations located in Dinuba, Kerman and Hanford, CA. A water fill station is an independent water-dispensing facility connected directly to a PWS that meets safe drinking water standards and is constructed and operated as required by state and federal regulations. These fill stations would provide additional trusted sources of safe drinking water to the community at no cost.
- *Well Testing Program* – The KWA has implemented a well testing program to support the bottled water delivery and POU System replacement water programs under Phase 1 and Phase 2. This program will test a resident’s domestic well for nitrate at no cost to the resident to verify they meet program criteria for receiving replacement water at their residence. Residents may request to have their well tested for nitrate at any time by contacting the KWA.

4.4. Schedule of Implementation

EAP activities in the KWA have been implemented in two phases. Phase 1 EAP implementation began on May 8, 2021 in the Priority 1 areas within the Management Zone boundary: Kings Subbasin, Kaweah Subbasin and Tule Subbasin (**Figure 4-2a**). The very small areas within the Priority 2 Madera and Delta-Mendota Subbasins within the Management Zone boundary are also included in Phase 1. The EAP for Phase 1 has been incorporated into the Priority 1 MZIP where it will continue to guide efforts to outreach to the community, provide free well testing to residents and, where needed, offer emergency and interim drinking water until the KWA implements its long-term drinking water program that will work to assist residents and communities obtain permanent solutions to provide safe drinking water to residents in the KWA (Kings Water Alliance, 2023).

Phase 2 implementation in the Priority 2 areas of the Management Zone began on February 26, 2025 (**Figure 4-2b**). A summary of the activities that occurred during Phase 1 and Phase 2 EAP implementation is included in Appendix A of the EAP Addendum.

Kings Water Alliance Management Zone
Final Management Zone Proposal Addendum
Priority 2 Tulare Lake Subbasin Area

	Year/Quarter															
	2021				2022				2023				2024			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Priority 1 Notice to Comply (NTC) - 5/29/20		↑					↑				↑					
	PMZP submitted 3/8/21; EAP implemented 5/8/21				FMZP submitted 8/29/22				MZIP submitted (9/5/23; to replace EAP in Priority 1 areas)				MZIP Implementation			
Priority 2 Areas	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
												↑				↑
	No Activity								Priority 2 NTC - 12/29/23				PMZP submitted 12/30/24; EAP implemented 2/26/25			

Figure 4-2a. Phasing of EAP Implementation in Relation to Notices to Comply (NTC) in Priority 1 and 2 Subbasins

Kings Water Alliance Management Zone
Final Management Zone Proposal Addendum
Priority 2 Tulare Lake Subbasin Area

Task	Subtasks	2025				2026				2027			
		QTR 1	QTR 2	QTR 3	QTR 4	QTR 1	QTR 2	QTR 3	QTR 4	QTR 1	QTR 2	QTR 3	QTR 4
General Community Outreach	Outreach to Management Zone												
	Conduct public community and stakeholder meetings	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
Targeted Resident Outreach	Develop mailing list of targeted residents												
	Mailout Interim Replacement Water Program Materials		◆										
	Coordinated outreach to non-compliant public water systems												
	Conduct follow up outreach (as necessary)												
Interim Replacement Water: Bottled Water & POU Treatment Systems	Secure third-party vendor services												
	Process requests for services (eligibility verification, well-testing, initiate services)												
	Follow-up with residents to confirm provided services												
Interim Replacement Water: Water Filling Stations	Work closely with residents to determine need for fill stations; if supported work with community on identifying locations and complete subsequent subtasks	Schedule dependent on residents' input											
Monitoring and Reporting	Gather monitoring data from all program activities												
	Prepare EAP status reports	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆

Figure 4-2b. General Phase 2 EAP Implementation Schedule

4.5. EAP Implementation Metrics

At the request of the CVWB's Executive Officer and in coordination with other Priority 1 Management Zone entities, the KWA established the following metrics to track progress in the implementation of the KWA Priority 1 EAP (KWA, 2022):

- Location, forum type and general attendance figures for all outreach efforts;
- Number of residences tested for nitrates;
- Number of residences tested for other contaminants;
- Number of households being provided bottled water; and
- Number of operable fill stations/kiosks and usage information for each.

These metrics will continue to be implemented as part of KWA's Phase 1 MZIP Emergency & Interim Drinking Water Program and for KWA's Phase 2 EAP implementation. The KWA along with other Management Zone entities provide the above information monthly to the Central Valley Salinity Coalition (CVSC). The CVSC then compiles the information into a report which is submitted to the CV-SALTS Executive Committee, which includes the CVWB. The CVWB's Executive Officer shares this information with the CVWB in the Executive Officer reports, which are prepared and disseminated approximately six times per year. The information is summarized into a dashboard format and is also publicly available on the CVSC's website at(<https://cvsalts.mljenv.com/>).

The Management Zone entities report this information in numeric and graphic formats. Reported information includes illustration of periodic reporting for the non-outreach metrics (e.g., number of residences wells tested, people being served bottled water, and kiosk usage information). In addition to providing periodic reporting of the metrics described above, the Management Zone entities also report summary statistics of combined outreach activities. The EAP (Attachment D) provides more details on the explanation of each EAP implementation metric reported to the CV-SALTS Executive Committee.

4.6. Management Zone Governance & Funding

The Management Zone is governed by the KWA, a non-profit public benefit corporation that filed for non-profit status on November 17, 2020. The KWA is a 501(c)(3) corporation established to organize and operate the proposed Kings Water Alliance that will manage the proposed nitrate Management Zone encompassing the Kings and Tulare Lake Subbasins, a portion of the western part of the Kaweah Subbasin and very small portions of the Tule, Westside, Pleasant Valley and Kern County Subbasins.

The KWA was established for the following specific purpose: "To maintain and improve the quality of life in the central and southern San Joaquin Valley by implementing programs that

provide access to safe drinking water for residents, and by engaging in groundwater nitrate reduction activities with the goal of protecting or enhancing the quality of groundwater drinking water supplies for residents.” **Attachment E** provides the Articles of Incorporation and Bylaws of the KWA. The following sections describe elements of the governance of the Management Zone.

4.6.1. Roles and Responsibilities

The following sections summarize the key roles and responsibilities associated with the governance of the KWA.

Board of Directors (Article IV)

The Board of Directors currently has seven seats that can be expanded up to 11 as needed. The current expected Board members and seats they hold are as follows:

- Kings River Water Quality Coalition – Three representatives
- CVDRMP - Two representatives
- California Poultry Federation – One representative
- Wine Industry – One representative

The term of office of each director is three years and until a successor has been appointed and qualified. The Board of Directors have general corporate powers to exercise and manage the corporation’s activities and affairs as described in the bylaws (see Attachment E). They also have specific powers related to proper implementation of the purposes of the corporation.

Officers (Article V)

Elected officers of the corporation shall be a Chair, Vice Chair, Secretary, and Treasurer and must be on the Board of Directors. Offices of the Secretary and Treasurer may be combined and held by one person at the discretion of the Board. Officers are elected annually by and from among the directors. They serve one-year terms with no limit on the number of terms.

The Chair presides at meetings of the Board and exercises and performs the power and duties assigned by the Board. The Vice Chair assists the Chair of the Board and performs the duties of the Chair in the absence or incapacity of the Chair. Secretary keeps a book of minutes of all meetings, proceedings, and actions of the Board and committees of the Board and provides notice of all meetings. If the Chair/Vice Chair are absent or unable to serve, the Secretary can perform all the duties of the Chair. The Treasurer maintains adequate and correct books, accounts of the corporation’s properties and transactions, and financial statements and reports of the corporation.

Committees (Article VI)

Committees of the Board may be created by the Board of Directors by resolution. Each committee consists of two or more directors and no persons who are not directors. In addition, the Board may also establish Advisory Committees composed of any number of directors and/or other interested persons who are not directors. The role of the Advisory Committees is to provide advice and recommendations to the Board. Appointments to Advisory Committees are made by the Board or the Chair of the Board.

Management Zone Participants

Each Management Zone participant has signed an agreement with the KWA (**Attachment F**). Through this agreement, participants agree to comply with the Nitrate Control Program through contributing to and cooperating with KWA and other participants.

4.6.2. Funding Mechanism

Funding to implement the EAP and further develop Management Zone deliverables is currently provided by the participating dischargers based on a Kings Water Alliance Board-approved cost allocation. As part of its annual budgeting process, the Board will evaluate cost allocations among its participating dischargers.

4.6.3. Dispute Resolution Mechanism

Per the KWA Agreement, Management Zone participants agree to work cooperatively to develop and implement all Management Zone related documents and programs. If disputes arise among Management Zone participants, the members of the KWA Board will be informed and every effort will be made to gather appropriate information to support the Board's efforts to resolve the dispute. Once adequate understanding and background are available, the dispute will be brought before the Board at a properly noticed meeting to work with the participants to cooperatively resolve the dispute. The goal of the process will be to resolve the issue as quickly and informally as possible by gaining consensus among the parties to facilitate an agreement. If an agreement is not reached informally, additional meetings or other mechanisms may be employed by the Board, e.g., establishment of a committee as allowed by the bylaws, to resolve the dispute. Ultimately, the KWA Board has the authority to make any final decisions regarding the dispute between management zone participants based on the available information. If the dispute between participants cannot be resolved in a reasonable manner, a participant is free at any time to withdraw from the Management Zone per the terms of the Agreement (see **Attachment F**).

4.7. Coordination with Other Programs

The following sections describe how the KWA intends to coordinate implementation of the Nitrate Control Program in the proposed Management Zone with other regulatory programs and dischargers.

4.7.1. SGMA and GSAs

It is anticipated that the Management Zone will continue to coordinate with GSAs during the development of the MZIP, particularly with the development of water budget components, future SGMA water management projects and actions within the subbasins, and future land use changes.

4.7.2. Path A Facilities

The Nitrate Control Program provided recipients of the NTC in the Priority 1 area of the KWA Management Zone the opportunity to select Path A compliance, i.e., comply with the Nitrate Control Program as an individual discharger. Within the Management Zone boundary, nine permitted dischargers have submitted a Notice of Intent (NOI) to the CVWB to comply with the Nitrate Control Program under Path A. At the time of submittal of this FMZP, the CVWB has not approved the NOIs submitted by these Priority 1 area dischargers and has not received NOIs from Priority 2 area permitted discharges wanting to select Path A compliance. Given the uncertainty of the status of these facilities under the Nitrate Control Program, the KWA Management Zone plans to coordinate with each of these permitted dischargers during MZIP implementation in the following manner:

- *Chateau Fresno Landfill Groundwater Clean-up Site (CV-SALTS ID: 1887)* – The NOI delineates an area around this facility that was used to evaluate potential impacts to drinking water sources (see Figure 6, red circle on pdf page 14 of 146, Pathway A Report, Nitrate Control Program Pathway A Report, April 16, 2021). While the NOI does not specifically define this area as the facility’s area of contribution, for the purposes of this FMZP the KWA will consider the encircled area as the preliminary boundary of the area that this Path A facility will be responsible for under the Nitrate Control Program. During MZIP development, the KWA will work with this permitted discharger and Central Valley Water Board to establish a final boundary between this Path A facility and the Management Zone. Further, during MZIP development the KWA will be responsible for addressing any request for a well test outside of this preliminary boundary; in contrast, the discharger will be responsible for well test requests within the preliminary boundary.
- *North Fresno Wastewater Reclamation Facility (WWRF) (CV-SALTS ID: 1931)* – The NOI describes the potential area of contribution relevant to this WWRF and the land application area, an adjacent golf course that is irrigated with tertiary treated wastewater (see Figure 1

in Nitrate Initial Assessment Report, April 2021). Per the NOI, a confining clay layer lies below the WWRF, and it is assumed that this same confining clay layer also underlies all of the irrigated land area. Given the information in the NOI, the KWA considers the following as a preliminary boundary between the Management Zone and this permitted facility: Area bounded by Copper Avenue, Friant Road and Willow Avenue. The KWA will be responsible for addressing any requests for a well test outside of this preliminary boundary (unless the requested well falls within an area the KWA considers under the responsibility of another Path A permitted discharger). In contrast, any residents requesting a well test within this preliminary boundary will be the responsibility of the North Fresno WWRF. The KWA will coordinate with the discharger and Central Valley Water Board during MZIP development to develop a final boundary between the Management Zone and the North Fresno WWRF (Note: Final boundary delineation may need to be coordinated with delineation of boundary for the City of Fresno Regional WWTF, CV-SALTS ID: 2665).

- *Fresno Cogeneration Project (CV-SALTS ID: 2039)* – The NOI does not delineate a specific area of contribution but does describe the underlying groundwater flow direction (e.g., see Figure 8 in the Nitrate Discharger Assessment Report, April 26, 2021). Given the information in the NOI and for the purposes of this FMZP, the proposed preliminary boundary between the Management Zone and this permitted facility is a circle with a 1 mile radius centered on the cogeneration facility. The KWA will coordinate with the discharger and CVWB during MZIP development to develop a final boundary between the Management Zone and this facility. Until then, the Fresno Cogeneration Project will be responsible for addressing any well test requests for wells located within the preliminary boundary; the KWA will be responsible for well test requests outside the boundary.
- *Fresno Regional Wastewater Treatment Facility (WWTF) (CV-SALTS ID: 2665)* – The City of Fresno’s NOI identifies an area of contribution that provides the basis for implementation of the Nitrate Control Program, including implementation of its conditionally approved Early Action Plan (e.g., see Figure ES-4, Nitrate Assessment Report, Executive Summary, May 2021). The KWA continues to evaluate this assessed area of contribution as it relates to the City’s Regional WWTF. However, the KWA also believes that the City of Fresno’s area of responsibility under the Nitrate Control Program should include any area within the jurisdictional boundary of the City. Areas outside the City’s jurisdictional boundary and its assessed area of contribution (i.e., as shown in Figure ES-4) are within the KWA Management Zone and, unless covered by another Path A facility, the KWA will be responsible for addressing any requests for a well test. In contrast, any residents requesting a well test for a well located within the City of Fresno’s jurisdiction or within the area of contribution shown on Figure ES-4 of the City’s NOI will be the responsibility of the City. During the development of the MZIP, the KWA will continue to coordinate with the City of Fresno and CVWB to formalize the boundary between the City and the KWA Management Zone. The process to formalize this boundary may need to consider: (a) coordination with

efforts to formalize boundaries around other Path A facilities within the City of Fresno area (e.g., North Fresno WWRF, CV-SALTS ID: 1931 and Fresno Recycled Water Application Area, CV-SALTS ID: 3008); and (b) potential presence of KWA Management Zone participants, e.g., milk cow dairies, within the City's delineated area of contribution.

- *Reedley Wastewater Treatment Facility (CV-SALTS ID: 2679)* – The NOI does not define an area of contribution for this permitted WWTF. However, given that the facility generally serves the City of Reedley, for the purposes of this FMZP, the KWA considers the following areas to be subject to the NOI submitted by this permitted discharger: (a) all areas located within the City of Reedley's jurisdictional boundary; and (b) area around the Reedley WWTF bounded as follows: Kings River (East and South); Lac Jac Road (West) and Dinuba Avenue (North). The KWA will be responsible for nitrate well testing of any wells that are outside of these areas; in contrast, any residents requesting a well test within these bounded areas will be the responsibility of the City of Reedley. During the development of the MZIP, the KWA will coordinate with the City and CVWB to formalize the boundary between the City of Reedley and the KWA.
- *Caruthers Wastewater Treatment Facility (CV-SALTS ID: 2817)* – The NOI submitted by the Caruthers Community Services District (CSD) delineates a potential area of contribution around its currently active wastewater effluent disposal ponds (see Figure 2-2, Area of Potential Impact in the Nitrate Assessment Report, November 2020). The KWA believes that the Caruthers CSD's area of responsibility under the Nitrate Control Program should not be limited to just the area of potential impact delineated around its wastewater treatment facility, but also include any area served by the CSD within the jurisdiction of the Community of Caruthers. For the purposes of this FMZP, these combined areas represent the Caruthers CSD Area of Responsibility. Areas outside of the Caruthers CSD Area of Responsibility are within the KWA Management Zone; accordingly, the KWA will be responsible for addressing requests for well tests in this area. In contrast, any residents requesting a well test within the Caruthers CSD Area of Responsibility will be the responsibility of the Caruthers CSD. During the development of the MZIP, the KWA will coordinate with the Caruthers CSD and CVWB to formalize the boundary between the KWA and areas under the responsibility of the Caruthers CSD.
- *Fresno Recycled Water Application Area (CV-SALTS ID: 3008)* – The City of Fresno's Nitrate Initial Assessment Report prepared as part of its Path A NOI does not describe a specific area of contribution but does summarize the current areas receiving the application of recycled water (e.g., see Table 1, May 2021). The NOI also identifies a number of potential users of recycled water (see Figure 1, NOI, May 2021). For the purposes of this FMZP, the KWA considers any current or potential land application areas (plus a surrounding 500-foot buffer) to be within the area of responsibility of the City of Fresno under the Nitrate Control Program. Areas outside of these land application areas with associated 500-foot buffer are

within the KWA Management Zone; accordingly, the KWA will be responsible for addressing requests for a well test. In contrast, any residents requesting a well test for a well located within the 500-foot buffer around a land application area will be the responsibility of the City of Fresno. During the development of the KWA MZIP, the KWA will coordinate with the City of Fresno and CVWB to formalize the boundary between this facility's land application areas and the Management Zone (Note: Final boundary delineation may need to be coordinated with delineation of the boundary for the City of Fresno Regional WWTF, CV-SALTS ID: 2665).

- *Clovis Wastewater Treatment Facility (CV-SALTS ID: 3201)* – The City of Clovis WWTF's treated effluent is either used for landscape irrigation within the WWTF's service area or discharged to Fancher Creek. The NOI submitted by the City of Clovis discusses the potential area of contribution only relative to the surface water discharge to Fancher Creek. The NOI does not explicitly delineate a spatially defined area of contribution; however, the NOI does evaluate potential impacts to shallow groundwater within an approximately two-mile wide section along Fancher Creek from the effluent discharge outfall to a point approximately six miles downstream (e.g., see Figure 7 in the Nitrate Initial Assessment Report, April 2021). The KWA Management Zone believes that the City of Clovis' area of responsibility under the Nitrate Control Program should include areas potentially impacted as shown in the NOI along Fancher Creek and any area within the jurisdiction of the City of Clovis (combined area = City of Clovis Area of Responsibility). Areas outside of the City of Clovis' Area of Responsibility are within the KWA Management Zone; accordingly, the Management Zone will be responsible for addressing well test requests in this area. In contrast, any residents requesting a well test within the City of Clovis' Area of Responsibility will be the responsibility of the City of Clovis. During the development of the KWA MZIP, the Management Zone will coordinate with the City of Clovis and CVWB to formalize the boundary between the Management Zone and the City of Clovis' Area of Responsibility.
- *Cutler-Orosi Wastewater Treatment Facility (CV-SALTS ID: 3310)* – The NOI submitted by the Cutler-Orosi Joint Powers Wastewater Authority (Authority) delineates a general potential area of contribution that includes the permitted property and an area downgradient of the wastewater facility (e.g., Figures 1 and 3 of the NOI's Initial Assessment Report). The KWA Management Zone believes that the Authority's area of responsibility under the Nitrate Control Program should not be limited to just these areas but should also include the area serviced by the Cutler-Orosi WWTF. For the purpose of this FMZP, these combined areas, or Cutler-Orosi Area of Responsibility, include: (a) area serviced by the Cutler-Orosi WWTF; (b) area within the permitted property of the treatment facility (see Figure 1, Initial Assessment Report); and (c) downgradient area from the permitted property with the following boundary (generally based on Figure 3, Initial Assessment Report): Avenue 404 (north); Road 120 (east); Avenue 392 (south); Road 108 (west). Areas outside of the Cutler-Orosi Area of Responsibility are within the KWA Management Zone; accordingly, the

Management Zone will be responsible for addressing any requests for a well test in this area. In contrast, any residents requesting a well test within the Cutler-Orosi Area of Responsibility will be the responsibility of the Authority. During the development of the MZIP, the KWA will coordinate with the Authority and CVWB to formalize the boundary between the Management Zone and area under the responsibility of this permitted discharger.

4.7.3. ILRP

Well testing regulatory requirements have been established for both the ILRP and permitted dischargers subject to the Nitrate Control Program. Given the overlap between these regulatory programs, the KWA Management Zone recognizes the importance of simplifying efforts by residents with the Management Zone to have their drinking water well tested. Accordingly, the KWA Management Zone will coordinate its Residential Well Testing Program with ILRP's Drinking Water Well Monitoring Program. If a resident applying for a well test under the EAP well testing program is located on an enrolled parcel under the ILRP, the Management Zone will work with the resident and the associated parcel owner within the ILRP Coalition to determine if the well has already been sampled to satisfy ILRP well testing requirements. If the well has been tested and the test result indicates that nitrate exceeds the 10 mg/L-N threshold, the Management Zone will work with the resident and parcel owner to ensure the resident receives replacement water. Similarly, if the well has not been tested for nitrate, consistent with the EAP procedures, the Management Zone will work with all parties to get the well sampled and address any needs for replacement water. Regardless of the situation, the Management Zone will coordinate with all parties so that the resident can receive replacement water if warranted. Also, while the Management Zone is ready to assist residents with having their well tested, any action by the Management Zone under the NCP is not a substitute for or satisfies domestic well testing requirements under the ILRP program.

4.7.4. Central Valley Dairy Representative Monitoring Program

The CVDRMP is working closely with selected dairy and confined bovine feeding operations within the Central Valley to implement a monitoring program to evaluate potential impacts of industry practices on first encountered groundwater. Domestic well testing is not part of the CVDRMP. However, the facilities permitted under the dairy/confined bovine feeding operation general orders and participants in the CVDRMP do test domestic wells and submit findings directly to the Central Valley Water Board. As a participant in the proposed Management Zones, the CVDRMP will encourage dairies and confined bovine feeding operations to share domestic well test results with the KWA to facilitate implementation of the KWA EAP in a more cost effective and efficient manner.

4.7.5. Others (as needed)

Any permittee that requests to join the KWA Management Zone after FMZP submittal, for whatever reason, must obtain approval from the KWA Staff and KWA Board chairperson. KWA staff will inform the permittee requesting Management Zone participation of the requirements to join, including for example the required level of financial support and necessary data submittals.

When a facility submits a ROWD to the CVWB for a new or expanded discharge within the KWA Management Zone boundaries, the facility may elect to comply with the Nitrate Control Program through participation in the appropriate Management Zone. The KWA will work with the permittee and the CVWB to support efforts by dischargers to join the Management Zone after FMZP submittal.

5. PREPARATION OF MANAGEMENT ZONE IMPLEMENTATION PLAN ADDENDUM

The KWA Management Zone will work with the CVWB during the review and acceptance of this FMZP Addendum. While that process is ongoing, the KWA Board will begin development of the MZIP Addendum for the Priority 2 Tulare Lake portion of the KWA Management Zone. The MZIP Addendum will be submitted to CVWB within six months after this FMZP Addendum is accepted by the Executive Officer.

6. REFERENCES

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7. ATTACHMENTS

Kings Water Alliance Final Management Zone Proposal Addendum Attachments

Please refer to the original PMZP and FMZP documents for Attachments that did not require updating for this FMZP Addendum addressing the Priority 2 Tulare Lake Subbasin portion of the KWA Management Zone. The original PMZP and FMZP documents and attachments are available online: <https://www.cvsalinity.org/resources/management-zone-development/>

The Attachments that were updated for this Addendum are listed below:

Attachment B	Permitted Milk Cow Dairies, Confined Bovine Feeding Operations and Poultry Operations in the Management Zone
Attachment C	Outreach Records for Development of FMZP for Priority 2 Tulare Lake & Public Draft Comments and Response Log
Attachment D	Early Action Plan Addendum [See Separate EAP Addendum Document File]
Attachment F	Kings Water Alliance Management Zone Participation Agreement
Attachment J	KWA PMZP and FMZP Addendum Approach Communications with CVWB

Attachment A

A-1. Groundwater Sustainability Agencies Within and Adjacent to the Proposed Kings Water Alliance Management Zone

This Attachment did not require updating for the Priority 2 FMZP for Tulare Lake. Please refer to the original PMZP and FMZP documents for this Attachment that is available online:

<https://www.cvsalinity.org/resources/management-zone-development/>

A-2. Groundwater Sustainability Agencies Within and Adjacent to the Proposed Kings Water Alliance Management Zone

This Attachment did not require updating for the Priority 2 FMZP for Tulare Lake. Please refer to the original PMZP and FMZP documents for this Attachment that is available online:

<https://www.cvsalinity.org/resources/management-zone-development/>

Attachment B

Permitted Milk Cow Dairies, Confined Bovine Feeding Operations and Poultry Operations in the Management Zone

Table 1. Non-Poultry Concentrated Animal Feeding Operations (CAFOs) in the Kings Water Alliance Management Zone (Priority 1 Area - Kings Subbasin) that are Management Zone Participants (primarily through CVDRMP Membership)

CV-SALTS ID	WDID No.	Facility	Address
General Order R5-2013-0122 – Milk Cow Dairies, CVDRMP Members			
1	5D165106N01	Thomas Dairy	20111 Excelsior Ave, Riverdale, CA 93656
13	5C10NC00072	Charles Vander Kooi Dairy	13696 West Elkhorn Avenue, Riverdale, CA 93656
100	5C10NC00119	A.T.O Dairy	19249 South Fruit Avenue, Riverdale, CA 93656
102	5C10NC00092	River Valley Dairy	22700 South Cornelia Avenue, Riverdale, CA 93656
103	5C10NC00137	Adams Dairy	16661 S. Fowler Avenue, Selma, CA 93662
116	5C10NC00066	AJ Slenders Dairy	625 East Coleman Avenue, Laton, CA 93242
120	5D105050N01	Antonio Ribeiro Dairy	430 West Mt Whitney Avenue, Riverdale, CA 93656
122	5C10NC00061	A & M Farms Dairy	10350 West Manning Avenue, Fresno, CA 93706
123	5C10NC00058	River Oaks Dairy	3621 East Mount Whitney Avenue, Laton, CA 93242
126	5C10NC00034	G & A Dairy	2200 South Marks Avenue, Fresno, CA 93706
129	5C10NC00043	Astiasuain Dairy	22654 East Jefferson Avenue, Reedley, CA 93654
146	5C10NC00094	Fontes Dairy Farms-Dairy 1	5512 West Davis Avenue, Riverdale, CA 93656
152	5D105042N01	Big De Cattle Dairy	2947 West Manning Avenue, Fresno, CA 93706
176	5C10NC00129	Maria C. Mendonca Living Trust	1253 West Lewiston Avenue, Riverdale, CA 93656
192	5C10NC00085	Coelho Farms Dairy	21655 South Cornelia Avenue, Riverdale, CA 93656
221	5C16NC00069	The Dairy, Inc.	6240 21st Avenue, Lemoore, CA 96245
226	5D105011001	Sozinho Dairy #2	8489 East Elkhorn Avenue, Selma, CA 93662
239	5D105029001	VIP Cattle	19436 South East Avenue, Laton, CA 93242
244	5D165103N01	Dover Dairy	4265 Dover Avenue, Hanford, CA 93230
246	5D165097N01	Droogh Dairy	23535 Grangeville Boulevard, Lemoore, CA 93245
263	5D545036003	Elkhorn Dairy	10400 Avenue 368, Visalia, CA 93291
265	5C10NC00123	Black Diamond Dairy	18789 South Fruit Avenue, Riverdale, CA 93656
299	5D105007001	Zonneveld Dairies Complex	1560 Cerini Avenue, Laton, CA 93242
300	5C10NC00126	Frea Dairy LLC	6205 South Brawley Avenue, Fresno, CA 93706
301	5D101039001	Fred Rau Dairy	10255 West Manning Avenue, Fresno, CA 93706
308	5C10NC00116	Fontes Dairy Farms-Dairy 2	20334 South Polk Avenue, Riverdale, CA 93656
309	5D105036N01	Frank S. Brown Co. Dairy	22045 South Valentine Avenue, Riverdale, CA 93656

Table 1. Non-Poultry Concentrated Animal Feeding Operations (CAFOs) in the Kings Water Alliance Management Zone (Priority 1 Area - Kings Subbasin) that are Management Zone Participants (primarily through CVDRMP Membership)

CV-SALTS ID	WDID No.	Facility	Address
311	5D165071N01	Eden-Vale Dairy	6944 21 1/2 Avenue, Lemoore, CA 93245
312	5C54NC00060	G-P Dairy	8676 Avenue 360, Visalia, CA 93291
316	5D105046N01	Joe R. Garcia Dairy	20677 East Street, Laton, CA 93242
328	5C10NC00140	Green Valley Dairy	2685 South Madera Avenue, Kerman, CA 93630
329	5D545130001	Griffioen Dairy LP	7901 Avenue 368, Dinuba, CA 93618
361	5C10NC00055	J & D Wilson & Sons Dairy	11720 W Mt Whitney, Riverdale, CA 93656
369	5C16NC00008	Double N Dairy II	18104 Everett Avenue, Laton, CA 93242
373	5C10NC00091	J & F Martins Dairy #2	541 East Wood Avenue, Laton, CA 93242
383	5C10NC00040	Generations Dairy	6043 South Madera Avenue, Kerman, CA 93630
396	5C10NC00088	Liquid Gold Dairy	15959 South Marks Avenue, Caruthers, CA 93609
417	5C10NC00096	Kerman Cattle Company	4301 South Dickenson Avenue, Fresno, CA 93706
419	5D105049N01	John De Groot & Son Dairy	6105 West Lincoln Avenue, Fresno, CA 93706
431	5C10NC00065	Jose Ribeiro & Son Dairy	3666 East Mt. Whitney Avenue, Laton, CA 93242
437	5C10NC00050	L & J Vanderham Dairy	10772 West Mt. Whitney Avenue, Riverdale, CA 93656
453	5C54NC00190	A.M. Dairy	8651 Avenue 388, Dinuba, CA 93618
501	5C10NC00112	Medeiros Dairy	608 East Riverdale Avenue, Laton, CA 93242
510	5D105026N01	Milky Way Dairy	10610 West Whitesbridge Avenue, Fresno, CA 93706
512	5C10NC00082	Monteiro Bros. Dairy #1	5336 West Harlan Avenue, Riverdale, CA 93656
513	5C10NC00079	Monteiro Bros. Dairy #2	4604 West Harlan Avenue, Riverdale, CA 93656
514	5C10NC00089	Morning Star Dairy	10032 West Elkhorn Avenue, Burrel, CA 93656
516	5C10NC00081	Mt. Whitney Dairy	2792 West Mt. Whitney Avenue, Riverdale, CA 93656
518	5C10NC00017	Maple Dairy	19860 Maple Street, Laton, CA 93242
523	5C10NC00114	El Dorado Ranches Dairy	23025 West American Avenue, San Joaquin, CA 93660
526	5D105038001	Raven Dairy	4109 East Conejo Avenue, Selma, CA 93662
527	5C54NC00056	L & L Dairy Farms	7435 Avenue 360, Kingsburg, CA 93631
539	5D165030001	Georgenson Dairy	8519 24th Avenue, Lemoore, CA 93245
546	5C10NC00122	Pacheco Dairy	1108 North Plumas Avenue, Kerman, CA 93630
578	5C16NC00070	Mendes & Toste Dairy	23568 Fargo Avenue, Lemoore, CA 93245
580	5C54NC00067	Red Rose Dairy	8950 Avenue 360, Visalia, CA 93291
594	5C54NC00138	Rocky Road Dairies #1	8715 Avenue 368, Dinuba, CA 93618
596	5C10NC00078	Mel-Tina Dairy	1748 West Mt. Whitney Avenue, Riverdale, CA 93656
598	5C10NC00109	Ruann Dairy	7285 West Davis Avenue, Riverdale, CA 93656
611	5C10NC00068	Kiss Cattle, LLC	2585 South Chateau Fresno Avenue, Fresno, CA 93706
621	5C10NC00048	Jessie P. Silva Dairy	3451 East Harlan Avenue, Laton, CA 93242
632	5C10NC00131	Souza's Dairy	8555 South Valentine Avenue, Fresno, CA 93706

Table 1. Non-Poultry Concentrated Animal Feeding Operations (CAFOs) in the Kings Water Alliance Management Zone (Priority 1 Area - Kings Subbasin) that are Management Zone Participants (primarily through CVDRMP Membership)

CV-SALTS ID	WDID No.	Facility	Address
637	5C10NC00117	Sweet Haven Dairy	10467 West Kamm Avenue, Riverdale, CA 93656
653	5C10NC00001	Excelsior Avenue Feedlot	20800 Excelsior Avenue, Riverdale, CA 93656
671	5C10NC00008	CSUF Dairy	5450 North Sierra Vista Avenue, Fresno, CA 93740
695	5C10NC00134	Verwey Dairy	12063 West Manning Avenue, Fresno, CA 93706
697	5C10NC00151	Open Sky Dairy	12103 West Elkhorn Avenue, Riverdale, CA 93656
698	5C10NC00120	Gerrit Visser & Sons Dairy	18565 South Marks Avenue, Riverdale, CA 93656
703	5C54NC00232	DJ Dairy	4390 Avenue 352, Traver, CA 93631
720	5D545052001	Tri BAK Dairy, LLC	9045 Avenue 368, Dinuba, CA 93618
721	5C54NC00069	Island Dairy Farms	37943 Road 144, Visalia, CA 93292
727	5C10NC00030	Shady Acres Dairy #2	15391 West Elkhorn Avenue, Helm, CA 93627
749	5B10NC00009	Sousa Dairy	7709 Avenue 376, Dinuba, CA 93618
761	5C10NC00060	Bar None/Van Der Hoek Dairy	15886 South Lassen Avenue, Helm, CA 93627
772	5D545103001	Rui and Jennifer Brasil Dairy	8061 Avenue 360, Visalia, CA 93291
773	5C54NC00295	Sunrise Dairy	8022 Avenue 368, Dinuba, CA 93618
General Order R5-2017-0058 – Confined Bovine Feeding Operations, CVDRMP Members			
1490	5D545078001	Traver Cattle Ranch	3212 Avenue 352, Traver, CA 93673
1513	5C10NC00098	Hillview Cattle & Farms	12250 West Lincoln Avenue, Fresno, CA 93706
1516	5C16NC00055	Dairy Goddess Farms	21154 Elgin Avenue, Lemoore, CA 93245
1518	5C16NC00064	John & Natalie Toste	21519 Elgin Avenue, Lemoore, CA 93245
1525	5C10NC00047	Standard Cattle Company Feedlot	8105 S. Lassen Avenue, Fresno, CA 94577
1530	5C10NC00093	Green Valley Feedlot	2160 West Elkhorn Avenue, Caruthers, CA 93609
1558	5C54NC00253	Olivas Ranch	4505 4th Avenue, Hanford, CA 93230
1701	5B10AP00004	Todd Ventura	4630 South Fig Avenue, Fresno, CA 93706
1706	5C10NC00257	Fontes Heifer Ranch	18109 South Fruit Avenue, Riverdale, CA 93656
1708	5C16NC00195	Contente & Co Ranch	5730 20th Avenue, Riverdale, CA 93656
1720	5C54NC00364	Gary Zysling Feedlot	7437 Avenue 376, Dinuba, CA 93618
Other WDRs – CDVRMP Members			
73	5C10NC00054	Lone Oak Farms Dairy # 2 (WDR R5-2008-001)	14523 Dinuba Avenue, Helm, CA 93627
74	5C10NC00062	Johann Dairy (R5-2008-0002)	11511 West Floral Avenue, Fresno, CA 93706
75	5C10NC00002	Maddox Dairy (R5-2008-0003)	12840 West Kamm Avenue, Riverdale, CA 93656
80	5C10NC00107	Bar 20 Dairy No. 2 & 3 (R5-2008-0066)	25500 West Whitesbridge Avenue, Kerman, CA 93630
Other Non-Poultry CAFOs (Path B Selected)			
20	5D165108N01	Little Dream Goat Dairy (No Order No. available)	3299 10 th Avenue, Laton, CA 93242

Table 2. Non-Poultry CAFOs in the Kings Water Alliance Management Zone (Priority 1 Area – Kaweah Subbasin) that are Management Zone Participants through CVDRMP Membership

CV-SALTS ID	WDID	Facility	Address
General Order R5-2013-0122 – Milk Cow Dairies, CVDRMP Members			
46	5C16NC00110	Countryside Dairy	21094 4th Avenue, Corcoran, CA 93212
143	5D165093N01	Barreto & Silveira Dairy	11305 2nd Avenue, Hanford, CA 93230
150	5C16NC00101	Bernard Te Velde Dairy #1	1305 Iona Avenue, Hanford, CA 93230
156	5D165069001	Still Water Ranch LP	5001 4 th Avenue, Hanford, CA 93230
177	5C16NC00039	C. Mattos & Sons Dairy	17800 4th Avenue, Hanford, CA 93230
178	5C16NC00028	Santa Anita Dairy	4356 Kansas Avenue, Hanford, CA 93230
203	5D165046N01	Poplar Lane Dairy	5387 Kent Avenue, Hanford, CA 93230
209	5D165101N01	Mattos Dairy #4	4555 Kansas Avenue, Hanford, CA 93230
217	5D165082002	Diamond D LLC Dairy	9423 Idaho Avenue, Hanford, CA 93230
231	5C16NC00023	Dias and Sons Dairy	7594 Kent Avenue, Hanford, CA 93230
249	5C16NC00050	Dutra & Dutra Dairy	7480 5th Avenue, Hanford, CA 93230
254	5D165094N01	Phoenix Dairy	10736 1 1/2 Avenue, Hanford, CA 93230
257	5C16NC00088	P&E #2 Dairy	13245 9th Avenue, Hanford, CA 93230
260	5D165091N01	Valadao Dairy	17293 9 1/2 Avenue, Hanford, CA 93230
277	5D165120001	Felicita Dairy	22154 Road 20, Tulare, CA 93274
278	5C16NC00089	Fernandes Dairy	16452 11th Avenue, Hanford, CA 93230
339	5D165092N01	Over The Moon Dairy	9455 Second Avenue, Hanford, CA 93230
345	5D165085001	Henry Veenendaal Dairy	3678 Houston Avenue, Hanford, CA 93230
354	5C16NC00067	Holland's Dairy	3533 Grangeville Boulevard, Hanford, CA 93230
374	5C16NC00082	Bill Idsinga Dairy	4595 Houston Avenue, Hanford, CA 93230
393	5C16NC00040	Joe B. Pacheco Dairy	16025 6 1/2 Avenue, Hanford, CA 93230
408	5D165063N01	Cactus Ranch	8800 Lansing Avenue, Hanford, CA 93230
420	5D165005001	Cowlifornia Dairy LLC	3742 Lacey Boulevard, Hanford, CA 93230
423	5C16NC00087	Jersey Creek Dairy	14857 5th Avenue, Hanford, CA 93230
450	5D165070001	Lone Oak Farms Dairy #1	13866 4th Avenue, Hanford, CA 93230
451	5C16NC00097	Jackson Dairy, LLC	8637 Jackson Avenue, Hanford, CA 93230
452	5C16NC00056	High Roller Dairy	14782 8th Avenue, Hanford, CA 93230
459	5C16NC00099	Valley View Dairy #2	15010 5th Avenue, Hanford, CA 93230
483	5D165068N01	M.F. Rosa Dairy	10090 2nd Avenue, Hanford, CA 93230
494	5D165078001	Robert Brazil Dairy	15035 8th Avenue, Hanford, CA 93230
495	5C16NC00021	Mattos Brothers Dairy	4017 Kansas Avenue, Hanford, CA 93230
587	5C16NC00020	River Ranch Dairy	6155 Jackson Avenue, Hanford, CA 93230
633	5C10NC00153	P & E Dairy	15336 10th Avenue, Hanford, CA 93230
657	5D165140N01	Anthony & Robert Brazil Dairy/Sunshine Dairy	13419 7th Avenue, Hanford, CA 93230
658	5D165098001	DeGroot Dairies-South	3101 Grangeville Boulevard, Hanford, CA 93230
674	5C16NC00006	De Groot Dairies-North	2446 Grangeville Boulevard, Hanford, CA 93230
680	5C16NC00019	Valley View Farms Dairy	15673 5 1/2 Avenue, Hanford, CA 93230

Table 2. Non-Poultry CAFOs in the Kings Water Alliance Management Zone (Priority 1 Area – Kaweah Subbasin) that are Management Zone Participants through CVDRMP Membership

CV-SALTS ID	WDID	Facility	Address
682	5C16NC00078	Antonio Parreira Dairy	3604 Houston Avenue, Hanford, CA 93230
692	5D165099N01	North Tri Palm Dairy	4119 Houston Avenue, Hanford, CA 93230
715	5C16NC00062	Willow Grove Farms Dairy	6267 5th Avenue, Hanford, CA 93230
733	5C16NC00117	Dixie Creek Ranch	3601 Lacey Boulevard, Hanford, CA 93230
736	5C16NC00123	Joaquim Mattos & Family Dairy	4790 Kansas Avenue, Hanford, CA 93230
General Order R5-2017-0058 – Confined Bovine Feeding Operations, CVDRMP Members			
1493	5D165067N01	Rancho Del Sol	13301 9th Avenue, Hanford, CA 93230
1496	5C16NC00061	Clark Feedlot	14541 10th Avenue, Hanford, CA 93230
1617	5C16NC00181	Outback Ranch	12202 1st Avenue, Hanford, CA 93230
Other WDRs – CDVRMP Members			
78	5D165080001	Hollandia Farms North Dairy	7905 Kansas Avenue, Hanford, CA 93230

**Table 3. Poultry Operations in the Kings Water Alliance Management Zone (Priority 1 – Kings Subbasin)
Permitted under the Poultry General Order (all facilities are categorized as Low Threat Operations)**

CV-SALTS ID	WDID No.	Facility Name	Address
1237	5C10NC00206	CSUF Ag Foundation Poultry Facility	Fresno, CA 93710
1238	5C10NC00233	Southwest Ranch	Fresno, CA 93706
1239	5C10NC00242	Adams Ranch	Fresno, CA 93706
1241	5C10NC00247	American Ranch Complex	Helm, CA 93630
1243	5C10NC00243	Barret Ranch	Burrel, CA 93656
1244	5C10NC00230	Brawley Ranch	Caruthers, CA 93609
1245	5C10NC00231	Bryan Ranch	Raisin City, CA 93706
1246	5C10NC00220	Cerini Ranch Complex	Riverdale, CA 93656
1247	5C10NC00238	Chateau Ranch Complex	Riverdale, CA 93656
1248	5C10NC00232	Chestnut Ranch	Laton, CA 93242
1249	5C10NC00213	Davis Ranch Complex	Laton, CA 93662
1250	5C10NC00221	El Dorado Ranch Complex	San Joaquin, CA 93660
1251	5C10NC00239	Elkhorn Ranch Complex	Riverdale, CA 93656
1252	5C10NC00240	Floral Ranch Complex	Helm, CA 93660
1253	5C10NC00222	Garfield-Harlan Ranch Complex	Riverdale, CA 93656
1254	5C10NC00223	Grantland Ranch Complex	Riverdale, CA 93656
1256	5C10NC00224	Huntsman Ranch Complex	Reedley, CA 93654
1257	5C10NC00225	Jameson Ranch Complex	Fresno, CA 93706
1259	5C10NC00244	Laguna Ranch	Riverdale, CA 93656
1260	5C10NC00226	Madera Ranch	Kerman, CA 93630
1261	5C10NC00241	Magnolia Ranch Complex	Caruthers, CA 93609
1262	5C10NC00253	Manning Ranch	Kerman, CA 93630
1264	5C10NC00227	McMullin Grade Ranch	San Joaquin, CA 93660
1266	5C16NC00163	Racine Ranch Complex	Corcoran, CA 93212
1267	5C54NC00334	Seville Ranch Complex	Visalia, CA 93292
1268	5C10NC00228	Shasta Ranch	Kerman, CA 93630
1269	5C10NC00245	Shields Ranch	Kerman, CA 93630
1270	5C10NC00248	Swanson Ranch Complex	Caruthers, CA 93609
1271	5C10NC00229	Valentine Ranch	Fresno, CA 93706
1272	5C10NC00246	Wood	Riverdale, CA 93656
1273	5C10NC00207	Alta Ranch	Reedley, CA 93654
1276	5C10NC00214	Bickner Ranch	Riverdale, CA 93656
1277	5C10NC00249	Bishop Milleo Ranch	Reedley, CA 93654
1278	5C10NC00208	Bluefox Ranch	Reedley, CA 93654
1279	5C10NC00234	Boss Ranch	Fresno, CA 93706
1280	5C54NC00329	Bronze Ranch	Orosi, CA 93647
1281	5C10NC00209	Carter Ranch	Selma, CA 93662
1282	5C10NC00237	Central Lay Ranch	Kerman, CA 93630

**Table 3. Poultry Operations in the Kings Water Alliance Management Zone (Priority 1 – Kings Subbasin)
Permitted under the Poultry General Order (all facilities are categorized as Low Threat Operations)**

CV-SALTS ID	WDID No.	Facility Name	Address
1284	5C10NC00212	Christenson Ranch	Kingsburg, CA 93631
1285	5C10NC00235	Deaver Ranch	Caruthers, CA 93609
1286	5C10NC00236	Dino Ranch	Kerman, CA 93630
1288	5C10NC00215	Elm Ranch	Fresno, CA 93706
1289	5C16NC00157	Enns Ranch	Kingsburg, CA 93631
1291	5C10NC00210	Friesen Ranch	Reedley, CA 93654
1294	5C10NC00216	Hayes Ranch	Caruthers, CA 93609
1295	5C10NC00217	Hill Ranch	Orange Cove, CA 93646
1298	5C16NC00161	Lovelace Ranch	Dinuba, CA 93618
1301	5C10NC00218	Mason Ranch	Orange Cove, CA 93646
1302	5C10NC00250	Moroni Ranch	Orange Cove, CA 93646
1306	5C54NC00335	Poppy Ranch	Dinuba, CA 93618
1309	5C10NC00219	Stagis Ranch	Fresno, CA 93706
1310	5C10NC00211	Sweetwater Creek Ranch	Laton, CA 93242
1315	5C54NC00332	Traver Ranch	Kingsburg, CA 93631
1316	5C10NC00251	Twin Palms Ranch	Reedley, CA 93654
1317	5C10NC00252	Vail Ranch	Dinuba, CA 93618
1427	5C54NC00337	Sweeney Ranch	Kingsburg, CA 93631
1428	5C10NC00255	Laton Ranch	Laton, CA 93242
1440	5C54NC00339	Froese Ranch	Dinuba, CA 93618
1443	5B10NC00079	WC & B Ranch	Riverdale, CA 93656
1445	5B10NC00080	Potter Ranch	Caruthers, CA 93609
1447	5B10NC00088	Montesito	Caruthers, CA 93609
1448	5B10NC00089	Norlake	Kerman, CA 93630
1449	5B10NC00081	Sunbird	Laton, CA 93242
1450	5B10NC00082	Placer 3 Ranch	San Joaquin, CA 93660
1451	5B10NC00083	Placer 2 Ranch	San Joaquin, CA 93660
1452	5B10NC00084	Kamm Ave. Ranch	Caruthers, CA 93609
1453	5B10NC00085	Placer 1 Ranch	Kerman, CA 93630
1454	5B10NC00086	G & H Ranch	Fresno, CA 93706
1455	5B10NC00087	Ave 145 Ranch	Kerman, CA 93630
1459	5C16NC00170	Niles Ranch	Corcoran, CA 93212
1460	5C54NC00340	Christian Fagundes Farm Inc.	Kingsburg, CA 93631
1461	5B10NC00091	Woods Farm - Camden	Caruthers, CA 93609
1462	5B10NC00090	Pitman Family Farms	Kerman, CA 93630
1466	5B10NC00095	Vang Poultry Farm	Fresno, CA 93737

Table 4. Milk Cow Dairies and Confined Bovine Feeding Operations in the Proposed Kings Water Alliance Management Zone in the Priority 2 Tulare Lake Subbasin Area that are Management Zone Participants through CVDRMP Membership

CV-SALTS ID	WDID No.	Facility Name	Address
Enrolled Under General Order R5-2013-0122 – Milk Cow Dairies			
101	5D165075N01	Daniel Brazil Dairy	18280 Fairfax Avenue, Lemoore, CA 93245
112	5C16NC00046	Alvaro Machado Dairy	5230 9th Avenue, Hanford, CA 93230
131	5C16NC00076	Sozinho Jerseys	5811 Lacey Boulevard, Hanford, CA 93230
172	5C16NC00071	Mello D Jerseys	14803 Grangeville Boulevard, Hanford, CA 93230
175	5C16NC00102	Borba Brothers Dairy	13243 Houston Avenue, Hanford, CA 93230
205	5C16NC00015	Contente & Company Dairy	7900 15th Avenue, Hanford, CA 93230
207	5C16NC00047	Silva & Sons #2 (Dairy)	6700 Excelsior Avenue, Hanford, CA 93230
232	5D16515N01	Bar E Dairy	6740 Corona Avenue, Kingsburg, CA 93631
243	5D165109001	Double N Dairy	12700 Everett Avenue, Hanford, CA 93230
250	5C16NC00081	Golden Star Dairy LLC #2	6398 16th Avenue, Hanford, CA 93230
281	5C16NC00025	Flatland Farms, LLC	8483 15th Avenue, Hanford, CA 93230
291	5C16NC00094	Four Star Dairy	18886 4th Avenue, Hanford, CA 93230
293	5D16517N01	15th Avenue Feedlot	10522 15th Avenue, Hanford, CA 93230
297	5C16NC00042	Vitor Borba Dairy	7721 Flint Avenue, Hanford, CA 93230
307	5D545098001	Flint Dairy	6511 Flint Avenue, Hanford, CA 93230
314	5D165079001	Midnight Farms	9240 19 1/2 Avenue, Lemoore, CA 93245
317	5C16NC00030	Antonio Garcia Dairy	6571 Fargo Avenue, Hanford, CA 93274
322	5A57NC00052	F&D Giacomazzi Farms	9624 6th Avenue, Hanford, CA 93230
371	5C16NC00075	Jaques & Silva Dairy	10256 6th Avenue, Hanford, CA 93230
372	5C16NC00012	JD Mello Dairy	15609 Grangeville Boulevard, Hanford, CA 93230
381	5C16NC00051	Silva & Son Dairy	8331 Excelsior Avenue, Hanford, CA 93230
410	5D16509002	Parreira Dairy	18081 17th Avenue, Stratford, CA 93266
412	5C16NC00043	Joe V Pimentel Dairy	4625 6th Avenue, Hanford, CA 93230
413	5D165083N01	Sozinho Dairy #1 and #3	11447 8 1/2 Avenue, Hanford, CA 93230

Table 4. Milk Cow Dairies and Confined Bovine Feeding Operations in the Proposed Kings Water Alliance Management Zone in the Priority 2 Tulare Lake Subbasin Area that are Management Zone Participants through CVDRMP Membership

CV-SALTS ID	WDID No.	Facility Name	Address
449	5C16NC00026	Log Haven Dairy	7755 Fargo Avenue, Hanford, CA 93230
456	5C16NC00086	Lu - AR Dairy	6121 15th Avenue, Hanford, CA 93230
477	5C16NC00045	Wilgenburg West, LLC	7442 7th Avenue, Hanford, CA 93230
582	5D165053N01	Richard Simas Dairy	17571 Flint Avenue, Hanford, CA 93230
590	5C16NC00049	Vitor Borba Heifers	7410 7th Avenue, Hanford, CA 93230
628	5D165096N01	Hakker Dairy	12499 Idaho Avenue, Hanford, CA 93230
670	5D165056001	Vaca Linda Dairy	14235 Kent Avenue, Hanford, CA 93230
675	5C16NC00016	Tony Cox Family Dairy #3	15410 Excelsior Avenue, Hanford, CA 93230
678	5D165055N01	C&R Dairy	18321 Idaho Avenue, Lemoore, CA 93245
705	5C16NC00033	West Creek Dairy	8409 5th Avenue, Hanford, CA 93230
717	5C16NC00001	White River Dairy	20784 Laurel Avenue, Stratford, CA 93266
726	5C16NC00111	Manuel & Alda Lawrence Dairy	12871 Kent Avenue, Hanford, CA 93230
728	5C16NC00119	Cunha Dairy #1	6680 16th Avenue, Hanford, CA 93230
730	5C16NC00124	Neves Dairy	16831 Jackson Avenue, Lemoore, CA 93245
731	5C16NC00118	ED Paulo & Sons Dairy	8730 Iona Avenue, Hanford, CA 93230
738	5C16NC00116	Sozinho Dairy #5	7205 Houston Avenue, Hanford, CA 93230
Enrolled Under General Order R5-2017-0058 – Confined Bovine Feeding Operations			
179	5C16NC00203	Hanford Armona Feedlot	10482 14 1/2 Avenue, Lemoore, CA 93245
1489	5C16NC00199	Headquarters Ranch	9495 17th Avenue, Lemoore, CA 93245
1517	5C16NC00072	Sunshine Dairy Heifers	12700 7th Avenue, Hanford, CA 93230
1527	5C16NC00010	Sam Habib Cattle Co	5590 East Excelsior Avenue, Hanford, CA 93230
1531	5D165110N01	Manuel B Toste	6431 Hanford-Armona Road, Hanford, CA 93230
1537	5D165088N01	Pacific Coast Calf Ranch	18644 16th Avenue, Stratford, CA 93266
1538	5C54AP00003	King Avenue Feedlot	18741 19th Avenue, Stratford, CA 93266
1543	5C16NC00058	Joe Soares	11560 8th Avenue, Hanford, CA 93230

Table 4. Milk Cow Dairies and Confined Bovine Feeding Operations in the Proposed Kings Water Alliance Management Zone in the Priority 2 Tulare Lake Subbasin Area that are Management Zone Participants through CVDRMP Membership

CV-SALTS ID	WDID No.	Facility Name	Address
1556	5D165073001	MF Cattle Co	11336 7th Avenue, Hanford, CA 93230
1595	5C16NC00194	JL Fragoso Cattle Company	7871 Houston Avenue, Hanford, CA 93230
1604	5C16NC00184	Van Dyk Cattle Co.	3275 8th Avenue, Hanford, CA 93230
1613	5C16NC00177	Grimmius Cattle Company	5715 Kansas Avenue, Hanford, CA 93230
1614	5C16NC00175	Bar E Heifer Ranch	6058 Flint Avenue, Hanford, CA 93230
1632	5C16NC00178	Jason & Julie Starr	18039 Lakeview Avenue, Stratford, CA 93266
1633	5C16AP00002	3H Cattle Co	19690 6th Avenue, Hanford, CA 93230
1634	5C16NC00180	Nevada Heights	21001 10 1/2 Avenue, Hanford, CA 93230
1729	5C16NC00201	Triple D Dairy & Farming Feedlot	13th Avenue and Flint Avenue, Hanford, CA 93230
Permitted Under WDR Order No. R5-2010-0130			
77	5D165107001	Cloverdale Dairy	19142 10 1/2 Avenue, Hanford, CA 93230
79	5C16NC00036	Wreden Ranch Dairy	8749 Lansing Avenue, Hanford, CA 93230
Permitted Under Unknown WDR Order Nos.¹			
14	5C16NC00190	Top Line Dairy #1	18386 13th Avenue, Hanford, CA 93230
36	5C16NC00129	Rocking Horse Dairy	21028 13th Avenue, Hanford, CA 93230
40	5C16NC00109	Lake Shore Dairy	15978 Manteca Avenue, Corcoran, CA 93212
43	5C16NC00131	Top Line Dairy #2	18705 13th Avenue, Hanford, CA 93230
50	5C16NC00135	Philip Verwey Farms Dairy	19765 13th Avenue, Hanford, CA 93230

¹ Order number was not included in Central Valley Water Board's February 2024 list of facilities in Priority 2 areas that received a Notice to Comply with the Nitrate Control Program

Table 5. Milk Cow Dairies and Confined Bovine Feeding Operations in the Proposed Kings Water Alliance Management Zone Priority 2 Tulare Lake Subbasin Area That Are Not Currently Members of the CVDRMP and Status of Management Zone Participation is Unknown at the Time of FMZP Submittal

CV-SALTS ID	WDID No.	Facility Name	Address
Enrolled Under General Order R5-2013-0122 – Milk Cow Dairies			
272	5C16NC00024	Fagundes Agribusiness Dairy	7546 8 1/2 Avenue, Hanford, CA 93230

Table 5. Milk Cow Dairies and Confined Bovine Feeding Operations in the Proposed Kings Water Alliance Management Zone Priority 2 Tulare Lake Subbasin Area That Are Not Currently Members of the CVDRMP and Status of Management Zone Participation is Unknown at the Time of FMZP Submittal

CV-SALTS ID	WDID No.	Facility Name	Address
315	5C16NC00100	Garcia & Sons Dairy	15405 17th Avenue, Lemoore, CA 93245
421	5C16NC00077	Mayar Feedlot	15739 Grangeville Boulevard, Hanford, CA 93230
597	5D165054N01	Milk Flow Dairy	17250 Medford Avenue, Stratford, CA 93266
623	5D165150N01	Clarence Dutra Dairy	9887 Flint Avenue, Hanford, CA 93230
734	5C16NC00122	Top Line Dairy #5	21009 South 19th Avenue, Stratford, CA 93266
737	5C16NC00121	Laurel Avenue Feedlot (Dairy)	19883 Laurel Avenue, Stratford, CA 93266
Enrolled Under General Order R5-2017-0058 – Confined Bovine Feeding Operations			
1226	5C16NC00202	Jersey Avenue Feedlot	19256 Jersey Avenue, Lemoore, CA 93245
1504	5C16NC00176	Dina Simas Property	14672 Flint Avenue, Hanford, CA 93230
1505	5C16NC00044	Dream Dairy Heifer Ranch	6505 10th Avenue, Hanford, CA 93230
1515	5C16NC00198	Frank Mendonca Heifer Ranch	19090 Fargo Avenue, Lemoore, CA 93245
1519	5D165041N01	John Correia Cattle	6672 Hanford-Armona, Hanford, CA 93230
1562	5C16NC00200	Headquarters Ranch 2	16501 Colony Road, Lemoore, CA 93245
1606	5C16NC00174	APN 004-280-075 Feedlot	9223 16 1/2 Avenue, Lemoore, CA 93245
1616	5C16NC00182	Overland Stock Yard	10565 9th Avenue, Hanford, CA 93230
1692	5C16NC00189	Faustino A Diaz	16560 Jackson Avenue, Lemoore, CA 93245
1702	5C16NC00192	Jose Nuno	20164 18th Avenue, Stratford, CA 93266
1703	5C16NC00191	Robert Martins Cattle	17250 Medford Avenue, Stratford, CA 93266

Table 6. Milk Cow Dairies and Confined Bovine Feeding Operations in the Kings Water Alliance Management Zone (Southern Portion – Kaweah Subbasin) that are Management Zone Participants through CVDRMP Membership

CV-SALTS ID	WDID	Facility	Address
General Order R5-2013-0122 – Milk Cow Dairies			
143	5D165093N01	Barreto & Silveira Dairy	11305 2nd Avenue, Hanford, CA 93230
150	5C16NC00101	Bernard Te Velde Dairy #1	1305 Iona Avenue, Hanford, CA 93230
177	5C16NC00039	C. Mattos & Sons Dairy	17800 4th Avenue, Hanford, CA 93230
178	5C16NC00028	Santa Anita Dairy	4356 Kansas Avenue, Hanford, CA 93230

Table 6. Milk Cow Dairies and Confined Bovine Feeding Operations in the Kings Water Alliance Management Zone (Southern Portion – Kaweah Subbasin) that are Management Zone Participants through CVDRMP Membership

CV-SALTS ID	WDID	Facility	Address
203	5D165046N01	Poplar Lane Dairy	5387 Kent Avenue, Hanford, CA 93230
209	5D165101N01	Mattos Dairy #4	4555 Kansas Avenue, Hanford, CA 93230
217	5D165082002	Diamond D LLC Dairy	9423 Idaho Avenue, Hanford, CA 93230
231	5C16NC00023	Dias and Sons Dairy	7594 Kent Avenue, Hanford, CA 93230
249	5C16NC00050	Dutra & Dutra Dairy	7480 5th Avenue, Hanford, CA 93230
254	5D165094N01	Phoenix Dairy	10736 1 1/2 Avenue, Hanford, CA 93230
257	5C16NC00088	P&E #2 Dairy	13245 9th Avenue, Hanford, CA 93230
260	5D165091N01	Valadao Dairy	17293 9 1/2 Avenue, Hanford, CA 93230
277	5D165120001	Felicita Dairy	22154 Road 20, Tulare, CA 93274
278	5C16NC00089	Fernandes Dairy	16452 11th Avenue, Hanford, CA 93230
339	5D165092N01	Over The Moon Dairy	9455 Second Avenue, Hanford, CA 93230
345	5D165085001	Henry Veenendaal Dairy	3678 Houston Avenue, Hanford, CA 93230
354	5C16NC00067	Holland's Dairy	3533 Grangeville Boulevard, Hanford, CA 93230
374	5C16NC00082	Bill Idsinga Dairy	4595 Houston Avenue, Hanford, CA 93230
393	5C16NC00040	Joe B. Pacheco Dairy	16025 6 1/2 Avenue, Hanford, CA 93230
408	5D165063N01	Cactus Ranch	8800 Lansing Avenue, Hanford, CA 93230
420	5D165005001	Cowlifornia Dairy LLC	3742 Lacey Boulevard, Hanford, CA 93230
423	5C16NC00087	Jersey Creek Dairy	14857 5th Avenue, Hanford, CA 93230
450	5D165070001	Lone Oak Farms Dairy #1	13866 4th Avenue, Hanford, CA 93230
451	5C16NC00097	Jackson Dairy, LLC	8637 Jackson Avenue, Hanford, CA 93230
452	5C16NC00056	High Roller Dairy	14782 8th Avenue, Hanford, CA 93230
459	5C16NC00099	Valley View Dairy #2	15010 5th Avenue, Hanford, CA 93230
483	5D165068N01	M.F. Rosa Dairy	10090 2nd Avenue, Hanford, CA 93230
493	5C16NC00083	Lone Star Dairy #2	13380 9th Avenue, Hanford, CA 93230
494	5D165078001	Robert Brazil Dairy	15035 8th Avenue, Hanford, CA 93230
495	5C16NC00021	Mattos Brothers Dairy	4017 Kansas Avenue, Hanford, CA 93230
587	5C16NC00020	River Ranch Dairy	6155 Jackson Avenue, Hanford, CA 93230
633	5C10NC00153	P & E Dairy	15336 10th Avenue, Hanford, CA 93230
657	5D165140N01	Anthony & Robert Brazil Dairy/Sunshine Dairy	13419 7th Avenue, Hanford, CA 93230
658	5D165098001	DeGroot Dairies-South	3101 Grangeville Boulevard, Hanford, CA 93230
674	5C16NC00006	De Groot Dairies-North	2446 Grangeville Boulevard, Hanford, CA 93230
680	5C16NC00019	Valley View Farms Dairy	15673 5 1/2 Avenue, Hanford, CA 93230
682	5C16NC00078	Antonio Parreira Dairy	3604 Houston Avenue, Hanford, CA 93230
692	5D165099N01	North Tri Palm Dairy	4119 Houston Avenue, Hanford, CA 93230
715	5C16NC00062	Willow Grove Farms Dairy	6267 5th Avenue, Hanford, CA 93230
733	5C16NC00117	Dixie Creek Ranch	3601 Lacey Boulevard, Hanford, CA 93230
736	5C16NC00123	Joaquim Mattos & Family Dairy	4790 Kansas Avenue, Hanford, CA 93230

Table 6. Milk Cow Dairies and Confined Bovine Feeding Operations in the Kings Water Alliance Management Zone (Southern Portion – Kaweah Subbasin) that are Management Zone Participants through CVDRMP Membership

CV-SALTS ID	WDID	Facility	Address
General Order R5-2017-0058 – Confined Bovine Feeding Operations			
1493	5D165067N01	Rancho Del Sol	13301 9th Avenue, Hanford, CA 93230
1496	5C16NC00061	Clark Feedlot	14541 10th Avenue, Hanford, CA 93230
1617	5C16NC00181	Outback Ranch	12202 1st Avenue, Hanford, CA 93230
Other WDRs – Members of CVDRMP			
78	5D165080001	Hollandia Farms North Dairy	7905 Kansas Avenue, Hanford, CA 93230

Table 7. Milk Cow Dairies and Confined Bovine Feeding Operations in the Kings Water Alliance Management Zone (Southern Portion – Kaweah Subbasin) that are Not Currently Members of the CVDRMP and Status of Management Zone Participation is Unknown at time of FMZP Submittal.

CV-SALTS ID	WDID	Facility	Address
General Order R5-2013-0122 – Milk Cow Dairies			
517 ¹	5C54NC00038	Tripalm Dairy	2429 Idaho Avenue, Hanford, CA 93230
General Order R5-2017-0058 – Confined Bovine Feeding Operations			
1523	5C16NC00179	Manuel Mendonca Trustee	9080 1 1/2 Avenue, Hanford, CA 93230
1546	5C16NC00057	A&M Livestock	12051 8th Avenue, Hanford, CA 93230
1704	5C16NC00193	Veenendaal Angus	3678 Houston Avenue, Hanford, CA 93230
Other Permittees – Order No. Unknown¹			
42 ¹	5C16NC00115	Yokum Dairy	10234 Lansing Avenue, Hanford, CA 93230
46 ¹	5C16NC00110	David Lemstra Dairy	21094 4th Avenue, Corcoran, CA 93212

¹ Facility on Central Valley Water Board's Kaweah Subbasin list of permittee's receiving an NTC (January 12, 2021), but not on CVDRMP list of known milk cow dairies or confined bovine feeding operations

Table 8. Poultry Farms in the Kings Water Alliance Management Zone (Southern Portion – Tulare Lake Subbasin) that are Management Zone Participants through Poultry General Order (all are categorized as Low Threat Operations)

CV-SALTS ID	WDID No.	Facility Name	Address
1240	5C16NC00155	2Y's Ranch	Hanford, CA 93230
1287	5C16NC00156	Dutra Ranch	Hanford, CA 93230
1292	5C16NC00164	Gilkey Ranch	Hanford, CA 93230
1293	5C16NC00158	Hanford Ranch	Hanford, CA 93230
1296	5C16NC00159	Huffman Ranch	Stratford, CA 93266
1297	5C16NC00160	Index Ranch	Lemoore, CA 93245
1308	5C16NC00162	Smith Ranch	Hanford, CA 93230
1441	5C16NC00171	Kopenhefer	Laton, CA 93242
1442	5C16NC00165	6th Avenue Ranch	Alpaugh, CA 93201
1444	5C16NC00166	18th Avenue Ranch	Lemoore, CA 93245
1456	5C16NC00167	Kent Ranch	Lemoore, CA 93245
1457	5C16NC00168	Holm Ranch	Lemoore, CA 93245
1458	5C16NC00169	Samuel Grow	Hanford, CA 93230

Attachment C

Outreach Records for Development of FMZP for Priority 2 Tulare Lake

Please see the full record of outreach materials that the KWA performed available in Attachment D Early Action Plan Appendix A.

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California Rural Legal Assistance, Inc. & Santa Clara University Environmental Justice and the Common Good (CRLA & SCUEJCG)	12/2/2024	KWA Early Action Plan Addendum	I. Data collection and analysis We maintain that the maximum and minimum neighbors, the projected coordinate system used, and the software leveraged for the estimation [kriging] should be included in the description.	These features of the kriging process were added to the description.
CRLA & SCUEJCG	12/2/2024	KWA Early Action Plan Addendum	I. Data collection and analysis While the Addendum acknowledges that the nitrate levels vary substantially, it does not quantify what the range or standard deviation of the data is, as insufficient data has been collected to determine these quantities. We contend that the average is too conservative of a value and does not allow for fluctuation in nitrate levels, thus missing areas or seasons/times where the values are above the MCL. This is supported by a small-scale voluntary well-testing program that our collaborative began in the early summer of 2024, and that has shown variation in nitrate levels on a monthly basis.	KWA acknowledges that averaging concentrations within a time frame of measurements may provide a nitrate value that may not represent the maximum measured concentration. As a result, the PMZP Addendum document provides a map figure (KWA PMZP Addendum Figure 3-18) that shows each Upper Zone well's MAXIMUM nitrate concentration overlaying the post-2010 ambient nitrate levels in the Upper Zone. This comparison of the maximum well nitrate concentration measured with the ambient nitrate levels indicates that the ambient mapping of recent nitrate concentrations does not underestimate nitrate conditions and therefore the analysis of ambient Upper Zone nitrate is not too conservative using the average recent concentration. KWA would be interested in incorporating the monthly

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				well test data into their dataset if CRLA/SCUEJCG is willing to share it.
CRLA & SCUEJCG	12/2/2024	KWA Early Action Plan Addendum	I. Data collection and analysis We appreciate KWA's efforts to be more transparent in the process of collecting the well data and how the Addendum listed every source of data for the shallow wells described as the upper zone. We believe that a quantified level of well depth should also be provided, e.g. ">200 feet."	The depth to the bottom of the Upper Zone is spatially variable as was described and quantified in KWA FMZP Section 3.2.3 Upper Zone Delineation and accompanied by a map in the KWA FMZP Figure 3-10.
CRLA & SCUEJCG	12/2/2024	KWA Early Action Plan Addendum	I. Data collection and analysis The Addendum appropriately included individuals residing outside PWS (Public Water System) Boundaries when identifying impacted populations; ¹ We appreciate the Addendum's expanded recognition of those who may be impacted by shallow nitrate contamination. ² The data should also include information on disadvantaged communities and social demographics such as income, linguistic isolation, and race. This is because low income, linguistically isolated, and non-white communities are disproportionately impacted by environmental burdens including drinking water contamination.	The locations and descriptions of Disadvantaged and Severely Disadvantaged Communities (DACs and SDACs) are provided in KWA PMZP Addendum Section 3.1.6 Disadvantaged Communities and Severely Disadvantaged Communities and mapped in KWA PMZP Addendum Figure 3-5b. Additional information such as demographic data for identified disadvantaged and rural communities within the Priority 2 Tulare Lake Subbasin portion of the KWA Management Zone are included in KWA EAP Addendum Appendix C Community Profile Data.
CRLA & SCUEJCG	12/2/2024	KWA Early Action Plan Addendum	I. Data collection and analysis EJCG conducted a mapping and data project identifying the locations of CAFOs	Thank you for this comment and insight into the work EJCG is doing. The PMZP and EAP are proposal and planning documents focused on establishing the

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			<p>throughout the San Joaquin Valley. The analysis of the associated data (Fig-1) indicates that nitrate levels near CAFOs are very high in basins where a meaningful amount of data is available. EJCG identified that the Tulare Lake Basin has at least 110 individual CAFO locations. However, the available data for nitrate levels near CAFOs in the Tulare Basin is sparse and meaningful conclusions cannot be drawn as to the severity of the impact that the CAFOs may have on nitrate groundwater levels in the area.</p> <p>We strongly recommend that the KWA concentrate on collecting more well data closer, and especially downflow from these CAFO areas. The data should be collected throughout the year and over multiple years to capture seasonal variability, longer-term trends, and periods of drought or extreme precipitation. Such further data collection is necessary to fully and meaningfully evaluate the impact that the 110 CAFOs are having on groundwater nitrate levels in the Tulare Basin. Failure to obtain and consider such information in any management plans for the basin will result in an incomplete approach to nitrate management that does not address all</p>	<p>Management Zone, preliminarily identifying which permitted dischargers are participating, and providing a plan to deliver interim drinking water to impacted residents. The development of nitrogen loading from CAFOs in the Priority 2 Tulare Lake Subbasin portion of the KWA Management Zone and implementation of nitrate management from CAFOs will be developed as part of the Priority 2 Tulare Lake Subbasin Portion of the Kings Water Alliance Management Zone Implementation Plan (MZIP). The next deliverable required for the KWA is the Final Management Zone Proposal, followed by the MZIP.</p>

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			significant contributing factors to groundwater nitrate pollution.	
CRLA & SCUEJCG	12/2/2024	KWA Early Action Plan Addendum	<p>II. The Addendum must include more robust plans to engage disadvantaged unincorporated residents and non-English speaking residents.</p> <p>A successful CV-Salts Program requires impactful outreach strategies that produce engaged feedback and public participation from disadvantaged communities (DAC)—specifically disadvantaged unincorporated communities (DUCs)—which have historically been overlooked by governmental programs and services. The Addendum must include meaningful feedback and public participation from DUCs. CRLA has found the KWA to be open and receptive to feedback CRLA has previously provided on outreach strategies and continues to appreciate the KWA’s efforts towards reaching vulnerable populations.</p>	KWA also appreciates the collaboration between CRLA to date, and looks forward to working with CRLA as implementation of the Early Action Plan begins in 2025.
CRLA & SCUEJCG	12/2/2024	KWA Early Action Plan Addendum	<p>II. The Addendum must include more robust plans to engage disadvantaged unincorporated residents and non-English speaking residents.</p> <p>The KWA has demonstrated its commitment to help vulnerable populations by partnering with community</p>	Thank you for the comment and suggestions on on partnering with Centro Binacional para el Desarrollo Indígena Oaxaqueño. The KWA continues to explore future opportunities and partnerships with community organizations for outreaching to vulnerable populations.

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			<p>organizations—including CRLA—to amplify information and engagement opportunities. For example, during a KWA stakeholder meeting, the KWA demonstrated that collaborating with Binational of California and the Children’s Movement improved their community engagement efforts by incorporating door-to-door outreach, more tabling at events, and a back-to-school backpack give away at a food distribution centers.</p> <p>The Addendum should affirm the KWA’s commitment by including additional details on the KWA’s plan to disseminate information on short-and long-term drinking water solutions in Priority 2 areas to vulnerable populations.⁷ The plan should include strategies to reach a broad spectrum of vulnerable populations, including elders, individuals living with disabilities, individuals with limited English proficiency, single mothers, and Indigenous communities living within its basin. CRLA recommends that the KWA partner with Centro Binacional para el Desarrollo Indígena Oaxaqueño to engage Indigenous populations whose primary language is an Indigenous Mexican or Central American language. In the short</p>	

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			and long-term, to maximize its outreach potential, the KWA would also benefit from meeting with other community organizations serving vulnerable populations to receive feedback and suggestions for additional outreach strategies that the KWA can implement.	
CRLA & SCUEJCG	12/2/2024	KWA Early Action Plan Addendum	<p>II. The Addendum must include more robust plans to engage disadvantaged unincorporated residents and non-English speaking residents.</p> <p>Our additional suggestions related to the Addendum are provided below.</p> <p>1. The Addendum's outreach methods should include more tabling events with local businesses and different organizations</p> <p>Engaged outreach and public participation necessitate meeting community members where they live. Tabling events engage residents in their regular course of living by creating in-person connections, allowing them to distribute information and build relationships. The KWA should look for existing opportunities to partner with groups, agencies, or companies that already host pop-up or tabling events to reach community members. One example would include Spanish-speaking radio</p>	<p>The KWA anticipates continuing to work with partner organizations such as The Children's Movement and Binational of Central California on community engagement and outreach efforts which has previously included tabling events in local communities. The KWA continues to explore future opportunities and partnerships with community organizations for tabling opportunities.</p>

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			stations, which are widely used by rural populations for news and entertainment. Many stations host pop-up events in rural areas that include incentives like contests and giveaways to increase resident participation. Local Fresno radio stations include La Buena ⁸ , La Jefa ⁹ , La Campesina, ¹⁰ and Amor. ¹¹ In addition, the KWA should consider tabling for outreach in front of grocery stores (i.e., Grocery Outlet, Dollar Tree/General, Family Dollar, Walmart, Smart & Final, and Food Maxx).	
CRLA & SCUEJCG	12/2/2024	KWA Early Action Plan Addendum	<p>II. The Addendum must include more robust plans to engage disadvantaged unincorporated residents and non-English speaking residents.</p> <p>Our additional suggestions related to the Addendum are provided below.</p> <p>2. The Addendum should include canvassing outreach with in-person contact</p> <p>The KWA has engaged in a variety of methods of outreach to communities impacted by nitrate contamination, including mailers and media engagement. These methods have included canvassing door-to-door to drop off educational materials such as door hangers and fliers.</p>	<p>The KWA anticipates continuing to work with partner organizations such as The Children's Movement and Binational of Central California on community engagement and outreach efforts which have previously included tabling events in local communities. The KWA continues to explore future opportunities and partnerships with community organizations for tabling opportunities.</p>

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			<p>Although this outreach is considered “hand-delivering” materials—and we approve door-to-door engagement—outreach that results in dropping off materials without physically engaging with individuals face-to-face has significant weaknesses. 12 Materials left on a doorstep or door are easy to ignore as they might be perceived as promotional or political, not materials that include important information about a resident’s drinking water.</p> <p>We recommend that the KWA continue increase its efforts for door-to-door canvassing—especially in DUCs and other rural areas—but emphasize making contact with residents and speaking directly with them about water contamination. Canvassing in this manner creates a personal connection with a member of the household and an opportunity for education on available resources and potential risks of nitrate contamination. Door-to-door outreach can include passing out fliers and informational materials, but the KWA should prioritize engaging residents rather than simply leaving materials on doorsteps or in mailboxes.</p>	

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CRLA & SCUEJCG	12/2/2024	KWA Early Action Plan Addendum	<p>II. The Addendum must include more robust plans to engage disadvantaged unincorporated residents and non-English speaking residents.</p> <p>Our additional suggestions related to the Addendum are provided below.</p> <p>3. The Addendum's outreach section should include extended hours for the stakeholder committee meetings</p> <p>Currently, the KWA holds four remote stakeholder meetings annually to provide updates on the implementation of short- and long-term drinking water solutions and receive stakeholder feedback on the implementation of the Early Management Plan and Final Management Zone Implementation Plan. The KWA typically holds stakeholder meetings from 12:00 p.m. until 1:30 p.m. on a weekday. A previous Early Action Plan states that these stakeholder meetings "aim to engage stakeholders in the development and implementation of the short- and long-term drinking water solutions."</p> <p>If the goal of the stakeholder meetings is to engage with residents impacted by nitrate contamination rather than professionals working in this area of expertise, resident attendance will improve by modifying the</p>	<p>Thank you for the comment and suggestions on stakeholder meetings. The KWA will take these suggestions into consideration for future stakeholder advisory committee meetings.</p>

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			<p>meeting schedule. The current time of the meetings prevents individuals from participating unless they are either attending in their professional capacity or available in the middle of the workday.¹⁴ Meaningful resident participation in stakeholder meetings requires opportunities for residents to attend outside of working hours – past 5:00 p.m. or on the weekends.¹⁵ Creative outreach strategies to notify residents of upcoming stakeholder meetings—such as using a Whatsapp channel or engaging more on social media, as further discussed in subsection 5, below—would improve turnout. Finally, meeting more frequently than four times per year would benefit impacted residents and the KWA through consistent communication and feedback on the Early Action Plan implementation. The KWA has hosted several community workshops on nitrate contamination and the CV-Salts program in various communities. These types of workshops are important, and the KWA should continue to host them. In CRLA’s experience of KWA’s community meetings, attendance at in-person meetings is generally low, suggesting that new or</p>	

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			expanded outreach efforts are needed to increase resident involvement. CRLA is available to collaboratively brainstorm further outreach and engagement opportunities at KWA's request.	
CRLA & SCUEJCG	12/2/2024	KWA Early Action Plan Addendum	<p>II. The Addendum must include more robust plans to engage disadvantaged unincorporated residents and non-English speaking residents.</p> <p>Our additional suggestions related to the Addendum are provided below.</p> <p>4. The Addendum should include a clear timeline for new water fill stations. The Addendum currently describes the process the KWA will use to identify locations for future water fill stations. Although it is important that the KWA engage in a community dialogue before making this important decision, the Addendum must also include a timeline for the installation of new water fill stations. Including a clear timeline for the installation of critically-needed fill stations will ensure that the installations are being completed in a timely manner.¹⁶ As a result of CRLA's ongoing relationships and conversations with impacted residents in the area, we are recommending the following locations for new water fill</p>	<p>Thank you for the comment and suggestions on new fill station locations. The KWA community survey indicates that fill stations rank third among three short-term drinking water solutions that may be offered in the Tulare Lake Subbasin. The KWA will take these suggestions into consideration for any potential future fill station locations within the Tulare Lake Subbasin.</p>

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			<p>stations:</p> <ul style="list-style-type: none"> ● Armona: 13992 Ada St, Armona, CA 93202. This is a location near the U.S. Postal Office that experiences heavy traffic during the week. ● Lemoore: 1135 W Bush St, Lemoore, CA 93245. This is near a Best Buy Market and Dollar General. ● Lemoore: 1600 N Lemoore Ave, Lemoore, CA 93245. A Grocery Outlet and 711 are nearby. ● Corcoran: 2001 Whitley Avenue, Corcoran, CA, 93212. This could be a potential partnership with Primo Water Refill. By sharing resources to provide water, it could reduce the number of trips to fill the water station. 	
CRLA & SCUEJCG	12/2/2024	KWA Early Action Plan Addendum	<p>II. The Addendum must include more robust plans to engage disadvantaged unincorporated residents and non-English speaking residents.</p> <p>Our additional suggestions related to the Addendum are provided below.</p> <p>5. The KWA should improve its media outreach strategies</p> <p>The Addendum identifies the KWA's preferred media outlets to notify the public about its implementation of short-term drinking water solutions. While the KWA</p>	<p>Thank you for the comment and suggestions on additional media outlets in which to engage. The KWA will take these suggestions into consideration for future community engagement and outreach efforts.</p>

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			<p>typically shares information about the CV-Salts Program on Cutler/Orosi News, Fresnoland, and the Fresno County Farm Bureau newsletter, these are not the media outlets typically utilized by CRLA's Spanish-speaking client communities.¹⁷ We suggest that the KWA utilize additional outlets such as La Buena, La Jefa, and La Campesina, and provide information in Spanish. The KWA can utilize Univision, Telemundo, and Azteca America for television stations.</p> <p>We agree with the KWA's use of social media sites like Facebook and Instagram for outreach to DUCs because they are popular platforms in these communities. We recommend that the KWA post updates in various languages to make information more accessible to non-English speakers.¹⁸</p> <p>The KWA can improve its distribution of educational materials by creating an opt-in system where residents can receive information through a mobile application. For example, the Mexican Consulate utilizes the WhatsApp messaging app to schedule appointments, receive embassy alerts, and receive messages.¹⁹ The KWA could replicate this framework by creating</p>	

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			<p>a WhatsApp channel where residents can opt in by joining. Through the WhatsApp channel, the KWA could send messages or short videos explaining the CV-Salts program. Additionally, the channel can include dates for stakeholder meetings and updates, online surveys, and other educational materials.</p> <p>The Whats App platform can also disseminate information on how to request well testing and read testing results, install point-of-use water filter (POU) systems, access water fill stations, and information on the development status of any new water fill stations in the area. This information distribution model can be especially helpful when the owner of a domestic well that serves a rental property fails to provide tenants with test results or explain them.</p> <p>The KWA can also enhance its media outreach strategies by collaborating with content creators to create fun educational content that encourages sharing online. As an example, during the COVID-19 Pandemic, the Alliance for California Traditional Arts worked with Latine21 artists to produce music with lyrics on preventing the spread of COVID-19 in the</p>	

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			Central Valley. Grupo Recreación Musical, a traditional Indigenous Mixtec Chilena band from Bakersfield, composed “Chilena COVID-19,” which was recorded in Mixtec ²² and Spanish. ²³ This approach was especially helpful as the Central Valley is home to Indigenous peoples from Mexico and Central America.	
CRLA & SCUEJCG	12/2/2024	KWA Early Action Plan Addendum	<p>II. The Addendum must include more robust plans to engage disadvantaged unincorporated residents and non-English speaking residents.</p> <p>Our additional suggestions related to the Addendum are provided below.</p> <p>6. Engaging non-environmental justice groups The Addendum states that the KWA partners with non-environmental justice groups.²⁴ We agree with this approach and encourage the KWA to expand its engagement with additional community-based organizations. Local organizations that commonly work with residents in rural areas include the Fresno American Health Project, Alliance of California of Traditional Arts, Hmong Innovating Politics, Jakara Movement, and the NAACP Fresno State chapter. We also encourage collaborations with local faith leaders, church groups, affordable housing providers served by</p>	<p>Thank you for the comment and suggestions on non-environmental justice groups with which to engage. The KWA will take these suggestions into consideration for future community engagement and outreach efforts.</p>

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			domestic wells, mobilehome parks, and employers in rural areas such as agricultural producers and packing houses. The KWA's engagement with these organizations will help it accomplish its goals of engaging community leaders, Native American tribes, interested stakeholders, and impacted residents.	
CRLA & SCUEJCG	12/2/2024	KWA Early Action Plan Addendum	<p>II. The Addendum must include more robust plans to engage disadvantaged unincorporated residents and non-English speaking residents.</p> <p>Our additional suggestions related to the Addendum are provided below.</p> <p>7. KWA must clarify it is not a governmental agency in its fliers. The outreach fliers distributed by KWA fails to disclose that states it is not affiliated with a government agency. CRLA reiterates the importance of making the program accessible for all for the reasons we stated before in the EAP comments of February 2021. KWA must be sure to include a statement in the flier clarifying that KWA is not affiliated with any governmental agency.</p>	KWA frequently calls out their status as a non-profit or community resource in community engagement and outreach materials. KWA will work to clarify their status as a non-governmental agency in future community engagement and outreach materials.
CRLA & SCUEJCG	12/2/2024	KWA Early Action Plan Addendum	<p>III. The Addendum must be periodically updated to include progress reports</p> <p>The KWA should produce progress</p>	KWA currently provides regularly-updated quantitative information about outreach, domestic well tests, and replacement water (through water fill stations and

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			reports as it evaluates the effectiveness of its short—and long-term solutions. The progress reports would help identify deficiencies in the Addendum’s policies and plans and create an opportunity to redress them promptly. The progress reports should include information on outreach to impacted populations, the results of that outreach in terms of reaching vulnerable populations, and updates on the installation of new water fill stations. CRLA is mindful that publishing progress reports more frequently demands more time and effort and suggests that they be developed and published at least several times a year.	bottled water deliveries) online through the Nitrate Control Program Dashboard: https://cvsalts.mljenv.com/ KWA will continue to provide this information for the Priority 1 areas, and include Priority 2 information during EAP implementation. KWA will follow the reporting requirements detailed by the Basin Plan Amendment after acceptance of the Management Zone Implementation Plan (MZIP), where the evaluation of short and long-term drinking water solutions will be provided.
CRLA & SCUEJCG	12/2/2024	KWA Early Action Plan Addendum	IV. The KWA must address AB 2454 in the Addendum The KWA fails to address the implementation and enforcement plan for AB2454 in the Addendum. In September 2024, the California Legislature adopted AB 2454. The bill addressed previous concerns regarding low participation in the domestic well testing program and concerns about renters' ability to access clean water protections. ²⁵ AB 2454 provides more protections for renters dependent on private well water. However, the law's	KWA is aware of and familiar with AB 2454, which was signed into law by Governor Newsome on September 24, 2024, and which becomes effective on or after January 1, 2025. In summary, KWA’s understanding of the new law, based on conversations with the author’s office and representatives for Leadership Council that assisted Assemblymember Lee in development of this legislation, is that it is intended to remove barriers for renters to take advantage of testing programs that are established by or funding by the State Water Board or Regional Water Board. Most importantly, AB 2454 specifically states that this new law does not impose any new obligation or requirement on a testing

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			ambiguous language may result in unexpected conflicts.	program. (Section 116688(g) of the Health and Safety Code.) With respect to KWA, that means that KWA's testing program is not subject to any new requirements due to AB 2454 but essentially that landowners cannot keep renters from taking advantage of such programs that exist. KWA supports the intent of AB 2454, which is to ensure that landowners do not prevent tenants from accepting free well testing and bottled water as offered by KWA's well testing program.
CRLA & SCUEJCG	12/2/2024	KWA Early Action Plan Addendum	<p>IV. The KWA must address AB 2454 in the Addendum</p> <p>AB 2454 requires that a domestic well owner renting their property to a tenant "provide safe drinking water to residents" but does not specify what is required to meet that obligation. It is unclear from the current language whether a landlord must pay to supply clean water (and how much water), install a POU system on behalf of the renter, or comply with some other mandate. AB 2454 also requires landlords to provide their tenants with well test results but fails to specify whether landlords will be required to explain the results to their tenants²⁶ Additionally, AB 2454 lacks clarity regarding enforcement. The bill prohibits an owner of a domestic well from imposing charges, fees, or increasing rent due to the bill's mandates.</p>	<p>The comment provided here does not accurately reflect the language of AB 2454, which states that the "owner shall provide safe drinking water under that program to residents served by the domestic well." In other words, the owner needs to take advantage of a testing program for residents – not that the owner is required to provide safe drinking water to residents. Moreover, KWA is a public benefit corporation – not the state agency responsible for enforcing the provisions of AB 2454. Any concerns CRLA may have with the language of AB 2454 and enforcement of its provisions should be conveyed to the State Water Board – not KWA.</p>

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			Still, it fails to include clear language regarding enforcement of these provisions.	
CRLA & SCUEJCG	12/2/2024	KWA Early Action Plan Addendum	<p>IV. The KWA must address AB 2454 in the Addendum</p> <p>Landlords and tenants within KWA’s service area will likely be confused about their obligations and rights under AB 2454. The KWA should clarify the obligations and rights of both landlords and tenants, and should do so in the Addendum. In doing so, we contend that the KWA must interpret AB 2454 to provide the strongest possible protections for vulnerable resident populations. Landlords should be obligated to provide alternative drinking water to tenants living with contaminated wells at a quantity equal to or greater than the average amount used by households of the size the landlord is renting to. Landlords should also be required to provide a professional interpretation of any well test results to tenants, not simply a copy of the test results. This will ensure that tenants are sufficiently informed about their water to make meaningful decisions for their families about how to respond. Finally, the KWA should include an enforcement mechanism in the Addendum that ensures tenants living in rental units within the</p>	<p>As already noted, KWA is a public benefit corporation – not the state agency responsible for enforcement of the provisions of AB 2454. KWA facilitates a “testing program” as defined in AB 2454 but has no authority or responsibility for enforcement of AB 2454. With respect to KWA, its role in the implementation of AB 2454 is very limited in that it provides the testing program. No additional obligations or responsibilities are imposed on KWA through the passage of AB 2454. At most, KWA may consider summarizing the content of AB 2454 in its outreach materials and/or application materials. But other than sharing information about the content of AB 2454, KWA has no right, responsibility, obligation or authority to interpret, implement or enforce the provisions of AB 2454.</p>

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			KWA's service can take action to bring their landlord into compliance with the mandates of AB 2454.	
CRLA	12/11/2024	KWA Preliminary Management Zone Proposal Addendum	<p>I. Data and Analysis a. Nitrate Groundwater Analysis Methodology</p> <p>The KWA analysis needs to improve the parameters for kriging interpolation beyond the search radius. The analysis listed needs to include a projected coordinated system compared to a geographic coordinate system. In addition, the software used in this analysis needs these adjustments to allow for scientific reproducibility. A projected coordinate system is crucial for kriging interpolation because it ensures accurate distance and area measurements, which are essential for spatial predictions. Without a projected system, the interpolation may suffer from distortion due to the curvature of the Earth's surface, leading to inaccurate results, especially in regions that span large areas or where data points are not evenly distributed.</p>	<p>The kriging interpolation utilized ESRI ArcPro software with a projected coordinate system NAD 1983 California (Teale) Albers (in US feet). This information is included in the PMZP document in Section 3.2.5 Updated Nitrate Water Quality Data and Analysis for Priority 2 Tulare Lake PMZP Addendum.</p>
CRLA	12/11/2024	KWA Preliminary Management Zone	<p>I. Data and Analysis a. Nitrate Groundwater Analysis Methodology</p> <p>Additionally, the KWA claims the data for</p>	<p>Grid spacing (0.1 mile spacing) were assigned to be small enough to allow for high resolution of the interpolated product. This language is included in the PMZP document in Section 3.2.5 Updated Nitrate</p>

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		Proposal Addendum	existing ambient conditions is high resolution, but it does not specify the exact number of pixel size of the ambient nitrate layer. Being transparent on the pixel size of the raster image of nitrate contamination is crucial because it determines the spatial resolution and accuracy of the data, affecting the precision with which contamination levels can be assessed and interpreted at hyper-local (parcel level) and basin-wide scales. Smaller pixel sizes provide finer detail, allowing for more accurate identification of areas with varying nitrate concentrations, which is critical for effective environmental monitoring and decision-making. The software used in the analysis should be provided to allow for scientific reproducibility because methodologies and standard operation procedures for geostatistical techniques like kriging can vary widely between software. Scientific reproducibility is essential because it will enable other researchers to verify results, build on previous findings, and ensure the robustness and validity of scientific conclusions. Reproducibility fosters trust in research, promotes transparency, and strengthens the scientific method. ³	Water Quality Data and Analysis for Priority 2 Tulare Lake PMZP Addendum

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			Describing all these in the Priority 2 PMZP would benefit from clarifying the existing ambient conditions.	
CRLA	12/11/2024	KWA Preliminary Management Zone Proposal Addendum	<p>I. Data and Analysis</p> <p>b. Groundwater Nitrate Trends Analysis</p> <p>The CV-Salts Program, KWA, and GEI Consultant responded and revised their methods for the trend analysis performed for post-2000 nitrate levels.⁴ However, the main limitation of the analysis is the lack of data, which CV-Salts should address by collecting more well data. Figure 3-19a entitled Historical (Long-Term) Parametric Trends in Nitrate, shows how only five wells in the entire Basin have enough data for a trend analysis across a basin with a total area of >9,000 miles.² Additionally, Figure 3-19b, only has three wells with enough data for a nonparametric trend.⁵ With more frequent testing, the groundwater analysis can improve. Consistent testing of wells is also critical for trend analysis of groundwater contamination because it provides reliable data to detect changes in water quality and identify contamination sources over time. Regular sampling helps establish temporal patterns, which are essential for understanding contaminants' dynamics and implementing effective</p>	<p>KWA recognizes that the frequency of groundwater sampling is not consistent across the Management Zone, nor across the monitoring entities that provide nitrate groundwater data to the public. KWA continues to focus on outreach for sampling of domestic wells to help understand the extent of the nitrate problem and to ensure access to safe drinking water solutions. Nitrate source loading reduction will be developed during the Management Zone Implementation Plan, which will come after the Final Management Zone Proposal for this area, but will ultimately be dictated by the Waste Discharge Requirements (Permits) set forth by the Central Valley Regional Water Quality Control Board.</p>

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			remediation strategies. ⁶ The KWA must further enhance the trend analysis by incorporating the effect of land cover, changes, conversions, and the proximity of pollution sources such as concentrated animal feeding operations (CAFOs) that influence nitrate contamination trends. The development of water-intensive crops should also be reviewed to assess the effects of water withdrawal from aquifers on nitrate concentration.	
CRLA	12/11/2024	KWA Preliminary Management Zone Proposal Addendum	I. Data and Analysis c. Summary of Wells Within the KWA Management Zone The list of available well data and all sources are listed in table 3-13 entitled: Summary of Wells with Nitrate Data Located in the Tulare Lake Area of the KWA Management Zone by Source (All Well Depths). The list provides a good baseline of what nitrate data is available to the general public. The data available Post-2010 is extremely limited. Thus, wells with Post-2010 Nitrate MCL Exceedance are artificially deflated. Underestimating nitrate contamination in the Central Valley can detrimentally impact residents by allowing unsafe drinking water to go	KWA appreciates this comment and agrees with the need for more groundwater nitrate data. KWA will continue to outreach and test domestic wells as part of their Early Action Plan.

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			<p>unaddressed, leading to long-term health issues such as methemoglobinemia in infants and increased risks of cancer and other chronic diseases. Accurate assessments are crucial to protect vulnerable populations and practice effective water quality management.⁷</p> <p>The KWA should implement plans to collect more groundwater well tests to ensure that areas exceeding the Nitrate MCL are accurately located and not missed due to a lack of data and systemic testing. Consistent, systematic testing is crucial for measuring fluctuations in groundwater nitrate contamination across the entire San Joaquin Valley because it enables the detection of spatial and temporal trends, identifies contamination hotspots, and informs effective management strategies to protect public health and water quality over time.</p>	
CRLA	12/11/2024	KWA Preliminary Management Zone Proposal Addendum	<p>I. Data and Analysis</p> <p>d. Identification of CAFOs and Dairies</p> <p>The KWA identified less than five Concentrated Animal Feeding Operations within the Priority 2 PMZP area. Research conducted by the Water and Climate Justice Lab of Santa Clara University (Water and Climate Justice Lab) has identified 106</p>	<p>KWA appreciates CRLA sharing this information about their research with CAFOs, DACs, and nitrate in groundwater. We look forward to collaborating with you on this topic. KWA has identified a total of 82 CAFOs in the PMZP, Section 3.3.1. Within this section, there's a reference to review Attachment B – Table 4, which includes 64 dairies that are members of the CVDRMP and are participating in the Management Zone. Other</p>

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			more CAFOs within the KWA Management Zone , including dairies, throughout the Basin- not listed in the Priority 2 PMZP -- and found that the nitrate levels were significantly higher ($p < 0.0001$) on CAFOs throughout the Basin compared to areas outside of CAFOs based on a student's t-test analysis. ⁹ The Water and Climate Justice Lab's findings of higher nitrate contamination near CAFOs are demonstrated on Figure 1. This indicates that water quality is significantly worse near dairies and other CAFO locations, and the average nitrate levels at the locations measured are above the safe drinking water limit. The research also identified a substantial difference in nitrate contamination within disadvantaged communities (DACs) compared to non-disadvantaged communities, with DACs experiencing a higher rate of nitrate contamination.	CAFOs, identified in Attachment B – Table 5, which includes 18 dairies, have not agreed to join the Management Zone and will not fall under the purview of the KWA. Outreach, domestic well testing, and access to safe drinking water solutions will not be limited to residents near CAFOs, but will include all residents within the Management Zone area.
CRLA	12/11/2024	KWA Preliminary Management Zone Proposal Addendum	I. Data and Analysis e. Nitrate Management Requirements The Priority 2 PMZP lists the permitted milk cow dairies, CAFOs, and poultry operations participating in the Management Zone. The Priority 2 PMZP list summarizes the current nitrate treatment and control efforts and	The text referred to in Table 3-19 of the PMZP describes what is currently required by the Waste Discharge Requirement (Permit) to operate the facility. KWA appreciates this comment and plans to continue to coordinate and provide suggestions to the Central Valley Water Board on monitoring and reporting requirements for nitrate dischargers as part of the

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			<p>management practices that these permitted facilities have implemented. Table 3-19 summarizes the nitrate management-related requirements in the Stratford WWTF WDR.10 the Priority 2 PMZP list the following as requirements:</p> <ul style="list-style-type: none"> • Influent monitoring – monthly grab sample for total nitrogen. • Effluent monitoring – monthly grab sample for total nitrogen. • Groundwater monitoring – semiannual grab sample for nitrate as N and total nitrogen. The scholarship has demonstrated that nitrates vary substantially throughout the year.11 <p>Therefore, while the influent and effluent monitoring goals are sufficient, groundwater monitoring should occur more frequently than twice a year because semiannual samples (as proposed above) would not provide enough data for scientific conclusions. We encourage the KWA to coordinate with other agencies and governmental entities to include such sampling in the requirements of the permitting process or other available scenarios.</p>	<p>implementation of the Management Zone Implementation Plan, which will be developed for Priority 2 areas after the Final Management Zone Proposal is submitted.</p>
CRLA	12/11/2024	KWA Preliminary	<p>I. Data and Analysis f. Identification of Public Water Supplies</p>	As described in the original KWA PMZP (the document reviewed and commented on here is an Addendum to

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		Management Zone Proposal Addendum	and Domestic Wells Potentially Exceeding Nitrate Water Quality Objective The methods to identify Public Water Supplies and Domestic Wells that potentially exceed the nitrate water quality objects are scientifically appropriate based on the exhaustive sources provided by the Priority 2 PMZP. ¹² However, if there are no available data in the southern portion of the Basin, then the KWA should make efforts to take these measurements or take other steps to fill in these data gaps. Consistent spatial coverage of testing points throughout a study region for groundwater nitrate contamination is essential to provide comprehensive and representative data, enabling accurate identification of contamination patterns and informing targeted remediation efforts.	the original KWA PMZP as described in Section 1.1) and in Section 3.2.9 Discussion of De-Designated Areas, there is a large portion of the southern Tulare Lake Subbasin that is 'de-designated' for drinking water. This means that the groundwater in the so-called 'data gap' area CRLA is referring to has already been deemed to be unusable for municipal or domestic water supply. KWA will continue to examine whether wells exist that are screened below the de-designated portion of the groundwater aquifer, as those wells may qualify to participate in the Early Action Plan.
CRLA	12/11/2024	KWA Preliminary Management Zone Proposal Addendum	I. Data and Analysis g. Land cover data The land use classes chosen are appropriate for Priority 2 PMZP data analysis based on being exhaustive of the existing land cover throughout the valley. However, if the nitrate analysis uses data that dates back to 2010, land cover/land use dating back to 2010 should also be incorporated. Land cover data is crucial for	KWA appreciates this comment. Understanding the legacy loading of historical land and agricultural practices is important for understanding the nitrate conditions in groundwater. Travel times from surface activities (loading) can take years to decades to centuries in some areas of the Central Valley. The purpose of showing the Land Use in the PMZP is to determine what the current practices and dominant crop types are in the MZ area.

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			nitrate contamination in groundwater research because it helps identify the types of agriculture use—such as livestock, nut trees, and industrial, that are most likely to contribute to nitrate pollution through fertilizers, wastewater, and runoff. By understanding the relationship between land cover and contamination sources, CV-Salts can better predict nitrate levels, track contamination pathways, and develop targeted management strategies to protect groundwater quality. Thus, we are asking the land cover analysis to include land cover data from 2010-2024 instead of just current conditions to match the nitrate data used.	
CRLA	12/11/2024	KWA Preliminary Management Zone Proposal Addendum	<p>II. The Priority 2 PMZP Should Update the Criteria Used to Identify Vulnerable Populations in the Management Zone</p> <p>a. The importance of accurate classifications of populations in the Management Zone</p> <p>Currently, a weighing approach has been applied to identify areas within the Management Zone that have disadvantaged and severely disadvantaged community's status. The approach focuses its interest on the highest domestic well and population density in areas of elevated</p>	<p>KWA appreciates this comment, although this comment does not appear to be geared toward the Priority 2 Tulare Lake Preliminary Management Zone Proposal Addendum, but it is more likely related to KWA's Priority 1 Management Zone Implementation Plan (MZIP). The MZIP was submitted to the Central Valley Regional Water Quality Control Board in September 2023. KWA will continue to outreach to all residents in its Management Zone (both Priority 1 and Priority 2 areas), and greatly appreciates the suggestion for incorporating the Disadvantaged Unincorporated Communities (DUCs) for identifying Initial Focus Areas.</p>

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			nitrates in tandem with local management zone knowledge. ¹⁴ "The initial focus areas represent a starting point for addressing the long-term drinking water needs of those residents that are in most burden need while continuing to serve the entire Management Zone through the implementation of Emergency & Interim Drinking Water Program." ¹⁵ This approach is beneficial as it aims to help the most people at once. However, the approach uses information that has not been updated. We are concerned that the focus is on the high density of domestic wells and population density may overlook smaller communities that might be suffering from high nitrates. ¹⁶ To ensure people are reached, CRLA recommends more creative outreach methods to reach a all audiences, including those that are not in dense populated areas. Additionally, the KWA can overlay disadvantaged unincorporate communities to its science-based prioritization criteria to identify less densely populated areas.	
CRLA	12/11/2024	KWA Preliminary Management Zone	II. The Priority 2 PMZP Should Update the Criteria Used to Identify Vulnerable Populations in the Management Zone b. Income thresholds used to identify	KWA appreciates the recommendation for incorporation of inflation numbers on Consumer Price Index since 2020 and/or using more recent census block data to help get a better sense for the locations of

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		Proposal Addendum	DACs/SDACs should be updated The Priority 2 PMZP currently identifies low and very low income communities as disadvantaged communities (DACs) and severely disadvantaged communities (SDACs). A DAC is identified as community with a median household income (MHI) between \$47,203 - \$62,938. A SDAC is identified as a community with an MHI below \$47,203. These thresholds are based on economic data from 2020. ¹⁷ Due to rising living costs and inflation that have occurred between 2020 and today, these income thresholds no longer accurately reflect the actual buying power of this income level. The threshold should be updated to accommodate for inflation numbers. We recommend that the KWA review the Consumer Price Index for the years 2020-2024 to calculate the overall inflation rate in the last four years, and adjust the threshold income requirements upwards to compensate for the difference. As an alternative, we recommend that the KWA use more updated census block group data.	DACs and SDACs. Currently and at the time of the development of the PMZP Addendum, the Disadvantaged Community GIS coverage from the State Department of Water Resources is the best available dataset for DAC and SDAC coverage and the most recent census information is 2020 (https://gis.water.ca.gov/app/dacs/).
CRLA	12/11/2024	KWA Preliminary Management	II. The Priority 2 PMZP Should Update the Criteria Used to Identify Vulnerable Populations in the Management Zone	KWA appreciates this comment and will take it into consideration when the Priority 2 Tulare Lake area begins the process of identifying Initial Focus Areas for

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		Zone Proposal Addendum	<p>c. The Priority 2 MZP should consider the needs of farmworker populations in nitrate abatement.</p> <p>We reiterate our prior comments, which outline the importance of considering farmworker populations when developing nitrate remediation plans. Many farmworkers experience fragile, vulnerable, and dangerous housing and working conditions. Farmworkers are more likely to reside in specific farmworker housing located on agricultural land and dairies, where they often receive drinking water from private wells that has not been tested. For example, dairy workers are often provided housing through their employment on or near the dairy. As previously noted, dairies and CAFOS are associated with high levels of nitrate groundwater pollution. In rural agricultural areas, farmworkers often live in mobilehome parks that rely on private wells. Any nitrate remediation plan aimed at protecting vulnerable communities must include strategies to test wells at or near the sites that farmworker communities are receiving their water from. Therefore, to identify initial focus areas, the KWA must consider using current data to</p>	the Management Zone Implementation Plan (MZIP), which will occur after submission of the Priority 2 Final Management Zone Proposal.

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			identify disadvantaged communities properly, consider outreach methods in less densely populated areas, and consider the needs of farmworker populations to prevent overlooking vulnerable populations.	
CRLA	12/11/2024	KWA Preliminary Management Zone Proposal Addendum	<p>III. The Priority 2 PMZP Must Evaluate the Long Term Operation and Maintenance Costs of Nitrate Remediation to Comply With the Basin Plan Amendment</p> <p>The Basin Plan Amendment states that the Management Zones must "address the impact that potential [long term] solutions may have on operation and maintenance costs [of public water systems], particularly for disadvantaged communities." The Priority 2 PMZP does not identify the cost elements or monetary value for each or analyze the immediate and future financial consequences of implementing the proposed short-term drinking water solutions. As such, it does not comply with the Basin Plan Amendment requirements.</p> <p>The Priority 2 PMZP describes adopting an equitable cost allocation approach to implement the Early Action Plan Addendum and fund the development of the Management Zone deliverables.19</p>	<p>The PMZP and EAP provide the framework for the emergency and interim drinking water solutions - namely domestic well testing and replacement water to residents via bottled water delivery or water fill stations. The PMZP and EAP do not attempt to estimate the cost of long-term infrastructure or operation/maintenance costs for existing Public Water Systems, because those must be done on a case-by-case basis since each system has its own challenges and contaminant issues. Long-Term Drinking Water Solutions for the Priority 2 area of KWA will be developed through implementation of the Management Zone Implementation Plan (MZIP), after the submission of the Priority 2 Final Management Proposal.</p>

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			However, that framework lacks clarity. It is unclear if the framework includes costs related to engagement with community residents, the analysis of how much more it would cost to include new residents who were not a part of the program to receive safe drinking water, or the long-term costs of providing long-term solutions. The Priority 2 PMZP also fails to include an analysis of the short-term and long-term cost of the proposed methods of providing water for long-term infrastructure investment in disadvantaged communities. ²⁰ As the KWA identifies DACs/DUCs in the southern portion of the Management Zone, the efforts will be costly, and it is not clear whether this is included in the framework (i.e. providing water to residents and conducting additional testing to minimize the data gap).	
CRLA	12/11/2024	KWA Preliminary Management Zone Proposal Addendum	III. The Priority 2 PMZP Must Evaluate the Long Term Operation and Maintenance Costs of Nitrate Remediation to Comply With the Basin Plan Amendment It is also unclear whether the KWA's collaboration with the Sustainable Groundwater Agencies is a part of the equitable cost allocation. The Priority 2	Collaboration and coordination between GSAs in the KWA Management Zone is ongoing. KWA is interested in coordinating with GSAs with respect to fulfilling the third Nitrate Control Program Goal regarding restoring groundwater resources where reasonable and feasible. KWA is also coordinating with GSAs related to monitoring for Nitrate Control Program purposes and common objectives for other programs.

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			PMZP states that the KWA will coordinate with Sustainable Groundwater Management Agencies (GSAs) to develop water budget components and future water sustainability projects, such as recharge projects. ²² The Kings GSA has identified groundwater recharge projects that can help restore aquifers within the Management Zone. ²³ Using water budgets to understand the movement and distribution of water in a specific area is reasonable because it can inform the proper areas to install a recharge project. However, initiating the building plans for recharge basins and executing those plans incur significant costs. The Priority 2 PMZP does not account for these costs. Failure to adequately plan for these impacts may result in subsequent financial burdens for small communities with special districts or small community wastewater systems.	
CRLA	12/11/2024	KWA Preliminary Management Zone Proposal Addendum	III. The Priority 2 PMZP Must Evaluate the Long Term Operation and Maintenance Costs of Nitrate Remediation to Comply With the Basin Plan Amendment CRLA supports the KWA's intent to apply to the SAFER program. CRLA hopes the KWA commits to this application and uses the funds to expand its services, including	KWA is committed to pursuing SAFER funds to support well testing for other chemicals besides nitrate. KWA started the application process in June 2023 and continues to negotiate with the State for funds.

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			testing other potential water quality contaminants that might impact drinking water within KWA.	
CRLA	12/11/2024	KWA Preliminary Management Zone Proposal Addendum	<p>IV. The KWA Must Improve its Coordination with Other Agencies</p> <p>Section 4.7 of the Priority 2 PMZP describes how the KWA will coordinate the implementation of the CV-Salts Program in the Management Zone with another regulatory program and discharger. This includes coordinating with GSA's Path A facilities, ILRP, and the Central Valley Dairy Representative Monitoring Program. CRLA strongly suggests that the KWA take prompt and concrete steps, in coordination with these other agencies, to assist those individuals who are currently affected by nitrate contamination in their public water supply. For example, the KWA can establish a clear timeline within its coordination with other agencies to achieve nitrate reduction in groundwater and to prevent further harm from nitrate contamination. Below are various strategies to ensure residents benefit from the KWA's collaboration with other agencies.</p> <p>a. Path A facilities</p> <p>Section 4.7.2 of the Priority 2 PMZP</p>	<p>KWA appreciates this approach for dealing with residents that fall within the purview of a Path A permitted discharger's area of responsibility. There are currently no defined carved-out areas within the KWA MZ due to Path A facilities, so any resident can contact KWA for free domestic well testing and may qualify for free bottled water delivery. The KWA is working with Path A entities to define roles and responsibilities in order to ensure that all areas within Path A and Path B boundaries are accounted for and that all nitrate impacted residents will be provided with the opportunity for well testing and replacement drinking water. Additionally, the KWA has three water fill stations that are accessible to any resident regardless of who they are or where they live.</p>

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			<p>discusses the KWA efforts to coordinate with permitted dischargers who chose to comply with the nitrate control program under Path A – the individual permitting approach – during the MZIP development.²⁵ The KWA management is working with the permitted discharger and the Central Valley Regional Water Quality Control Board (CWB) to establish a final boundary between this Path A Activities and the KWA Management Zone.²⁶ Although establishing parameters is important to work more efficiently, the KWA should consider the potential scenarios of individuals being overlooked or left out.²⁷ For example, suppose an individual contacts the KWA but resides within the boundary of a Path A discharger, and the Path A discharger fails to follow up with the individual. In that case, the individual may be left without access to clean drinking water. The KWA needs to develop and implement a policy to prevent against this scenario. The policy can direct the KWA to monitor and follow up with individuals who contact the KWA but fall within the boundaries of a Path A discharger. This policy can serve as a way to assist residents who might have issues</p>	

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			contacting the Path A discharger. This policy should also be extended to areas near permitted milk cow dairies, CAFOs, and poultry operations that are not actively engaging in the CV-Salts Program.	
CRLA	12/11/2024	KWA Preliminary Management Zone Proposal Addendum	<p>IV. The KWA Must Improve its Coordination with Other Agencies</p> <p>b. Central Valley Dairy Representative Monitoring Program</p> <p>The KWA has committed to working closely with the Central Valley Dairy Representative Monitoring Program (CVDRMP) "to implement a monitoring program aimed at evaluating the potential impacts of industry practices on first-encountered groundwater.²⁸" The Priority 2 PMZP further emphasizes that the CVDRMP will encourage dairies and confined bovine feeding operations to share domestic well test results with the KWA to support the more cost-effective and efficient implementation of the KWA Early Action Plan Addendum.²⁹ However, encouragement and monitoring alone are insufficient to determine if dairy workers living and working on adjacent dairy-owned properties are receiving clean water. Since dairies are significant sources of nitrate</p>	KWA appreciates this comment and will continue to coordinate with the CVDRMP and the Central Valley Water Board to maintain the best available groundwater nitrate dataset, while continuing the outreach process to all residents in the KWA MZ including those on or near dairy and CAFO facilities.

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			contamination in groundwater, it is crucial that the data they collect be shared with the Management Zones. This data sharing is essential for identifying wells with high nitrate levels, improving access to clean water, and ensuring that workers are eligible for assistance from the Emergency & Interim Drinking Water Program. The KWA must collaborate with the Central Valley Water Board to ensure that the CVDRMP effectively coordinates efforts to provide the KWA with the necessary well test results, so that dairy workers can access fresh, clean drinking water.	
CRLA	12/11/2024	KWA Preliminary Management Zone Proposal Addendum	V. Long-term drinking water solutions The Basin Amendment states that the Management Zone must consider future impacts on the public water system from nitrate contamination to determine available solutions for addressing drinking water. ³⁰ In the Priority 2 PMZP, the KWA states it will conduct monitoring to evaluate the effectiveness of its Early Action Plan Addendum and develop long-term drinking water solutions. ³¹ CRLA looks forward to reviewing and participating in the development of these long-term solutions. We also hope for rapid progress in reducing the number of nitrates	Thank you for the comment. KWA looks forward to a continued partnership with CRLA when long-term drinking water solutions are developed in the Priority 2 Tulare Lake area of the KWA Management Zone. Public Water Systems failing due to nitrate will be taken into consideration on a case-by-case basis.

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			entering the groundwater based on the new data the agency has collected. CRLA also recommends that the KWA include an emergency plan for failing public water systems because it is unclear whether the Management Zone is required to provide safe drinking water to residents who have a failing public water system.	

Attachment D

Early Action Plan Addendum (see separate EAP Addendum document)

Attachment E

Kings Water Alliance Article of Incorporation and Bylaws

The Kings Water Alliance Articles of Incorporation and Bylaws are included as part of Attachment E in the original PMZP submittal from March 2021. This Attachment did not require updating for the Priority 2 FMZP for Tulare Lake. Please refer to the original PMZP and FMZP documents for this Attachment that is available online:

<https://www.cvsalinity.org/resources/management-zone-development/>.

Attachment F

Kings Water Alliance Management Zone Participation Agreement

**MANAGEMENT ZONE AGREEMENT FOR PERMITTEES IN THE KINGS WATER ALLIANCE
BOUNDARIES SUBJECT TO THE NITRATE CONTROL PROGRAM IN THE WATER QUALITY
CONTROL PLAN FOR THE TULARE LAKE BASIN**

This Agreement is entered into on _____, 20____ (Effective Date) by and between the KINGS WATER ALLIANCE, a California nonprofit public benefit corporation (KWA) and _____ (Participant).

RECITALS

1. On May 31, 2018, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) adopted Amendments to the Water Quality Control Plans for the Sacramento River and San Joaquin River Basins and the Tulare Lake Basin to Incorporate a Central Valley-Wide Salt and Nitrate Control Program (Basin Plan Amendments). The Basin Plan Amendments were approved by the State Water Resources Control Board (State Water Board) on October 16, 2019, and the Office of Administrative Law on January 15, 2020. Parts of the Basin Plan Amendments became effective upon Office of Administrative Law approval. Other parts become effective after receiving approval from the United States Environmental Protection Agency.
2. The Basin Plan Amendments include the Program to Control and Permit Nitrate Discharges to Groundwater (Nitrate Control Program). The Nitrate Control Program became effective on or about January 15, 2020.
3. The Nitrate Control Program applies to all discharges of nitrate to groundwater basins that are designated with the municipal and domestic supply (MUN) beneficial use. Application of the Nitrate Control Program to discharges that are subject to Central Valley Water Board authority is being implemented based on priorities set forth in the Basin Plan Amendments.
4. The Nitrate Control Program identifies the following groundwater basins/sub-basins as Priority 2 basins: Yolo, Merced, Kern County (Westside South); Tulare Lake; Kern County (Poso); Delta Mendota; Eastern San Joaquin; and Madera.
5. Compliance with the Nitrate Control Program is triggered when the Central Valley Water Board issues a Notice to Comply to permittees that discharge nitrate to groundwater in the identified Priority basins. Upon receipt of the Notice to Comply, permittees need to select one of two pathways for complying with the Nitrate Control Program.
6. The Nitrate Control Program requires the Central Valley Water Board to send Notices to Comply to dischargers and irrigated agricultural lands coalition groups that are within the boundaries of the identified Priority 2 basins within two (2) to four (4) years of January 15, 2020, the effective date of the Nitrate Control Program. In anticipation of Notices to Comply being sent to dischargers in Priority 2 basins, KWA has established Management Zone boundaries that will accommodate dischargers in adjacent and related Priority 2 basins. The

Central Valley Water Board sent Notices to Comply to Priority 2 dischargers on December 29, 2023. These dischargers that are within the KWA boundaries now have the option of participating in the Management Zone or pursuing an individual permitting option.

7. The primary purpose of a Management Zone is to develop plans for addressing nitrate in groundwater and help in providing access to safe drinking water for residents impacted by nitrate contamination in groundwater.
8. KWA finds that serving as a coordinating entity for permittees within the KWA boundary area that select the Management Zone pathway, and possibly other basins in the future, is consistent with KWA's specific purposes, which is to maintain and improve the quality of life in central and southern San Joaquin Valley by implementing programs that provide access to safe drinking water for residents, and by engaging in groundwater nitrate reduction activities with the goal of protecting or enhancing the quality of groundwater drinking water supplies for residents.

TERMS OF AGREEMENT

1. Participant has (i) received a Notice to Comply with the Nitrate Control Program; or (ii) has members that have received a Notice to Comply with the Nitrate Control Program. After reviewing and considering the options available for complying with the Nitrate Control Program, Participant agrees to comply by participating in KWA's Management Zone. Participation in KWA's Management Zone includes contributing to and cooperating with KWA and other participants.
2. Each party agrees to work in good faith, along with other participants, to develop timely deliverables as required by the Nitrate Control Program and to comply with the Nitrate Control Program provisions in the Basin Plan Amendments.
3. Participant agrees that costs of the KWA Management Zone program will be shared with other participants based on an equitable cost allocation mechanism that is developed and approved by the KWA Board of Directors.
4. KWA agrees that contributions provided by Participant are for the sole purpose of developing proposals, reports and plans to comply with the Management Zone provisions within the Basin Plan, including reasonable administrative costs, consultant costs and other agreed upon costs incurred by KWA in furtherance of developing and implementing Management Zone proposals and plans.
5. The KWA and the Participant agree to seek alternative funding sources for development and implementation of all or parts of the Early Action Plan, Preliminary Management Zone Proposal, Final Management Zone Proposal, and Management Zone Implementation Plan, if determined appropriate. However, the Participant understands that the permittee participants in the Management Zone are ultimately responsible for the development and

implementation of all or parts of the Early Action Plan, Preliminary Management Zone Proposal, Final Management Zone Proposal, and Management Zone Implementation Plan.

6. The Participant understands that compliance with the terms of the Nitrate Control Program is ultimately determined by the Central Valley Water Board and not KWA or other participants to this Agreement.
7. The Participant is free to withdraw from this Agreement at any time upon giving a minimum of 30 days express written notification to the KWA. Any contributions to KWA by a withdrawing Participant prior to giving notice of withdrawal shall not be reimbursable by KWA to the withdrawing Participant. Participant shall continue to be responsible for its fair share of required contributions during the 30-day notice period unless otherwise agreed to by KWA.
8. Prior to withdrawing from this Agreement, the Participant should consult with the Central Valley Water Board regarding its options for complying with the Nitrate Control Program.
9. In the event that the Participant does not fulfill its obligations under this Agreement, the KWA is obligated to notify the Central Valley Water Board of the Participants failure to meet its obligation for continued participation in the Management Zone.
10. Participant understands that the KWA reserves the right to terminate this Agreement with a Participant after providing written notice at least sixty (60) days in advance of such termination and after providing the Participant with a reasonable period of time to cure any issues that may be the cause for such termination. Any action by the KWA to terminate the Agreement with respect to a single Participant (or group of permittees represented by one Participant) shall include a reason(s) for such termination in writing. The Participant may request that KWA provide Participant an opportunity to appear before the KWA Board of Directors to oppose such termination prior to the termination becoming effective. The KWA Board of Directors maintains the discretion to grant the request for appearance before the KWA Board of Directors prior to the termination becoming effective. The KWA Board of Directors reserves the ultimate authority to determine if a termination shall become effective.
11. KWA intends to remain the entity for administering the Management Zone. However, in the unlikely event that the KWA finds it necessary to withdraw from administering the Management Zone, KWA agrees to all the following:
 - a. Provide at least six (6) months' notice in advance of such withdrawal so that participants, in cooperation with the Central Valley Water Board, have the opportunity to identify or create a new successor entity for administering the Management Zone.
 - b. Provide all data, reports, and information to any successor entity identified by the participants and/or the Central Valley Water Board.

- c. Transfer all remaining funds, after addressing all outstanding liabilities, to any identified successor entity, to the extent allowed by KWA's Bylaws and applicable state and federal law.
 - d. Agree to work cooperatively with the Central Valley Water Board, participants, and any successor entity for an orderly transfer of data, information, reports, and remaining funds, as applicable.
- 12. The KWA agrees to maintain an accounting system that clearly documents funds provided to the KWA for the Management Zone and funds paid out from KWA for purposes of administering and implementing the Management Zone.
- 13. Participation in a KWA Management Zone, and being a Party to this Agreement, shall not constitute an admission of liability or fault with respect to nitrate contamination in groundwater that may exist within the Management Zone boundaries, or beyond.
- 14. The Agreement is not intended for the benefit of any person or entity not a Party and shall not be enforceable by any person or entity who is not a Party.
- 15. KWA and Participant, along with other participants, agree to work cooperatively to develop and implement all Management Zone related documents and programs and shall not use information obtained through the development and implementation of the Management Zone to materially and legally harm KWA or other participants in the Management Zone.
- 16. In the event of a dispute between Participants, the parties to the dispute shall immediately inform the Chair of the KWA Board of Directors of the nature of the dispute. The parties to the dispute shall cooperate with the KWA Board of Directors in its investigation of the dispute and its efforts to informally resolve the dispute. If the parties to the dispute are unable to resolve the dispute informally, then the dispute shall be considered at a properly noticed meeting of the KWA Board of Directors. If, after this meeting, the dispute is not resolved, then the KWA Board of Directors may schedule additional meetings or employ additional dispute resolution mechanisms (i.e., establish a committee, as authorized by the Bylaws, to resolve the dispute). The KWA Board of Directors shall have the authority to form and approve or deny a resolution to the dispute. If the dispute is not resolved in a manner that is satisfactory to the Participant, that Participant may withdraw from the KWA, pursuant to paragraph 7 of this Agreement.
- 17. The Agreement shall be interpreted and enforced pursuant to the laws of the State of California. It is agreed that in the event of any litigation arising hereunder, the Parties hereto shall submit to the jurisdiction of any court of competent jurisdiction within the State of California, County of Fresno.
- 18. If any provision of the Agreement is found invalid or unenforceable, the balance of the Agreement shall remain in full force and effect.

19. The Agreement may be executed in counterparts with the same force and effect as if executed in one complete document by all Parties.
20. This Agreement may only be amended or modified by a written instrument executed by the KWA. The Participant will be given prior notice of any amendment or modification.

[Signatures on next page]

IN WITNESS WHEREOF, the parties have executed this Agreement effective on the date set forth above.

Date:

KINGS WATER ALLIANCE

By:
Signature of KWA Board Chair
(or authorized designee)

Print name of KWA Board Chair
(or authorized designee)

Date:

PARTICIPANT ENTITY

By:
Signature of Participant entity authorized representative

Print name of Participant entity authorized representative

Attachment A

Participant Contact Information

Entity Name:	
Physical Address:	
Mailing Address:	
CV-SALTS ID:	
Board Resolution Number (if applicable)	
(Please provide a copy of the signed Board Resolution.)	
<u>Authorized Representative</u>	
Name:	
Phone number:	
Email address:	
<u>Technical Representative</u>	
Name:	
Phone number:	
Email address:	
<u>Billing Representative</u>	
Name:	
Phone number:	
Email address:	

Attachment G

This Attachment did not require updating for the Priority 2 FMZP for Tulare Lake. Please refer to the original PMZP and FMZP documents for this Attachment that is available online:

<https://www.cvsalinity.org/resources/management-zone-development/>

Attachment H

This Attachment did not require updating for the Priority 2 FMZP for Tulare Lake. Please refer to the original PMZP and FMZP documents for this Attachment that is available online:

<https://www.cvsalinity.org/resources/management-zone-development/>

Attachment I

This Attachment did not require updating for the Priority 2 FMZP for Tulare Lake. Please refer to the original PMZP and FMZP documents for this Attachment that is available online:

<https://www.cvsalinity.org/resources/management-zone-development/>

Attachment J

Email communications between KWA Management Zone and the CVWB regarding the approach for addressing the requirements for the Priority 2 Tulare Lake Subbasin PMZP Addendum and FMZP Addendum.

Kings Water Alliance Management Zone
Final Management Zone Proposal Addendum
Priority 2 Tulare Lake Subbasin Area

From: [Cleaver, Angela S.@Waterboards](mailto:Cleaver,Angela.S.@Waterboards)
To: [Barbara Dalgish](mailto:Barbara.Dalgish)
Cc: [Debra Dunn](mailto:Debra.Dunn); [Vicki Kretsinger](mailto:Vicki.Kretsinger); [Takeda, Jackie](mailto:Takeda,Jackie); [Khang, True@Waterboards](mailto:Khang,True@Waterboards); [Laputz, Adam@Waterboards](mailto:Laputz,Adam@Waterboards)
Subject: RE: Kings Water Alliance Priority 2 approach for FMZP Addendum
Date: Monday, December 15, 2025 8:40:34 AM
Attachments: [image002.png](#)

Hi Barb,

We reviewed the KWA FMZP Addendum list. The list looks comprehensive and we don't have any additional comments.

Thank you and Happy Holidays!
Angela



Angela Cleaver

Senior Environmental Scientist (Supervisory)

R5 CENTRAL VALLEY – SACRAMENTO
Planning Section | CV-SALTS Program

Email: Angela.Cleaver@Waterboards.ca.gov
Phone: +1 (916) 464-4649

Regional Water Quality Control Boards
11020 Sun Center Drive, #200, Rancho Cordova CA 95670-6114
Website:
[https://link.edgepilot.com/s/5ea22a33/QKCMYkUdo0ajyl87yiUGgQ?](https://link.edgepilot.com/s/5ea22a33/QKCMYkUdo0ajyl87yiUGgQ?u=http://www.waterboards.ca.gov/)
[u=http://www.waterboards.ca.gov/](http://www.waterboards.ca.gov/)

From: Barbara Dalgish <bdalgish@lsce.com>
Sent: Tuesday, November 25, 2025 8:56 AM
To: Cleaver, Angela S.@Waterboards <Angela.Cleaver@Waterboards.ca.gov>; Khang, True@Waterboards <True.Khang@waterboards.ca.gov>; Laputz, Adam@Waterboards <Adam.Laputz@waterboards.ca.gov>
Cc: Debra Dunn <ddunn@krcd.org>; Vicki Kretsinger <vkretsinger@lsce.com>; Takeda, Jackie <jtakeda@geiconsultants.com>
Subject: RE: Kings Water Alliance Priority 2 approach for FMZP Addendum

Caution: External Email. Use caution when clicking links or opening attachments. When in doubt, contact DIT or use the Phish Alert Button.

Kings Water Alliance Management Zone
Final Management Zone Proposal Addendum
Priority 2 Tulare Lake Subbasin Area

Hi Angela,

I hope this email finds you well and looking forward to this Thanksgiving weekend.

We were hoping to resume the subject conversation in anticipation of the upcoming February 2026 deadline for the Priority 2 Final Management Zone Proposals. Similar to the approach used for the PMZP Addendum for the Tulare Lake Priority 2 Area of the Kings Water Alliance, we have listed the sections planned for update in the FMZP Addendum. This incorporates the comments and guidance you provided in Spring 2024 (see email chain below). Please review the list and let us know if you have any additional feedback. Also, please let us know if you would like to meet to discuss this addendum approach further.

Thanks,
Barb

1. Addendum to the KWA FMZP
 - a. This addendum would provide an update to the following sections/components and be a companion document to accompany the original FMZP:
 - i. Timeline for Priority 2 (update dates for Phase 2 and P2 areas) (FMZP Section 1.3.1)
 - ii. List of P2 discharger/participants (FMZP Section 1.5)
 - iii. Assessment of public water systems (including impacts due to nitrate and compliance status) in P2 areas (FMZP Section 1.3.1 and 4.1.1.2)
 - iv. DACs/SDACs in P2 areas using most recent available coverage (FMZP Section 3.1.6)
 - v. Land Use (using most recent available coverage) (FMZP Section 3.1.7)
 - vi. Discussion of De-designated Areas in P2 areas (FMZP Section 3.3)
 1. Dischargers and existing wells in de-designated areas within P2 are not subject to the Nitrate Control Program
 2. Determination of any domestic wells below de-designated groundwater depth for EAP work
 - vii. Groundwater elevations and flow in P2 areas (including areas of potential contribution using the most recent groundwater elevation contours) (FMZP Section 3.2.2)
 - viii. Groundwater nitrate characterization of P2 areas (including ambient and trends analyses using most recent available data and methodology) (FMZP Section 3.2.4 and 3.2.5)
 - ix. Inactive Drinking Water Supply Wells (FMZP Section 3.2.6) – Update number of supply wells not being used for drinking water (# abandoned, # destroyed, # inactive)
 - x. Section 3.3 Management Zone Participants – Update as necessary e.g., Table 3-12 (FMZP); Figure 3-15 (FMZP)
 - xi. Current nitrate treatment, control, and management practices from P2 permitted dischargers (FMZP Section 3.4)
 - xii. Identification of Public Water Supplies and Domestic Wells Potentially

Kings Water Alliance Management Zone
Final Management Zone Proposal Addendum
Priority 2 Tulare Lake Subbasin Area

Exceeding Nitrate Water Quality Objectives, [Sections 4.1.1.1 - 4.1.1.3 \(FMZP\)](#) – Update for the Tulare Lake subbasin

- xiii. [Attachment B](#) – Update Permitted Milk Cow Dairies, Confined Bovine Feeding Operations and Poultry Operations in the Management Zone tables for Tulare Lake subbasin [\(FMZP\)](#)
- xiv. Outreach [\(FMZP Section 4.2 and FMZP Attachment C\)](#)
- xv. Coordination with Tulare Lake Subbasin GSAs with respect to their Groundwater Sustainability Plan [\(FMZP Section 4.2\)](#)

2. Addendum to the KWA EAP

- a. This addendum would provide an update to the following sections/components and be a companion document to accompany the original FMZP
 - i. Outreach for P2 areas [\(EAP Sections 1.2 and Section 4\)](#)
 - ii. Early Action Plan implementation for P2 areas [\(EAP Section 1.3\)](#)
 - iii. Identification of nitrate-impacted areas in P2 areas (domestic well and population counts in elevated nitrate level areas; public water systems/wells, with discussion of De-designated areas not subject to NCP; identification of drinking water wells within de-designated area and depth) [\(EAP Section 2\)](#)
 - iv. Schedule/milestones (update dates for Phase 2 and P2 areas) [\(EAP Section 6.1.2\)](#)
 - v. Well testing and bottled water agreement [\(EAP Appendix D\)](#)
 - vi. [EAP Appendices A & B](#) – Update as necessary to reflect current community engagement and outreach for Tulare Lake subbasin
 - vii. [EAP Appendix E](#) – Update PWS and Supply Well Nitrate tables for Tulare Lake subbasin

Barbara Dalgish, P.G.
Supervising Hydrogeologist
Luhdorff & Scalmanini, Consulting Engineers
500 First Street
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Kings Water Alliance Management Zone
Final Management Zone Proposal Addendum
Priority 2 Tulare Lake Subbasin Area

From: [Llaban, Angela S. @Waterboards](mailto:Llaban.Angela.S@Waterboards.ca.gov)
To: [Barbara Dalgish](mailto:Barbara.Dalgish@lsce.com); [Khang, True @Waterboards](mailto:Khang.True@Waterboards.ca.gov); [Laputz, Adam @Waterboards](mailto:Laputz.Adam@Waterboards.ca.gov)
Cc: [Debra Dunn](mailto:Debra.Dunn@krcd.org); [Vicki Kretsinger](mailto:Vicki.Kretsinger@lsce.com); [Meyerhoff, Richard](mailto:Meyerhoff.Richard@geiconsultants.com); [Takeda, Jackie](mailto:Takeda.Jackie@geiconsultants.com)
Subject: RE: Kings Water Alliance Priority 2 approach for FMZP Addendum
Date: Thursday, April 25, 2024 5:52:38 PM

Hi Barb,

Thank you for providing the section numbers below. After further review of the addendum list, we have some suggestions for additional sections that should be updated:

- Inactive Drinking Water Supply Wells (FMZP Section 3.2.6) – Update number of supply wells not being used for drinking water (# abandoned, # destroyed, # inactive)
- Section 3.3 – Update as necessary e.g., Table 3-11 (PMZP); Table 3-12 (FMZP); Figure 3-15 (PMZP & FMZP)
- Identification of Public Water Supplies and Domestic Wells Potentially Exceeding Nitrate Water Quality Objectives, Sections 4.1.1.1 - 4.1.1.3 (PMZP & FMZP) – Update for the Tulare Lake subbasin
- Attachment B – Update tables for Tulare Lake subbasin (PMZP & FMZP)
- EAP Appendices A & B – Update as necessary to reflect current community engagement and outreach for Tulare Lake subbasin
- EAP Appendix E – Update table for Tulare Lake subbasin

Please let True and I know if you have any questions.

Thank you,
Angela

From: Barbara Dalgish <bdalgish@lsce.com>
Sent: Thursday, March 7, 2024 10:42 AM
To: Llaban, Angela S. @Waterboards <Angela.Llaban@Waterboards.ca.gov>; Khang, True @Waterboards <True.Khang@waterboards.ca.gov>; Laputz, Adam @Waterboards <Adam.Laputz@waterboards.ca.gov>
Cc: Debra Dunn <ddunn@krcd.org>; Vicki Kretsinger <vkretsinger@lsce.com>; Meyerhoff, Richard <rmeyerhoff@geiconsultants.com>; Takeda, Jackie <jtakeda@geiconsultants.com>
Subject: RE: Kings Water Alliance Priority 2 approach for FMZP Addendum

EXTERNAL:

Hi Angela,

Thanks for your response. Sure thing. The list of items is edited below to include the [PMZP/FMZP/EAP](#) section numbers from the previous KWA submittals that would be updated.

The addendums would also contain a cross-reference table to indicate which sections of the existing documents these new components are for.

1. Addendum to the KWA FMZP

- a. This addendum would provide an update to the following sections/components and be a companion document to accompany the original FMZP:
 - i. Timeline for Priority 2 (update dates for Phase 2 and P2 areas) ([PMZP Section 1.3](#)) ([FMZP Section 1.3.1](#))
 - ii. List of P2 discharger/participants ([PMZP Section 1.5](#)) ([FMZP Section 1.5](#))
 - iii. Assessment of public water systems (including impacts due to nitrate and compliance status) in P2 areas ([PMZP Section 3.1.5](#)) ([FMZP Section 1.3.1 and 4.1.1.2](#))
 - iv. DACs/SDACs in P2 areas using most recent available coverage ([PMZP Section 3.1.6](#)) ([FMZP Section 3.1.6](#))
 - v. Land Use (using most recent available coverage) ([PMZP Section 3.1.7](#)) ([FMZP Section 3.1.7](#))
 - vi. Discussion of De-designated Areas in P2 areas ([PMZP Section 3.2](#)) ([FMZP Section 3.3](#))
 1. Dischargers and existing wells in de-designated areas within P2 are not subject to the Nitrate Control Program
 2. Determination of any domestic wells below de-designated groundwater depth for EAP work
 - vii. Groundwater elevations and flow in P2 areas (including areas of potential contribution using the most recent groundwater elevation contours) ([PMZP Section 3.2.2](#)) ([FMZP Section 3.2.2](#))
 - viii. Groundwater nitrate characterization of P2 areas (including ambient and trends analyses using most recent available data and methodology) ([PMZP Section 3.2.4](#)) ([FMZP Section 3.2.4 and 3.2.5](#))
 - ix. Current nitrate treatment, control, and management practices from P2 permitted dischargers ([PMZP Section 3.4](#)) ([FMZP Section 3.4](#))
 - x. Outreach ([PMZP Section 4.2](#)) ([FMZP Section 4.2 and FMZP Attachment C](#))
 - xi. Coordination with Tulare Lake Subbasin GSAs with respect to their Groundwater Sustainability Plan ([PMZP Section 4.2](#)) ([FMZP Section 4.2](#))

2. Addendum to the KWA EAP

- a. This addendum would provide an update to the following sections/components and be a companion document to accompany the original FMZP
 - i. Outreach for P2 areas ([EAP Sections 1.2 and Section 4](#))
 - ii. Early Action Plan implementation for P2 areas ([EAP Section 1.3](#))
 - iii. Identification of nitrate-impacted areas in P2 areas (domestic well and population counts in elevated nitrate level areas; public water systems/wells, with discussion of De-designated areas not subject to NCP; identification of

- drinking water wells within de-designated area and depth) (EAP Section 2)
- iv. Schedule/milestones (update dates for Phase 2 and P2 areas) (EAP Section 6.1.2)
- v. Well testing and bottled water agreement (EAP Appendix D)

Please let me know if you have any other questions,
Barb

From: Llaban, Angela S.Llaban@Waterboards.ca.gov <Angela.Llaban@Waterboards.ca.gov>
Sent: Wednesday, March 6, 2024 9:10 AM
To: Barbara Dalgish <bdalgish@lsce.com>; Khang, True@Waterboards <True.Khang@waterboards.ca.gov>; Laputz, Adam@Waterboards <Adam.Laputz@waterboards.ca.gov>
Cc: Debra Dunn <ddunn@krcd.org>; Vicki Kretsinger <vkretsinger@lsce.com>; Meyerhoff, Richard <rmeyerhoff@geiconsultants.com>; Takeda, Jackie <jtakeda@geiconsultants.com>
Subject: RE: Kings Water Alliance Priority 2 approach for FMZP Addendum

Hi Everyone,

We appreciate hearing from you further on your proposed approach to provide an addendum that will supplement the existing and approved Kings Water Alliance PMZP, FMZP and EAPs.

The concept of stand-alone addendum documents is a good approach that would satisfy the requirements of the Nitrate Control Program for the Priority 2 area within the KWA Management Zone. The provided list is helpful in understanding the elements that need updating, but, if possible, could you reference the specific sections in the PMZP, FMZP, and EAPs that would be updated through the addendum? This would help the Regional Board determine that all required elements for the Nitrate Control Program are covered.

We look forward to our continued coordination on the Priority 2 deliverables.

Kind Regards,

Angela

Angela (Llaban) Cleaver

Kings Water Alliance Management Zone
Final Management Zone Proposal Addendum
Priority 2 Tulare Lake Subbasin Area

Senior Environmental Scientist, Supervisor
Salinity and Basin Planning Unit
Central Valley Regional Water Quality Control Board
11020 Sun Center Drive, Suite #200, Rancho Cordova, CA 95670
916-464-4649 | Angela.Llaban@waterboards.ca.gov

From: Barbara Dalgish <bdalgish@lsce.com>
Sent: Tuesday, February 27, 2024 2:16 PM
To: Llaban, Angela S. <Angela.Llaban@Waterboards.ca.gov>; Khang, True <True.Khang@waterboards.ca.gov>; Laputz, Adam <Adam.Laputz@waterboards.ca.gov>
Cc: Debra Dunn <ddunn@krcc.org>; Vicki Kretsinger <vkretsinger@lsce.com>; Meyerhoff, Richard <rmeyerhoff@geiconsultants.com>; Takeda, Jackie <jtakeda@geiconsultants.com>
Subject: Kings Water Alliance Priority 2 approach for FMZP Addendum

EXTERNAL:

Hello,

Thank you for meeting with us on January 22 to discuss the path forward for the Priority 2 areas within the Kings Water Alliance Management Zone. As we presented, KWA has already done a significant amount of work for the PMZP, FMZP, and EAP that already covers the Priority 2 areas. All of those submittals were approved by the Regional Board, satisfying the requirements to comply with the Nitrate Control Program using a phased approach for implementation of the EAP in Priority 2 areas. As we discussed during our meeting on January 22nd, KWA recognizes that there are some aspects of the approved KWA FMZP and EAP that need to be updated for the Priority 2 areas. We therefore propose to provide and update the following informational components/analyses as stand-alone addendum documents that supplement and accompany the existing approved and publicly-posted KWA PMZP, FMZP, and EAPs:

1. Addendum to the KWA FMZP
 - a. This addendum would provide an update to the following sections/components and be a companion document to accompany the original FMZP:
 - i. Timeline for Priority 2 (update dates for Phase 2 and P2 areas)
 - ii. List of P2 discharger/participants
 - iii. Assessment of public water systems (including impacts due to nitrate and compliance status) in P2 areas
 - iv. DACs/SDACs in P2 areas using most recent available coverage
 - v. Land Use (using most recent available coverage)
 - vi. Discussion of De-designated Areas in P2 areas
 1. Dischargers and existing wells in de-designated areas within P2 are not subject to the Nitrate Control Program
 2. Determination of any domestic wells below de-designated groundwater

depth for EAP work

- vii. Groundwater elevations and flow in P2 areas (including areas of potential contribution using the most recent groundwater elevation contours)
- viii. Groundwater nitrate characterization of P2 areas (including ambient and trends analyses using most recent available data and methodology)
- ix. Current nitrate treatment, control, and management practices from P2 permitted dischargers
- x. Outreach
- xi. Coordination with Tulare Lake Subbasin GSAs with respect to their Groundwater Sustainability Plan

2. Addendum to the KWA EAP

- a. This addendum would provide an update to the following sections/components and be a companion document to accompany the original FMZP
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 - iii. Identification of nitrate-impacted areas in P2 areas (domestic well and population counts in elevated nitrate level areas; public water systems/wells, with discussion of De-designated areas not subject to NCP; identification of drinking water wells within de-designated area and depth)
 - iv. Schedule/milestones (update dates for Phase 2 and P2 areas)
 - v. Well testing and bottled water agreement

Please provide the Kings Water Alliance written confirmation that this approach satisfies the requirements for the Nitrate Control Program for the Priority 2 area within the Kings Water Alliance Management Zone.

Thanks very much, and please let us know if you have any questions or suggestions for changes to the above approach.

Sincerely,

Barb

Barbara Dalgish, P.G.
Supervising Hydrogeologist
Luhdorff & Scalmanini, Consulting Engineers
500 First Street
Woodland, CA 95695
Office (530) 661-0109
Direct (530) 207-5714
bdalgish@lsce.com
https://link.edgcpilot.com/s/77b33ff9/WuC0m8p7_U_C89nrcfiOOQ?u=http://www.lsce.com/

