

Template: Early Action Plan Development for a Management Zone

Regulatory Background

The Nitrate Control Program provides two pathways for compliance for permitted discharges to groundwater (See Template INSERT). Pathway A is for individual permittees and sets conservative limitations for source control. Pathway B is for permittees proposing to be regulated under a Management Zone. Both Pathways have their own specific milestones and timelines; however, both Pathways require the development of an Early Action Plan (EAP) to identify the means for providing short term safe drinking water supplies to users impacted by nitrate concentrations greater than 10 mg/L (nitrate as N) in their groundwater source which falls within the permittee’s area of contribution. While this document can be helpful to permitted dischargers that select Pathway A, is intended to support dischargers that select Pathway B.

Early Action Plan Development Requirements

The Nitrate Control Program includes the following regulatory requirements for establishment of an EAP (Central Valley Water Board 2018, pages 66 ff):

- 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 affected communities, domestic well users and their representatives, the State Water Board’s Division of Drinking Water, Local Planning Departments, Local County Health Officials, Sustainable Groundwater Management 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 Early Action Plan, which may include seeking funding from Management Zone participants, and/or local, state and federal funds that are available for such purposes.

The text box to the right summarizes these requirements in the form of six key, practical tasks that should be completed during development of an EAP. The sections below are intended to provide additional

Key Early Action Plan Development Tasks
• Task 1 - Establish Process to Identify Potentially Impacted Residents
• Task 2 – Develop Outreach Program for Early Action Plan Implementation
• Task 3 – Establish Process to Coordinate with Non-Dischargers during Early Action Plan Implementation.
• Task 4 – Develop Program to Provide Temporary Drinking Water to Impacted Residents
• Task 5 – Establish Funding Mechanism to Implement Early Action Plan
• Task 6 – Conduct Outreach to Residents during Early Action Plan Development

information for consideration during the implementation of each of these tasks.

Early Action Plan Development Tasks

Task 1 - Establish Process to Identify Potentially Impacted Residents

The goal of this task is to identify residents within the Management Zone that are dependent on groundwater from wells that exceed the primary MCL for nitrate (10 mg/L nitrate as N).

Impacted residents may include residents that obtain drinking water from (a) private domestic wells; and (b) public water systems, where the system is not in compliance with the primary MCL for nitrate. To establish this process, three steps should be considered:

- Step 1: Identify groundwater areas where private domestic wells are potentially providing water that exceeds 10 mg/L nitrate as N.

See INSERT TEMPLATE NAME for an approach to complete this step.

- Step 2: Identify public water systems (PWS) within the proposed Management Zone to determine if any are not in compliance with the primary MCL for nitrate.

See INSERT TEMPLATE NAME for an approach to complete this step.

- Step 3: Develop process to identify potentially impacted residents - The outcome of this step is a description of the process that will be executed when the EAP begins implementation. Completion of this step is necessary to ensure that residents that may be drinking nitrate-contaminated water can be targeted for outreach so that they are provided the opportunity to receive interim replacement water that meets drinking water standards (see Task 4).

Different methods exist to identify potentially impacted residents; **Table 1** provides three such examples. Complex, labor intensive methods are expected to result in a more refined list of residents for targeted outreach, that is, those residents most likely to be obtaining their drinking water from nitrate-contaminated groundwater. In contrast, simpler methods would be expected to result in a less-refined targeted outreach list, that is it is more likely to include some residents that already have safe drinking water. Ultimately, the Management Zone will need to determine the degree of certainty it wants to have when developing a targeted outreach list for use in Task 4 below.

Task 2 – Develop Outreach Program for Early Action Plan Implementation

The EAP must have an active outreach component to ensure that nitrate-impacted groundwater users: (a) are made aware of where they may obtain safe drinking water within the Management Zone; and (b) are kept informed of and given the opportunity to participate in the development of proposed solutions to develop long-term sources of safe drinking water. The Management Zone should consider including the following types of activities:

- Establish mechanism to publicly share information
- Prepare informational materials for general public
- Coordinate with non-dischargers

- Conduct public outreach meetings
- Notify community about temporary drinking water facilities
- Complete targeted outreach to residents

Table 1. Examples of Methods to Identify Residents Potentially Impacted by Nitrate Contamination within a Project Area

Method	General Description	Pro	Con
<u>Method 1:</u> Identify all residents within Project Area	All residents within the Management Zone boundary are identified and targeted for outreach	<ul style="list-style-type: none"> • Simplest approach: Steps 1 and 2 are unnecessary • Least data resource intensive 	<ul style="list-style-type: none"> • If Management Zone Area is large, method greatly increases the level of effort required to complete a resident mailing list • Increases the potential number of residents that may request water testing
<u>Method 2:</u> Identify all residents within Project Area <i>not served</i> by compliant PWS	Remove from outreach list those residents that are connected to a compliant PWS	<ul style="list-style-type: none"> • Moderate approach: Step 1 is unnecessary • Requires fewer data resources as required for Method 3 	<ul style="list-style-type: none"> • If Management Zone is large, method may somewhat increase the level of effort required to complete a resident mailing list
<u>Method 3:</u> Identify residents within proposed Management Zone most likely to be using groundwater as a drinking water source with nitrate exceeding 10 mg/L	Filters list of all residents in the proposed Management Zone to target only those residents that are most likely to obtain their drinking water from a source that has nitrate that exceeds 10 mg/L	<ul style="list-style-type: none"> • Most targeted approach: focuses outreach to only residents most likely relying on a nitrate contaminated drinking water source • Reduces potential number of wells to be tested under Alternative Water Program (AWP) 	<ul style="list-style-type: none"> • Most data resource intensive approach • Potentially labor intensive to identify only those residents in specific areas, as identified in Step 1.

Task 3 – Establish Process to Coordinate with Non-Dischargers during Early Action Plan Implementation.

The regulations list the following as examples of entities where coordination should be considered: “affected communities, domestic well users and their representatives, the State Water Board’s Division of Drinking Water, Local Planning Departments, Local County Health Officials, Sustainable Groundwater Management Agencies.”

The degree to which various non-dischargers should or need to participate will greatly vary depending on the size and location of the proposed Management Zone. **Table 2** provides a summary of key entities that the developer of an EAP should consider including in their process to coordinate with non-dischargers. The roles of non-dischargers will vary. For example, these roles may range from regulatory oversight to assisting with the installation of facility to provide temporary drinking water or dissemination of program information to residents within the proposed Management Zone.

Table 2. Types of Non-Dischargers to Consider During Development of EAP

Non-Discharger Category	Key Role(s) in EAP Implementation
County Government	Boards of Supervisors – Assist with dissemination of information to County residents and support approval of EAP-related projects
	County Agencies, e.g., planning, development, or health services, responsible for drinking water related infrastructure/safety – Support approval of EAP-related projects
Communities	Coordinate with commerce centers (incorporated and unincorporated/census-designated places) where public temporary drinking water facilities, such as water filling stations, may be established
Regulatory Agencies	Coordinate with regulatory agencies as needed (e.g., Central Valley Water Board and State’s Division of Drinking Water) to verify that EAP development and implementation is consistent with Nitrate Control Program requirements
Non-governmental Organizations (NGOs)	Coordinate with local organizations that represent various community interests that potentially can assist with implementation of EAP elements, especially activities related to community outreach.
Groundwater Sustainability Agencies	Coordinate with agencies involved in the use of water within the Management Zone planning area
Trade Organizations	Coordinate with trade organizations to assist with dissemination of information to their membership, e.g., Water Quality Coalition, California League of Food Producers, dairy organizations, e.g., Dairy Cares, Western United Dairymen or Milk Producers, and the Farm Bureau.

The process for coordination during EAP implementation can vary to meet the needs of a particular Project Area but should consider activities such as the following:

- Conducting outreach activities to non-discharger organizations to share EAP-related information.
- Developing tailored outreach materials collaboratively to the target specific audiences.
- Soliciting help from representatives of non-discharger organizations to assist with EAP implementation, especially in the local community.
- Keeping regulators informed regarding status of EAP implementation.

Task 4 – Develop Program to Provide Temporary Drinking Water to Impacted Residents

The purpose of this task is to establish temporary sources of safe drinking water for residents until permanent sources of safe drinking can be developed. This program should include at least two key elements:

- (a) Public Access Water Program, whereby residents may obtain safe drinking water from publicly available facilities; and
- (b) Alternative Water Program, which provides a mechanism for residents that are unable to obtain water from a publicly accessible location.

This task includes two key steps for completion during development of the EAP:

- *Step 1 – Develop Temporary Drinking Water Program Elements* – **Table 3** lists the key elements associated with each of these programs that should be considered during development of the EAP. Note that it is the expectation of the Central Valley Water Board that more than one Alternative Water Program option be available to local residents.
- *Step 2 – Establish Implementation Schedule* - The EAP regulations do not establish a specific schedule for implementation of the Plan, only that the Plan itself must be begin implementation no later than 60 days after submittal the Central Valley Water Board, unless the Board objects to the Plan prior to this 60-day period. Although the regulations do not specify a schedule for implementation, the following principles should be considered when developing the EAP Implementation schedule:
 - By definition the purpose of the EAP is to implement early actions throughout the proposed Management Zone to provide safe drinking water to residents that rely on groundwater that exceeds that nitrate water quality objective. Accordingly, the implementation schedule should be consistent with this purpose.
 - The Management Zone must develop a Management Zone Implementation Plan (MZIP) within 180 days after approval of the Final Management Zone Proposal. The MZIP must include the following:

Identify how emergency, interim and permanent drinking water needs for those affected by nitrates in the Management Zone area are being addressed, and how a drinking water supply that ultimately meets drinking water standards will be available to all drinking water users within the Management Zone boundary, and the timeline and milestones necessary for addressing such drinking water needs.

The EAP remains in effect until it is superseded by the requirements established in the approved MZIP for the Management Zone. Therefore, until projects identified in the MZIP are completed the EAP serves as the mechanism to ensure a supply of safe drinking water is available within the Management Zone. Accordingly, it should be implemented as expeditiously as possible and continue to be implemented until permanent solutions are in place. **Figure 1** illustrates these expectations for a Management Zone within the context of Management Zone deliverables.

Given the above, it is recommended that the EAP be built around a two-year schedule to develop and implement the temporary water provisions of the Plan and then continue to be implemented in a “maintenance” mode as needed to continue to support these temporary drinking water provisions until permanent solutions are established. **Table 4** summarizes the key activities that are recommended for implementation in the first two years of the EAP.

Table 3. Elements to Consider when Developing Temporary Water Program Provisions

Temporary Water Program	Element	General Considerations
Public Access Water Program	Types of Facilities	<ul style="list-style-type: none"> • Self-operating water filling stations where residents may bring containers to be filled • Vendor-supplied facility where a resident may pick up full water containers and drop off empty containers • Others as determined by the Management Zone
	Siting Factors	<ul style="list-style-type: none"> • Publicly accessible at no cost • Provided water is from an existing PWS that is compliant with State requirements to provide safe drinking water • Open to the public as many hours/day and week as possible with a goal of being accessible 24/7 • User safety considered (e.g., well-lit area with parking; limited potential for congestion) • Good neighbor practices implemented, e.g., noise, trash concerns minimized
	Number of Facilities	<ul style="list-style-type: none"> • Vary by Management Zone due to (a) extent of areas that have nitrate-contaminated groundwater; (b) size of the Zone; (c) potential population to be served; and (d) availability of siting opportunities • Initial planning should consider siting locations to serve an area with a 10-12 mile diameter. The actual area served will depend on the siting factors described above and expected degree of use (see Attachment A for initial planning example)
	Development & Implementation Considerations	<ul style="list-style-type: none"> • Approach to provide water containers to residents will need to be established • Operational agreements will need to be established with the land/property owner where the facility is sited • Facility design, construction and operation and maintenance (O&M) requirements must comply with state and federal regulations
	Monitoring	<ul style="list-style-type: none"> • Monitor water use at public access facilities • Establish additional facilities if needed, based on findings from monitoring
Alternative Water Program (AWP)	Alternative Options	<ul style="list-style-type: none"> • Home bottled water delivery • Point of Use Treatment System • Others as determined by the Management Zone
	Criteria to Participate	<ul style="list-style-type: none"> • Resident is within the Management Zone and does not receive drinking water from a PWS that complies with nitrate water quality objective. • Resident's drinking water source contains nitrate concentrations above the nitrate water quality objective (conduct free well testing if needed to verify). • Resident willing to sign any necessary agreements with a vendor to participate in the Alternative WP (e.g., to receive bottled water or have a Point-of-Use (POU) treatment system installed and maintained).
	Process to Implement	<ul style="list-style-type: none"> • Conduct direct outreach to residents identified through Task 1 to provide opportunity to participate in AWP instead of obtaining drinking water through Public Water Access Program • Process requests to participate in AWP • Conduct well testing as needed at no cost to residents • Establish vendor(s) to provide bottled water or POU treatment • Implement program for each approved participant • Conduct follow-up to verify AWP is working as intended

Table 4. Recommended Timing for Completion of Key Activities within First Two-Years of EAP Implementation

Year 1		Year 2
First Six Months	Second Six Months	
<ul style="list-style-type: none"> • Identify potentially impacted residents for targeted outreach • Public Water Access Facilities <ul style="list-style-type: none"> - Finalize site locations - Initiate facility designs for approval • Outreach <ul style="list-style-type: none"> - Website available - Public outreach meetings, informational materials development - Targeted mailout to residents - Public notices (availability of Public Access Water Facilities and AWP) - Initiate processing requests to participate in AWP including implementing well testing • Progress Report 	<ul style="list-style-type: none"> • Public Water Access Facilities <ul style="list-style-type: none"> - Continue facility design for approval - Install approved facilities • Alternative Water Program <ul style="list-style-type: none"> - Continue to process requests to participate in AWP, including water testing - Follow-up with AWP participants • Initiate monitoring • Progress Report 	<ul style="list-style-type: none"> • Public Water Access Facilities <ul style="list-style-type: none"> - Complete facility designs for approval - Install remaining approved facilities • Manage AWP • Outreach - Public outreach meetings, materials, notifications (as needed) • Continue monitoring • Progress Report

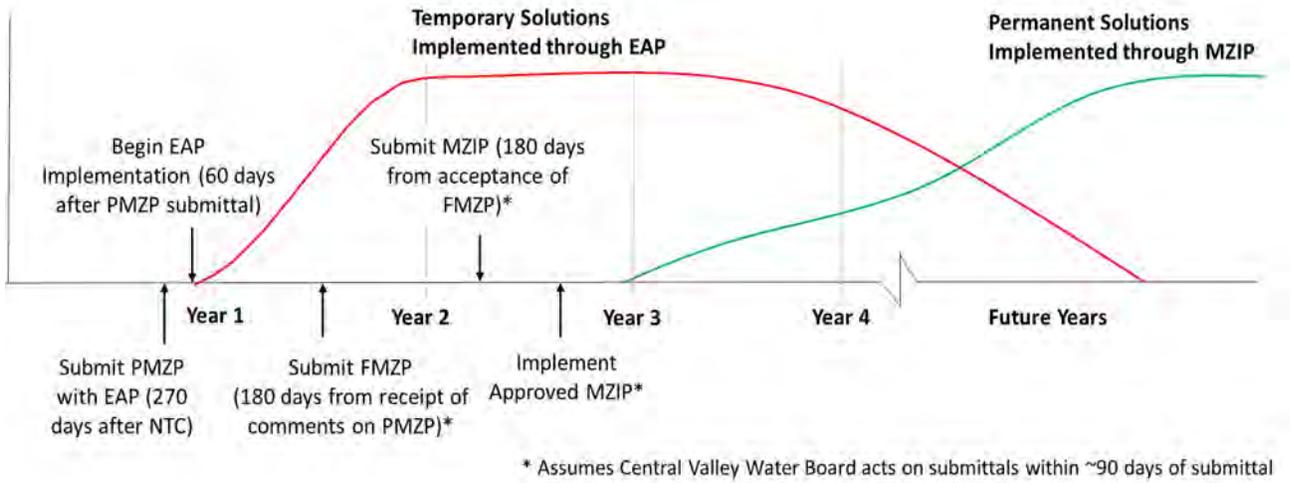


Figure 1. Conceptual Illustration of Timeline Associated with Key Nitrate Control Program Deliverables for a Management Zone and Provisions to Provide Safe Drinking Water.

Task 5 – Establish Funding Mechanism to Implement Early Action Plan

The regulations require that the EAP include information regarding how the Plan will be funded during its implementation. Inherent in this requirement is the need to complete the following two steps:

- *Step 1 – Develop EAP Implementation Budget/Costs* - **Table 5** identifies key areas to consider when developing an EAP budget for Management Zone. Given the newness of the EAP program, initially it will be difficult to estimate EAP implementation costs in the following key areas:¹
 - *Public Access Water Facility Design, Installation and Operation* – The costs to establish and operate one of these facilities can only be estimated as the development and construction costs are likely to vary by site.
 - *Public Access Water Facility Usage* – Budget needs to include funds to reimburse the land/property owner that allows the facility to connect to the PWS at the site. Reimbursement costs depend on the number of users and frequency of usage by residents.
 - *AWP Well Testing* – After receiving notice of the opportunity to participate in an AWP, the number of residents that will actually request to have their water tested is unknown.
 - *AWP Participation* – As noted above, the expectation is that a Management Zone will offer at least two AWP options, e.g., bottled-water delivery or installation of a POU treatment system. The number of residents that request AWP participation and qualify for the program will be unknown at the outset. Moreover, it is unknown how many AWP qualified residents will choose bottled water delivery versus a POU Treatment System.

Given the uncertainty in the ability to establish firm costs for the above key program elements, it is recommended that the initial budget established for the EAP either develop a range of budget estimates, include a substantial contingency fund, or both.

- *Step 2 - Establish Agreements to Fund and Implement EAP*

[PLACEHOLDER]

Task 6 – Conduct Outreach to Management Zone Residents during Early Action Plan Development

A key element that must be included in the EAP is outreach to ensure that impacted groundwater users are informed of and given the opportunity to participate in the development of proposed solutions. This outreach requirement not only applies to the activities that occur during the implementation of the EAP (as described above under Task 2), but also during preparation of the EAP itself. Accordingly, the submittal of the EAP should document the outreach that was

¹ Over time experience will be gained by the initial proposed Management Zones. As consequence, EAP's developed several years into implementation of the Nitrate Control Program will have more information from which to develop cost estimates.

conducted within the Management Zone to obtain input from the community during EAP development. Examples of outreach activities to consider include:

- Conducting one or more public meetings within the proposed Management Zone;
- Collaboration with non-dischargers within proposed Management Zone to include information about the EAP in their regular communications with their own stakeholders; and
- Encourage stakeholders participating in the development to the Management Zone Proposal to disseminate information about the EAP to their own organizations.

Table 5. Factors to Consider When Developing an EAP Budget for a Management Zone

EAP Program Area	Key Activities to Include in Budget	Factors to Consider
Identify Potentially Impacted Residents	Development of mailing list for targeted outreach to residents	<ul style="list-style-type: none"> • More complex, data resource intensive methods are likely to cost more to complete, but the resulting targeted outreach list will be more refined and could reduce implementation costs later • Table 1 provides three potential options. Costs would be expected to be the least for Method 1; highest for Method 3
Outreach	Website development	<ul style="list-style-type: none"> • Costs reduced if an existing website can be used
	Informational materials	<ul style="list-style-type: none"> • Assume need to develop in both English and Spanish • Potential need to develop materials in other languages on local basis
	Public meetings	<ul style="list-style-type: none"> • At least one round of public meetings during EAP development • Consider two or more rounds of public meetings during first two years of implementation • Additional meetings may be necessary after second year
	Public notices	<ul style="list-style-type: none"> • Notices intended for all residents in Management Zone • Regular public notices needed to inform residents of availability of Public Access Water Facilities
Public Access Water Facility Development	Establish facility locations	<ul style="list-style-type: none"> • Finalize site locations for facility development through desktop/site assessments and meetings with land/property owners • Number of site locations to identify will be specific to the size of the Management Zone and the water quality characteristics in the underlying groundwater (see Attachment A as an example of how to estimate a number of facilities for budget planning purposes)
	Establish agreements with land/property owners that agree to host a facility	<ul style="list-style-type: none"> • Develop all necessary agreements to establish and operate a facility at each site • Include funds in the budget for reimbursing site owners for water usage at the facility
	Facility development (design/approval)	<ul style="list-style-type: none"> • Costs to prepare the facility design, installation/construction-related documents, operational procedures, O&M requirements, approvals/agreements, etc.; prepare any necessary supporting regulatory-related documents (e.g., permit applications) to support project. • Anticipate that development cost/facility will decline over time as general development standards are developed
	Facility installation	<ul style="list-style-type: none"> • Include cost to construct each planned facility. Costs will be site specific based on the site characteristics and design
	Facility operation & maintenance	<ul style="list-style-type: none"> • Costs will be site-specific depending on the facility design and location

Table 5. Factors to Consider When Developing an EAP Budget for a Management Zone

EAP Program Area	Key Activities to Include in Budget	Factors to Consider
Alternative Water Program	Targeted mailout to residents identified as potentially impacted	<ul style="list-style-type: none"> • Cost to conduct targeted outreach to residents identified in Task XX
	Establish and maintain vendor agreements to provide alternative water	<ul style="list-style-type: none"> • Cost to procure and establish agreements with vendors • Cost to manage agreements
	Process AWP participation requests	<ul style="list-style-type: none"> • Administrative costs to review/process requests to participate in AWP
	Conduct well testing	<ul style="list-style-type: none"> • Budget should include the following: • Coordination with residents to conduct testing and laboratories to receive samples • Labor to collect water samples and submit to a laboratory • Laboratory analysis costs • Evaluate/report well testing results • It is unknown how many residents will request well-testing; for budgeting purposes consider the number of potential wells to be tested and the number of residents targeted for outreach. Create a range of estimated costs
	Implement bottled water delivery program	<ul style="list-style-type: none"> • Costs will be vendor-specific • Costs will be dependent on factors such as: <ul style="list-style-type: none"> - Number of potential participating residences - Number of gallons delivered per month to each household (assume INSERT as a starting baseline) - Delivery/fuel surcharges by vendor (if any) - Credit for empty bottles (if any)
	Install POU Treatment System	<ul style="list-style-type: none"> • Costs will be vendor-specific • Two major costs to budget: installation and annual maintenance • Costs dependent on number of qualified residents that select this option
Monitoring & Reporting	Conduct follow-up with residents participating in the AWP	<ul style="list-style-type: none"> • Labor cost to contact AWP participants to check in on AWP implementation at their residence
	<ul style="list-style-type: none"> • 6 month status report • 1 year progress report • Annual progress reports thereafter 	<ul style="list-style-type: none"> • Costs to evaluate program implementation data and prepare periodic reports

Attachment A – Examples of a simple approach to estimate the number of Public Access Water Facilities that may be needed within a proposed Management Zone. Actual number will depend on factors such as availability of sites to host a facility and anticipated usage. The approach relies on (a) identification of areas identified as most likely to have nitrate-contaminated groundwater (See INSERT TEMPLATE NAME); and (b) assignment of 10-12 mile diameter planning areas associated with areas of nitrate-impacted groundwater.

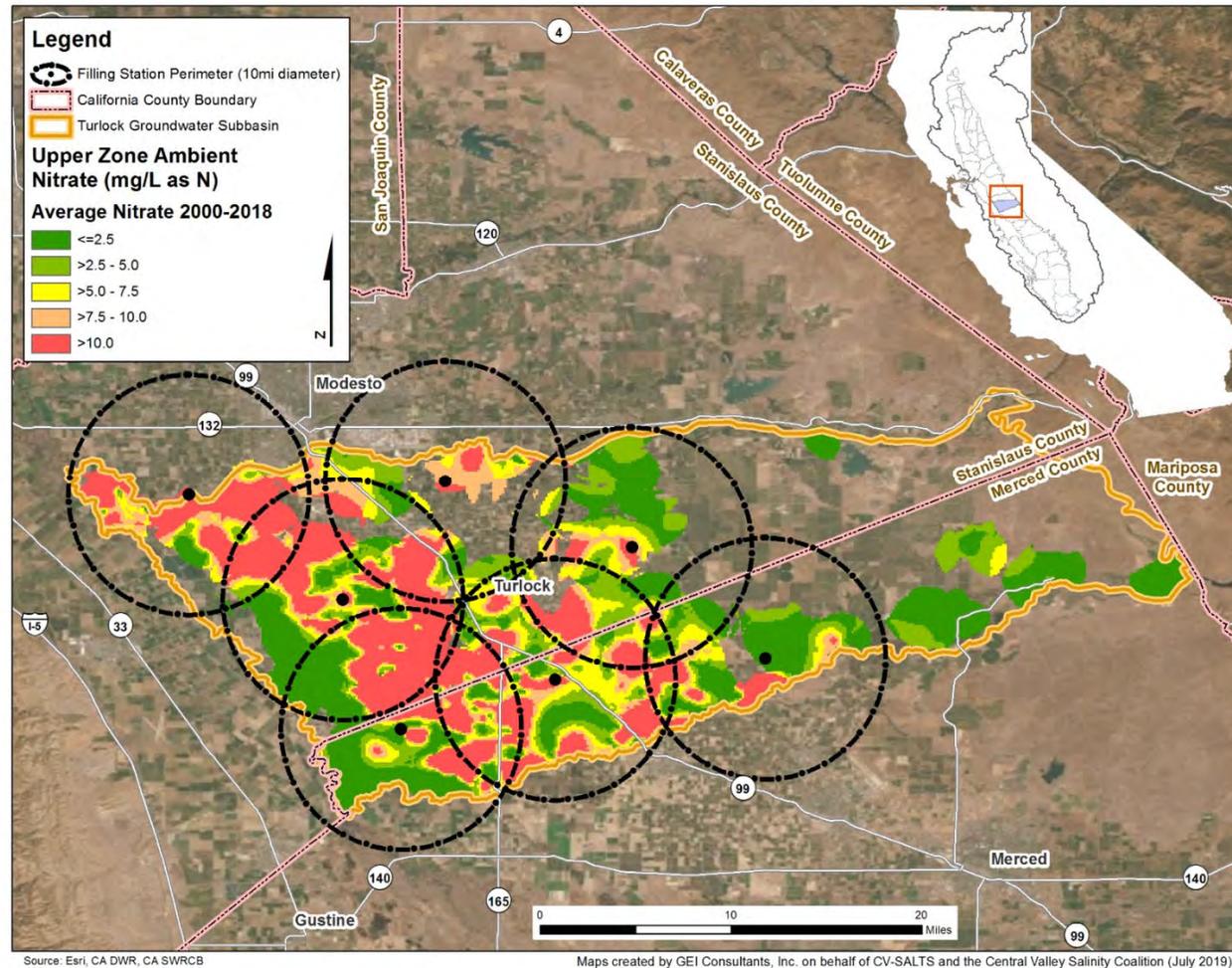


Figure A-1. Areas in the proposed Turlock Management Zone targeted for installation of a Public Access Water Facility based on application of 10 mile diameter planning areas (circles) generally centered in areas most likely to have nitrate-contaminated groundwater.

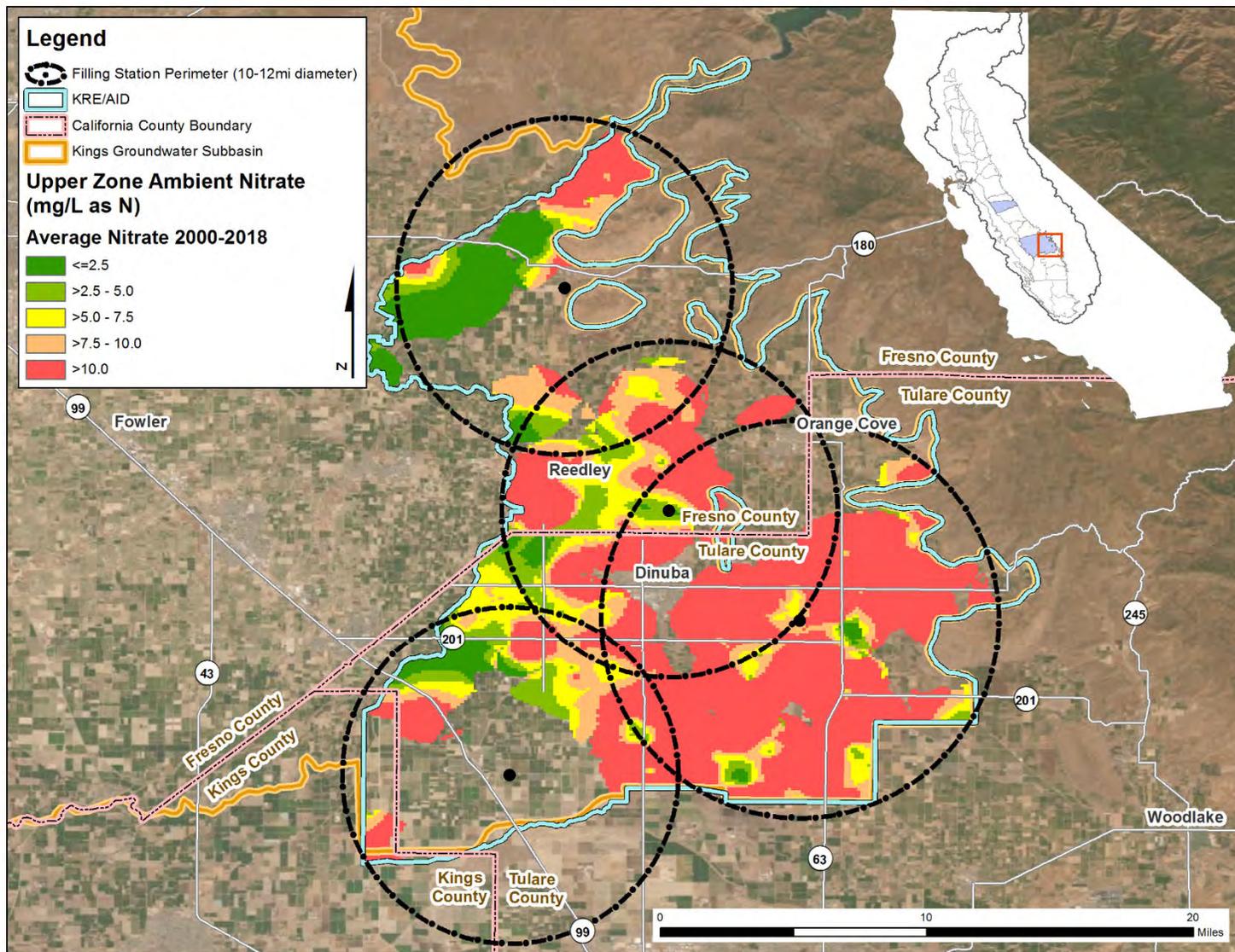


Figure A-2. Areas within the Kings River East/Alta Irrigation District proposed Management Zone targeted for installation of a Public Access Water Facility based on application of 10 to 12 mile diameter planning areas (circles) generally centered in areas most likely to have nitrate-contaminated groundwater.