



Chowchilla Management Zone

Final Management Zone Proposal *Executive Summary*

AUGUST 29, 2022

PREPARED BY:



Executive Summary

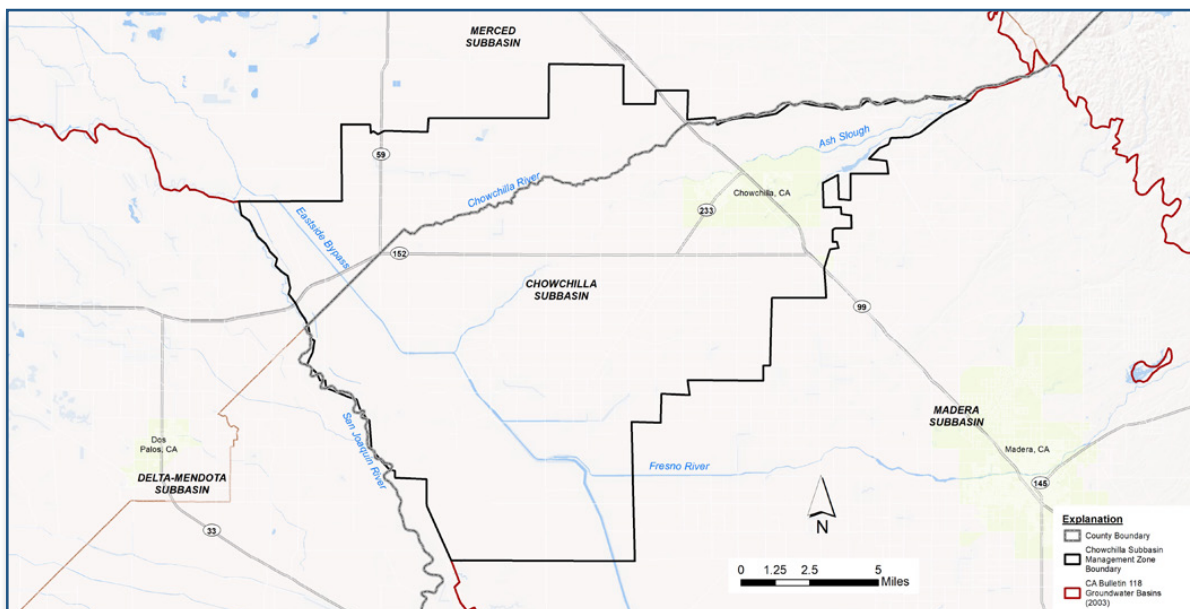
ES 1. Background and Purpose

The Chowchilla Subbasin, facilitated and coordinated by the Madera County Farm Bureau and Water Wise, initiated the formation of the Chowchilla Management Zone to comply with the State Water Resources Control Board Nitrate Control Program requirements. To address the growing needs of this region of California to solve the nitrate problem in groundwater, representatives from local growers and farmers and other permitted dischargers in the Chowchilla Subbasin elected to pursue Path B to comply with the Nitrate Control Program, which meant forming the Chowchilla Management Zone (**Figure ES-1**).



The Chowchilla Management Zone was formed to locally solve the nitrate problem in groundwater.

Figure ES-1. Map of Proposed Chowchilla Management Zone



Due to differences in nitrate groundwater conditions within the subbasins of the Central Valley, the State Water Board assigned priorities based on the urgency of addressing nitrate problems in each groundwater subbasin. The Chowchilla Subbasin and five other subbasins were deemed the highest priority, Priority 1, which means that their compliance with the Nitrate Control Program is on a fast-track.

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

Goal 1

Ensure a safe drinking water supply.


Goal 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.

Goal 3

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

The Chowchilla Management Zone aims to work collaboratively with permittees to achieve these goals. By forming a local Management Zone, this compliance path (Path B) to meet the requirements of the Nitrate Control Program allows an exception from the nitrate 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 partnership and teamwork within its discharging members to solve the nitrate problem within their Management Zone boundary.



The Chowchilla Management Zone works collaboratively with the permitted dischargers to achieve the Nitrate Control Program goals.

There are several documents that must be prepared to comply with Path B of the Nitrate Control Program, including the Preliminary Management Zone Proposal (PMZP), the updated Final Management Zone Proposal (this document; FMZP), and the Early Action Plan (a key attachment to the PMZP and now the Final Management Zone Proposal; see Attachment E). For Priority 1 subbasins, these must be submitted to the Central Valley Regional Water Board (Central Valley Water Board or CVWB) within 270 days of dischargers receiving a Notice to Comply. The PMZP and the Early Action Plan were submitted to the CVWB on March 8, 2021, for the Chowchilla Subbasin. Implementation of the Early Action Plan began within 60 days of submittal. The FMZP is due 180 days after public comment and the CVWB’s review of the PMZP. The Management Zone Implementation Plan is due 180 days after public comment and the CVWB’s review of the FMZP.

This document, the FMZP, along with one of its main attachments, the Early Action Plan, is the second step for complying with the Nitrate Control Program and continuing efforts to address the nitrate problems that occur within the Management Zone boundary. One of the most important components of the development of the PMZP, FMZP, and Early Action Plan (for both the PMZP and FMZP) 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 Chowchilla Management Zone has been engaging the community through various outlets (including but not limited to mailings, flyers, radio announcements, advertisements, emails, public webinars, public surveys) in order to empower residents within the Management Zone to become engaged and involved in the decision-making process associated with solving their local nitrate problems.



Human Right to Water means that every person in the state of California has a right to clean, safe, and affordable drinking water.

The contents of this Preliminary Management Zone Proposal include:

Section 1 Background and Purpose

This section provides an introduction and background information about the Nitrate Control Program, including the Notice to Comply, the intent and purpose of a Management Zone, the formation of the Management Zone, public participation, and the initial participants.

Section 2 Characterization of Proposed Management Zone

This section contains descriptions of the geography, jurisdictions, Groundwater Sustainability Agencies, water management entities, drinking water systems, Disadvantaged Communities and Disadvantaged Unincorporated Communities, and land use.

Section 3 Initial Assessment of Groundwater Conditions

This section is a crucial component to determining the extent of nitrate issues within the Management Zone. This involves a summary of hydrogeology, groundwater elevations and flow, delineation of the Upper Zone of the groundwater system (for which the Nitrate Control Program regulates), and most importantly the nitrate water quality. This section contains several maps illustrating these elements within the Management Zone and describes how the spatial interpretation of ambient nitrate conditions is developed. The ambient nitrate map is used to identify areas within the Management Zone that have elevated nitrate conditions as determined using scientific and analytical techniques with the most recent and complete dataset available at the time.

Section 4 Management Zone Participants

This section contains a description and list of Management Zone participants, including both permitted dischargers subject to the requirements of the Nitrate Control Program, as well as non-dischargers that have agreed to work collaboratively with the permitted dischargers to support implementation of the Program.

Section 5 Current Nitrate Treatment and Control Efforts or Management Practices

This section contains descriptions of current nitrate treatment and control efforts or management practices that exist within the Management Zone. These descriptions mainly originate from dischargers themselves, whether under a General Order (such as the Irrigated Lands Regulatory Program or Concentrated Animal Feeding Operations) or by local entities such as cities.

Section 6 Early Action Plan Development

This section provides an overview of the Early Action Plan (which is an attachment to this Final Management Zone Proposal).

Section 7 Plan to Finalize Management Zone Proposal

This section discusses how the Management Zone has finalized its Management Zone Proposal to be consistent with the requirements of the Nitrate Control Program.

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

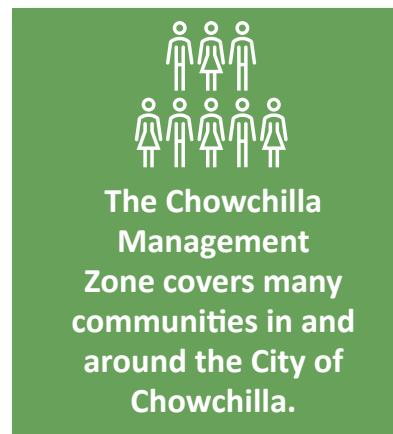
Table ES-1. Preliminary/Final Management Zone Proposal Requirements (Central Valley Water Board 2020)	
PMZP/FMZP Requirement	Location in FMZP
Proposed preliminary and final boundaries of the Management Zone area	Section 1.3.1
Identification of initial and updated Participants/ Dischargers	Section 1.5
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 4.1
Assessment of groundwater conditions based on readily available existing data and information	Section 3.0
Identification/summary of current treatment and control efforts, or management practices of Management Zone participants	Section 5.0
Initial and updated identification of public water supplies or domestic wells within the Management Zone area with nitrate concentrations exceeding the water quality objective	Early Action Plan, Attachment H
Documentation of actions to implement the Early Action Plan	Summary in Section 6.0; complete Early Action Plan in Attachment H
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 in Attachment H
Identification of areas within or adjacent to the Management Zone that overlap with other management areas/activities	Section 2.2
<ul style="list-style-type: none"> • Timeline for development of the Management Zone Implementation Plan. • Governance and funding structure for administration of the Management Zone. • Explanation for how the Management Zone intends to interact and/or coordinate with other programs such as SGMA 	Section 7.0

ES 2. Characterization of Proposed Management Zone

The Chowchilla Management Zone covers an area of approximately 249 square miles (159,236 acres). This Management Zone includes lands in both Madera and Merced Counties, and it is bounded on the west by the San Joaquin River. The Chowchilla Management Zone contains surface water features, including the Chowchilla River, Eastside Bypass, San Joaquin River, Ash Slough, and the Fresno River. Major communities within the Chowchilla Management Zone include the City of Chowchilla, Dairyland, Red Top, Le Grand-Athlone, Fairmead, and El Nido.

There are eight Groundwater Sustainability Agencies established under the Sustainable Groundwater Management Act that are located within the proposed Chowchilla Management Zone. Attachment B to this document contains general information associated with these Groundwater Sustainability Agencies, including contact information and interested parties. Other water management entities, including irrigation districts, water districts, community service districts, and drinking water systems, are also presented in this section. There are nine (9) Public Water Systems with known GIS boundary data within the Chowchilla Management Zone.

There are three (3) Disadvantaged Communities and two (2) Disadvantaged Unincorporated Communities within the Chowchilla Management Zone, covering approximately 245 square miles (156,718 acres) and containing an estimated population over 7,200. The majority of the Chowchilla Management Zone is covered by agricultural land, with the most common crop type being Deciduous Fruits and Nuts (comprising about 39% of the total Management Zone area).



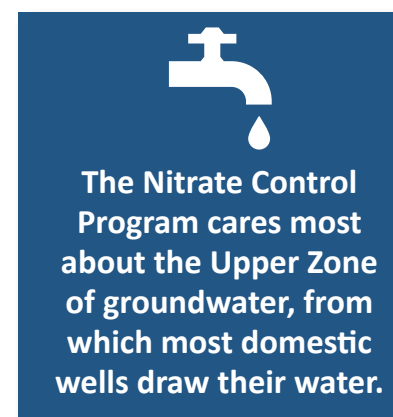
ES 3. Initial Assessment of Groundwater Conditions

The initial assessment of groundwater conditions is based on readily available existing data and information. The hydrogeology of the Chowchilla Subbasin is summarized within this section, including the predominant physical features underlying the area. Groundwater elevation mapping indicates that groundwater flows regionally from the Sierra Nevada foothills in the east to the southwest, and towards three main groundwater depressions located in the northeastern area (near the City of Chowchilla), in the central-southern part of the Management Zone, and in the northwestern area of the Subbasin.


As mentioned above, the Nitrate Control Program focuses on the Upper Zone of the groundwater system. This zonation of the subsurface

is a result of previous efforts from the Central Valley Salinity Coalition that attempted to define the depth from which groundwater is produced from most domestic wells across the Central Valley. In the Chowchilla Management Zone, the depth to the bottom of the Upper Zone ranges from about 60 feet to 270 feet below ground surface.

Nitrate groundwater quality data were collected from readily available public databases, an existing Central Valley Salinity Alternatives for Long-term Sustainability database, as well as requested data from local entities including irrigation districts and County Departments of Environmental or Public

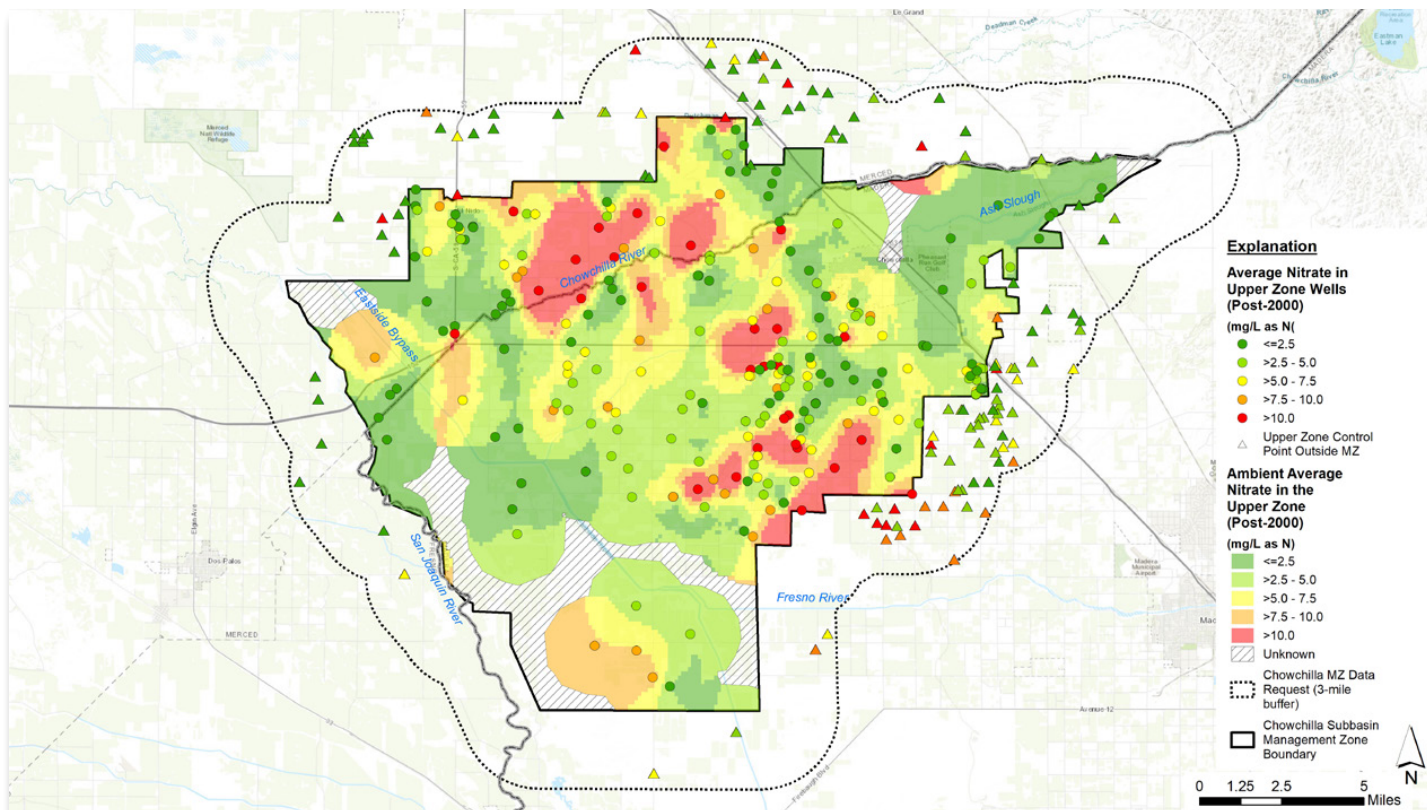


Health, providing the best readily available groundwater nitrate dataset. Groundwater nitrate data from wells were meticulously vetted and categorized based on well depth and/or well type to determine whether the data represent nitrate conditions in the Upper Zone of the Management Zone. Ambient nitrate conditions were developed using spatial interpolation (kriging using a search radius of 1.5 miles) on average post-2000 nitrate sample data for wells categorized into the Upper Zone (actual Upper Zone nitrate data used for this analysis ranged from February 2000 to October 2020). The resultant map (**Figure ES-2**) illustrates relative concentration areas across the subbasin, identifying areas (in red) that have elevated nitrate conditions that potentially exceed the drinking water standard (maximum contaminant level) of 10 milligrams per liter nitrate as nitrogen (mg/L as N). The Management Zone recognizes that this map 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 such as Irrigated Lands Regulatory Program or Groundwater Sustainability Agencies), the ambient nitrate analysis will be repeated, the map will be updated (and potentially changed) during the development of the Management Zone Implementation Plan.



Public and non-public nitrate groundwater data were compiled to develop a spatial interpolation of average recent nitrate conditions.

Figure ES-2. Ambient Post-2000 Nitrate Concentrations in the Upper Zone of Groundwater in the Chowchilla Management Zone



ES 4. Management Zone Participants

Management Zone participants include both permitted dischargers subject to 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 Early Action Plan specifically. The CVWB sent Notices to Comply with the Nitrate Control Program to permitted dischargers in the Chowchilla Subbasin on May 29, 2020. Permitted dischargers include growers in the Irrigated Land Regulatory Program. Other permitted dischargers include Milk Cow Dairies, Confined Bovine Feeding Operations, and Poultry Operations regulated under the Concentrated Animal Feeding Operations General Orders. There are also several individually permitted dischargers that have opted to join the Management Zone. Non-discharger and stakeholder participation consists of a growing list of all interested parties, developed through (a) local area knowledge of project proponents; (b) direct requests from entities to be added to the Management Zone's outreach list; (c) addition of entities recommended by participants; and (d) others identified as potentially interested parties through the Management Zone characterization process (such as county agencies, water districts, or community service districts).



Permitted dischargers are participating in the Management Zone and represent growers, dairies, feeding operations, and others.

ES 5. Current Nitrate Treatment and Control Efforts or Management Practices

The current nitrate treatment and control efforts or management practices being implemented by each of the participating permittees located in the Chowchilla the Management Zone are summarized in this PMZP. The [PMZP](#) provides a general summary of the permit requirements applicable to permittees that are members of the East San Joaquin Water Quality Coalition or subject to a General Order for a concentrated animal feeding operation. For permittees with an individual WDR, the PMZP provides a brief summary of nature of the permitted facility and their existing permit requirements as they relate to the management of nitrate.



This document provides overviews of all of the current nitrate treatment, control, or management practices by permitted dischargers in the Management Zone.

ES 6. Early Action Plan Development

Establishment of a Management Zone requires the preparation of an [Early Action Plan \(EAP\)](#) that identifies initial actions the Management Zone will carry out 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 that depend on groundwater with unsafe levels of nitrate for their drinking and cooking needs, that is water with more than 10 mg/L-N.

The FMZP includes a summary of the key elements of the EAP including a summary of the wells potentially impacted by high nitrate levels, identification of areas within the Management Zone where the groundwater quality most likely exceeds 10 mg/L-N, 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 actual EAP, which includes more comprehensive information is attached to this FMZP as **Attachment E**.

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Bottled Water Delivery



Point-of-Use Treatment Systems



Water Fill Stations

ES 7. Plan to Finalize Management Zone Proposal

This section summarizes how the Management Zone has finalized its Management Zone Proposal, maintaining consistency with the requirements of the Nitrate Control Program. The Chowchilla Management Zone has conducted outreach to all permitted dischargers in the proposed Management Zone. The Final Management Zone Proposal is due August 29, 2022.

The funding mechanism for and governance of the Management Zone is also summarized in this FMZP.

Key Milestones

