

Public Workshop and CEQA Scoping Meeting

Evaluation of Municipal and
Domestic Supply (MUN) and
Agricultural Supply (AGR)
Beneficial Uses of
Groundwater within the
Southern Portion of the Lost
Hills Oilfield



Agenda

- INTRODUCTION
- REGULATORY CONTEXT
- PROJECT
- POTENTIAL ALTERNATIVES
- NEXT STEPS
- QUESTION/COMMENT PERIOD

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Introduction

Welcome to the
Public Workshop/CEQA Scoping
Meeting
Online Meeting

Why are we here?

- We are considering amending our Tulare Lake Basin Plan to better define the application of the municipal and domestic supply (MUN) and agricultural supply (AGR) beneficial uses of groundwater within the southern portion of the Lost Hills Oilfield

Regulatory Context

California Water Boards

- Nine Regional Water Boards under State Water Board
- Mandated to protect beneficial uses of all surface and groundwater
- Regulatory Authority from:
 - Federal – Clean Water Act
 - State – Porter Cologne

Regulatory Basis

Federal Clean Water Act:

- Designate beneficial uses of surface water
- Establish water quality criteria to protect those uses

State Porter-Cologne Water Quality Control Act:

- Establishes Regional Water Boards responsibility for protecting surface & groundwater quality
- Boards establish Water Quality Control Plans (Basin Plans) including beneficial uses of groundwater

Central Valley Water Board

The Central Valley Water Board has two Basin Plans

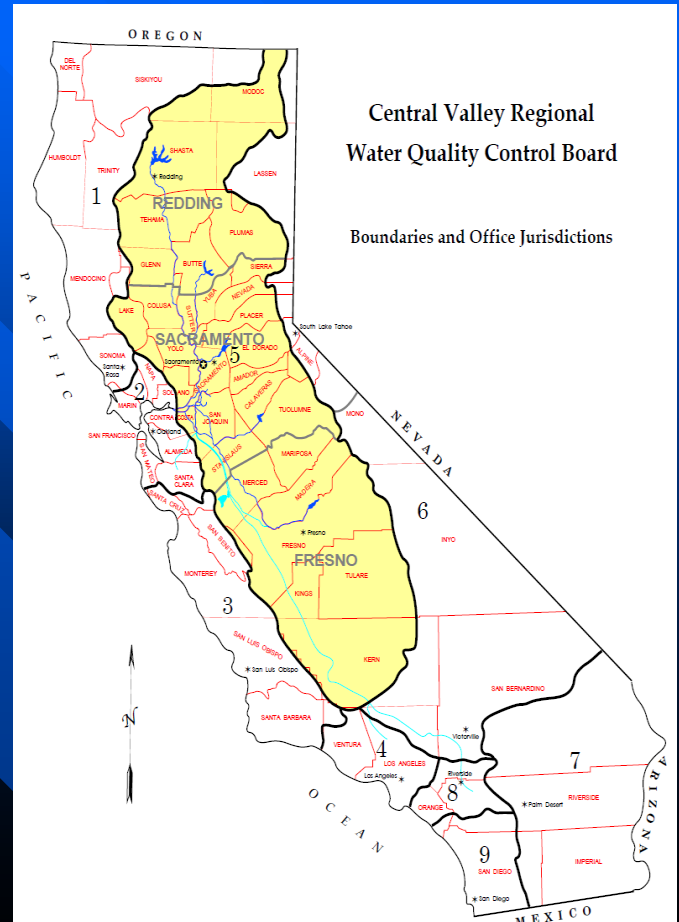
- Sacramento-San Joaquin
- Tulare Lake

Basin Plans:

- Designate beneficial uses
- Establish water quality objectives
- Describe implementation plan
- Describe monitoring & surveillance program
- Incorporate State Policies

Have the legal force and effect of regulation

Changes to the Basin Plan require a Basin Plan Amendment



Basin Plan Amendment Process

- Public Participation
- Regional Water Board adoption
- State Water Resources Control Board approval
- Office of Administrative Law approval
- US EPA approval (for surface waters)

Public Process

- **A CEQA scoping meeting**
- Stakeholder Meetings (If necessary)
- Public Workshops
- A Public Comment Period and Response to Comments Received and
- Water Board Hearings

CEQA Scoping

- CEQA requires an environmental analysis of any proposed Basin Plan amendment
- CEQA scoping meeting provides an opportunity for the public to give input on:
 - ✓ Potential environmental impacts
 - ✓ Possible Mitigation measures and
 - ✓ Possible project alternatives

Today's CEQA Scoping

Solicit comments and suggestions from the public regarding a proposal to:

- 1) Evaluate the appropriate designation of MUN and AGR beneficial use and application of the State Water Board's Sources of Drinking Water Policy in a designated portion of the southern Lost Hills Oilfield

Today's CEQA Scoping

- 2) If appropriate, amend the Tulare Lake Basin Plan to remove MUN and AGR uses, associated water quality objectives and implementation requirements from groundwater within a portion of the Lost Hills Oilfield.

Relevant State Policies

MUN

Sources of Drinking Water Policy
(Resolution 88-63)

Statement of Policy with Respect to
Maintaining High Quality Waters in
California (Resolution 68-16)

“California Antidegradation Policy”

“Sources of Drinking Water Policy” (Resolution 88-63)

- MUN Beneficial use applies to all water bodies unless they are specifically listed (in the Basin Plans) as water bodies that are not designated MUN
- 88-63 does contain exceptions, but require :
 - ✓ *A formal Basin Plan Amendment,*
 - ✓ *A public hearing, and*
 - ✓ *Approval of amendment by the State Water Board, the Office of Administrative Law” and the Federal EPA (surface waters)*

“Statement of Policy with Respect to Maintaining High Quality Waters in California” (Resolution 68-16)

- California Antidegradation Policy
 - ✓ Applies to both surface and groundwater
 - ✓ Requires existing high-quality waters to be maintained to the maximum extent possible

Relevant State Policies

AGR

The Regional Board relies on:

Scientific Literature of accepted salinity concentration threshold limits for the various agricultural uses

Relevant State Policies

In the Basin Plans, AGR use is defined as:

“use of water for farming, horticulture, or ranching, including, but not limited to, irrigation, stock watering, or support of vegetation for grazing.”

History

- 1975 First Edition Tulare Lake Basin Plan
- 1994 Second Edition Tulare Lake Basin Plan

Recent Events

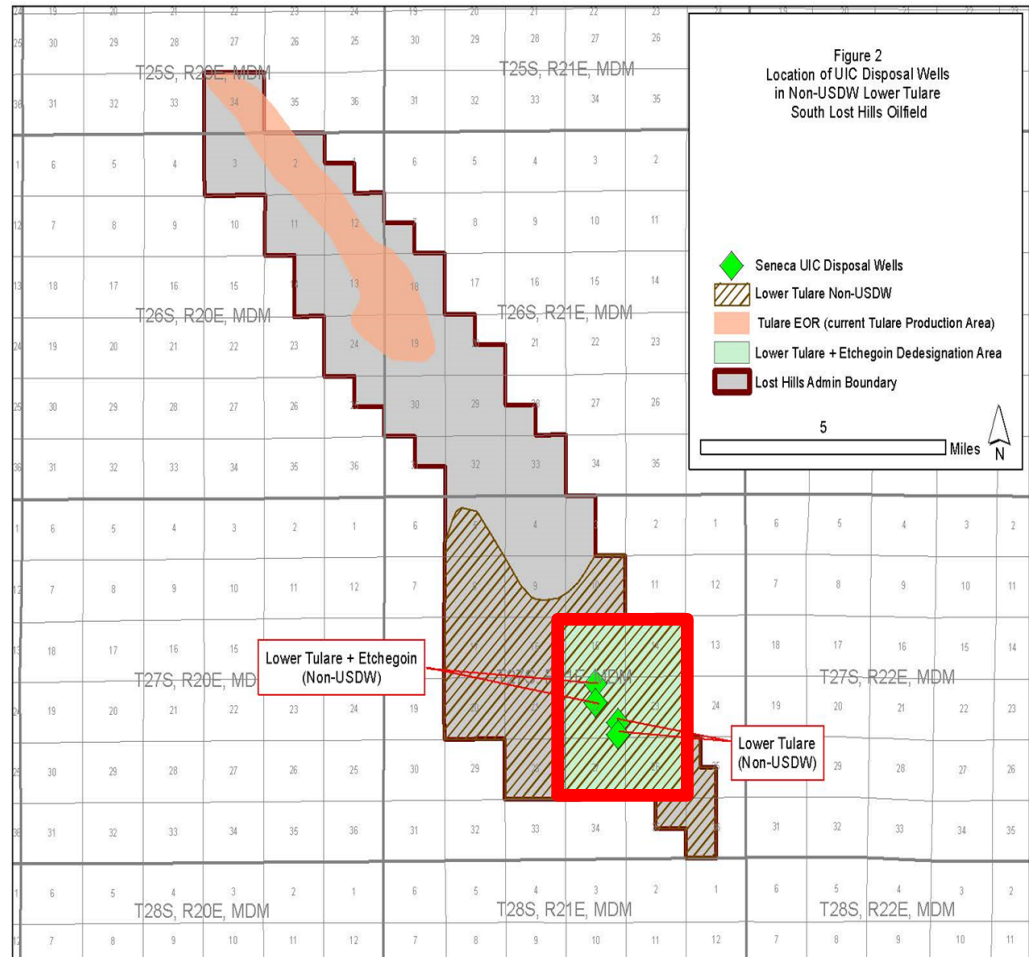
- State Recycled Water Policy - Requires Salt & Nutrient Management Plan
- Long-Term ILRP
- Triennial Review-Beneficial Use Designations

CV-SALTS

- CV-SALTS is a stakeholder driven effort to address salinity and nitrate problems in the Central Valley and which helped develop a Region-wide Salt and Nitrate Management Plan.
- CV-SALTS identified the need for a process to evaluate:
 - Applicability of MUN and other groundwater beneficial uses,
 - Associated water quality objectives, and
 - Implementation requirements to protect those uses

Lost Hill Oilfield Case Study Description

Project Location Map



Southern Lost Hills Oilfield

- Located in Kern County, west of I-5
- Oil Production Area
- Northwest- Southeast Oriented Plunging Anticline (Folded and Plunging Geologic Formation)
- Four Injection Wells – Disposal of produced water from the surrounding oil production wells in the oilfield

Project Study Area

- Within the Southern Portion of the Lost Hills Oilfield
- Within the Boundaries of the Lost Hills Oilfield
- Covers six square miles
- Primary land use oil production
- No towns or communities included

Project Study Area Evaluation

- Focuses on MUN and AGR beneficial use of Groundwater
- Groundwater within the Lower Tulare and Etchegoin Formations
- Depths vary from an upper boundary of approx. 600 ft to 2800 ft bgs to a Lower boundary of approx. 3000 ft to 6000 ft bgs
- Characteristics - High salinity groundwater (>10,000 mg/L total dissolved solids (TDS))

Potential Alternatives

MUN

1. No Action
2. De-designate MUN Beneficial Use within the six-section footprint of the Project Area from the surface down, with no vertical de-designation boundary.
3. De-designate MUN within a portion of the Lower Tulare Formation and Etchegoin Formation Based on Application of the Sources of Drinking Water Policy Exception 1a and the non-USDW quality of the groundwater for MUN
4. Development of MUN Site-Specific Salinity Objectives within the Proposed MUN De-designation Boundary.

Potential Alternatives

AGR

1. No Action
2. Development of AGR Site-Specific Salinity Objectives within the Proposed AGR De-designation Boundaries for Irrigation Supply and Livestock Watering.
3. De-designate AGR Irrigation Supply and Livestock Watering Beneficial Uses within the Proposed Horizontal Boundary with No Vertical Boundaries Based on an EC Groundwater Quality Threshold of 5,000 $\mu\text{S}/\text{cm}$ (3000 mg/L TDS).
4. De-designate AGR Irrigation Supply and Livestock Watering Beneficial Uses within Proposed Horizontal and Vertical Boundaries Based on an EC Groundwater Quality Threshold of 5,000 $\mu\text{S}/\text{cm}$ (3000 mg/L TDS).

Evaluation Considerations for Alternatives

- Policies/Regulation
- Beneficial Uses
- Water Quality Objectives
- Implementation/Monitoring Plans

Potential Environmental and
Economic Impacts

CEQA Scoping Environmental Impacts to Consider

- Aesthetics
- Agriculture & forest resource
- Air quality
- Biological resources
- Cultural resources
- Geology & soils
- Greenhouse gas emissions
- Hazards & hazardous materials
- Hydrology & water quality
- Land use & planning
- Mineral resources
- Noise
- Population & housing
- Public services
- Recreation
- Transportation /traffic
- Utilities & service systems

MUN Alternative #1 – No Action

- No changes - all water bodies would continue to be designated MUN beneficial use unless otherwise specified in the Basin Plan
- Dischargers will need to:
 - ✓ Make necessary upgrades to comply with MUN use and
 - ✓ Comply with all conditions of their permits designed to protect MUN beneficial use

MUN Alternative # 2 – De-Designate MUN Beneficial Use – No Vertical Boundary

- De-designate MUN Beneficial Use within the six-section footprint of the Project Area from the surface down, with no vertical de-designation boundary.

MUN Alternative #3 – De-designate Using Top of Lower Tulare Formation and the bottom of the Etchegoin Formation for Boundaries

- De-designate MUN within a portion of the Lower Tulare Formation and Etchegoin Formation Based on Application of the Sources of Drinking Water Policy Exception 1a and the non-USDW quality of the groundwater for MUN

MUN Alternative # 4 – Site Specific Objectives (SSOs)

- A “Site” is generally Water body specific
- SSOs may be based on:
 - ✓ Protection of the designated uses
 - ✓ A higher carcinogenicity risk factor
 - ✓ Lesser consumption of water
 - ✓ Lesser period of exposure
 - ✓ Use of the California Department of Health Services criteria in lieu of US EPA criteria or
 - ✓ Use of other scientifically sound criteria

AGR Alternative #1 – No Action

- No changes - all water bodies would continue to be designated AGR beneficial use unless otherwise specified in the Basin Plan
- Dischargers will need to:
 - ✓ Make necessary upgrades to comply with AGR use and
 - ✓ Comply with all conditions of their permits designed to protect AGR beneficial use

AGR Alternative # 2 – Site Specific Objectives (SSOs)

- A “Site” is generally Water body specific
- SSOs may be based on:
 - ✓ Protection of the designated uses
 - ✓ Lesser consumption of water
 - ✓ Higher Salinity Objectives for stock watering use versus irrigation use
 - ✓ Salinity objectives based on the type of crops that could be reasonably grown within the study area or
 - ✓ Use of other scientifically sound criteria

AGR Alternative # 3 – De-Designate AGR Beneficial Use Based on 5,000 EC Salinity Threshold with No Vertical Boundary

- De-designate AGR use (for both agricultural irrigation and livestock watering) within the proposed horizontal boundary with No Vertical Boundary based on a groundwater salinity threshold of 5,000 $\mu\text{S}/\text{cm}$ EC (3,000 mg/L TDS);

AGR Alternative #4 – De-designate AGR Beneficial Use Based on a 5,000 EC Salinity Threshold with Proposed Vertical Boundaries

- De-designate AGR use within the proposed horizontal boundary to the variable depths bounded by the top of the Lower Tulare Formation and extending to the bottom of the Etchegoin Formation based on a groundwater salinity concentration threshold of 5,000 $\mu\text{S}/\text{cm}$ EC (3,000 mg/L TDS)

Comments/Questions ?