



**WATER  
AGENCY**

# Onsite Wastewater Treatment Program Review

Water Resources Committee Meeting  
April 28, 2026

# 2025 – 2029 Strategic Plan Alignment

## GOAL D

### Groundwater Management

Manage and protect the groundwater basin as the State designated Groundwater Sustainability Agency.

## Initiative T1

Manage the GSA and implement the Groundwater Sustainability Plan

# Agenda

- Objectives
- Background
- Assessment of Current Wastewater Requirements
- Actions Taken
- Recommendations



# Objectives

- To update the Water Resource Committee with the actions taken to date
- To discuss how staff addressed the comments from the Water Resources Committee meeting on August 26, 2025
- To recommend potential board actions for amending the Zone 7 1982 Wastewater Treatment Plan and the 2015 Nutrient Management Plan

# Acronyms

**ACDEH** – Alameda County Department of Environmental Health

**ADU** – Accessory Dwelling Unit

**AOCs** – High Nitrates Areas of Concern

**LAMP** – Local Area Management Program for managing septic systems

**LAVWMA** - Livermore Amador Valley Water Management Agency

**SB** – Senate Bill

**SGMA** – Sustainable Groundwater Management Act

**NMP** – Nutrient Management Plan

**OWTS** – Onsite Wastewater Treatment Systems

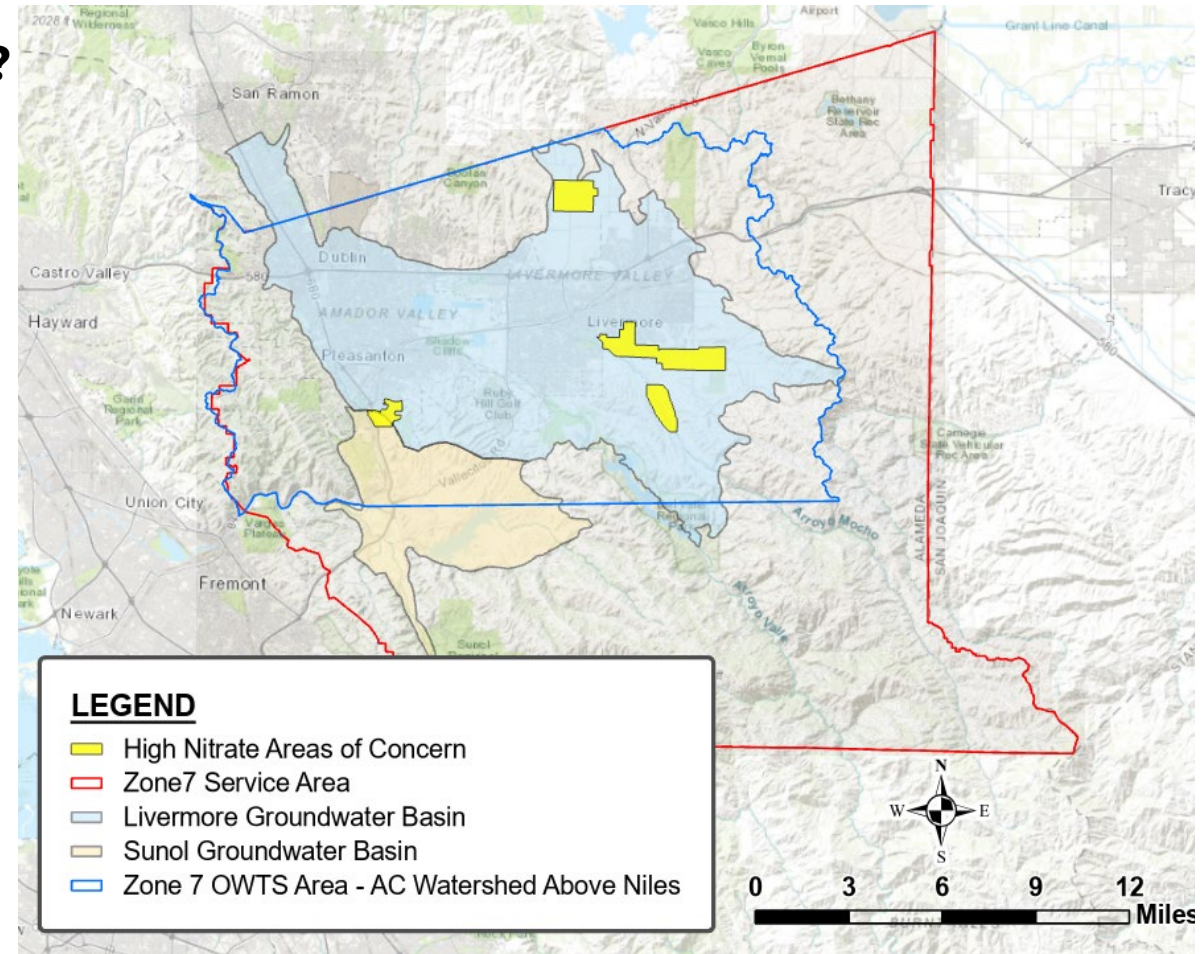
**RRE** – Rural Residential Equivalence of Nitrogen loading (to a 3-bedroom home)

**WMP** – Wastewater Management Plan

# Background

## What does Zone 7's septic permitting program do?

- Manages the discharge of nitrogen in unsewered unincorporated areas of the Upper Alameda Creek Watershed
- Prohibits commercial use of OWTs unless the Zone 7 Board approves an exception
- Regulates the amount and type of nitrogen loading
- Works in coordination with the Alameda County Environmental Health Department (ACDEH) septic design permitting and the Alameda County Planning Department



# Background – Septic and Land Use Policies

1. **1982 Resolution 1037** - Wastewater Management Plan, Minimum 5-acre lot size
2. **1985 Resolution 1165** – Commercial and Industrial Land Use Permitting
3. **2015 Resolution 15-71 (Nutrient Management Plan)** – Stricter requirements in “Areas of Concern”, Recognition of new “Advanced Treatment” septic technologies, Loading type Best Management Practices
4. **2018 ACDEH LAMP** – Alameda County Department of Environmental Health incorporates Zone 7’s loading limits into the County’s Local Agency Management Program (LAMP) for Onsite Wastewater Treatment Systems
5. **2022 California SB-9** - Ministerial approval of up to two properties per lot and lot split
6. **2025 California SB 12-11** – Allows up to 8 separate ADUs on a single lot

# Assessment of Current OWTS Requirements

1. The Minimum Lot Size recommended in the Wastewater Management Plan (WMP):
  - Did not account for today's advanced treatment and nitrogen reduction.
  - Uses 34 pounds of nitrogen loading, based on a 5-acre minimum lot size.
  - Allows for 34 pounds of loading on smaller lots: lots of record, variance subdivision.
2. New housing laws promote increased housing density:
  - 2021 California Senate Bill 9 - Ministerial approval of lot split and ADU
  - 2024 California Senate Bill 1211 – ADU allowance increase from 2 to 8 detachable units per lot

# Assessment of Current OWTS Requirements (cont.)

3. Unclear minimum lot size between agencies:

- *ACDEH's minimum 40,000 to 60,000 square feet unless more restrictive requirements must be met.*
- Zone 7's 5-acre lot size within the watershed above Niles Canyon Rd.

4. The variance requirement, "*improvement of groundwater quality,*" described in the 1982 WMP is ambiguous

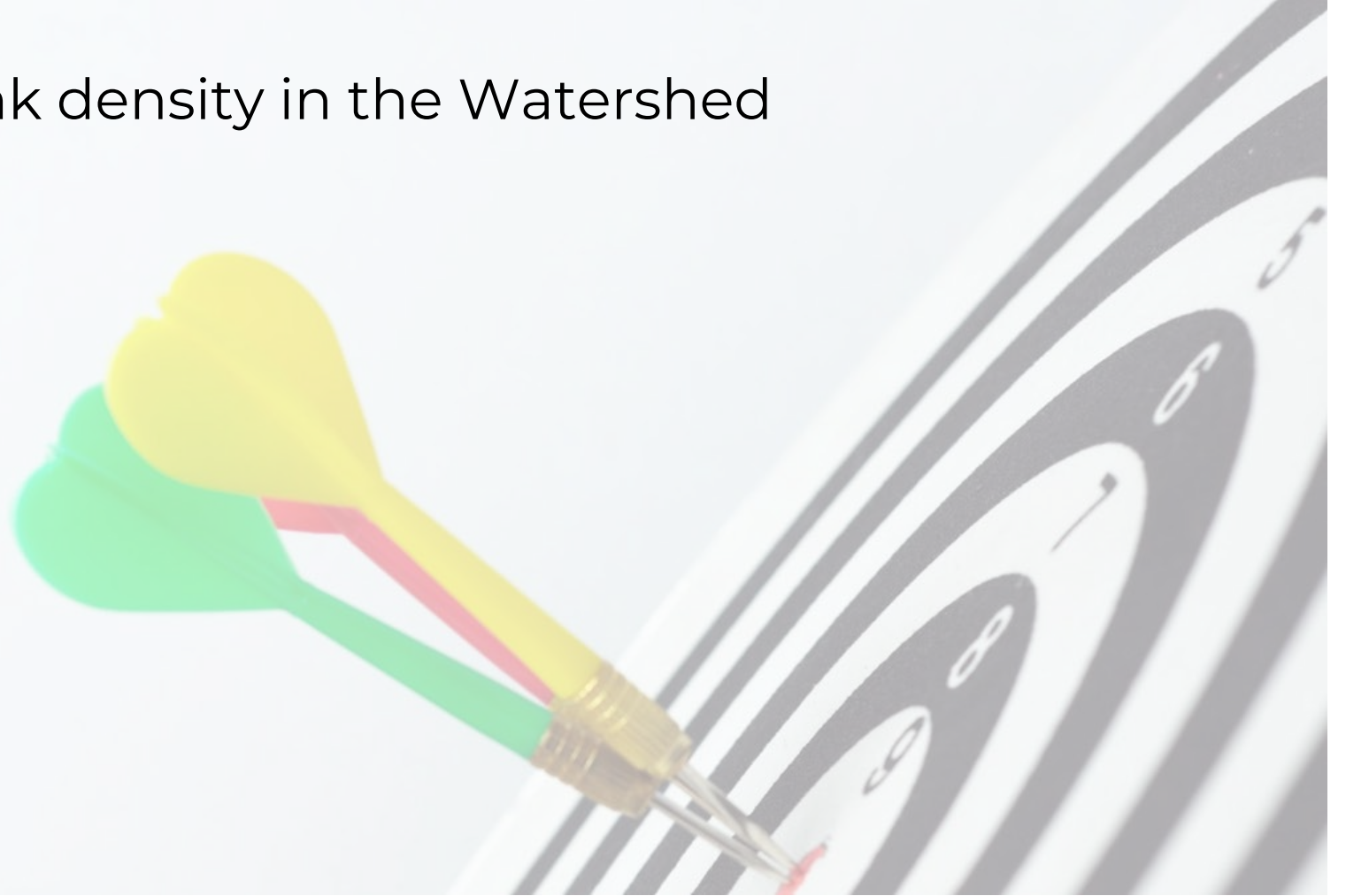
5. Board approval for Wastewater Treatment Plants is not included.

# Actions Taken

1. Reviewed septic tank density in the Watershed
2. Evaluated 2015 NMP current loading rates and 1982 WMP minimum lot sizes
3. Updated loading curve in the 2015 NMP to correspond to lot sizes for smaller lots
4. Coordinated potential lot size and nitrogen loading scenarios with partnering agencies: Alameda County Planning and Environmental Health. Informed the Regional Water Quality Control Board
5. Develop recommendations to follow-up WRC discussion with expanded loading and septic location information

# Septic Tank Density Results

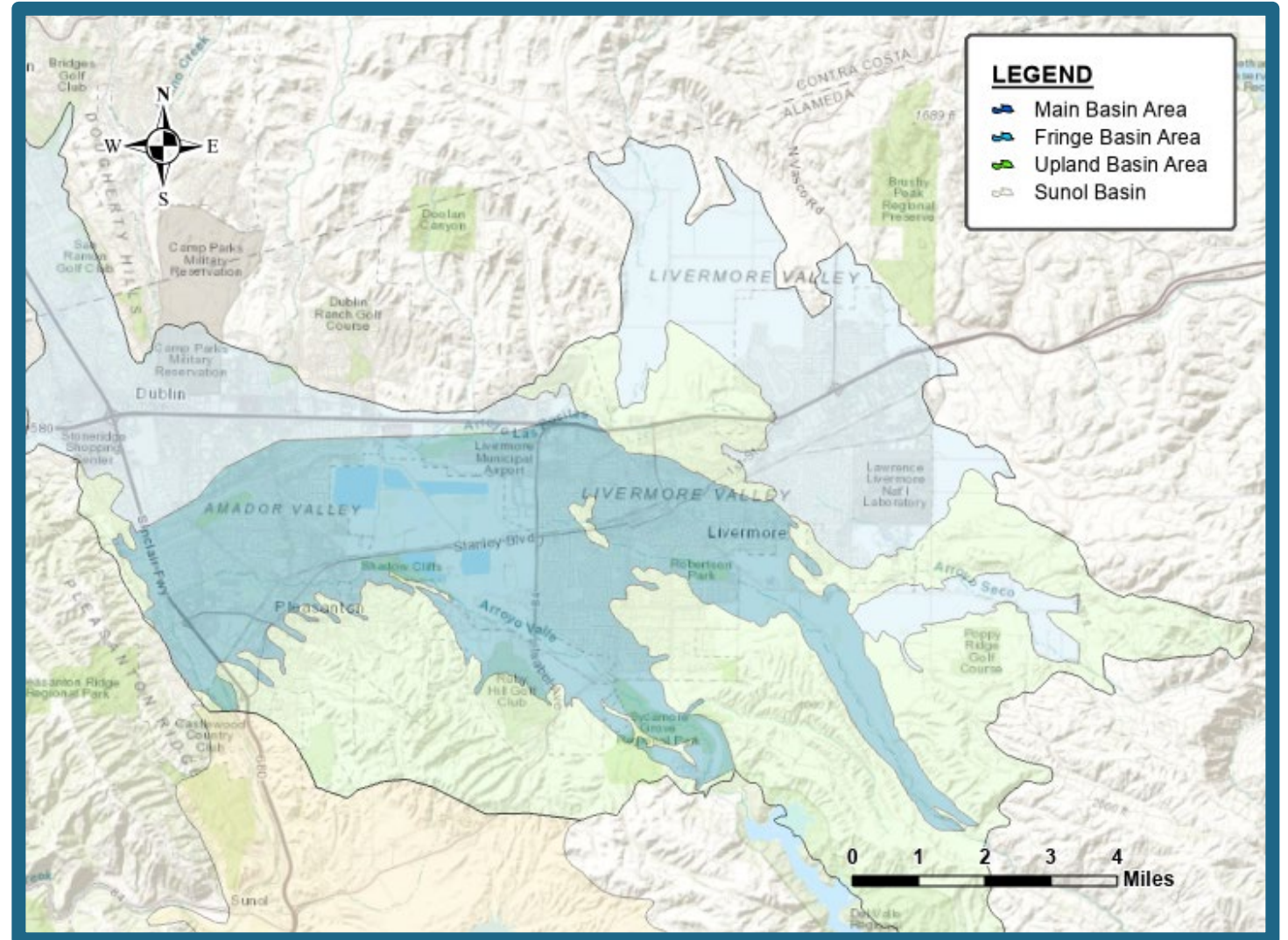
- Reviewed septic tank density in the Watershed



# Septic Tank Density Results

## OWTS Factors

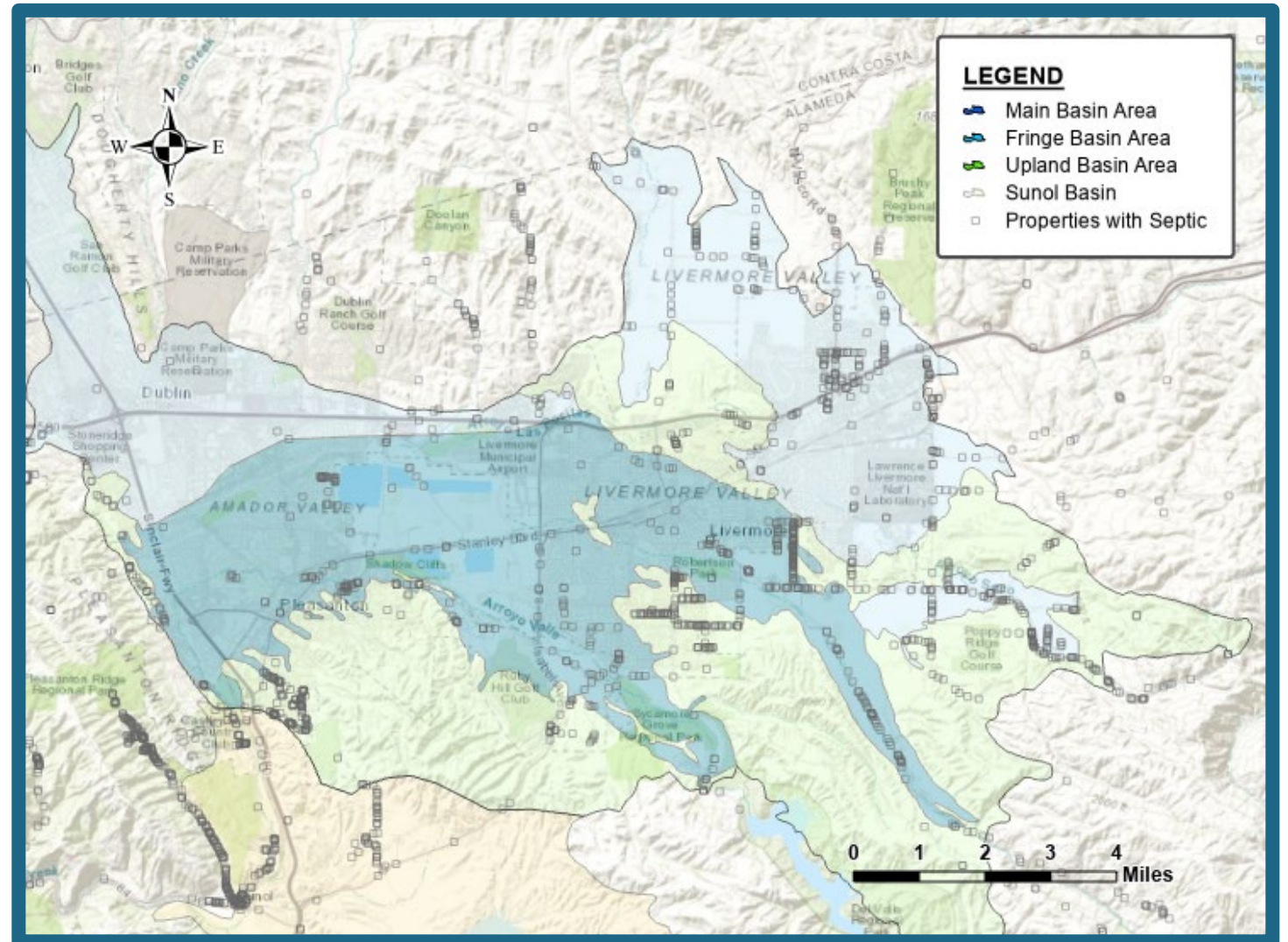
- Basins



# Septic Tank Density Results

## OWTS Factors

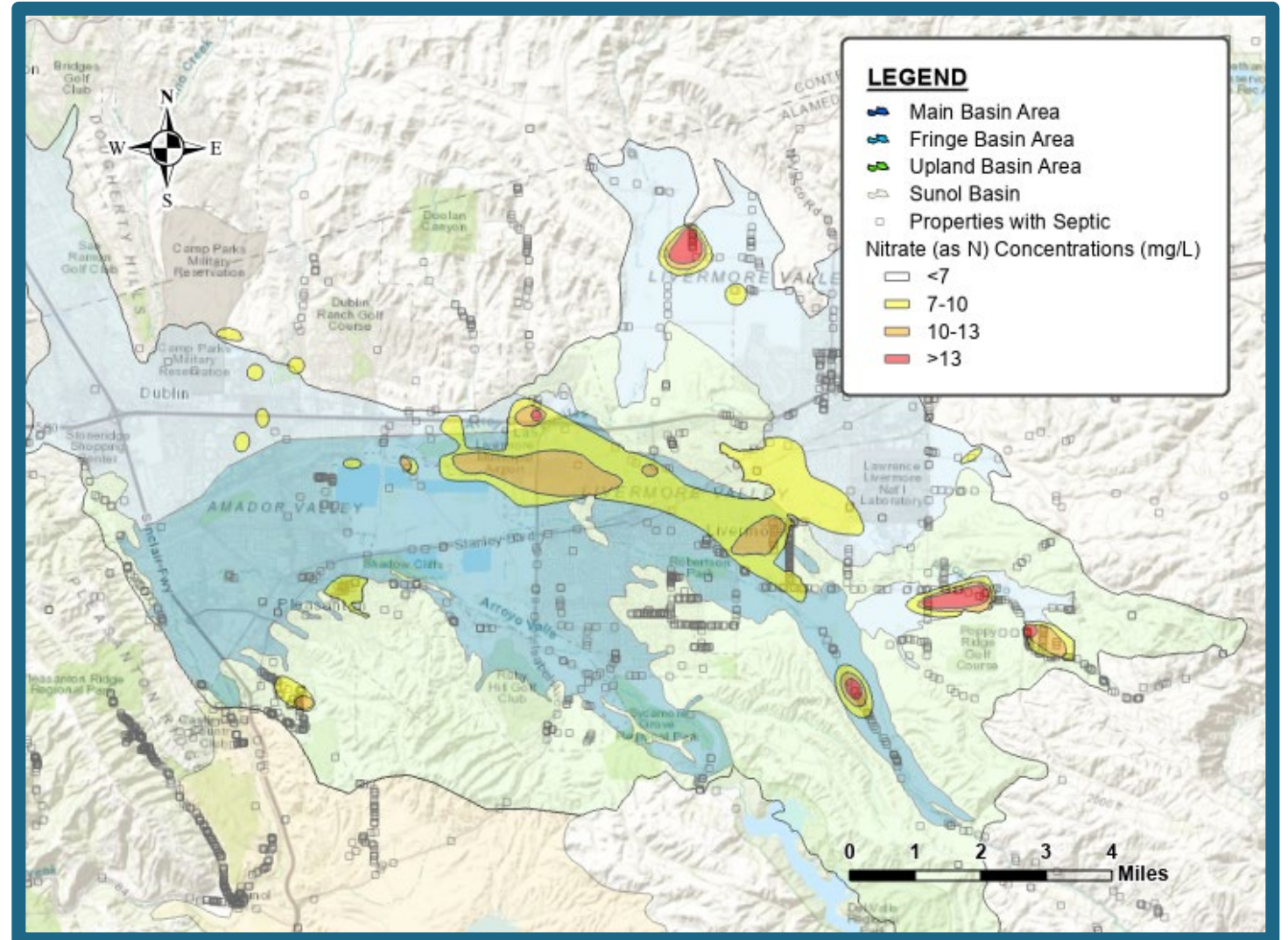
- Basins
- Septic Sites



# Septic Tank Density Results

## OWTS Factors

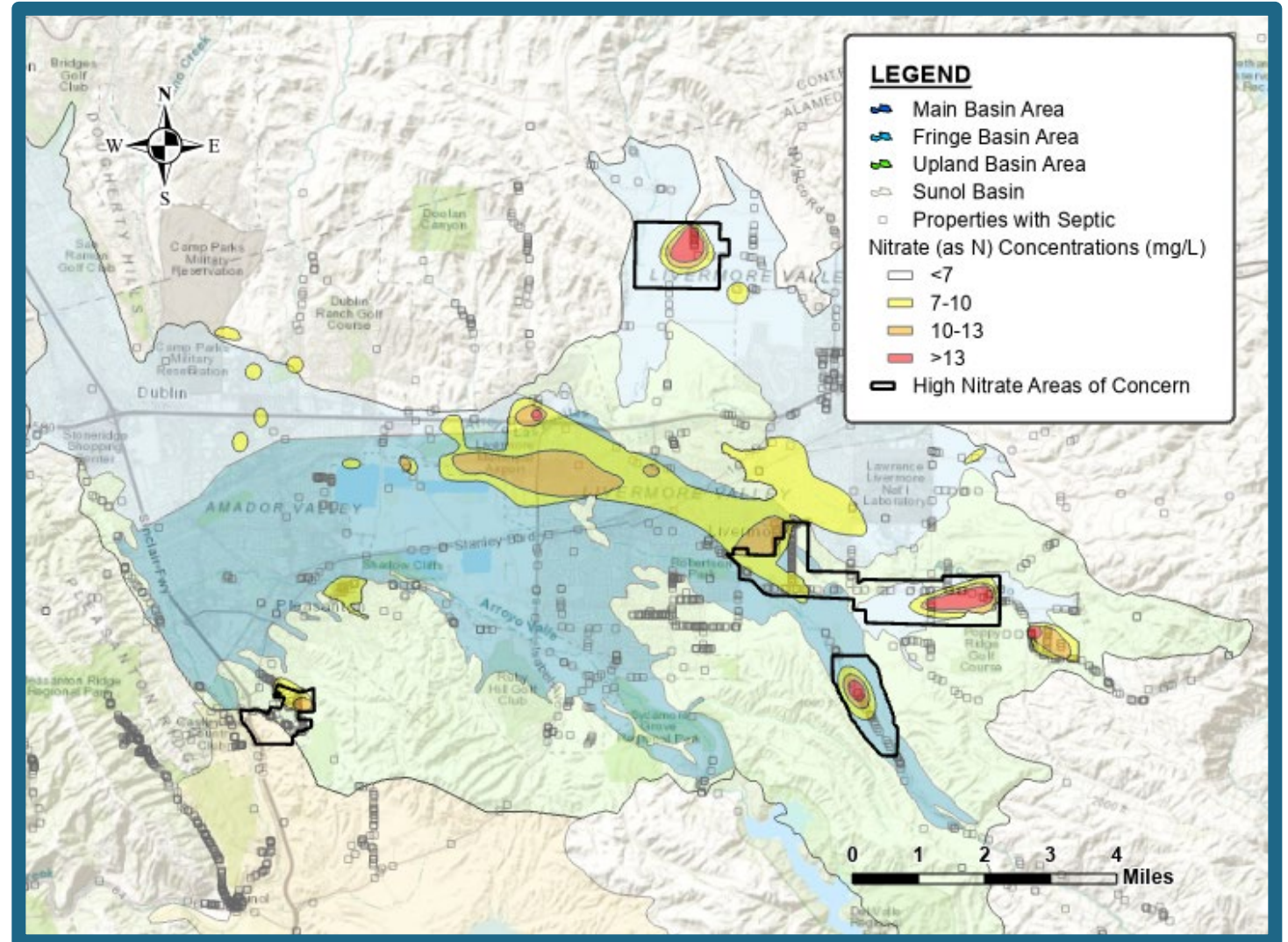
- Basins
- Septic Sites
- Nitrate Plume (Upper)



# Septic Tank Density Results

## OWTS Factors

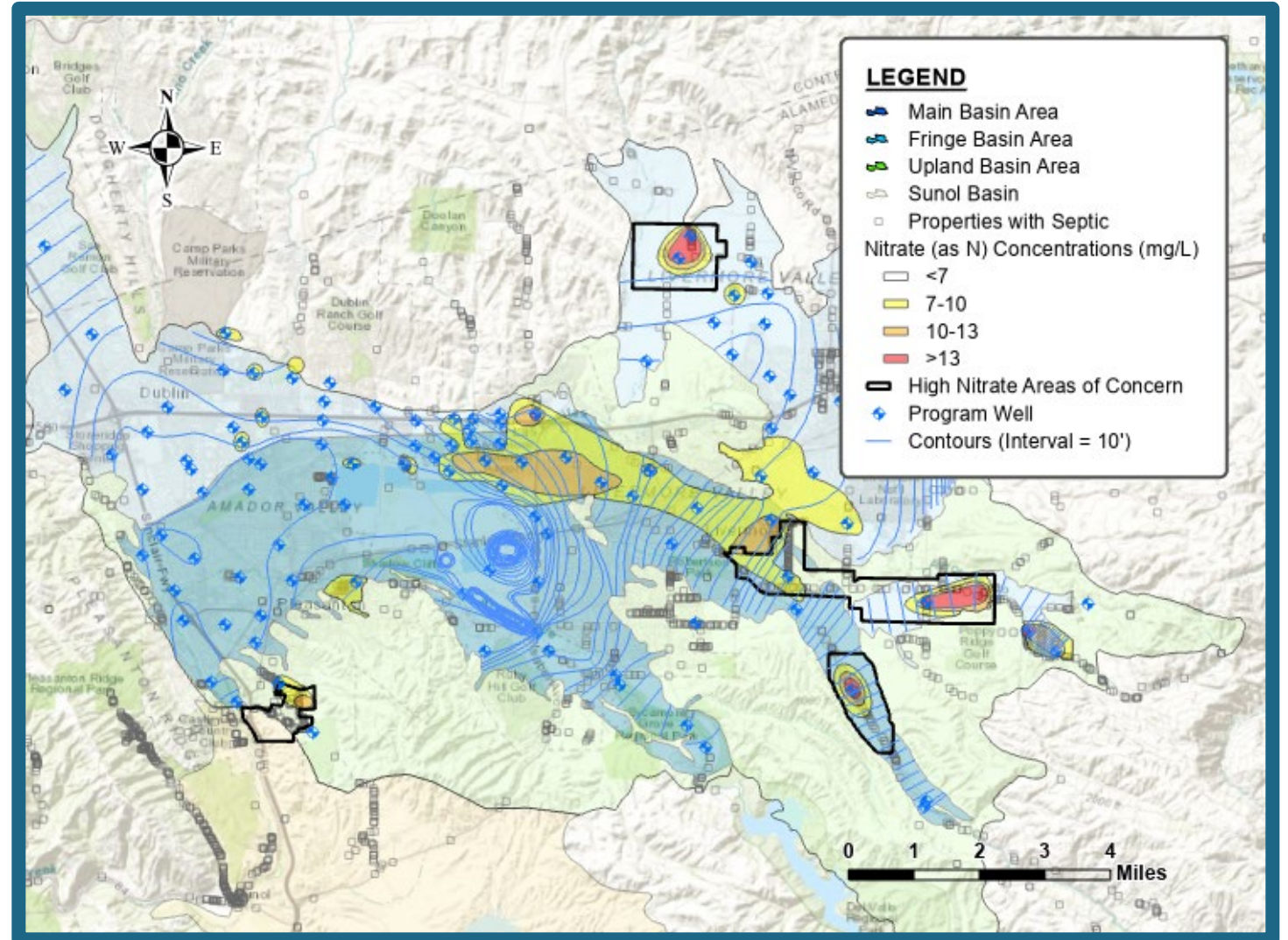
- Basins
- Septic Sites
- Nitrate Plume (Upper)
- Nitrates Areas of Concern



# Septic Tank Density Results

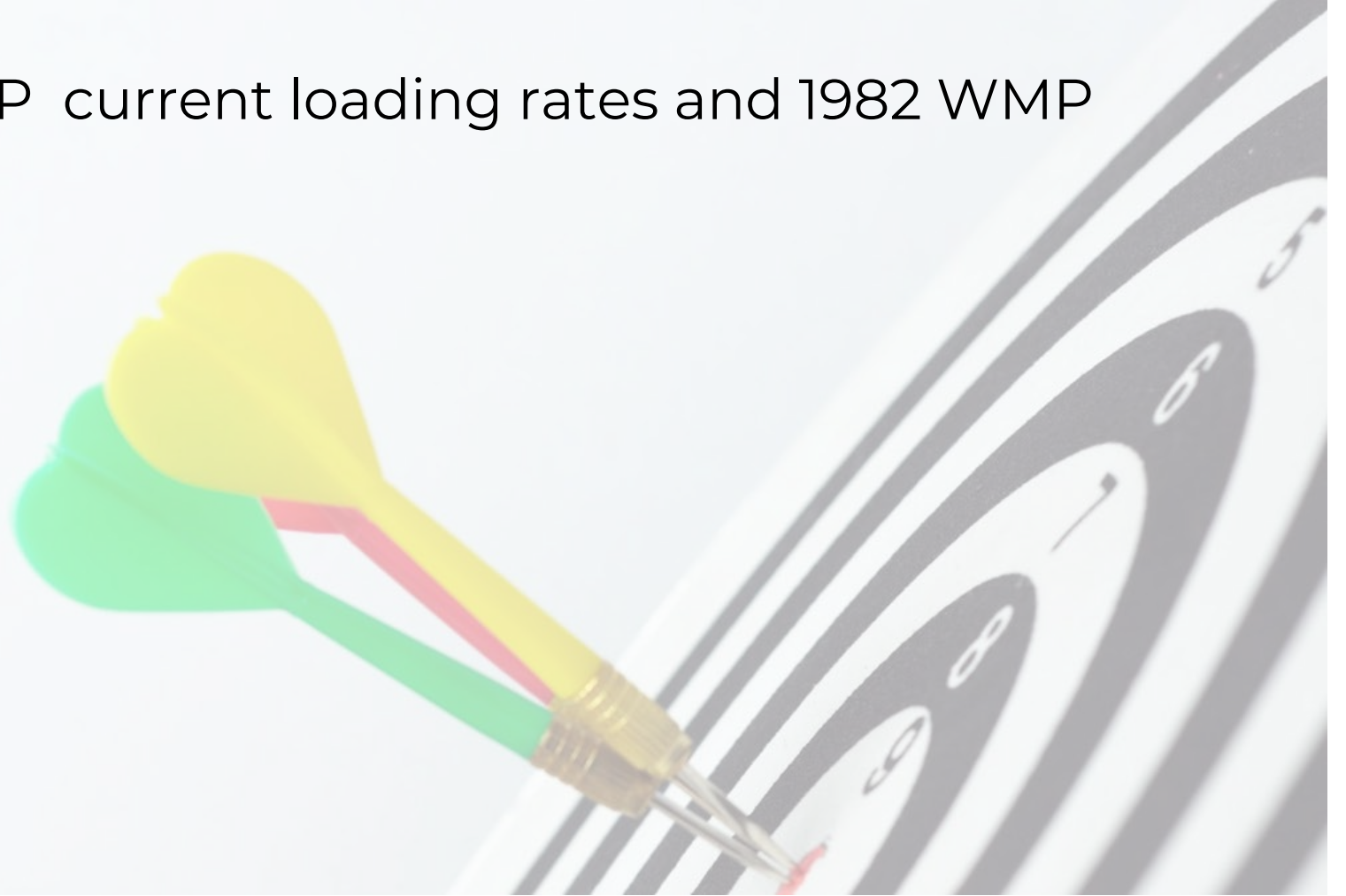
## OWTS Factors

- Basins
- Septic Sites
- Nitrate Plume (Upper)
- Nitrates Areas of Concern
- Groundwater Gradients



# Lot Size and Loading Recommendations

1. Evaluated 2015 NMP current loading rates and 1982 WMP minimum lot sizes



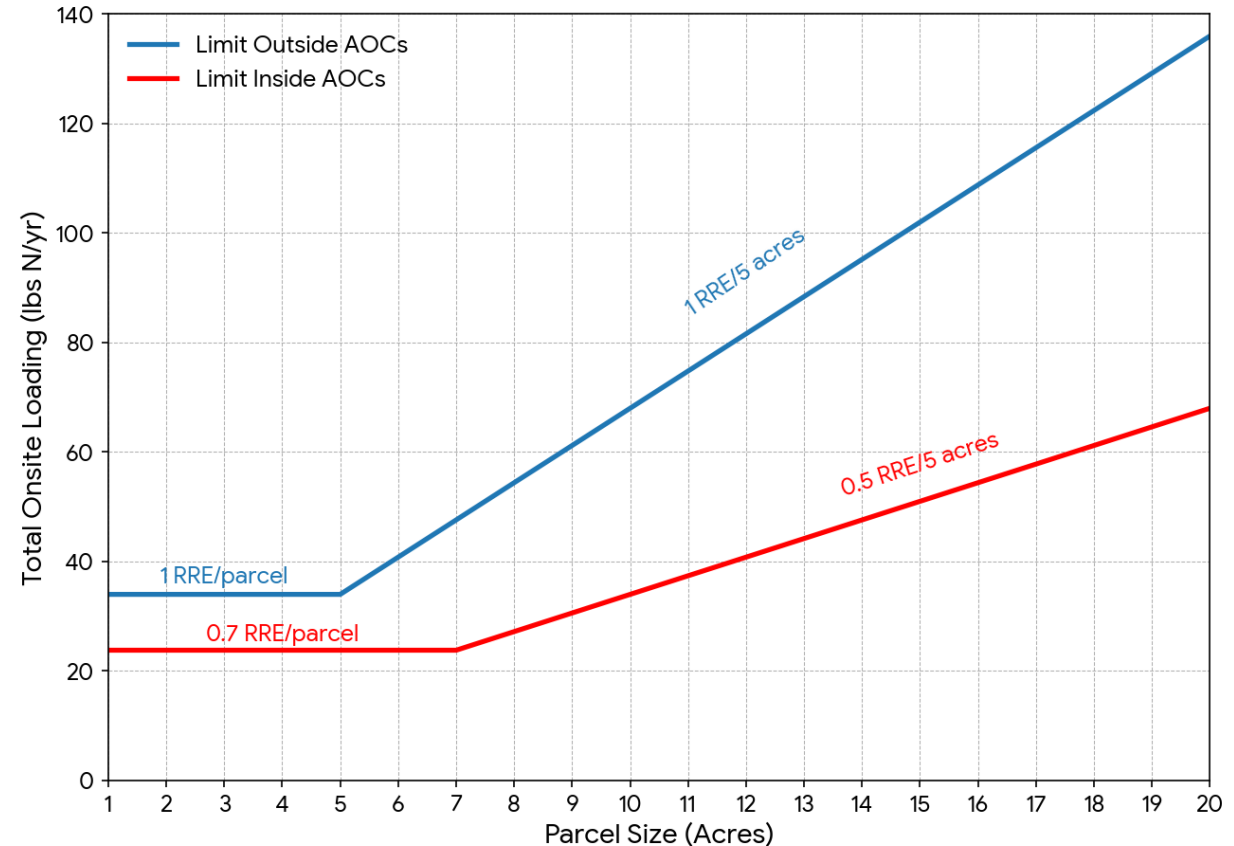
# Lot Size and Loading Recommendations

## Policy Update Zone 7 2015

### Nutrient Management Plan (reflected in the ACDEH LAMP)

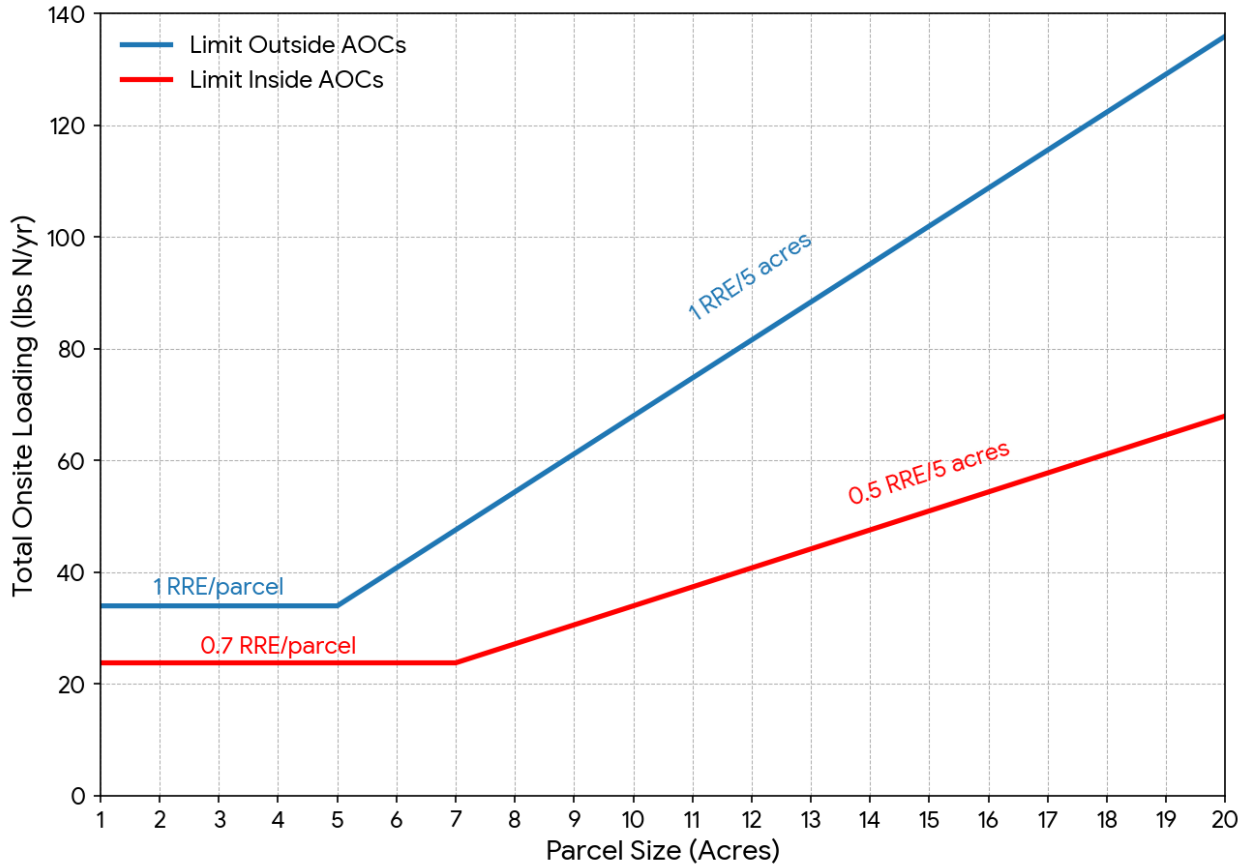
- Replace: 5-acre minimum lot size
- Add: Further restrict loading below 5 acres by proportionalizing requirements
- Maintain: Groundwater quality goals

Existing - Graphs of OWTS Limits

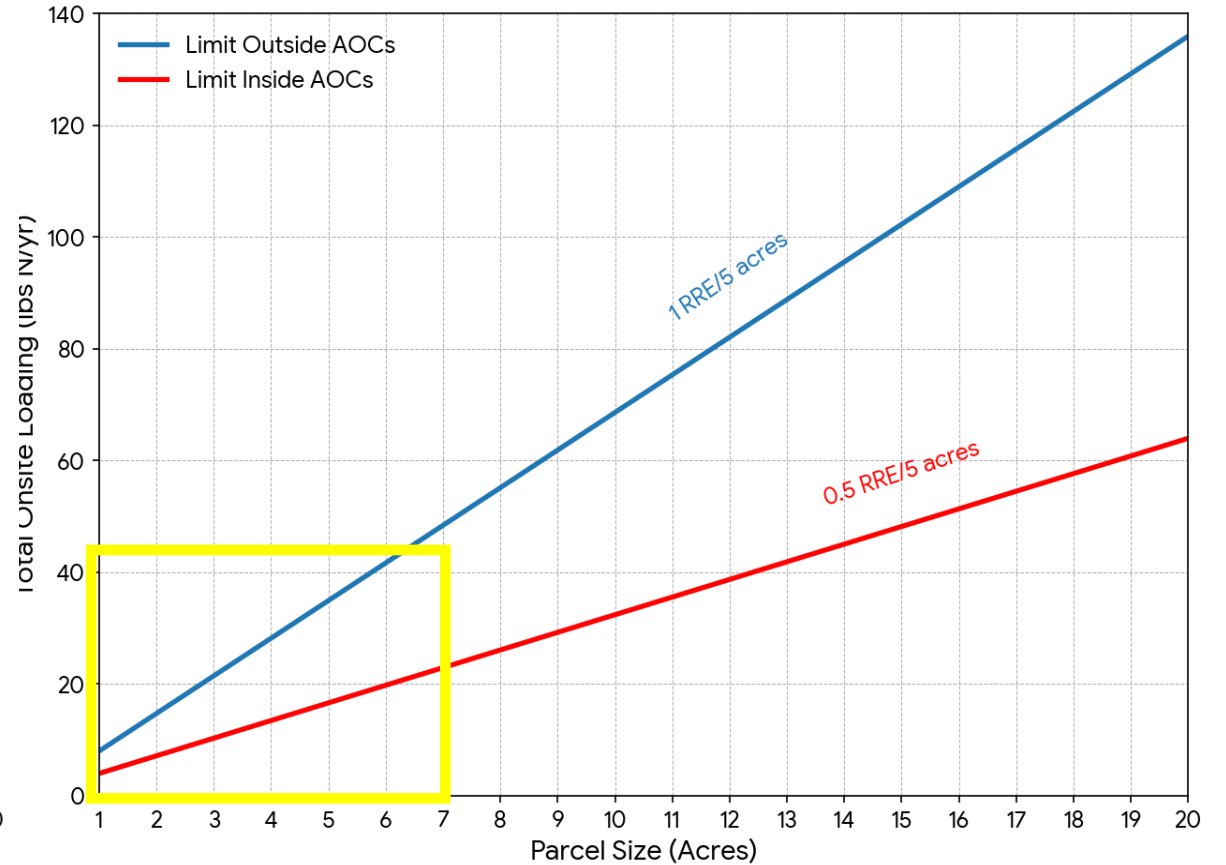


# Lot Size and Loading Recommendations

Existing - Graphs of OWTS Limits



Proposed - Graphs of OWTS Limits



# Lot Size and Loading Recommendations

## Update policy loading table

- Simplify loading table
- Adjust for minimum lot size change

Existing - Loading Rate Table		
Maximum Allowable Annual Nitrogen Loading Per Parcel for Parcels Located in Zone 7 Jurisdiction		
Parcel Location	Parcel Size	Nitrogen Loading (lbs)
Outside AOC	Parcels ≤ 5 Acres	34
	Parcels > 5 Acres	(# Acres) * 6.8
Inside AOC	Parcels ≤ 7 Acres	23.8
	Parcels > 7 Acres	(# Acres) * 3.4 (# Acres) * 6.8*

Notes:

\*Alternative loading rate allowed if a hydrogeological study is performed that assesses current groundwater nitrate conditions beneath the site and demonstrates that the proposed project will not cause nitrate concentrations to rise.

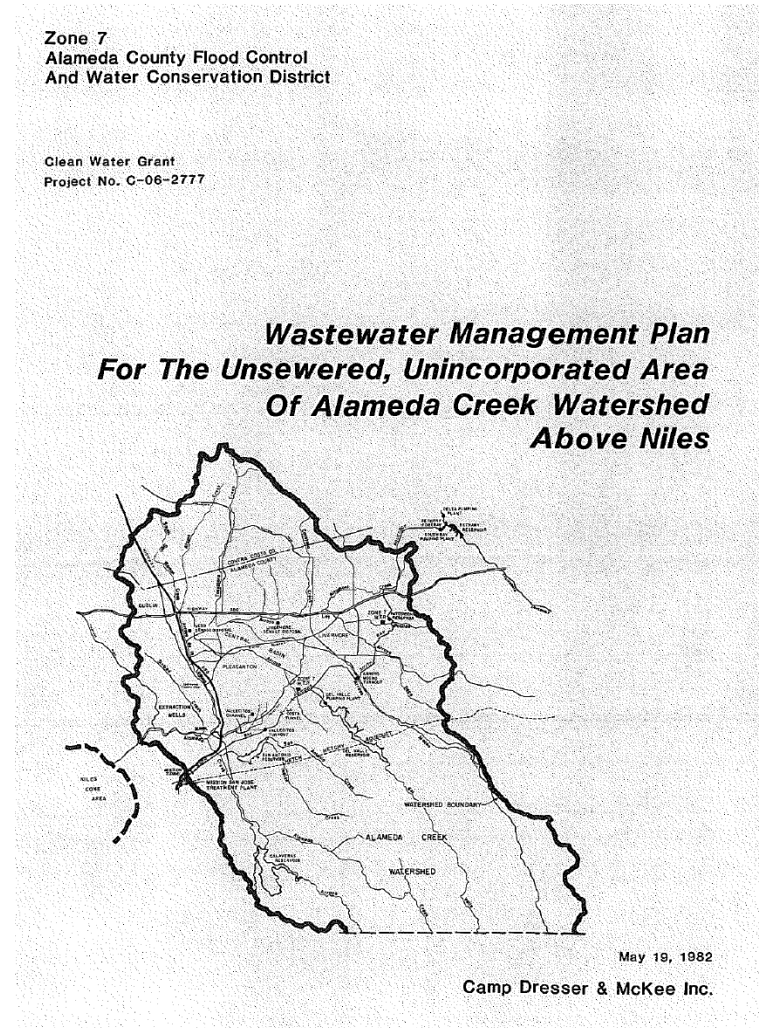
Proposed - Loading Rate Table	
Maximum Allowable Annual Nitrogen Loading Per Parcel for Parcels Located in Zone 7 Jurisdiction	
Parcel Location	Nitrogen Loading (lbs)
Outside AOC	(# Acres) * 6.8
Inside AOC	(# Acres) * 3.4

Notes:

Alternative loading rate allowed if a hydrogeological study is performed that assesses current groundwater nitrate conditions beneath the site and demonstrates that the proposed project will not cause nitrate concentrations to rise.

# Other Recommendations – Clarify Policy Language

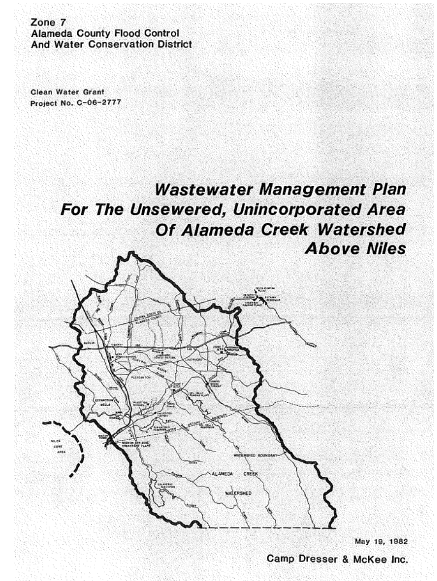
- Modify the provisions of the Zone 7 1982 Wastewater Management lot size variance and Wastewater Treatment Plant operations language



# Other Recommendations – Clarify Policy Language

Replace: “*demonstrate improvement in groundwater quality*” with “*will not cause the nitrogen concentrations to increase.*”

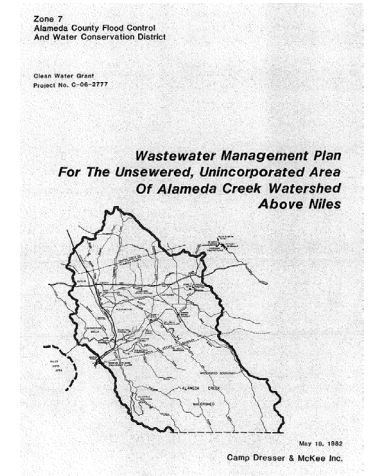
**studies should be required to demonstrate the special conditions and the improvement in water quality.**



# Other Recommendations – Wastewater Treatment Plants

## Modify Wastewater Treatment Plants language to be consistent with individual septic system policies for loading and land use

- Change operation language *“Wastewater treatment plants in Alameda County above Niles not operated by LAVWMA agencies should be operated and maintained by Zone 7”.*
- Add - Zone 7 Board approval for new Wastewater Treatment Plants



## OPERATION AND MAINTENANCE

Wastewater treatment plants in Alameda County above Niles not operated by LAVWMA agencies should be operated and maintained by Zone 7. Zone 7 could contract with a

# Summary of Recommendations

1. Maintain current requirements for loading and advanced treatment
2. Replace minimum lot size requirements with proportional loading requirements
3. Continue monitoring nitrates in the groundwater to meet groundwater objectives and SGMA compliance
4. Clarify 1982 WMP variance
5. Update 1982 WMP to include approval for Wastewater Treatment Plants not operated by LAVMA





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**Questions?**