

# Napa Valley Subbasin

## Napa County Water Conservation Workplan

## Groundwater Pumping Reduction Workplan

Napa County GSA TAG Meeting

# Overview

1. Napa County Water Conservation Workplan
2. Groundwater Pumping Reduction Workplan
3. Workplan Updates
  1. Benchmarking Conceptualization
  2. Certification Programs
4. Next Steps



# NAPA COUNTY WATER CONSERVATION WORKPLAN

# Water Conservation Workplan

Designed as a resource for stakeholders to learn about, consider, and enact voluntary water conservation measures, including:

- Background information
- Water conservation practices
- Cost-share opportunities
- Training, education, and engagement opportunities

# Water Conservation Workplan



## All Users

Measurement  
Recycled water  
Benchmarking



## Vineyards & Agriculture

Irrigation system efficiency  
Distribution uniformity  
Plant water and soil moisture monitoring  
Soil management  
Canopy management  
Row orientation  
Rootstock selection



## Wineries

Barrell sanitation  
Processing winery wastewater and reuse  
Turf removal  
Drought-tolerant and native landscaping



## Municipal & Residential

Efficient appliances  
Checking for leaks  
Turf removal  
Drought-tolerant and native landscaping



# GROUNDWATER PUMPING REDUCTION WORKPLAN

# Groundwater Pumping Reduction

## Guiding Framework:

- Focus on voluntary actions that achieve groundwater benefits for the Subbasin
- Assess the costs and benefits of alternative actions and focus on those that are most cost-effective
- Leverage existing programs and opportunities to generate value from a suite of voluntary actions
- Include adaptive management to adjust the program as data and sustainability indicators evolve

# Groundwater Pumping Reduction Workplan



## Voluntary Approaches to Reduce Pumping

Field-level measurement  
Best management practices  
Education  
Benchmarking  
On-farm practices  
Other practices  
Adaptive management



## Subbasin Use Benchmarking and Tracking

Remote sensing, metering  
Well permitting  
Groundwater trends



## Communications and Engagement

Outreach and engagement  
Technical Advisory Group  
Education and resources



## Steps for Implementation

Assess effectiveness  
Implement adaptive measurement and potential mandatory measures, pending effectiveness of voluntary efforts



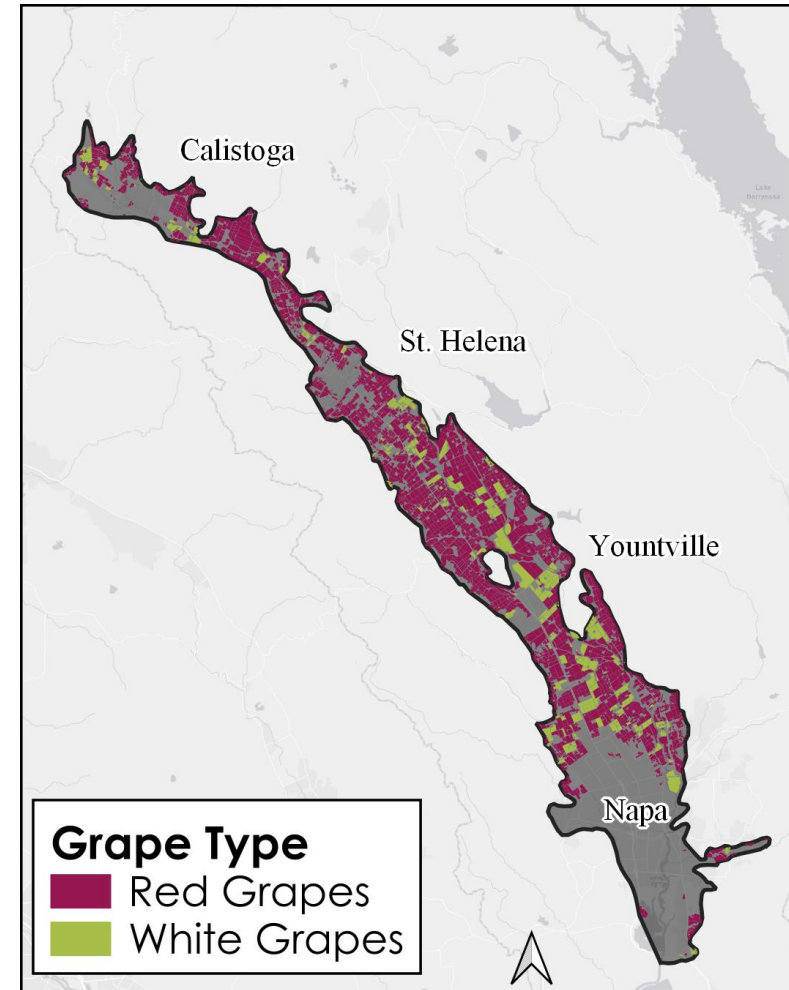


# WORKPLAN UPDATES: BENCHMARKING AND CERTIFICATION

# Benchmarking Example Concept

## Example for vineyards

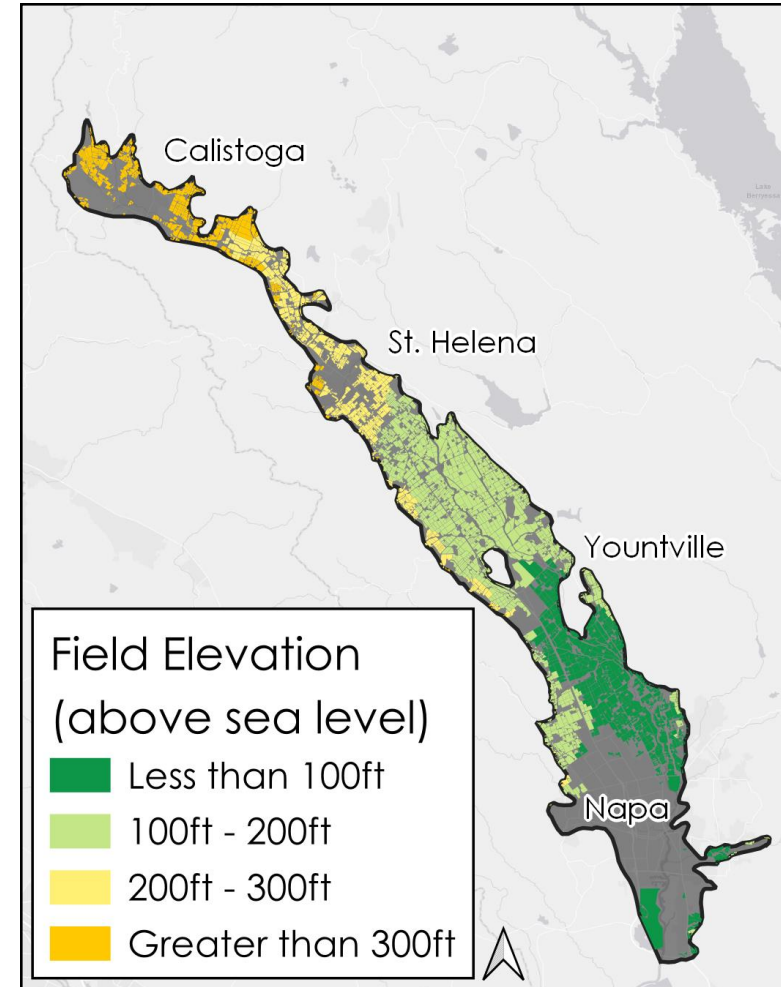
- Uses OpenET data, open-source data of evapotranspiration (ET)
- ET is water used by the crop and incidental evaporation
  - It does not distinguish between precipitation, and applied water source (e.g., ground, surface, recycled) or deep root uptake
  - OpenET data are an example and would be refined as data gaps are addressed



# Benchmarking Example Concept

Analyzed differences in ET across observable field characteristics (potential “peer groups”):

- Soil drainage
- Slope
- Elevation
- Precipitation
- Temperature
- Variety (white, red)
- Water Balance Areas

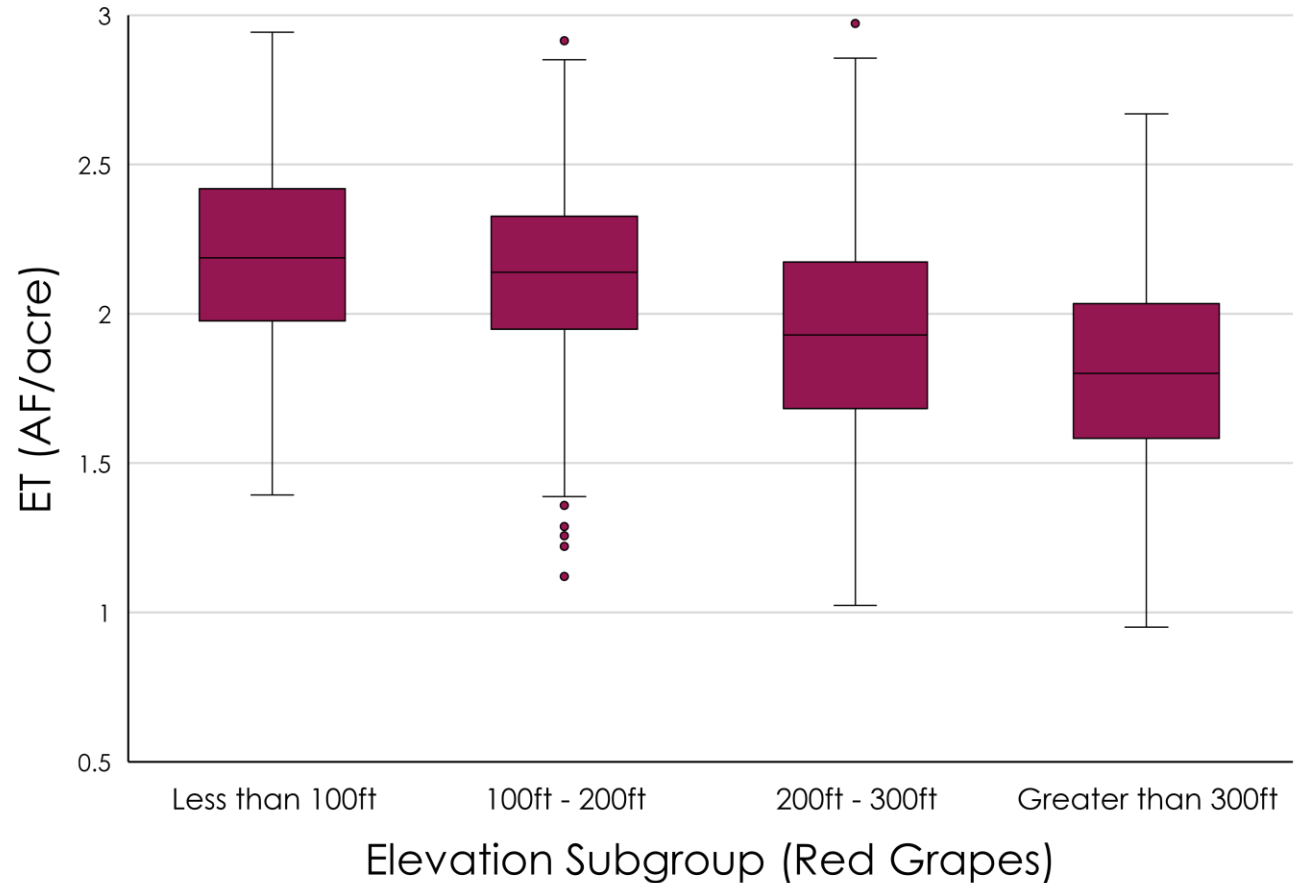


# Benchmarking Example Concept

Elevation and variety as example “peer groups” to benchmark ET

Ongoing analysis to identify representative peer groups and factors

There are other important differences across vineyards, this represents an example.



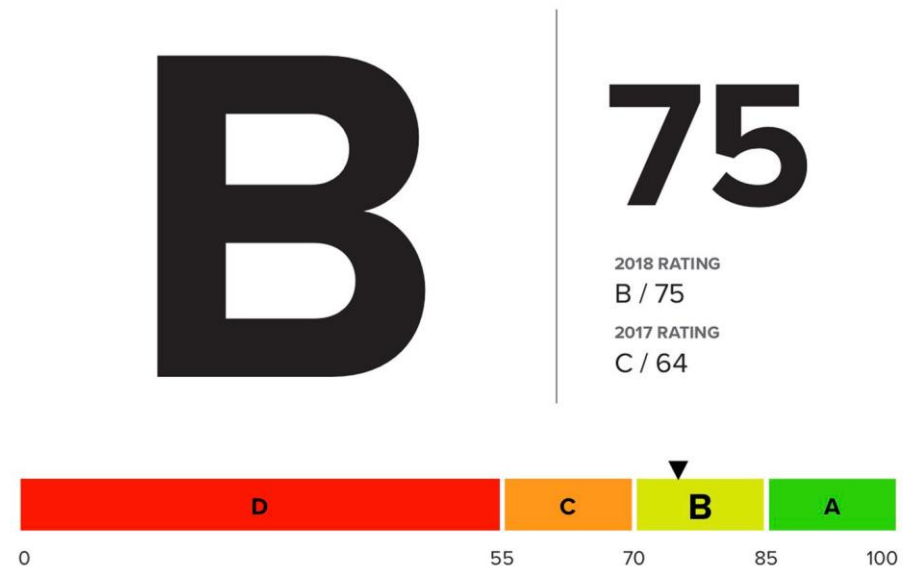
# Benchmarking Example Concept

Potential benefits:

- Increase focus on water efficiency by creating competition to be the best
- On-ramp to identify, diagnose, and address high water use—tool to nudge behavior change
- Monitor system-side improvements

Example from Energy Sector

## Building Energy Efficiency Rating





What other pros, cons, and constraints do you think are important for the development of a pilot benchmarking program?

# Certification Programs

Examples for developing incentives for Subbasin businesses to participate in certification programs that require water-savings practices

- Provide financial incentive for getting certified?
- Certification program could include
  - Set minimum water management criteria that the program must meet for new members to receive the financial incentive
  - Selection of water management criteria based on Water Practices Matrix results
  - Examples: Metering and reporting, DU testing every 3-5 years, and adoption of some form of irrigation scheduling tools (plant water or soil moisture monitoring)



How could we design this incentive program for high impact?





# NEXT STEPS

# Next Steps

## September 2023

- Preparing GPR Workplan and WC Workplan
  - Incorporating M&I and rural domestic per TAG and public feedback

## October 2023

- Draft documents for TAG and public review