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

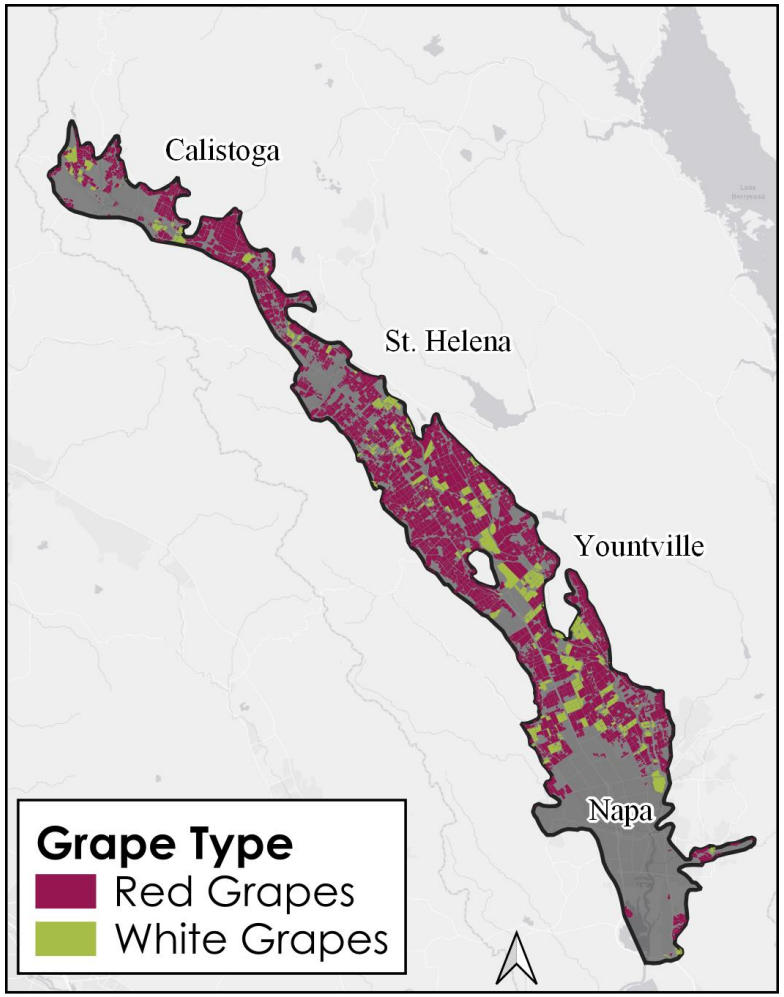
Implement adaptive measurement and potential mandatory measures, pending effectiveness of voluntary efforts

WORKPLAN UPDATES: BENCHMARKING AND CERTIFICATION

Benchmarking Example Concept

Example for vineyards

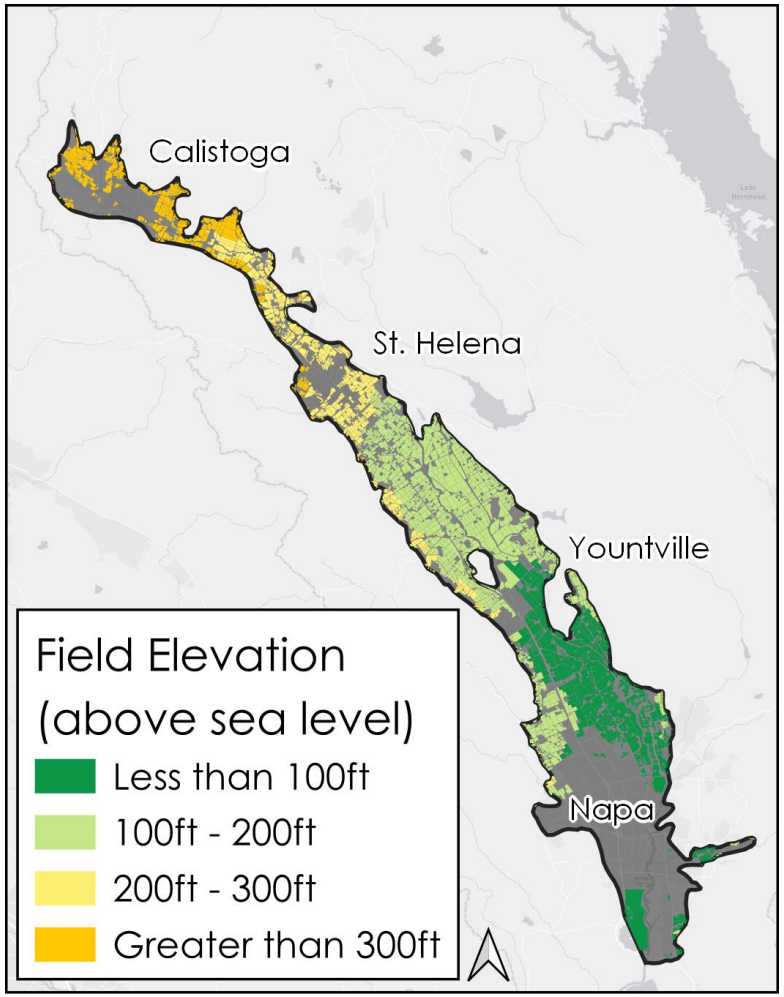
- Uses OpenET data, open-source data of evapotranspiration (ET)
- ET is water used by the crop and incidental evaporation
  - It does not distinguish between precipitation, and applied water source (e.g., ground, surface, recycled) or deep root uptake
  - OpenET data are an example and would be refined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

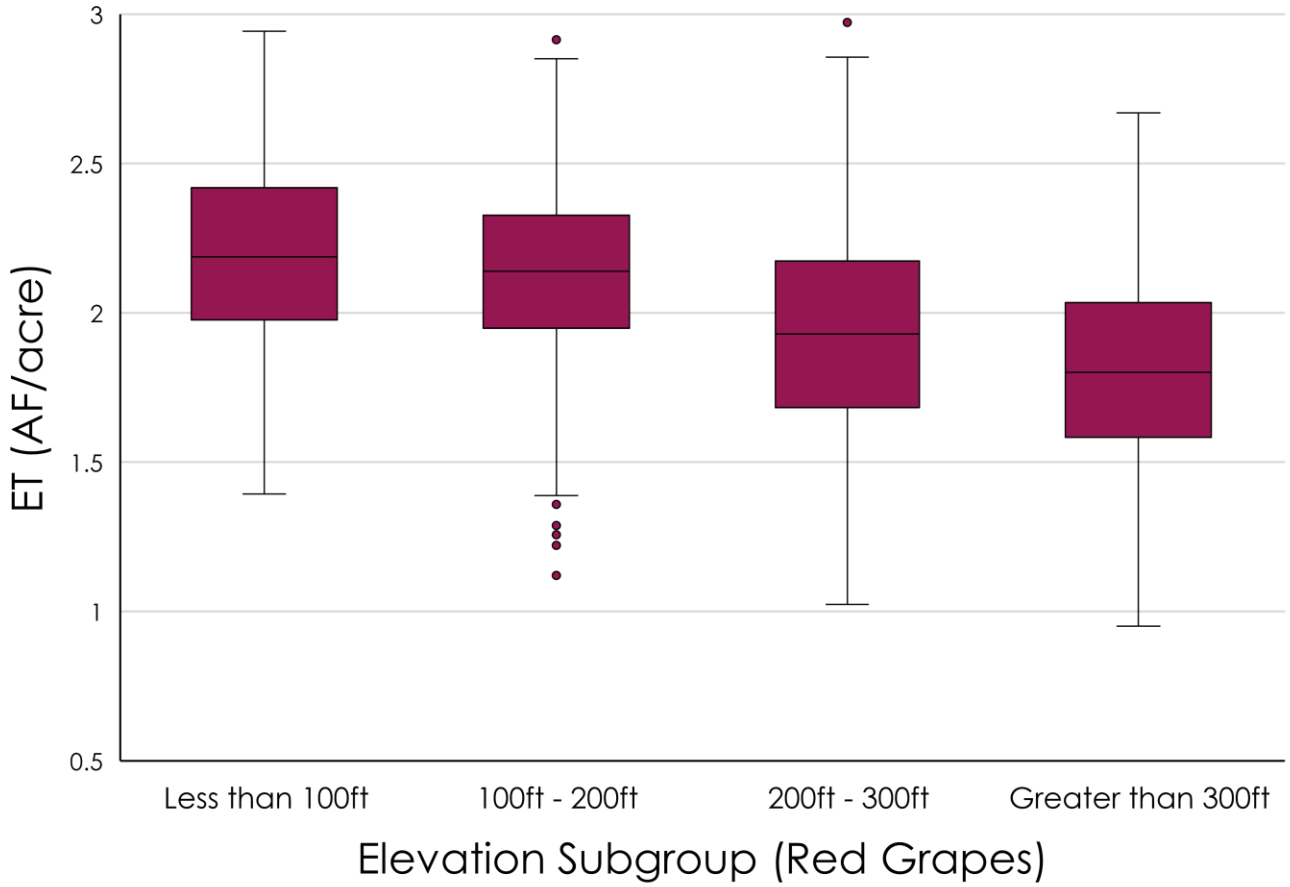


Benchmarking Example Concept

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.

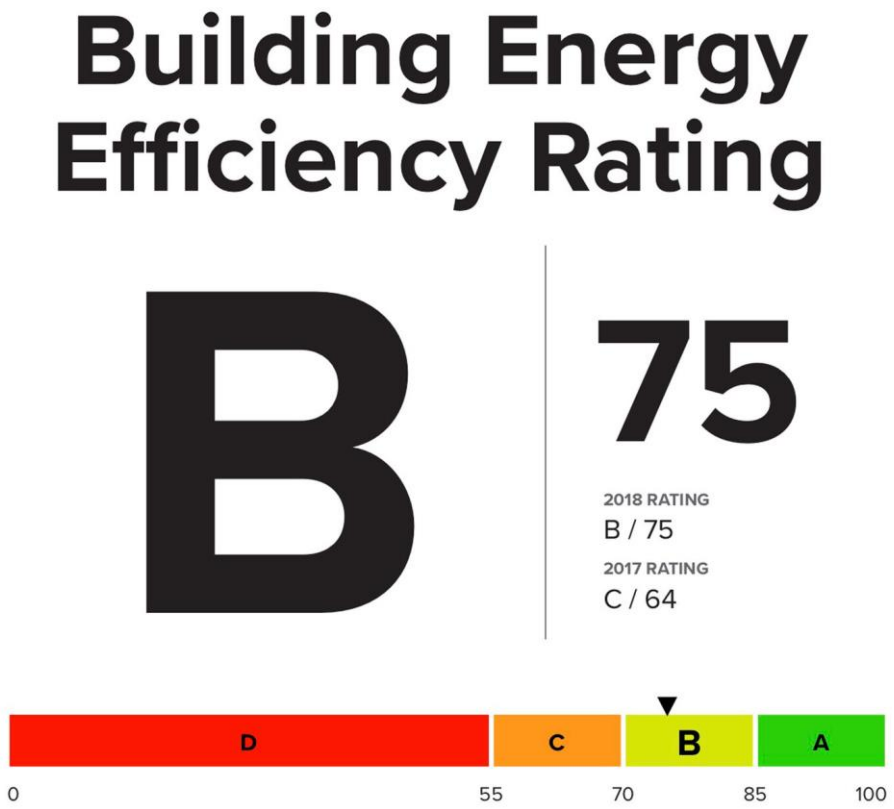


Benchmarking Example Concept

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



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