Napa County

1195 THIRD STREET
SUITE 310
NAPA, CA 94559

Agenda

Thursday, April 11, 2024
1:30 PM

Board of Supervisors Chambers
1195 Third Street, Third Floor

Groundwater Technical Advisory Group

Albert Filipelli (Chair)
Monica Cooper (Vice-Chair)
Julie Chambon
Miguel Garcia
Mathias Kondolf

Brian D. Bordona, Secretary- Director
Chris Apallas, County Counsel
Jamison Crosby, Natural Resources, Planning Manager
Brendan McGovern, Natural Resources, Planner III
Alexandria Quackenbush, Meeting Clerk
Aime Ramos, Meeting Clerk

How to Watch or Listen to the Napa County Groundwater Technical Advisory Group Meetings

The Napa County Groundwater Technical Advisory Group will continue to meet the 2nd Thursday of each month. There will be no regular meeting in July or October. July 9, 2024 will be a special-joint meeting of the GTAG & GSA.

The Groundwater Technical Advisory Group realizes that not all County residents have the same ways to stay engaged, so several alternatives are offered. Remote Zoom participation for members of the public is provided for convenience only. In the event that the Zoom connection malfunctions for any reason, the Groundwater Technical Advisory Group reserves the right to conduct the meeting without remote access.

Please watch or listen to the Groundwater Technical Advisory Group meeting in one of the following ways:

1. Attend in-person at the Board of Supervisors Chambers, 1195 Third Street, Napa, Third Floor.
2. Watch on Zoom using the attendee link: https://countyofnapa.zoom.us/j/89426085834. Make sure the browser is up-to-date.
3. Listen on Zoom by calling 1-669-900-6833 (Meeting ID: 894-2608-5834).

If you are unable to attend the meeting in person and wish to submit a general public comment or a comment on a specific agenda item, please do the following:

1. Email your comment to meetingclerk@countyofnapa.org. Emails will not be read aloud but will still become part of the public record and shared with the Groundwater Technical Advisory Group.
2. Use the Zoom attendee link: https://Countyofnapa.zoom.us/j/89426085834. Make sure the browser is up-to-date. When the Chair calls for the item on which you wish to speak, click "raise hand". Please limit your remarks to three minutes.
3. Call the Zoom phone number: 1-669-900-6833. (Meeting ID: 894-2608-5834). When the Chair calls for the item on which you wish to speak, press *9 to raise hand. Please limit your remarks to three minutes.

   Please note that phone numbers in their entirety will be visible online while speakers are speaking

For more information, please contact us via telephone at (707) 253-4417 or send an email to meetingclerk@countyofnapa.org.

ANY MEMBER OF THE AUDIENCE DESIRING TO ADDRESS THE COMMITTEE:

ON A MATTER ON THE AGENDA
Please proceed to the podium when the matter is called and, after receiving recognition from the Chair, give your name and your comments or questions. In order that all interested parties have an opportunity to speak, please be brief and limit your comments to the specific subject under discussion. Time limitations shall be at the discretion of the Chair or Committee, but is generally limited to three minutes.

ON A MATTER NOT ON THE AGENDA
Public comment is an opportunity for members of the public to speak on items that are not on the agenda but are within the subject matter jurisdiction of the Committee. Public comment is limited to three minutes per speaker, subject to the discretion of the Chair. Comments should be brief and focused, and speakers should be respectful of one another who may have different opinions. Please remember this meeting is being recorded and broadcasted live via ZOOM. The County will not tolerate profanity, hate speech, abusive language, or threats. Also, while public input is appreciated, the Brown Act prohibits the Committee from taking any action on matters raised during public comment that are not on the agenda.

1. CALL TO ORDER; ROLL CALL

2. PUBLIC COMMENTS AND RECOMMENDATIONS
(The Committee invites comments and recommendations from the public concerning issues relevant to the charge of the Technical Advisory Group. Anyone who wishes to speak to the Technical Advisory Group on such a matter, if it is not on the agenda, may do so at this time. At the discretion of the Chair, individuals will be limited to a three-minute presentation. No action will be taken by the Technical Advisory Group as a result of any item presented at this time.)

3. APPROVAL OF MINUTES

A The Secretary of the committee requests approval of the minutes from the March 14, 2024 TAG meeting. **24-611**

Attachments: Draft TAG Minutes, March 14, 2024

4. AGENDA REVIEW

5. ADMINISTRATIVE ITEMS

A Technical Advisory Group (TAG) members will receive presentations from representatives of each of the four major vineyard and winery certification programs operating in Napa County, pose questions and provide feedback to staff and participants. **24-637**

Attachments: ERA Economics Presentation, Certification Programs for GPR Implementation
Napa Green Presentation, April 2024
SIP Certified Presentation, April 2024
Fish Friendly Farming Presentation, April 2024
CSWA Presentation - Added after initial agenda posting.pdf

6. FUTURE AGENDA ITEMS

7. ADJOURNMENT

I HEREBY CERTIFY THAT THE AGENDA FOR THE ABOVE STATED MEETING WAS POSTED AT A LOCATION FREELY ACCESSIBLE TO MEMBERS OF THE PUBLIC AT THE NAPA COUNTY ADMINISTRATIVE BUILDING, 1195 THIRD STREET, NAPA, CALIFORNIA ON 4/8/2024 BY 1:00 PM. A HARDCOPY SIGNED VERSION OF THE CERTIFICATE IS ON FILE WITH THE COMMITTEE CLERK AND AVAILABLE FOR PUBLIC INSPECTION.

AIME RAMOS (By e-signature)
Aime Ramos, Committee Clerk

Napa County

Board Agenda Letter

1195 THIRD STREET
SUITE 310
NAPA, CA 94559
www.countyofnapa.org

Main: (707) 253-4580

Groundwater Technical Advisory Group **Agenda Date:** 4/11/2024 **File ID #:** 24-611

TO: Technical Advisory Group for the Napa County Groundwater Sustainability Agency

FROM: Brian D. Bordona - Director of Planning, Building and Environmental Services

REPORT BY: Jamison Crosby - Natural Resources Conservation Manager

SUBJECT: TAG Minutes from March 14, 2024

RECOMMENDATION

The Secretary of the committee requests approval of the minutes from the March 14, 2024 TAG meeting.

ENVIRONMENTAL IMPACT

ENVIRONMENTAL DETERMINATION: The proposed action is not a project as defined by 14 California Code of Regulations 15378 (State CEQA Guidelines) and therefore CEQA is not applicable.

BACKGROUND AND DISCUSSION

The TAG held its seventeenth meeting on March 14, 2024. Minutes were prepared and are ready for the committee's approval.

DRAFT Meeting Minutes

Technical Advisory Group

Julie Chambon *(Chair)*
Monica Cooper *(Vice-Chair)*
Albert Filipelli
Miguel Garcia
Mathias Kondolf

Brian D. Bordona, Director
Chris Apallas, County Counsel
Jamison Crosby, Natural Resources Manager
Brendan McGovern, Planner III
Alexandria Quackenbush, Meeting Clerk
Aime Ramos, Meeting Clerk

Thursday, March 14, 2024	**1:30 PM**	**Board of Supervisors Chambers** **1195 Third Street, Third Floor**

1. CALL TO ORDER / ROLL CALL

Group Members Present: Albert Filipelli, Chair Julie Chambon, Matt Kondolf, Monica Cooper.
Group Members Excused: Miguel Garcia.
Staff Present: Brendan McGovern, Jamison Crosby, Alexandria Quackenbush, Aime Ramos.

2. PUBLIC COMMENTS AND RECOMMENDATIONS

(3) Public comments were heard.

3. APPROVAL OF MINUTES

February 8, 2024, minutes were approved.
MC-JC-MK-AF-MG
X

4. AGENDA REVIEW

Jamison Crosby provided the agenda review.

5. ADMINISTRATIVE ITEMS

A. Elect officers (Chair and Vice-Chair) for the 2024 for the Technical Advisory Group (TAG).
Members voted to elect Albert Filipelli as Chair and re-elect Monica Cooper as Vice-Chair.
MK-JC-AF-MC-MG
X

B. Provide an update to the Technical Advisory Group (TAG) on progress for the interconnected Surface Water (ISW) and Groundwater Dependent Ecosystems (GDEs) Workplan. This will focus on public comments and the revised drafts of the Workplans.
Christian Braudrick, Stillwater Sciences gave a presentation with discussion. No action required.

C. Provide an update to the Technical Advisory Group (TAG) on progress for the Napa County Water Conservation Workplan, A Guide for Vineyards, Wineries and Other Water Users (WC Workplan) and Groundwater Pumping Reduction Workplan: Napa Valley Subbasin (GPR Workplan). This will focus on public comments and the revised drafts of the Workplans.
Duncan McEwan, ERA Economics gave a presentation with discussion. No action required.

D. The Technical Advisory group (TAG) will consider voting to recommend adoption of the 3 revised Draft Workplans and Combined Program Overview document by the Groundwater Sustainability Agency (GSA) Board of Directors.
Members voted to recommend adoption of the 3 revised Draft Workplans and Combined Program Overview document by the Groundwater Sustainability Agency (GSA) Board of Directors.
MK-MC-AF-JC-MG
X

E. The Technical Advisory Group (TAG) members will receive a presentation from Luhdorff and Scalmanini, Consulting Engineers (LSCE) on the Water Year 2023 Annual Report model results and update on groundwater conditions in Napa County with a focus on the Napa Valley Subbasin and an update on Groundwater Sustainability Plan implementation. This presentation builds on the December 14, 2023, presentation that reviewed groundwater elevation data.
Cab Esposito, LSCE gave a presentation with discussion. (2) public comments heard. No action required.

6. FUTURE AGENDA ITEMS

- Sarah Yarnell, UC Davis, presentation on California Environmental Flows Framework (CEFF).
- Laurel Marcus, Fish Friendly Farming, presentation on FFF certification program and other invites (TBD) to present on other relevant certification programs.

7. ADJOURNMENT

Meeting adjourned to April 11, 2024, regular meeting.

_____

JULIE CHAMBON, Chairperson
ATTEST: Jamison Crosby, Natural Resources Manager

_____

ALEXANDRIA QUACKENBUSH, Clerk of the Committee

Key

Vote: MC = Monica Cooper; AF = Albert Filipelli; MK = Mathias Kondolf; JC = Julie Chambon; MG = Miguel Garcia.

The maker of the motion and second are reflected respectively in the order of the recorded vote.

Notations under vote: N = No; A = Abstain; X = Excused

1195 THIRD STREET
SUITE 310
NAPA, CA 94559
www.countyofnapa.org

Main: (707) 253-4580

Groundwater Technical Advisory Group **Agenda Date:** 4/11/2024 **File ID #:** 24-637

TO: Technical Advisory Group for the Napa County Groundwater Sustainability Agency

FROM: Brian Bordona - Director, Planning, Building and Environmental Services

REPORT BY: Jamison Crosby - Natural Resources Conservation Manager

SUBJECT: Napa Valley Subbasin GPR Implementation: TAG Considerations for Vineyard and Winery Certification Programs

RECOMMENDATION

Technical Advisory Group (TAG) members will receive presentations from representatives of each of the four major vineyard and winery certification programs operating in Napa County, pose questions and provide feedback to staff and participants.

BACKGROUND

The Napa County Groundwater Sustainability Agency (NCGSA) has developed and is implementing the Water Conservation (WC) and Groundwater Pumping Reduction (GPR) Workplans. The GPR includes an implementation plan and anticipated timeline for the program to achieve measurable reductions in groundwater pumping in the Napa Valley Subbasin. The WC and GPR Workplans identify a suite of water conservation practices. GPR implementation anticipates a voluntary program that incentivizes growers to adopt and expand water conservation practices.

One opportunity identified in the GPR implementation plan for encouraging voluntary adoption of water conservation practices is vineyard and winery certification programs. Certification programs require producers to meet specified standards to become certified. In exchange, certified businesses can meet regulatory standards (depending on the certification program), label their product in a certain way, and have access to new markets and value. Developing a certification program for water conservation practices (or expanding upon one or more existing certification programs) is one means by which the NCGSA may achieve sustainable groundwater conditions.

Examples of existing certification programs that are used by vineyards and wineries in the Napa area include but are not limited to:

- **Napa Green.** A local program with 92 Napa Green Certified wineries and 70 growers certified or in the process of becoming certified, representing over 7,000 vineyard acres in Napa County.
- **California Sustainable Winegrowing Alliance (CSWA).** A program that operates statewide and has approximately 33 wineries and 259 vineyards on 15,000 acres certified in Napa County. Some CSWA certified wineries are also certified by other programs.

- **SIP Certified.** The Sustainability In Practice (SIP) certification is for vineyards and wineries. The program has certified operations in California, Oregon, and Michigan.
- **Fish Friendly Farming.** A vineyard/agricultural program that has certified over 39,600 acres of vineyards. They operate in 10 California counties, supporting compliance with water quality regulations and other environmental improvements including water conservation and efficiency.

The GPR implementation plan specifies that NCGSA staff and its consultants will work with existing certification programs, or potentially a new program, to develop specific water conservation practices, standards, and a method for reporting and sharing data. In short, the goal is to develop or expand one or more certification programs to achieve and verify additional water conservation in the Napa Valley Subbasin.

The TAG has received information and presentations regarding certification programs from NCGSA staff and consultants at multiple TAG meetings in 2022 and 2023. During today's meeting, representatives of the four existing certification programs will make presentations about their programs. This will provide an opportunity for the TAG to engage directly with representatives from each program, learn more about each program, and understand how the program(s) could support the GPR implementation plan.

Each presenter was given four questions/prompts to frame the discussion. This staff report provides a concise summary of those questions/prompts and provides additional context for how each relates to GPR implementation.

Question/Prompts for Certification Program Representatives and TAG Discussion

For a certification program to be successful and support GPR implementation it must result in the adoption of new water conservation practices (and expansion of existing practices that are widely adopted), verification of water conservation, and (for the entire Subbasin in aggregate) result in demonstrable, collective progress towards reducing groundwater pumping. This leads to the four following themes of questions/prompts. Representatives of each program were asked to speak to the questions in bold. The goal is for these questions to spark an additional discussion with the TAG. The staff report includes additional context and questions that may support additional follow-up with each presenter.

1. **What water conservation practices does the certification program currently include in its program?**

   - Additional context: Some programs include multiple water conservation practices that are listed in the GPR (such as metering), but other programs currently have very few practices. Other programs allow certified businesses to choose from a suite of potential water conservation practices (e.g., pick 4 out of 10 potential practices).

   - Potential discussion topics:
     - How many entities are currently certified by the program?
     - What is the cost to become certified?
     - Are water conservation practices mandatory or voluntary?

2. **What additional water conservation practices could be added to the program (e.g., those identified in the WC and GPR), and what is the process for adding new water conservation practices?**

   - Additional context: The GPR and WC provide a comprehensive overview of potential water

conservation practices. An existing certification program may need to be "expanded" to include additional water conservation practices that are not currently included in the program. Understanding the process and timeline for adding new practices will help support GPR implementation.

- Potential discussion topics:
  - What is the timeline for adding new water conservation practices?
  - Are there examples of water conservation practices that have been added to the program?
  - Are there limits to adopting new practices?

3. What is the verification process for ensuring that certified vineyards/wineries meet and comply with water conservation practices?

- Additional context: To be meaningful for the GSP, it is necessary to verify that businesses are implementing and continuing to implement water conservation practices. For example, if distribution uniformity (DU) testing is completed, it would be necessary to complete any irrigation system improvements to verify and achieve water conservation. Ideally, a program would rely on direct and third-party verification in a timely manner (e.g., annually) to ensure compliance.

- Potential discussion topics:
  - How frequently are water conservation practices verified?
  - What is the typical process for verifying compliance?
  - Is there a process for assisting businesses with coming into compliance?
  - Is there a process for de-certifying entities that fail to maintain compliance?
  - Are there other opportunities or constraints to getting businesses to verify certification (e.g., costs?)?

4. How does the program collect data related to water conservation practices and is there potential for sharing (anonymized) data to support GPR and GSP implementation?

- Additional context: To ensure that the GPR is achieving water conservation it is necessary to measure and monitor performance/adoption. This includes tracking adoption over time in addition to measuring gross and net water conservation attributable to each water conservation practice. This informs both GSP and GPR implementation and is viewed as critical for program success.

- Potential discussion topics:
  - How are data currently compiled and made available?
  - Are there confidentiality concerns and, if so, how can those be overcome?

ENVIRONMENTAL IMPACT

ENVIRONMENTAL DETERMINATION: The proposed action is not a project as defined by 14 California Code of Regulations 15378 (State CEQA Guidelines) and therefore CEQA is not applicable.

SUPPORTING DOCUMENTS

1. ERA Economics PowerPoint Presentation: Certification Programs for GPR Implementation, April 2024
2. Napa Green PowerPoint Presentation. April 2024.
3. Fish Friendly Farming PowerPoint Presentation. April 2024.
4. SIP Certified PowerPoint Presentation. April 2024.
5. California Sustainable Winegrowing Alliance PowerPoint Presentation. April 2024.

Napa Valley Subbasin

Groundwater Pumping Reduction Workplan

Napa County GSA TAG Meeting

Overview

1. GPR Implementation
2. Benefits of Certification Programs
3. Certification Program Presentations Today
    1. California Sustainable Winegrowing Alliance
    2. Napa Green
    3. Fish Friendly Farming
    4. SIP Certified

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

Conservation Practices

- Cost, adoption, water saving potential, and economic analysis of alternatives
- Preliminary list of high-priority practices based on Workplan analysis
  - Metering
  - Recycled water
  - Benchmarking
  - Distribution uniformity
  - Plant water and soil moisture monitoring
  - Row orientation
  - WaterSense devices

Table 5-1. Decision Matrix for Adoption of Groundwater Practices

Practice	Estimated Annualized Cost per AF Conserved	Estimated Potential Water Savings (Basin-Wide)	Adoption Timeline	Overall Feasibility
Unit	$/AF	AFY	Years	Ranking
Water Practices for All Water Users				
Recycled Water	$362 - $720	200 - 300	Medium-Term	High
Benchmarking	$100 - $350	300 - 1,100	Medium-Term	High
Vineyard-Specific Water Practices (Established)				
Water Measurement[3]	$250 - $375	250 - 400	Medium-Term	High
Irrigation System Efficiency[2,3]	$2,800 - $9,200	75 - 250	Near-Term	Medium
Distribution Uniformity[1]	$175 - $450	500 - 2,100	Near-Term	High
Plant and Soil Moisture Monitoring[2,3]	$155 - $3,340	1,000 - 2,000	Near-Term	High
High Tech, Low Labor (TDR)	$350 - $1,450			
Medium Tech and Labor (Neutron Probe)	$740 - $3,340			
Low Tech, High Labor (Tensiometers)	$155 - $1,170			
Soil Management (Cover Crop)[3,4]	$5,000 - $18,000	50 - 550	Medium-Term	Low
Canopy Management	$3,500 - $5,000	200 - 300	Near-Term	Medium
Vineyard-Specific Water Practices (New Plantings)				
Row Orientation	No additional cost	200 - 325	Long-Term	High
Rootstock Selection	No additional cost	Data Gaps	Long-Term	Data Gaps
Winery-Specific Water Practices				
Water Metering	$150 - $250	5 - 15	Medium-Term	High
Waterless Barrel Sanitation	$1,900 - $2,800	100 - 165	Near-Term	Low
Processing Water Treatment and Reuse	Data Gaps	275 - 450	Long-Term	Medium
Municipal, Industrial, and Residential				
Water Metering	$950 - $2,500	100 - 130	Medium-Term	Low
WaterSense Devices[5]	$775 - $1,200	500 - 575	Near-Term	High

[1] Eligible for cost-share funding or other technical support through the Napa County RCD.
[2] Eligible for cost-share funding through the State Water Efficiency and Enhancement Program (SWEEP).
[3] Eligible for cost-share funding through the Environmental Quality Incentives Program Conservation Incentives Contracts (EQIP-CIC).
[4] Eligible for cost-share funding through the Healthy Soils Program (HSP).
[5] Eligible for financial assistance programs in select municipalities in Napa County.

Development & Implementation Timeline

Component / Activity	Q1 24	Q2 24	Q3 24	Q4 24	Q1 25	Q2 25
Component 1: Education and Outreach; Feasibility Analysis						
Educational Materials	D	I	I	I	I	I
Partnership Building	D	D	D	D	I	I
Messaging System	D	D	I	I	I	I
Feasibility Analysis	D	D	I	I	I	I
Component 2: Voluntary Adoption						
Incentivize Adoption	D	D	I	I	I	I
Benchmarking Pilot Program	D	D	D	D	I	I
Meter Data and Reporting Program	D	D	D	D	I	I
Component 3: Voluntary Certification						
Incentivize Certification	D	D	D	D	D	I

D = Development, I = Implementation

BENEFITS OF CERTIFICATION

Private Benefits of Certification

- Efficiency improvements
- Regulatory compliance (e.g., LandSmart, Fish Friendly Farming)
- Environmental, Social, and Governance (ESG) Standards
- Intrinsic value
- Marketing and value-add

Public Benefits of Certification

Sustainable practice adoption leads to:

- Water quality improvements
- Water conservation
- Air quality improvements
- Soil health
- Ecosystem and habitat improvements

PRESENTATIONS FROM EXISTING CERTIFICATION PROGRAMS

Certification Program Presentations Today

NEXT STEPS

Next Steps

Hear from the certification programs today

Continue to implement the GPR Workplan !

- Certification
- Incentives
- Benchmarking
- Pilot Sites

Caring for Nature and Community Elevates Quality and Experience

Six Pillars of Sustainable Winegrowing Leadership

Napa Green Certified Vineyards implement >100 sustainability & climate action practices:

I. Social Justice, Diversity & Inclusion

II. REGENERATIVE AG, SOIL HEALTH, AND CARBON FARM PLANS

III. IRRIGATION ASSESSMENTS & WATER EFFICIENCY

IV. Forest Management for Health & Fire Resilience

V. Prohibited & Restricted Pesticides

VI. CLIMATE-SMART BURNING

Why Napa Green's Glyphosate Ban is Such a Big Deal

BY KATE DINGWALL

Napa Green Certified Wineries implement >120 sustainability & climate action practices:

I. Social Justice, Diversity & Inclusion

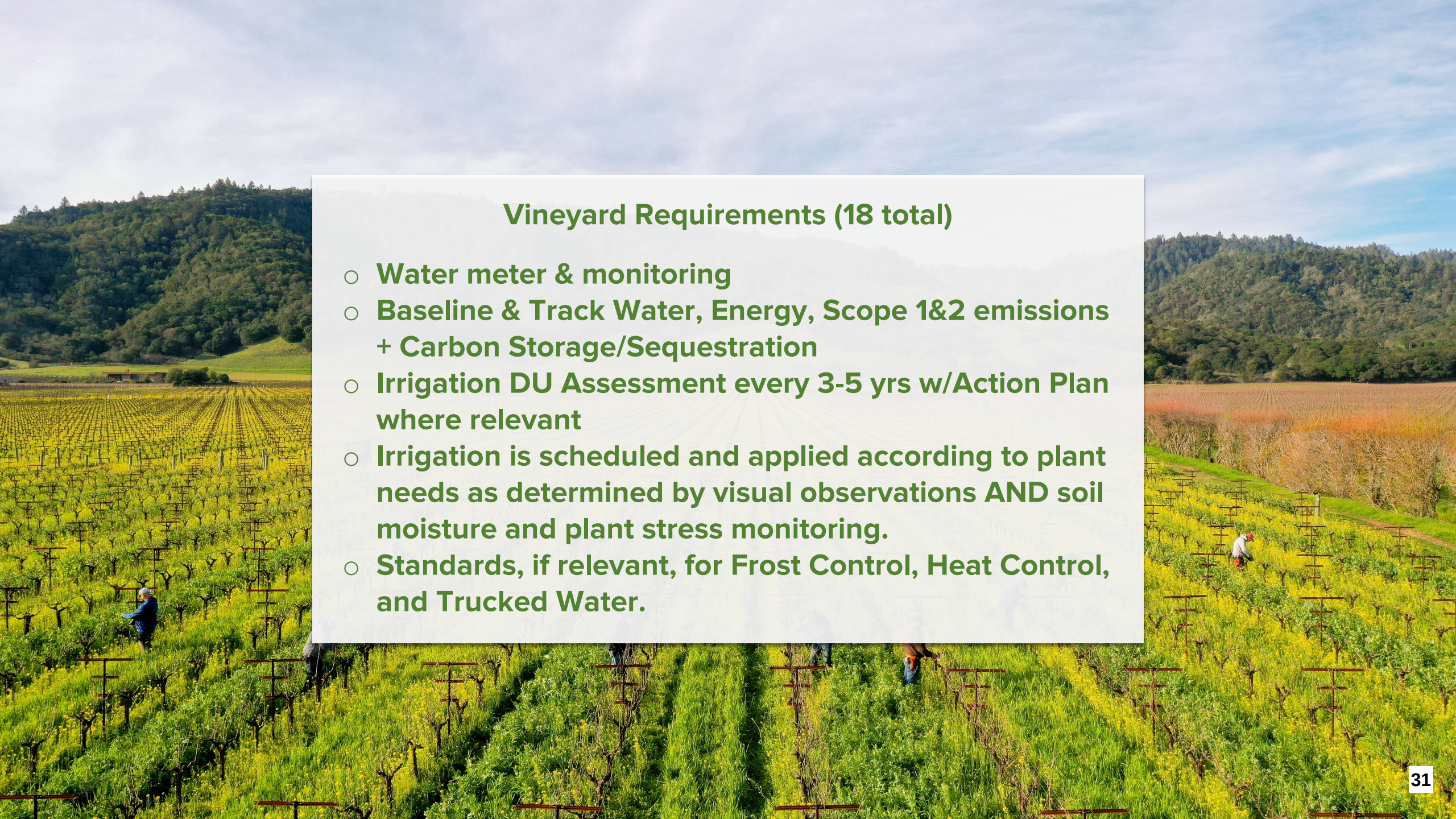
II. ENERGY EFFICIENCY

III. WATER EFFICIENCY

IV. WASTE PREVENTION

V. Climate Action

VI. Leadership & Sustainability Engagement



Vineyard Requirements (18 total)

- Water meter & monitoring
- Baseline & Track Water, Energy, Scope 1&2 emissions + Carbon Storage/Sequestration
- Irrigation DU Assessment every 3-5 yrs w/Action Plan where relevant
- Irrigation is scheduled and applied according to plant needs as determined by visual observations AND soil moisture and plant stress monitoring.
- Standards, if relevant, for Frost Control, Heat Control, and Trucked Water.

Water Data

Export Wa

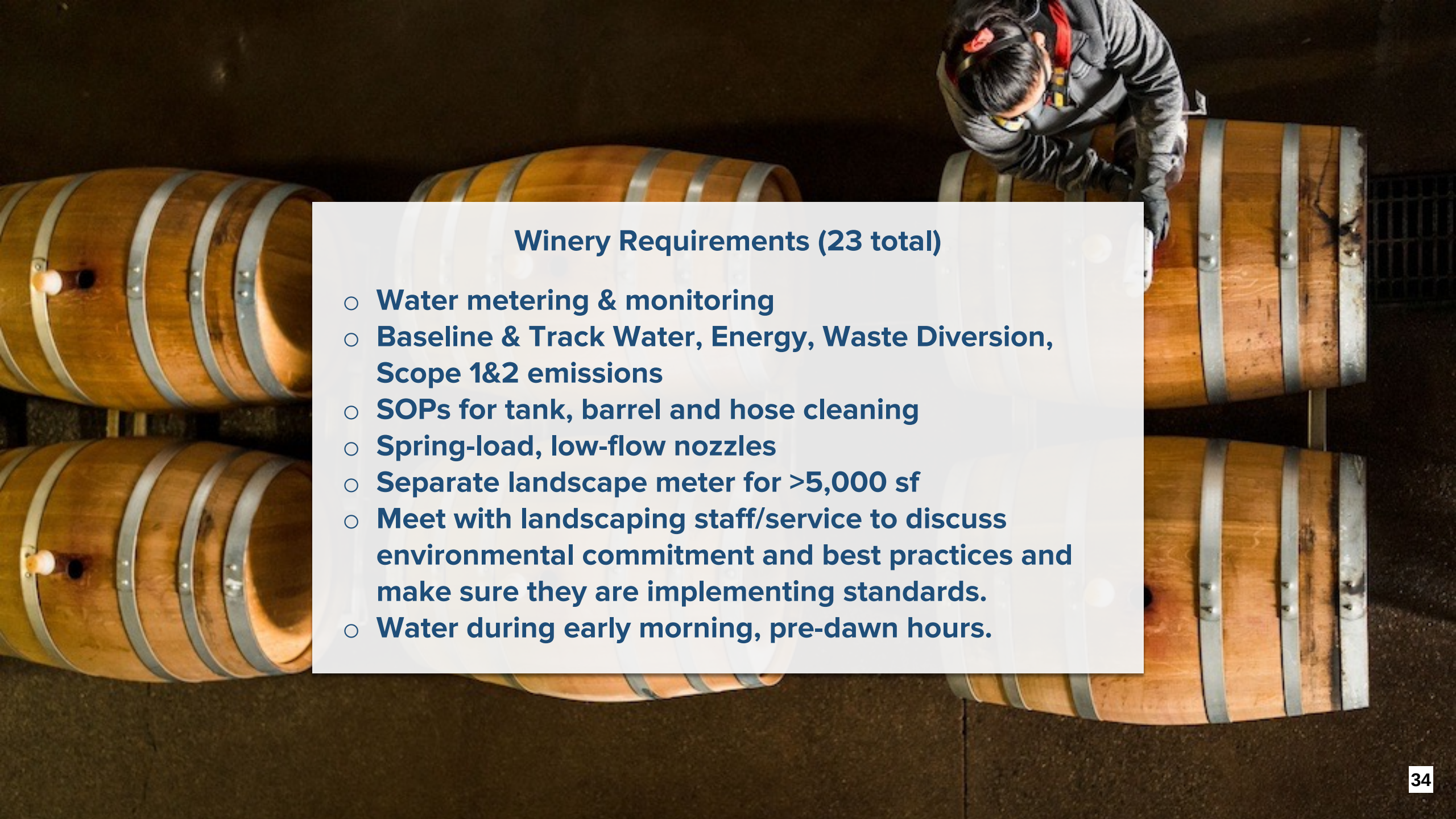
Month	Year	Gallons Irrigation Water	Gallons Frost Water	Gallons Other	Gallons Other 2
JANUARY	2023	0	0	0	0
FEBRUARY	2023	3258.00	0	0	0
MARCH	2023	3259.00	0	0	0
APRIL	2023	6517.00	0	0	0
MAY	2023	110789.00	0	0	0
JUNE	2023	166184.00	0	0	0
JULY	2023	299782.00	0	0	0
AUGUST	2023	241130.00	0	0	0
SEPTEMBER	2023	916618.00			
OCTOBER	2023	185735.00			
NOVEMBER	2023	0			
DECEMBER	2023	0			
Total	******	**1933272**			

Metrics

Electricity kWh/Ton	262.6
Water Gallons/Ton	16666.1
Water Gallons/Acre	50875.6
Co2e/Acre	0.6

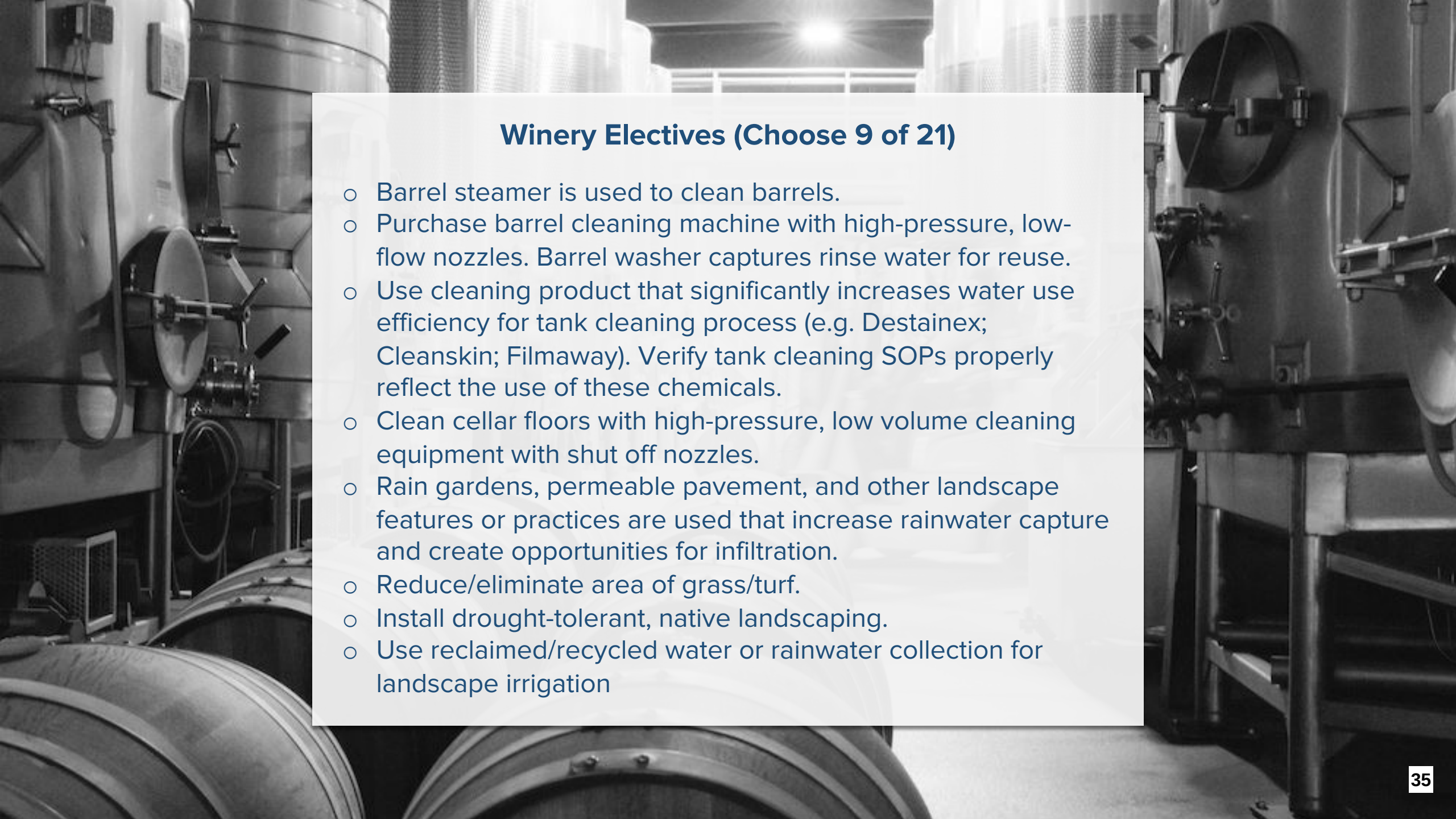
Vineyard Electives (Choose 3 of 10)

- Practice dry farming OR if planting or redeveloping a vineyard, plan for Dry Farming.
- Use reclaimed/recycled water for vineyard irrigation
- Upon replant, use rootstocks and/or grape varieties that are more drought and heat tolerant.
- Use remote, real-time sensor systems (e.g., Tule, Ranch Systems, Fruition, HotSpot AG, Agrology, Arable)
- Utilize passive tools for heat control such as shade cloth, and for new/replanted vineyards, improved trellising and orientation.
- Practice conservation OR no-tillage to retain soil moisture and reduce compaction from heavy equipment.
- Use a compost:biochar blend to increase soil water and nutrient retention and plant availability.



Winery Requirements (23 total)

- Water metering & monitoring
- Baseline & Track Water, Energy, Waste Diversion, Scope 1&2 emissions
- SOPs for tank, barrel and hose cleaning
- Spring-load, low-flow nozzles
- Separate landscape meter for >5,000 sf
- Meet with landscaping staff/service to discuss environmental commitment and best practices and make sure they are implementing standards.
- Water during early morning, pre-dawn hours.



Winery Electives (Choose 9 of 21)

- Barrel steamer is used to clean barrels.
- Purchase barrel cleaning machine with high-pressure, low-flow nozzles. Barrel washer captures rinse water for reuse.
- Use cleaning product that significantly increases water use efficiency for tank cleaning process (e.g. Destainex; Cleanskin; Filmaway). Verify tank cleaning SOPs properly reflect the use of these chemicals.
- Clean cellar floors with high-pressure, low volume cleaning equipment with shut off nozzles.
- Rain gardens, permeable pavement, and other landscape features or practices are used that increase rainwater capture and create opportunities for infiltration.
- Reduce/eliminate area of grass/turf.
- Install drought-tolerant, native landscaping.
- Use reclaimed/recycled water or rainwater collection for landscape irrigation

VERIFICATION

- Vineyard "consulting" services:
  - Carbon Farm Plan Assessment & Report
  - Irrigation DU Assessment & Report
  - Support for soil sampling
- Custom online Metric Calculator
- Third-party independent audit
- Annual Desk Audit

- Winery "consulting" services:
  - Integrated Resource Assessment w/Program Engineer reviewing data, metrics, production, equipment. Provide recommendations report.
- Custom online Metric Calculator
- Third-party independent audit
- Annual Desk Audit


Forest Management for Health & Fire Resilience

THE FUTURE OF WATER

May 23 | 9-12:15 pm
Silver Oak Napa Valley

Keynotes from Peter Gleick, Co-founder, Pacific Institute, and author "The Three Ages of Water"
&
Mimi Casteel, Viticulturist, Hope Well Wine, and Forest Ecologist

https://napagreen.org/events-workshops/

Water Conservation

SUSTAINABLE CERTIFICATION

Collaboration

FOR A WIN, WIN, WIN

- Education on sustainable winegrowing since 1994
- 20+ years of regulatory relief in Region 3
- Reduce administrative burden for farmers and regulators.

Water Conservation

VINEYARD APPLICANTS MUST:

- Use low-volume irrigation system (drip or micro-sprinkler).
- Evaluate system for distribution uniformity.
- Inspect, clean, & flush system regularly.
- Use irrigation scheduling tools to inform decisions:
  - Soil based monitoring devices;
  - Plant based monitoring devices;
  - Evapotranspiration calculations & budget.
- Maintain winter covercrop.
- Generate annual water budget to track total water from:
  - Rainfall;
  - Frost protection;
  - Irrigation.

Water Protection

VINEYARD APPLICANTS MUST:

- Use backflow prevention device on well(s)/water source(s).
- Protect wellheads from chemical contamination.
- Perform quality analysis tests.
- Use at least two practices to minimize non-point source pollution of surface waters.
- Plant vegetated perimeter buffers at least 25ft from setback of streams/wetland areas.
- Know watershed & subwatershed.
- Provide PURs - SIP Certified prohibits use of high-risk pesticides.

Water Conservation

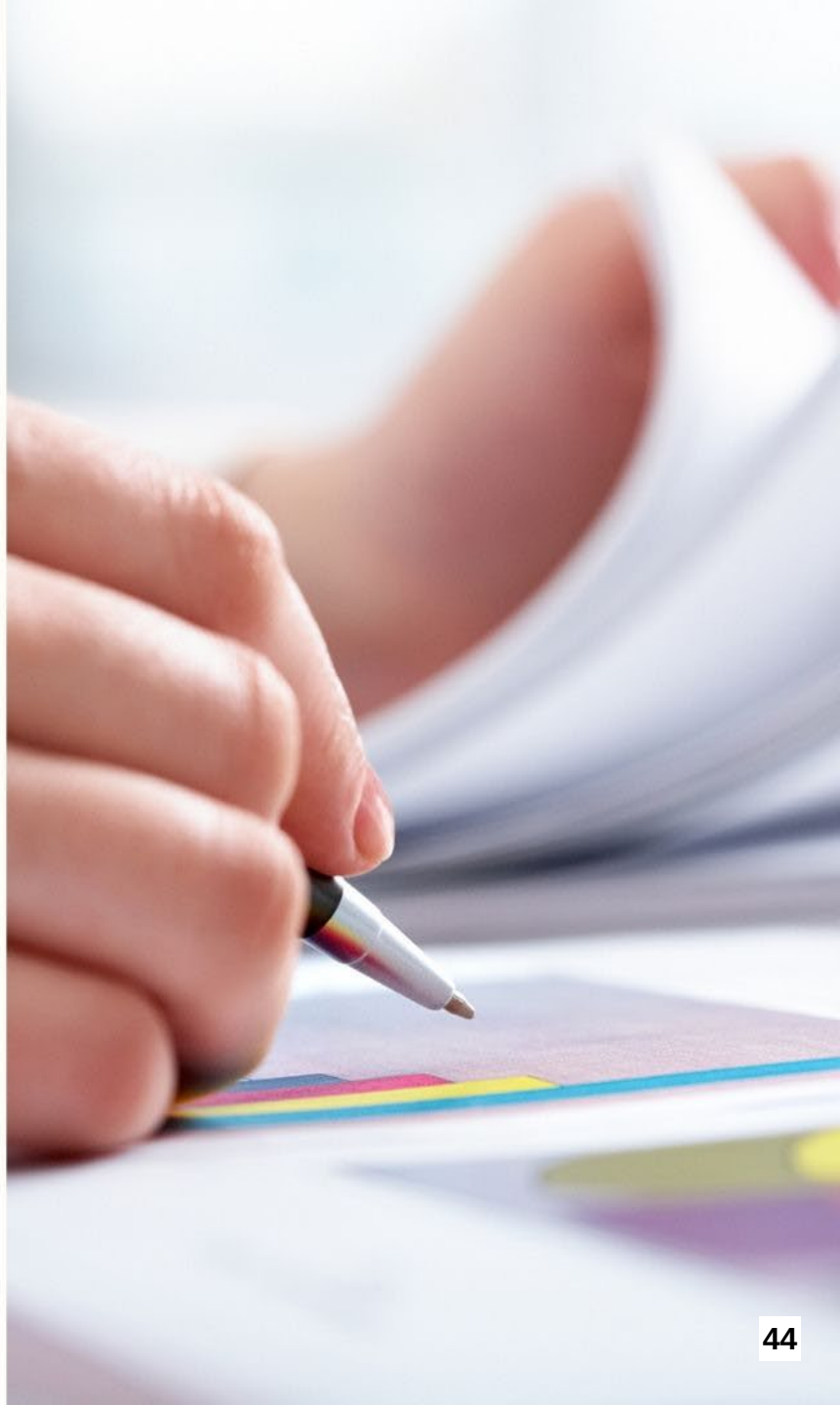
WINERY APPLICANTS MUST:

- Record monthly water use for winery and tasting room.
- Conduct monthly inspections for leaks.
- Have a separate meter for the winery.
- Inspect & maintain water treatment system.
- Record amount of water used in cleaning & sanitation.
- Pre-clean crush operations, equipment, & floors before wash-down.
- Use high-pressure low-volume nozzles with shut-off valves.

Water Protection

WINERY APPLICANTS MUST:

- Have a wastewater measurement plan.
- Inspect sumps/traps monthly.
- Map storm drains & their output destinations.
- Use at least 3 practices to prevent erosion in landscaping.



Program Updates

A LIVING DOCUMENT

- SIP Certified's Standards are reviewed...
  - Annually by a technical advisory committee of:
    - Experienced growers;
    - Agricultural professionals;
    - Environmental representatives.
  - Every 5 years by representatives from:
    - University & Extension system;
    - State and federal agencies;
    - Agricultural professionals;
    - Environmental & social organizations.

Adding New Practices

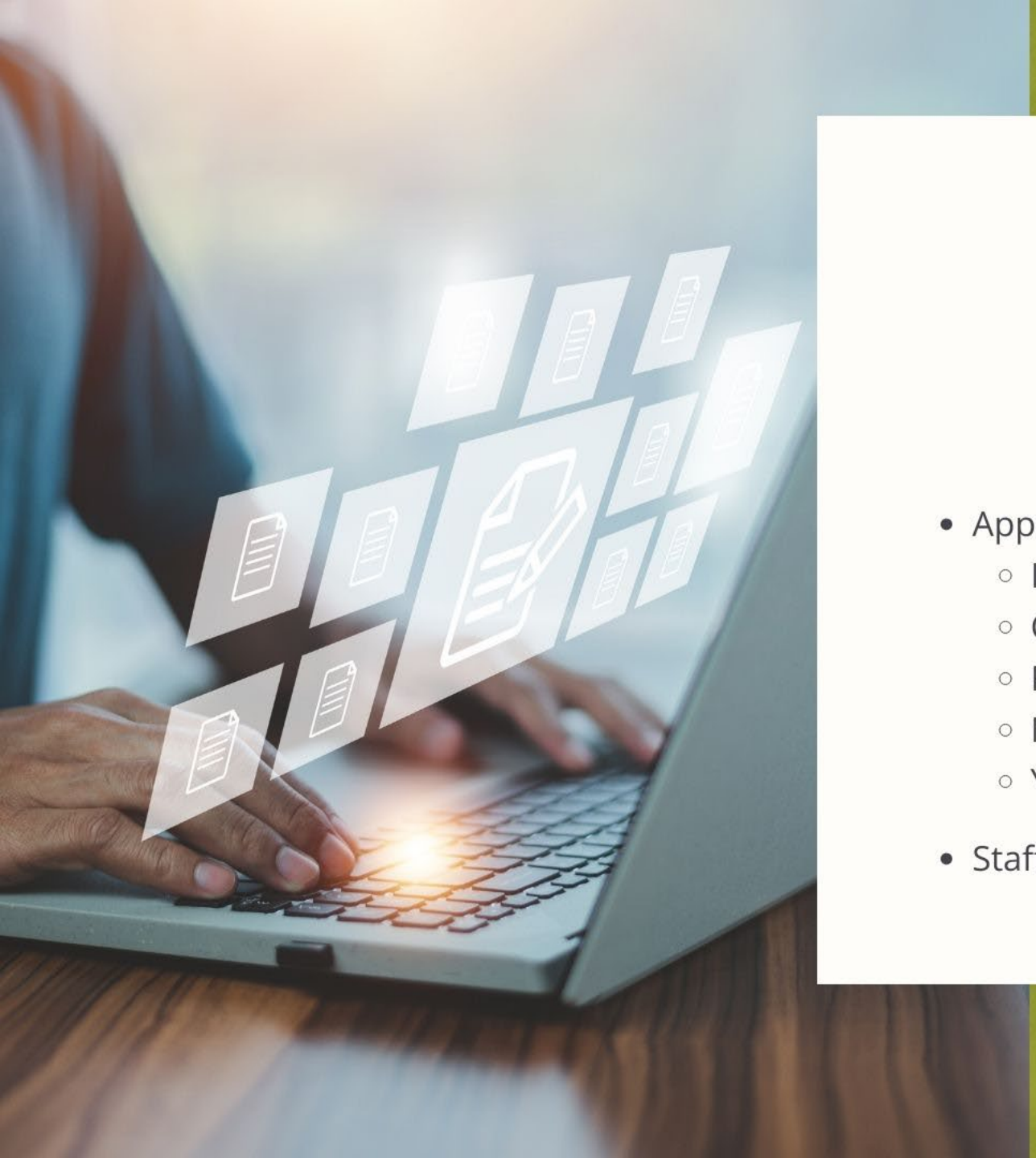
AG ORDER 4.0 EXAMPLE

- Map discharge points.
- Testing discharge for nutrients.
- Visually analyze turbidity.

Verification

FREE OF CONFLICT OF INTEREST

- Third-party auditors:
  - Review documentation.
  - Visit property for visual inspection.
- Blinded reports are reviewed by Certification Advisory Committee.



Collecting Data

SIP CERTIFIED DATABASE

- Applicants provide site-specific data:
  - Irrigation
  - Compost
  - Fertilizer
  - Nitrogen
  - Yield
- Staff export and analyze data, & contact outliers.


SIP
CERTIFIED
Sustainability
in Practice
Thank you!
SIPCERTIFIED.ORG

Fish Friendly Farming Certification Program

Laurel Marcus
Ca. Land Stewardship Institute
laurelm@fishfriendlyfarming.org

LEVELS OF ACCOMPLISHMENT

The Fish Friendly Farming Certification Program (FFF) began in Mendocino and Sonoma Counties in 1997. The program started in the Napa Valley in 2002, Solano County in 2005 and the Sierra Foothills in 2008 and the Delta in 2020.

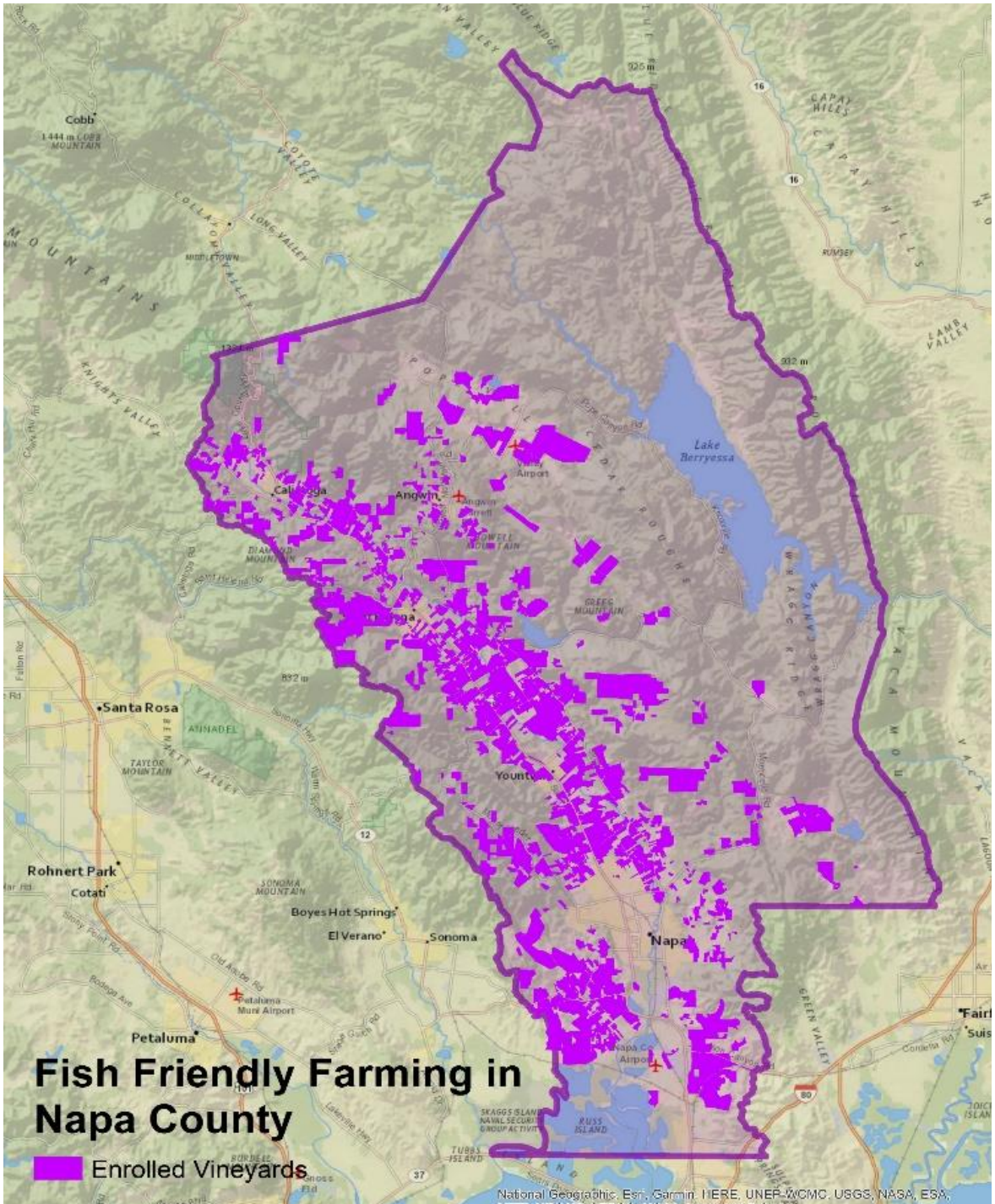
In California the FFF program has 210,000 acres enrolled made up of over 1400 individual farms, has assessed and improved 960 miles of dirt roads, 451 miles of blue-line creeks and river corridors and many more miles of ephemeral creeks. All FFF farm plans include requirements for water conservation, soil conservation and protection of water quality and habitats.

Over 95% of all the vineyards in Napa County are in the FFF program.

FFF provides professional one-on-one technical assistance to inventory and assess numerous features of the site. Produces a complete farm plan with maps.

FFF certifies vineyards, fruit /nut orchards, row crops, grazing land and cannabis.

FFF provides regulatory compliance in the Regional Water Quality Control Board Regions 2 and 5 and soon Region 1



In Napa County the FFF program has certified 1,100 separate vineyard properties encompassing over 39,600 vineyard acres and 100,800 total parcel acres. Three quarters of this acreage of vineyards have been recertified at least once demonstrating long term implementation of BMPs Water conservation practices, irrigation efficiency and water sources used are documented in detail for each site


FROG'S LEAP
RODNEY STRONG
Vineyards
SCHARFFENBERGER CELLARS
ROBERT MONDAVI WINERY
HALL
NAPA VALLEY
Bonterra
VINEYARDS
WILLIAMS
SELYEM
ROEDERER ESTATE
ALLORA
VINEYARDS
STAG'S LEAP WINE CELLARS
Silverado
VINEYARDS
STERLING
VINEYARDS
RAVENSWOOD
THE HESS COLLECTION
HUSCH
VINEYARDS
Beaulieu Vineyard
SINCE BV 1900
QUINTESSA
RIDGE
VINEYARDS
ST. SUPÉRY
VINEYARDS & WINERY
NAPA VALLEY
SINCE 1861
COPPOLA
FETZER
VINEYARDS
CharlesKrug
PETER MONDAVI SR. FAMILY ESTATE
PETER MICHAEL
WINERY
ANOMALY
VINEYARDS
GUNDLACH
BUNDSCHU
CLOS DU VAL
NapaValley
OPUS ONE
Long Meadow Ranch
Brutocao
CELLARS
JOSEPH PHELPS
VINEYARDS
NELSON FAMILY
VINEYARDS

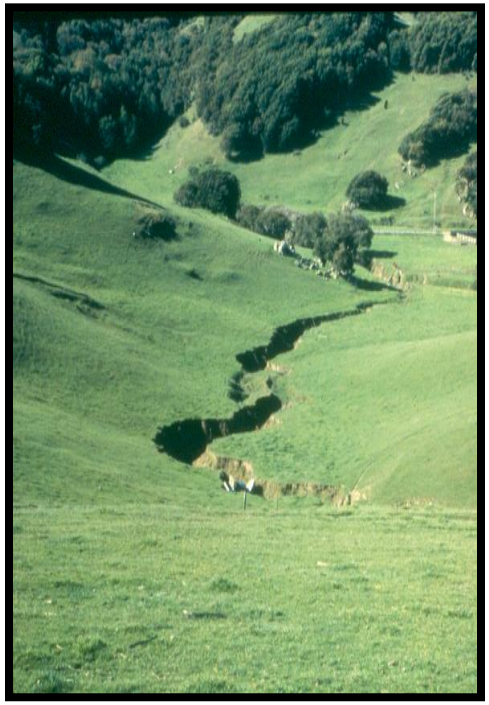
FARM CONSERVATION PLAN

Element 1 - General Site Features
Element 2 - New Vineyard
Element 3 - Managing the Existing Vineyard
Element 4 - Major Replants
Element 5 - Roads
Element 6 - Creek/River Corridors
Element 7 - Photo-monitoring
Element 8 – Work Force and Community
Element 9 – Business Practices
Element 10 – Green Initiatives
Element 11 – Climate Adaptation Certification

Overview of FFF

SHEET EROSION

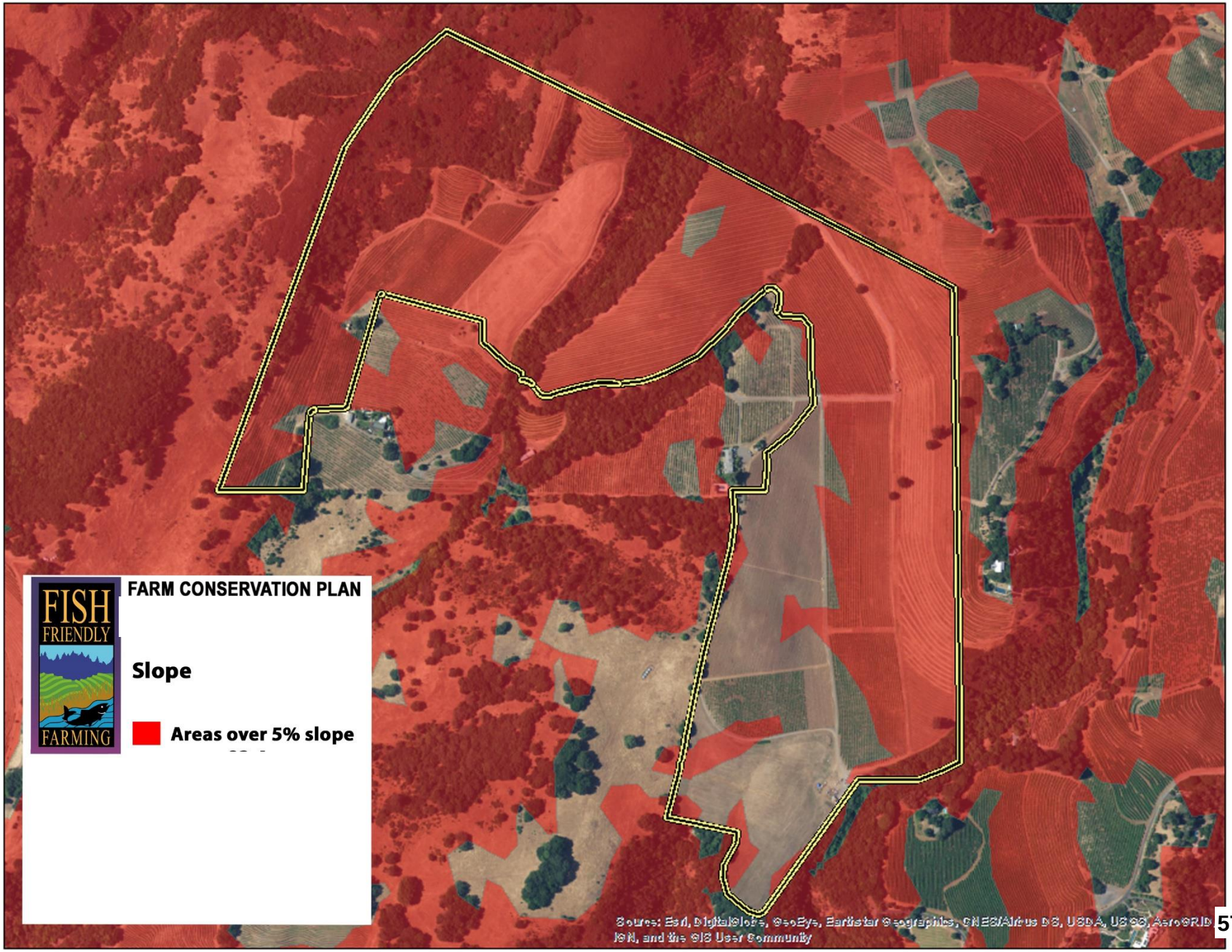
RILL EROSION

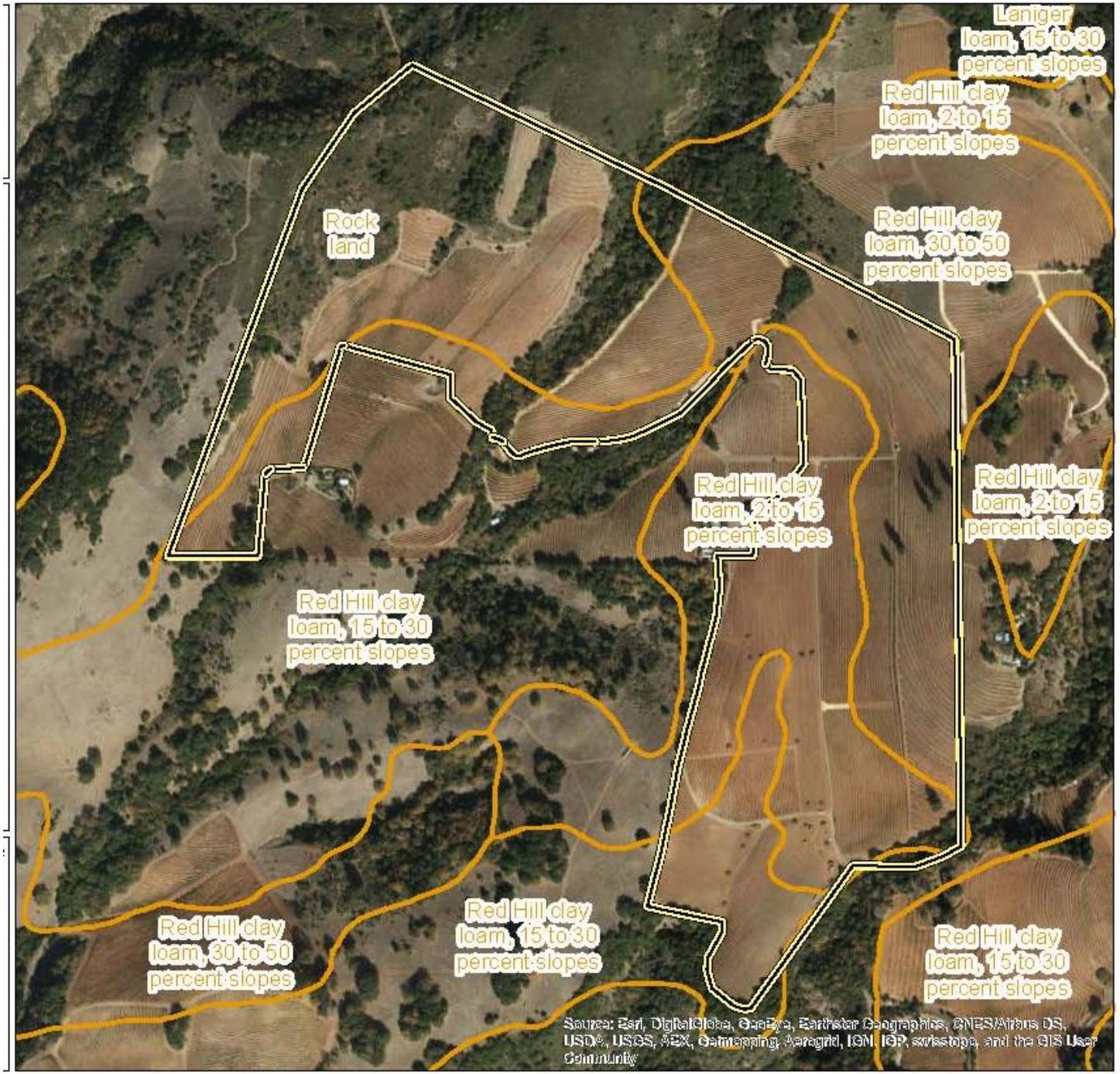


GULLY EROSION

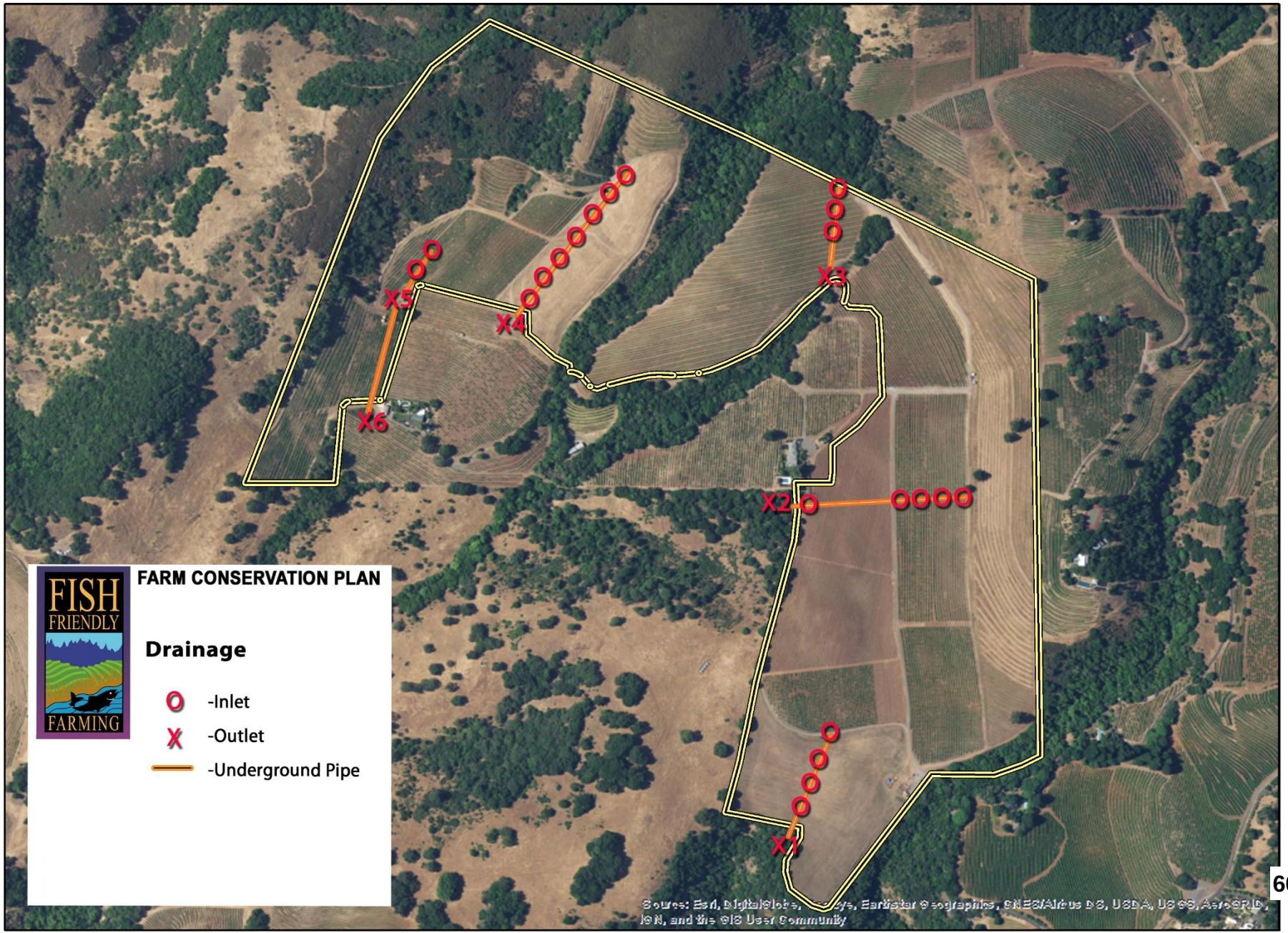
CHANNEL EROSION OR ENTRENCHMENT

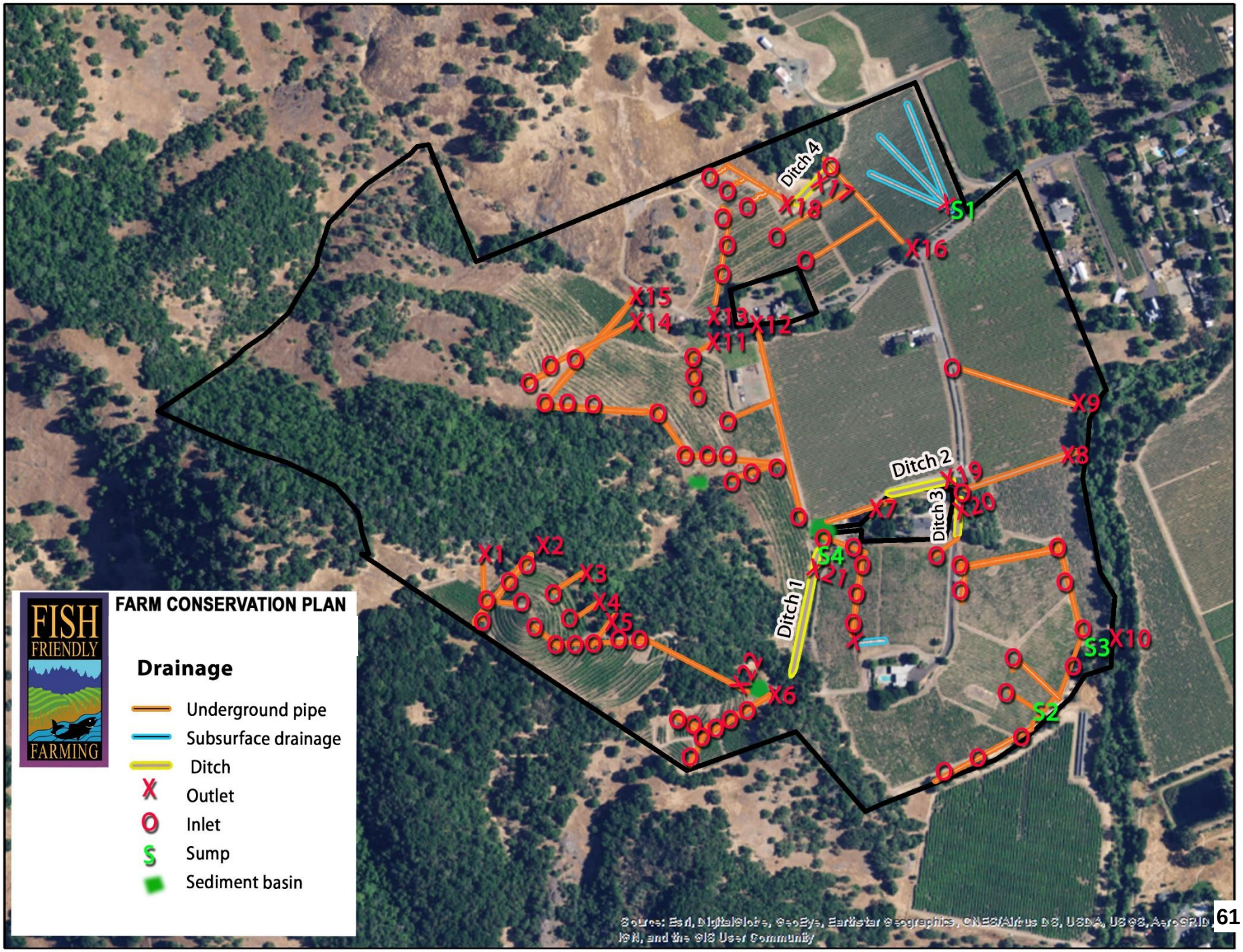
EROSION CONTROL PRACTICES INCLUDING COVER CROPS, GRASS FILTER STRIPS AND OTHER EROSION CONTROL MEASURES

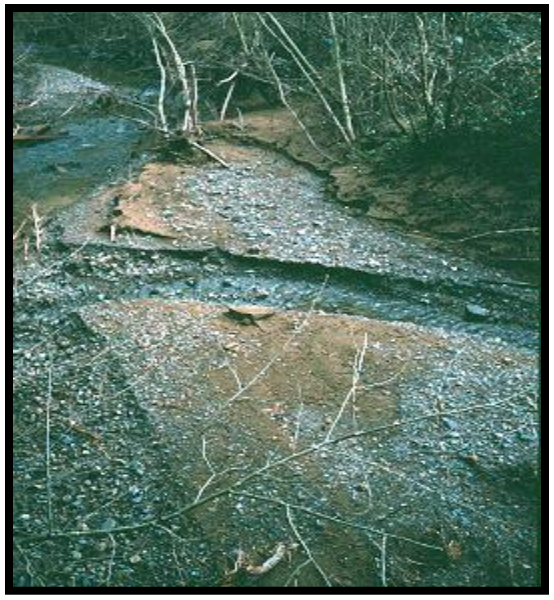

FISH
FRIENDLY
FARMING
FARM CONSERVATION PLAN
Slope
Areas over 5% slope
Sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community


Laniger loam, 15 to 30 percent slopes
Red Hill clay loam, 2 to 15 percent slopes
Rock land
Red Hill clay loam, 30 to 50 percent slopes
Red Hill clay loam, 2 to 15 percent slopes
Red Hill clay loam, 2 to 15 percent slopes
Red Hill clay loam, 15 to 30 percent slopes
Red Hill clay loam, 30 to 50 percent slopes
Red Hill clay loam, 15 to 30 percent slopes
Red Hill clay loam, 15 to 30 percent slopes
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

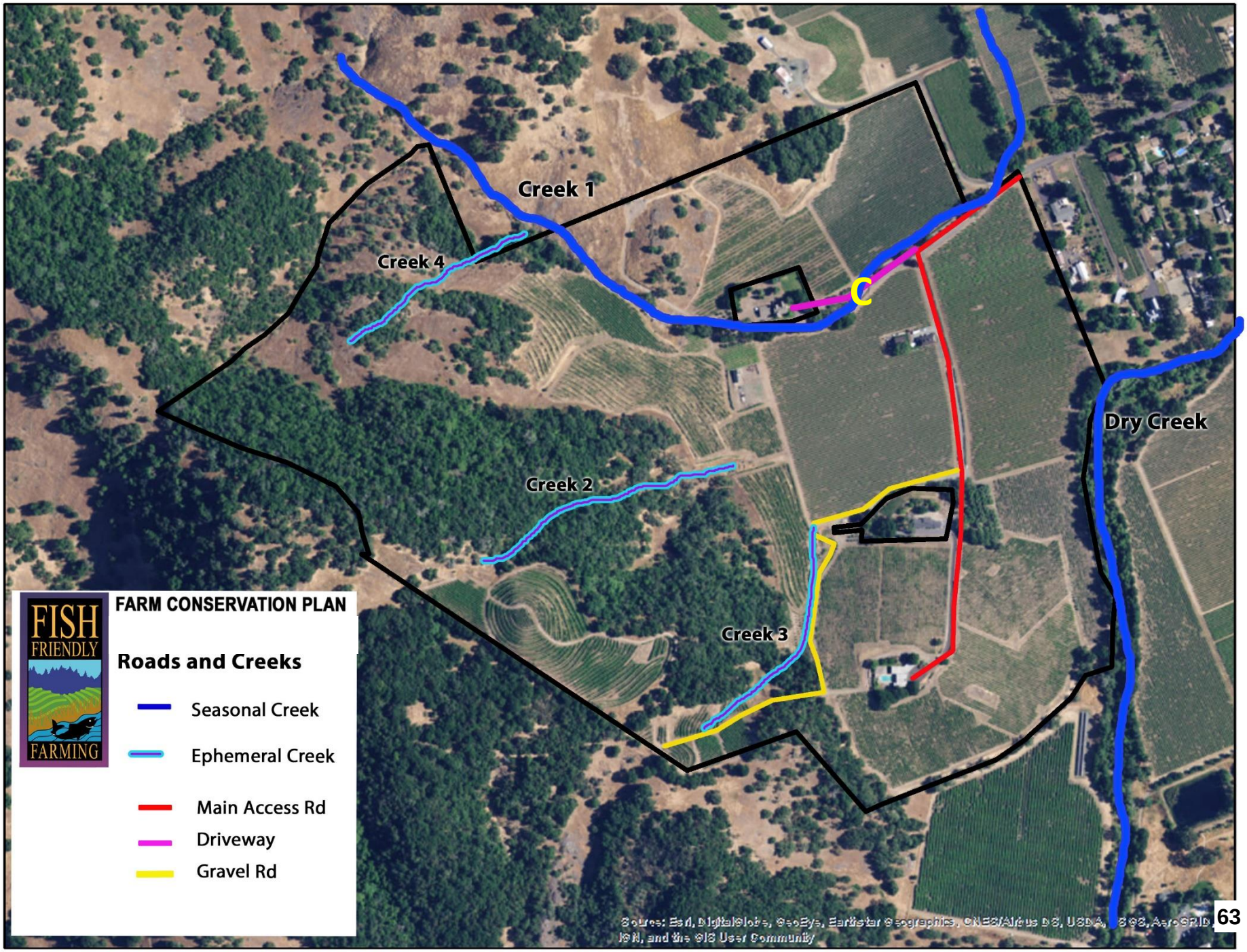
EROSION CONTROL PRACTICES INCLUDING CONCENTRATED FLOW SOURCES

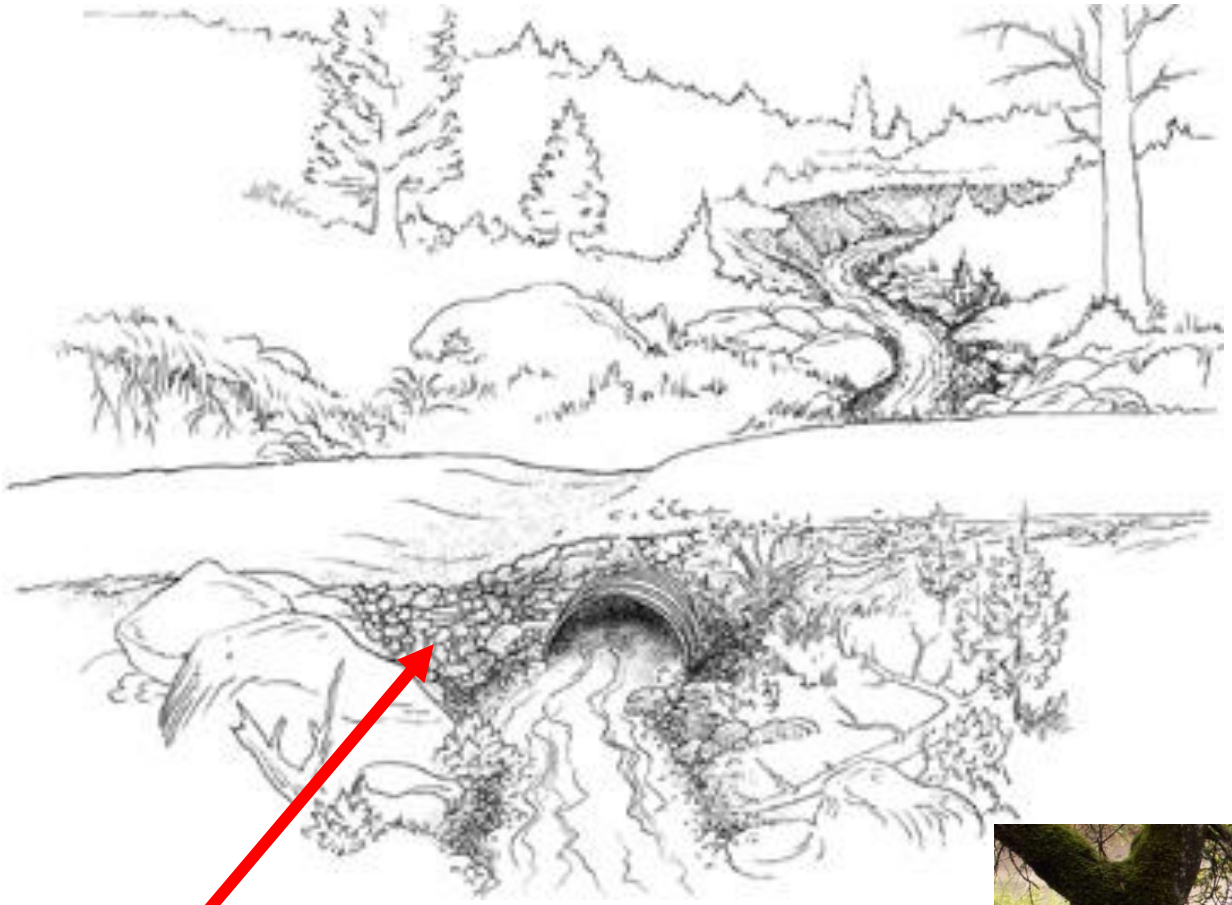



FISH FRIENDLY FARMING
FARM CONSERVATION PLAN
Drainage
Underground pipe
Subsurface drainage
Ditch
Outlet
Inlet
Sump
Sediment basin
Ditch 1
Ditch 2
Ditch 3
Ditch 4
X1
X2
X3
X4
X5
X6
X7
X8
X9
X10
X11
X12
X13
X14
X15
X16
X17
X18
X19
X20
X21
X22
S1
S2
S3
S4
Sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



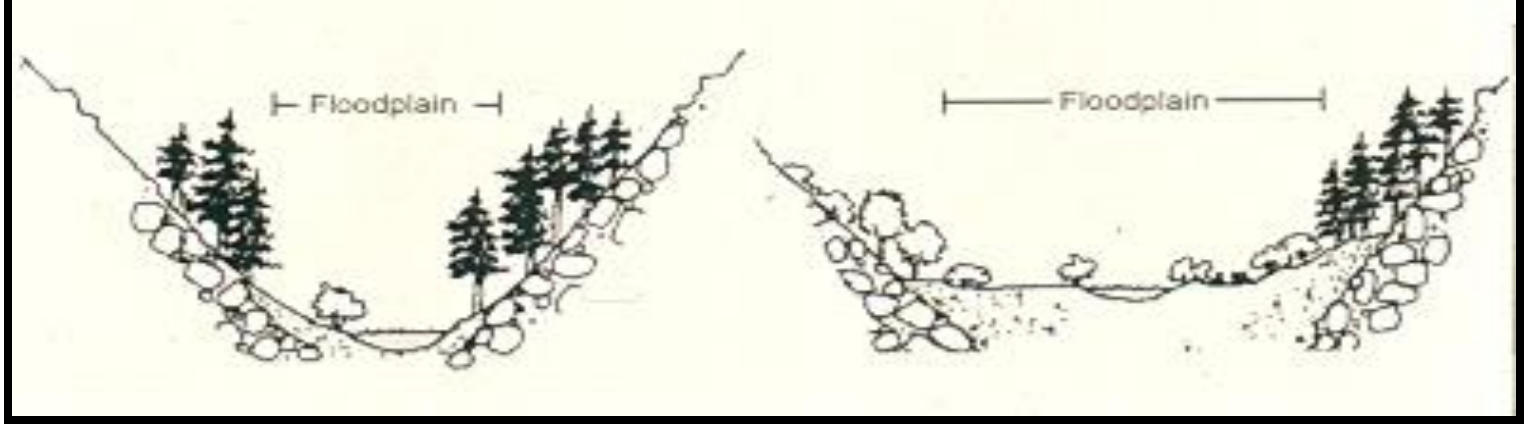
ELEMENT V - ROADS
ROADS ARE THE LARGEST SOURCE OF SEDIMENT IN STREAMS


Creek 1
Creek 4
Creek 2
Creek 3
Dry Creek
C
FISH FRIENDLY FARMING
FARM CONSERVATION PLAN
Roads and Creeks
Seasonal Creek
Ephemeral Creek
Main Access Rd
Driveway
Gravel Rd
Sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



CRITICAL DIP

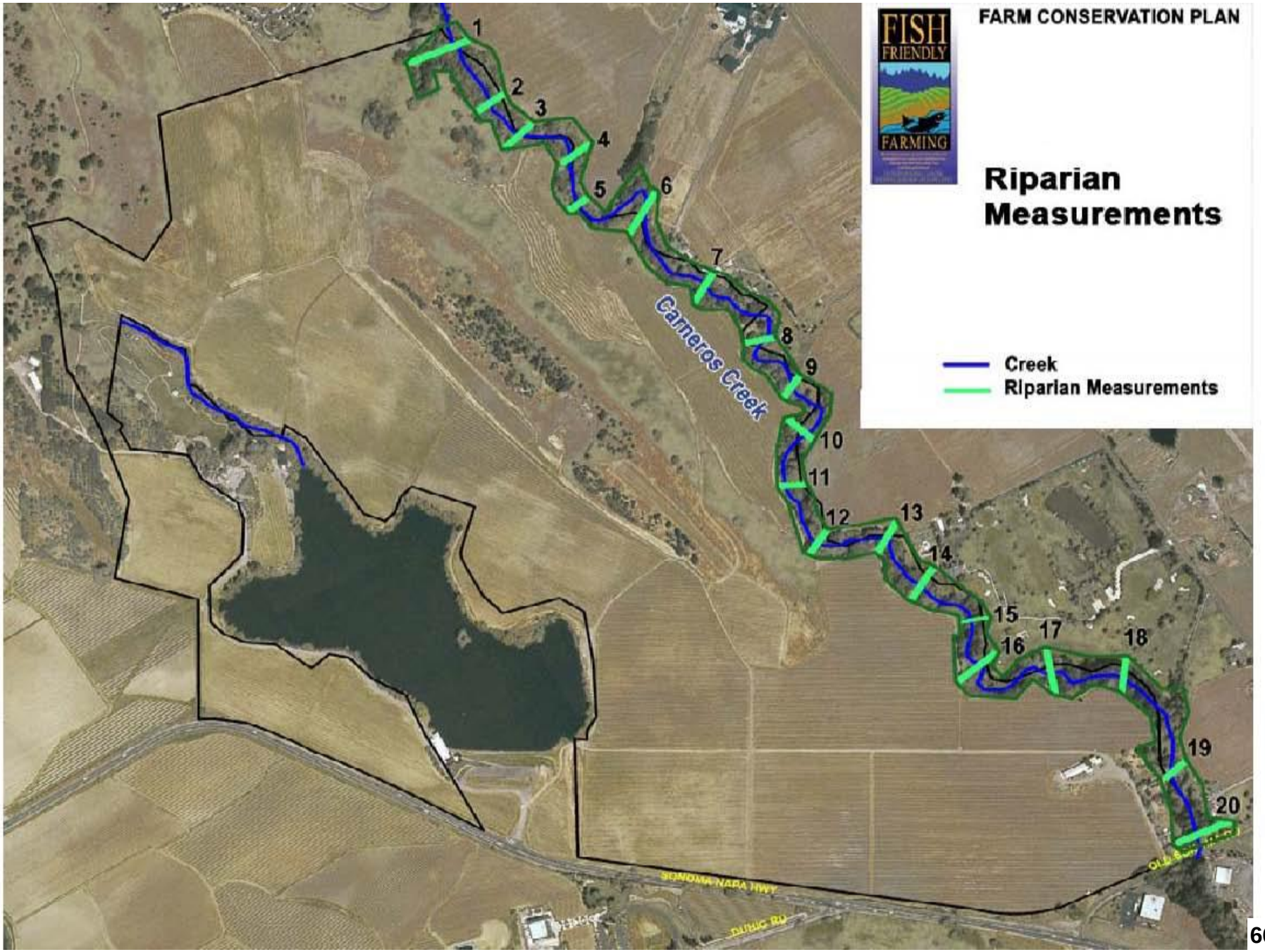
TRASH RACK

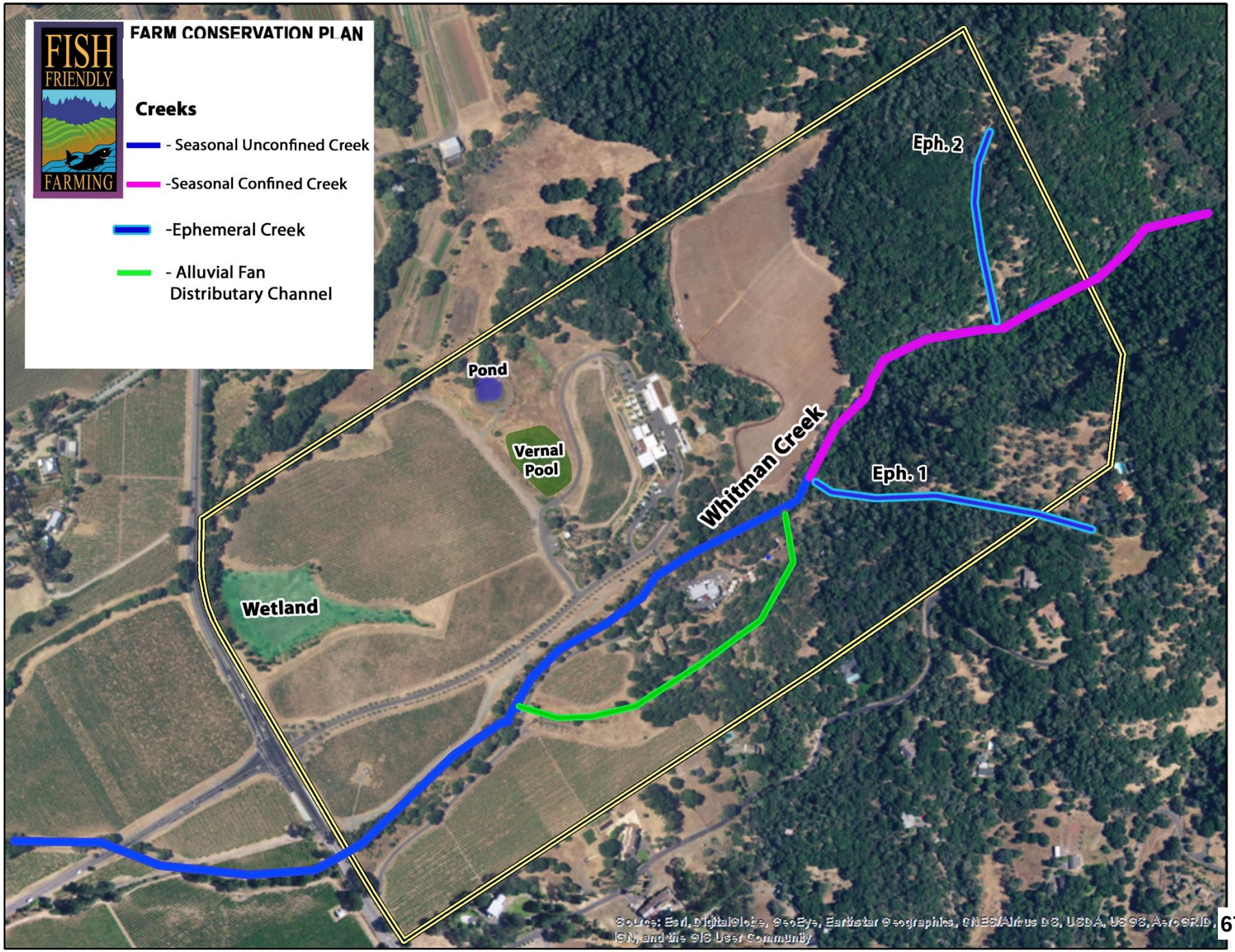


CONFINED CHANNEL

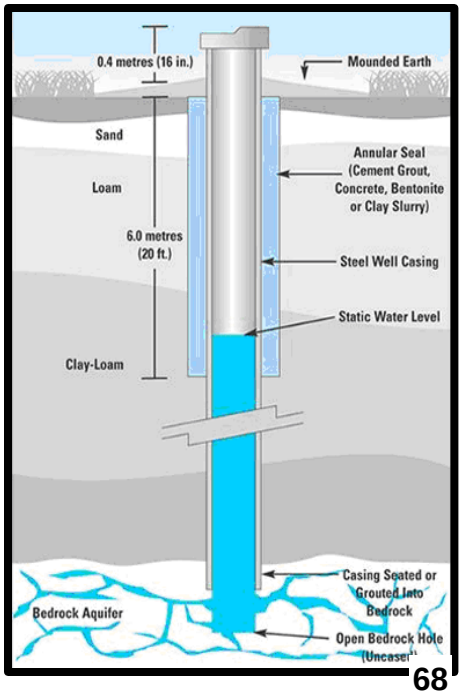
UNCONFINED CHANNEL

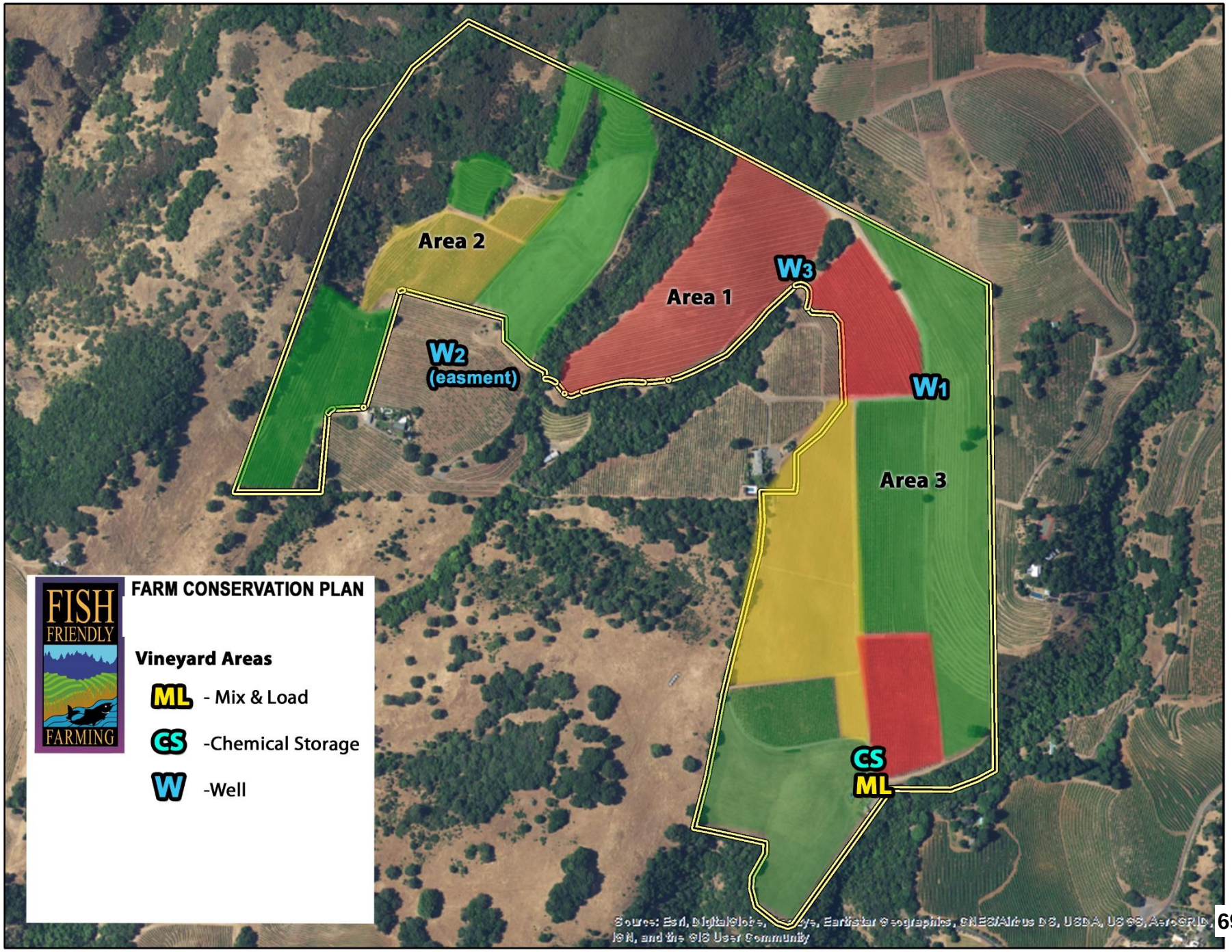
For unconfined blue line channels we measure the width of the scour channel, width of the riparian corridor, distance from the outside of the corridor to the vineyard, distance from the vineyard to the edge of the scour channel and bank heights, bed composition, bank composition, level of meandering, seasonality of flow, native and non native species present and condition of crossings and other features.

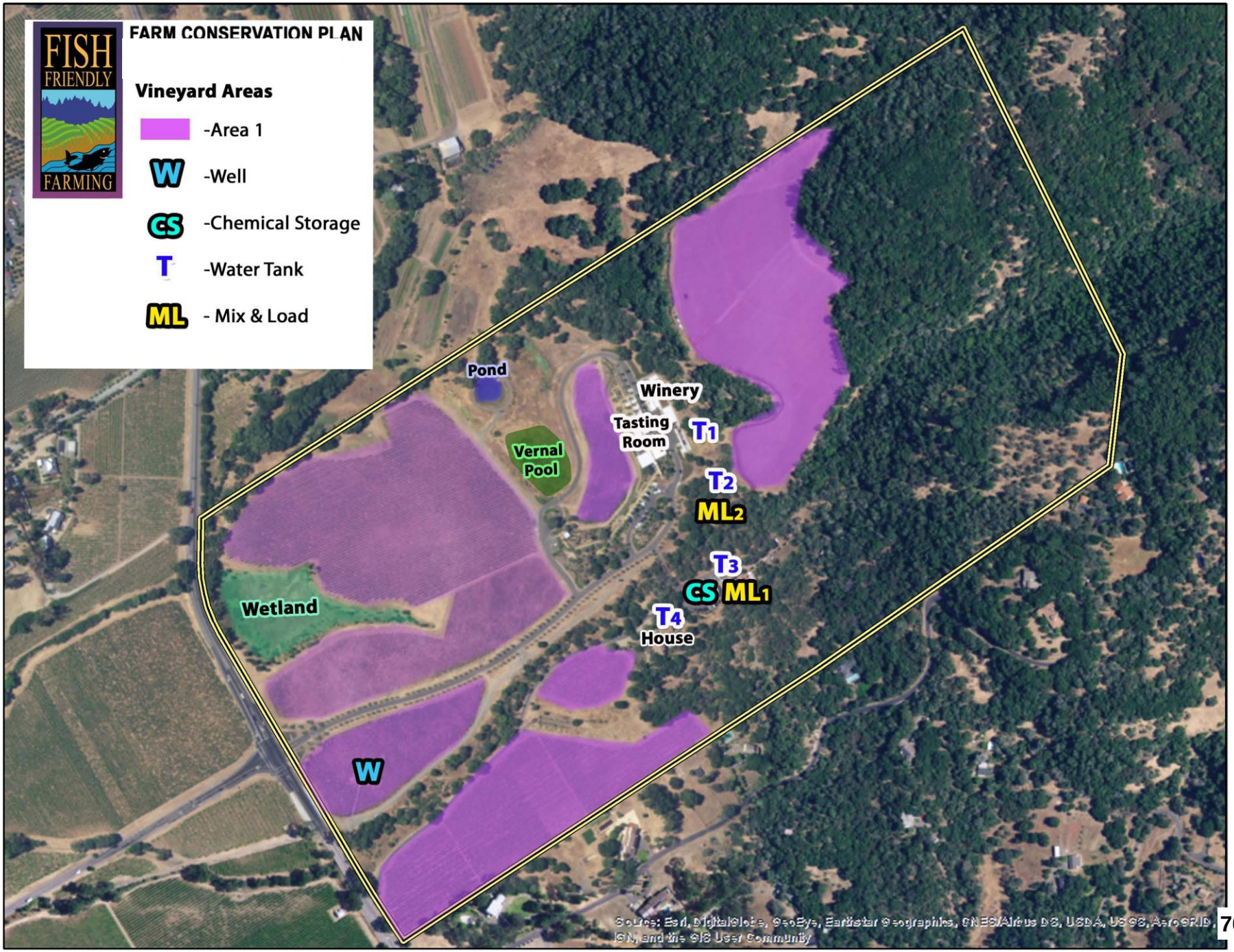

FISH FRIENDLY FARMING
FARM CONSERVATION PLAN
Riparian Measurements
Creek
Riparian Measurements
Carneros Creek
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
SONOMA-NAPA HWY
DUNBAR RD

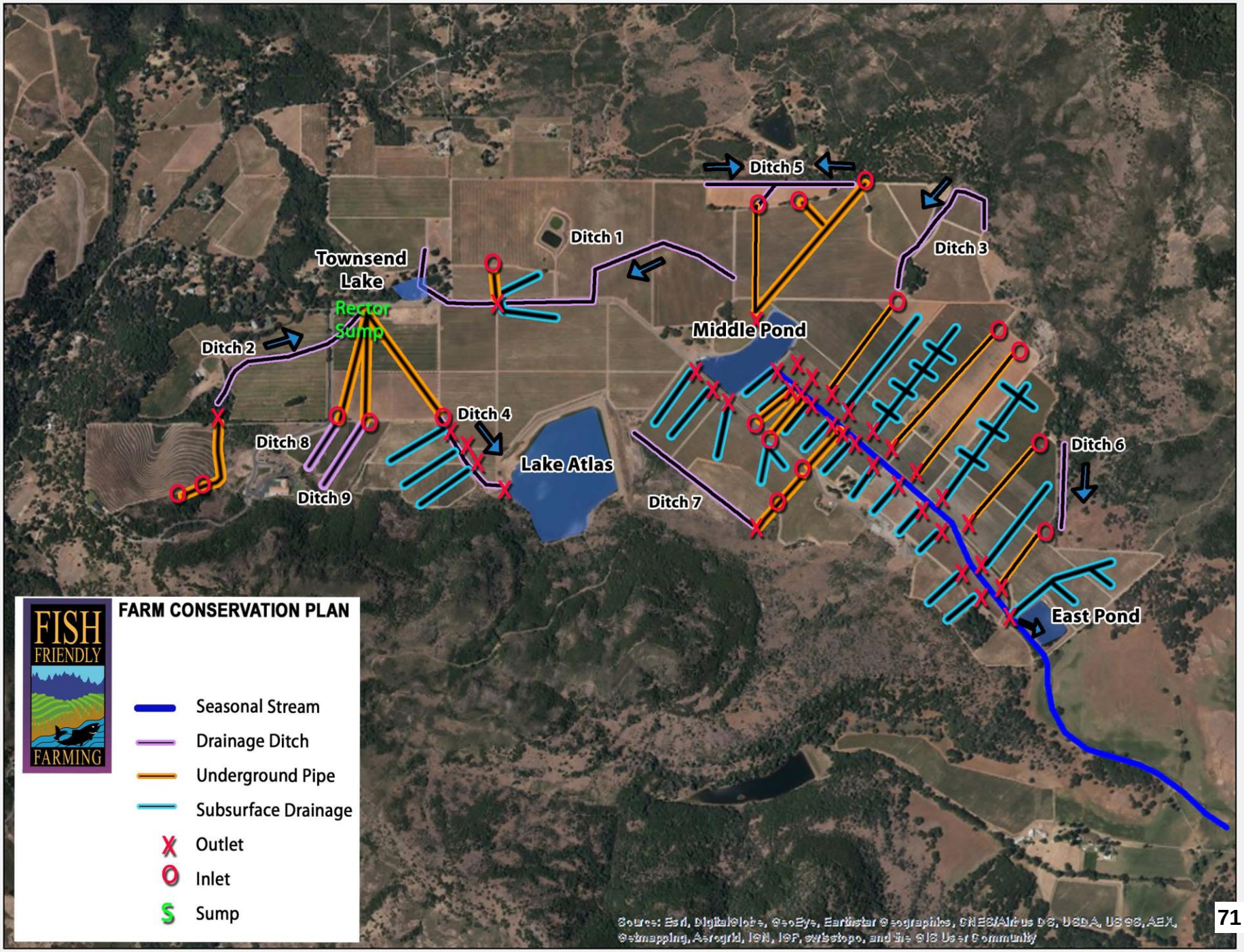

FISH FRIENDLY FARMING
FARM CONSERVATION PLAN
Creeks
- Seasonal Unconfined Creek
-Seasonal Confined Creek
-Ephemeral Creek
- Alluvial Fan Distributary Channel
Eph. 2
Pond
Vernal Pool
Whitman Creek
Eph. 1
Wetland

TYPES OF WATER SUPPLY




Area 2
Area 1
W3
W2
(easement)
W1
Area 3
CS
ML
FISH
FRIENDLY
FARMING
FARM CONSERVATION PLAN
Vineyard Areas
ML - Mix & Load
CS -Chemical Storage
W -Well
Source: Esri, DigitalGlobe, ..., Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community


FISH FRIENDLY FARMING
FARM CONSERVATION PLAN
Vineyard Areas
-Area 1
W -Well
CS -Chemical Storage
T -Water Tank
ML - Mix & Load
Pond
Winery
Tasting Room
T1
Vernal Pool
T2
ML2
T3
CS ML1
T4
House
Wetland
W
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community


Ditch 5
Ditch 1
Ditch 3
Townsend Lake
Rector Sump
Middle Pond
Ditch 2
Ditch 4
Ditch 8
Lake Atlas
Ditch 6
Ditch 9
Ditch 7
East Pond
FISH FRIENDLY FARMING
FARM CONSERVATION PLAN
Seasonal Stream
Drainage Ditch
Underground Pipe
Subsurface Drainage
Outlet
Inlet
Sump
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

FFF documents all sources of water used for both frost control and irrigation including surface water, groundwater, municipal recycled water, winery wastewater and purchased water as well as all conservation and efficiency measures.

For each surface water source, we document the acres irrigated, storage facilities, water rights, season, source and amount of each diversion, measurement devices used for each water source (SB 88 compliant) and measurement devices used for bypass flows. All stream and river diversions are required to be metered and be in compliance with State water rights. Fish screens are also required to protect endangered salmonids.

For wells we map the location of active, domestic and abandoned wells on every site and document the well production in gallons/minute, total depth, depth of first screen, proximity to streams, protection from polluted runoff (backflow protection, proximity to chemical storage and mixing sites), acres irrigated from each well, if well fills a storage feature, if there are water rights as an underflow well.

Well number or location	Production (gallons per minute)	Depth (in feet)	Depth of first opening, screen or pumping water level	If well is used to fill reservoir indicate number or name	Distance of well from creek or river channel (in feet)	If you have an appropriative water right for the well, list the number	Do you file a riparian statement of use for well?	Acreage of irrigated land for this water source	Acreage of frost control for this water source

WATER CONSERVATION PRACTICES IN IRRIGATION AND FROST CONTROL

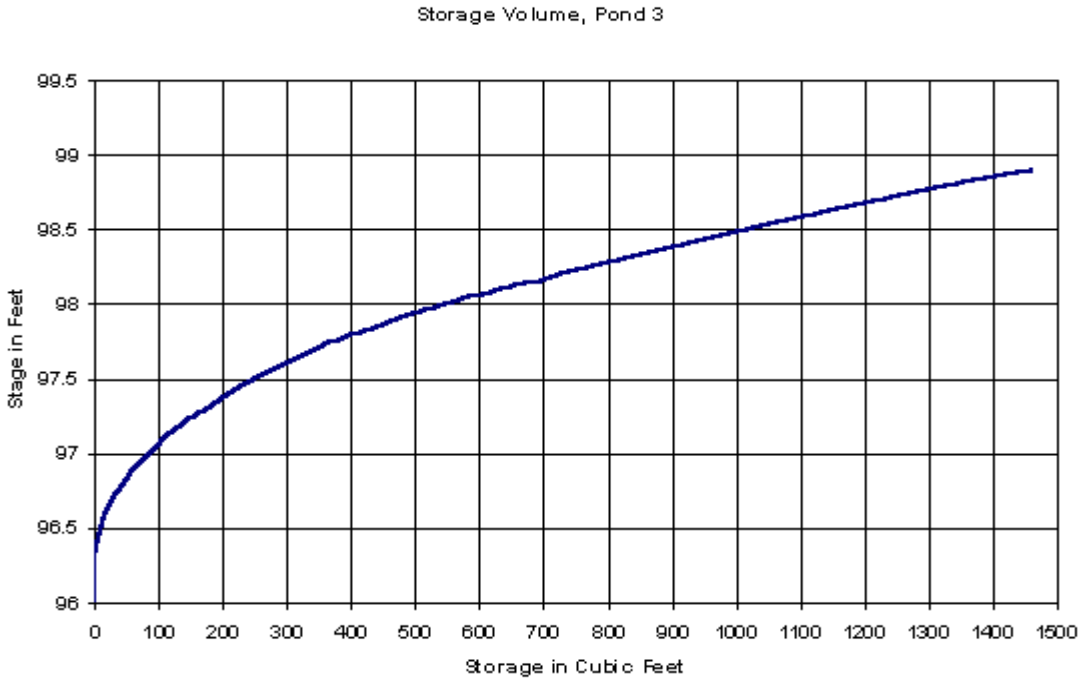
Continuous recording soil moisture monitoring systems

FFF has sponsored 3 grants to fund soil moisture or ET monitoring system for vineyards. We have held over 20 workshops since 2015 on the different types of monitoring technology and how to use the data to improve irrigation decisions and conserve water

Evapotranspiration Monitoring

Smart valves control water applications, can detect leaks and problems in irrigation systems and can shut down the system. They can be controlled from a phone or tablet. There are a number of sophisticated water management technologies being implemented by growers

Measurement of surface water sources under SB 88



Stage-Storage Curve

Drip irrigation practices are used and the system is checked regularly for leaks and water efficiency to reduce losses.
Irrigation system has a uniformity test done every other year and repairs are made to improve uniformity
Soil moisture/plant condition is monitored to determine irrigation needs.
Frost water conservation measures are installed.
Use non-water or waste/recycled water for frost control.
Water diversions are measured or metered

Soil management requirements

Winter cover crop use over entire vineyard floor and terraces by Oct. 15, use of a perennial cover crop, or if harvest is later than Oct. 15, install erosion control practices by Oct. 15, then seed cover crop post harvest.
If site is located in the watershed of a Napa County municipal reservoir, the site is winterized by Sept 15.
No tilling in the vineyard until after end of rainy season and no sooner than April 1. Mowing to reduce frost damage is okay.
Winterization of turnarounds, roads and other areas in vineyard and adjacent areas by Oct. 15, or if harvest is later than Oct. 15, install erosion control practices by Oct. 15, then seed cover crop post harvest.
Installation of vegetated filter strips by Oct. 15, or if harvest is later than Oct. 15, install erosion control practices by Oct. 15, then seed cover crop post harvest.

We can easily incorporate the BMPs for row orientation and rootstock selection for replanting. Vineyards already carry out canopy management.

Given the large sample size our program represents, benchmarking would be easiest in our program

CERTIFICATION PROCESS

Each property is certified according to a review of the farm plan and the site. The National Marine Fisheries Service and County Agricultural Commissioner certify each site. They read the farm plan for its accuracy, its completeness, the BMPs applied and the implementation timeline. They visit the site to check the accuracy of the plan and that the need for improvements are correctly defined.

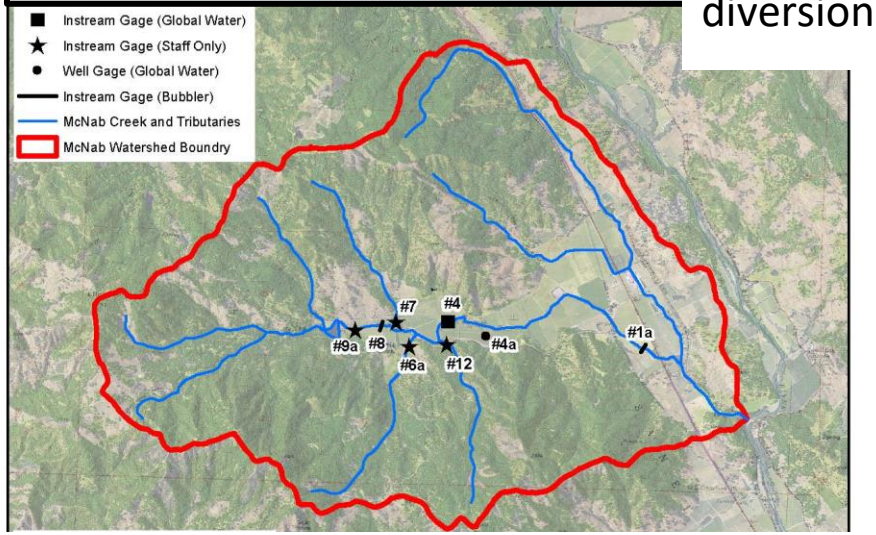
Once reviewed each agency issues a certification letter and sends to CLSI. Then CLSI will issue a certificate. Annual on line audits are required and recertification is required every 5 years. Violation of our Certification Policy can result in loss of the certification.

CERITIFICATION TEAM INSPECTING THE OUTLET OF A CULVERT

Water Demand Management Program – Mendocino tributaries and Mainstem Russian River

With the NRCS and growers built $5.1 million in off-stream ponds. Can fill during the day and reduce the demand from the stream system during the frost event

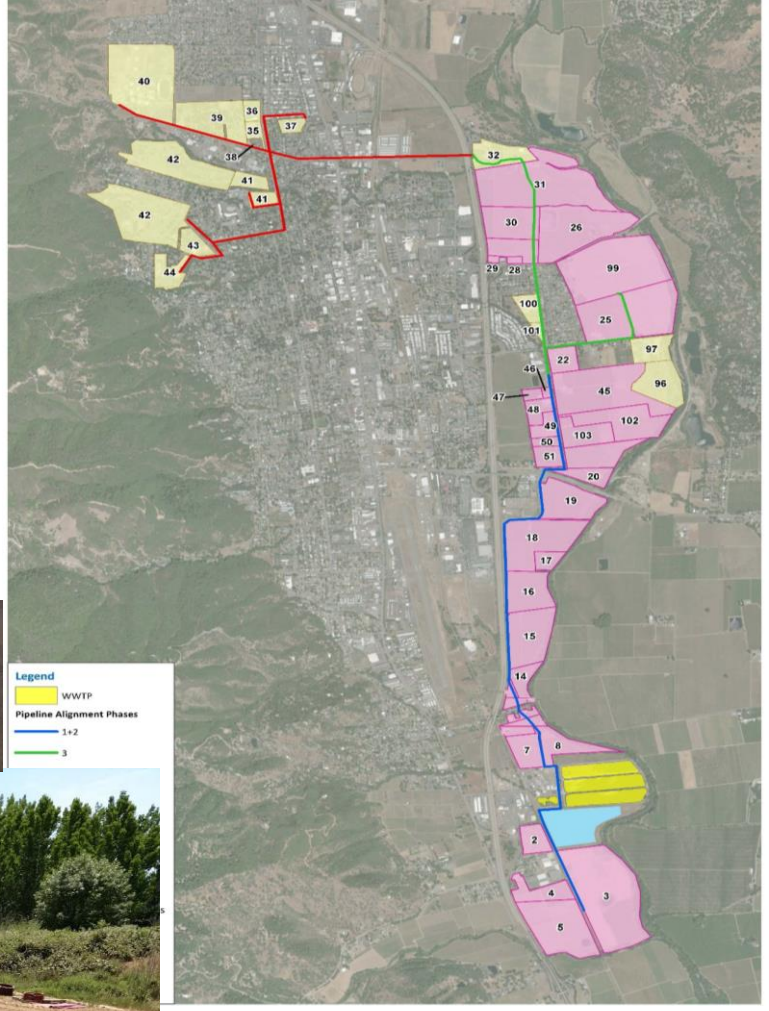
Established stream flow monitoring program with growers to coordinate and change diversions.



Map of gage network used to determine effect of each diversion and on-stream reservoir on stream flow and need to coordinate diversion to protect salmonids

Ukiah Recycled Water Program

This Recycled Water Project will reuse 870 acre feet/year of municipal recycled water for irrigation and 131 acre feet/year for frost control offsetting freshwater diversions of these amounts from the Russian River



Creation of a Decision Support Tool that will provide:

- An easy-to-understand internet interface displaying model results for the current climate condition, river stream flows at 4 gages and groundwater level data at 4-8 wells.
- Early calendar year predictions for dry season conditions and the likelihood of curtailments for planning purposes
- Guidance on threshold values to inform water diverters about when surface water sources (river/tributary) are likely to become unavailable for diversions
- Guidance on threshold values for groundwater pumping levels based on location in the basin to avoid surface water effects
- Guidance on threshold values for location of new wells to avoid surface water effects
- Guidance on numerous water conservation measures including metering of water systems for monitoring leaks, improved timing for water use to reduce losses to evaporation, inexpensive urban landscape irrigation systems, types of inexpensive storage for winter water and others

CERTIFIED CALIFORNIA SUSTAINABLE WINEGROWING

Jodi Wilson

Certification Director, California Sustainable Winegrowing Alliance

CALIFORNIA
SUSTAINABLE WINEGROWING
ALLIANCE

GROWERS & VINTNERS WORKING TOGETHER

- An alliance of winery and winegrape grower organizations
- Built with extensive stakeholder input
- Oversees progress and program development

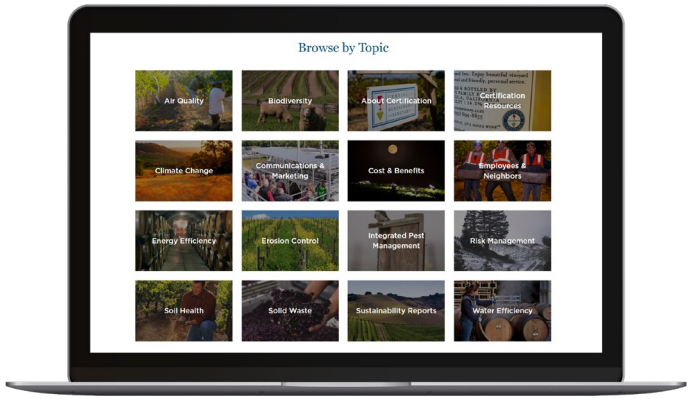
WINE INSTITUTE + CALIFORNIA ASSOCIATION of WINEGRAPE GROWERS

CALIFORNIA SUSTAINABLE WINEGROWING ALLIANCE

ROOTED IN EDUCATION

Over **660 workshops** for nearly **17,000 participants** since 2002

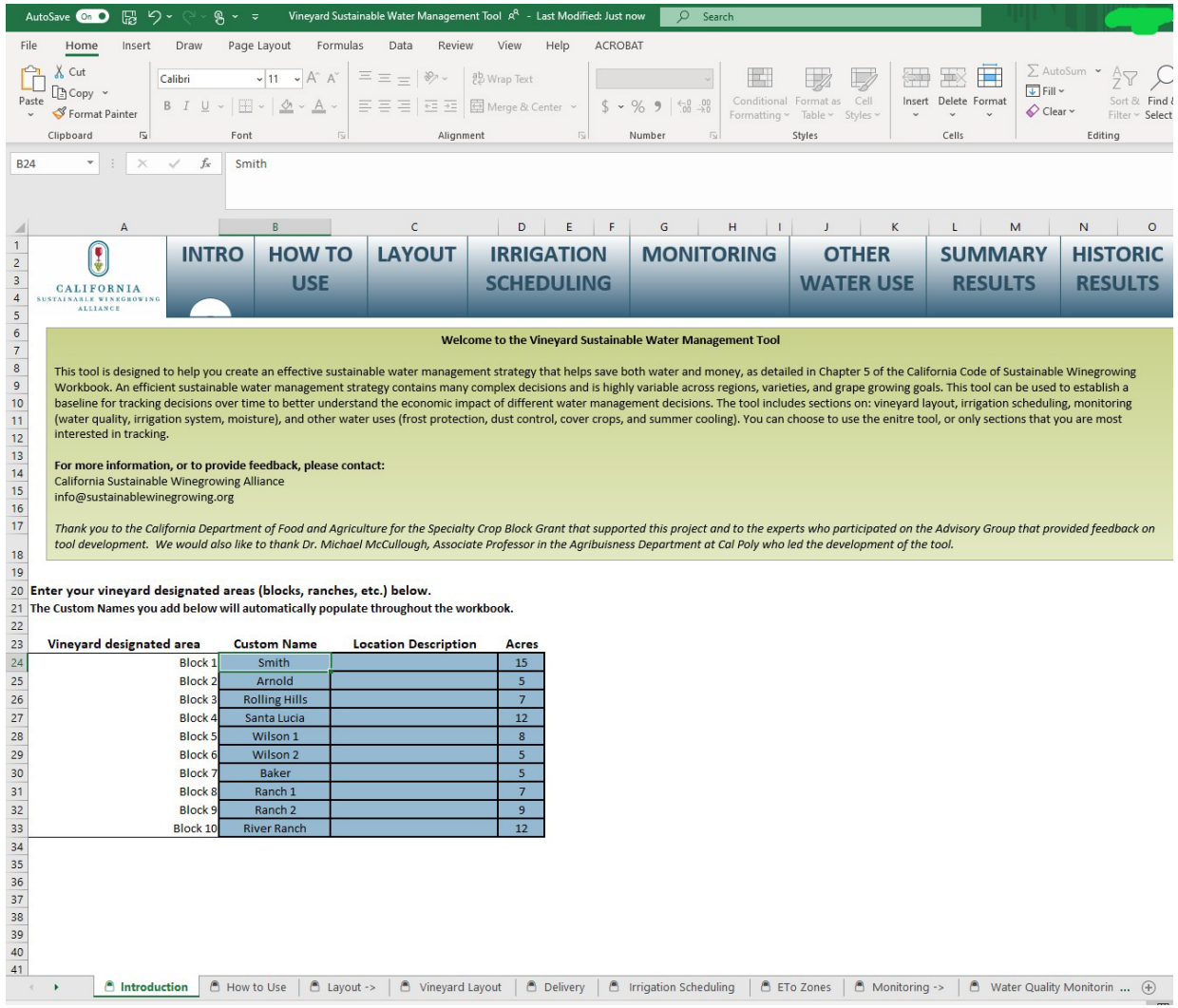
Hundreds of online tools and resources



RESOURCES & TOOLS

Water Resources:

- How to Conduct a Distribution Uniformity Test and Field Data Template
- Vineyard Sustainable Water Management Tool
- Integrated Winery Water Quality Tool
- Sustainable Management of Winery Water and Associated Energy
- Winery Hot Spots & Water Budgeting Tool
- Preparing the Vineyards for Winter & Erosion Prevention Resources
- A Winegrowers Guide to Navigating Risk
- Case studies, videos and more



library.sustainablewinegrowing.org

DRY FARMING PROJECT

OBJECTIVES

Build dry-farming and water conservation expertise and networks

Provide outreach and education on dry farming and water conservation to coastal winegrowers

Provide site specific technical assistance for winegrape growers converting or establishing dry-farmed vineyards

Develop case studies and cost evaluations

Evaluate the potential of soil health practices and groundwater recharge for improving the success of dry farming

Develop other educational tools and resources

A ROADMAP TO SUSTAINABILITY

California Code of Sustainable Winegrowing

4th Edition

15 Chapters

148 Vineyard Best Practices

108 Winery Best Practices

Learn more at: sustainablewinegrowing.org

SCIENCE BASED

Business Strategy

Viticulture

Soil Management

Vineyard & Winery Water Management

Water Quality

Pest Management

Wine Quality

Ecosystem Management

Energy Efficiency

Material Handling

Solid Waste Management

Sustainable Purchasing

Human Resources

Neighbors & Community

Air Quality & Climate Protection

CONTINUUM OF SUSTAINABILITY

The Code Workbook provides a step-by-step guide to increasingly sustainable practices

CATEGORY 4

The most sustainable practices

CATEGORY 3

Builds on Category 2 practices

CATEGORY 2

Best sustainability practice for the industry

CATEGORY 1

Meets existing standards or minimum regulation

The Code's annual self-assessment maps practices to create a benchmark

Practices have been identified by a broad set of experts and stakeholders

VINEYARD WATER MANAGEMENT

1. Water Management Strategy
2. Monitoring and Amending Quality of Irrigation Water
3. Off-Site Water Movement
4. Irrigation System
5. Distribution Uniformity for Irrigation Systems
6. Filters and Lines
7. Water Budget
8. Measuring Water Use
9. Soil Water-Infiltration Rates and Water-Holding Capacity
10. Soil Moisture and Plant Water Status Monitoring Methods
11. Regulated Deficit Irrigation

CERTIFICATION REQUIREMENTS

Annual independent verification that a vineyard and/or winery:

- Adopts sustainable practices in Code (including meeting 60 vineyard and 41 winery prerequisite practices)
- Meets minimum score threshold
- Measures & tracks resource use
- Adheres to restrictions on crop protection materials
- Improves year after year via Action Plan implementation

(Prerequisite Criteria listed in parenthesis)

Required Practices to Protect/Conserve Water

- Compliance strategy to address legal and regulatory requirements implemented (2-2)
- Results of plant tissue analysis used to guide nutrient applications (4-3)
- Nitrogen only applied when needed (4-4)
- Fertilization timing seasonally correct and based on soil and vine needs (4-5)
- Erosion controlled with temporary measures in winter (4-10) and 4-11)
- Soil erosion controlled (4-10 and 4-11)
- Water management strategy / efficient water use based on grape growing goals, soil type, slopes, etc. (5-1)
- Off-site water movement minimized (5-3)
- Irrigation distribution uniformity checked (5-5)
- Irrigation lines and filters cleaned and inspected (5-6)
- Irrigation water applied at the optimized amount (5-7)
- Vineyard water use measured (5-8)
- Water-holding capacity of soil estimated and used for estimating volume for irrigation applications (5-9)
- Soil moisture monitoring devices used to schedule irrigation (5-10)
- Pertinent watershed issues known and efforts made to minimize any negative impacts (8-2)
- Aquatic habitats considered in vineyard management (8-5)
- Dust from roadways minimized (16-3)

REQUIRED SUSTAINABILITY METRICS

Linking Practice with Performance

- Measuring to manage results in better decisions and greater impact
- Benchmarking leads to meaningful continuous improvement plans

Energy Use

Greenhouse Gas

Water Use

Applied Nitrogen

3rd PARTY AUDITING PROCESS

1. Twenty (20) current accredited auditors
2. Audits conducted on annual basis for all certified vineyards and wineries onsite every 3 years with interim years conducted as desk audits (larger operations annual onsite of subset)
3. Accreditation process includes in-depth in-person training, a competency test and mandatory annual webinar trainings
4. Auditors complete audit report, CSWA staff review full audit reports, CSWA Review Panel reviews blinded audit report executive summary
5. CSWA Review Panel serves as the final check that all certification requirements are met and enables the approval of the annual certification
6. CSWA staff conducts regular “witness audits” in the field with auditors to maintain the quality and integrity of the CCSW program

UPHOLDING INTERNATIONAL STANDARDS

- Robust third-party oversite evaluation
- Measured against global sustainability standards
- Achieved Gold Level Equivalence to SAI-Farm Sustainability Assessment 3.0
- Assurance that CCSW adheres to recognized international standards

California Certified Sustainable Winegrowing program is the first to achieve Gold Level Equivalence to FSA 3.0

Examples of Regulatory Collaboration

- Irrigation and Nitrogen Management Plan (INMP) Regulatory Reporting Tool (Region 5)
- Farm Plan Recognition for Ag Order 4.0 (Region 3)
- Vineyard Permit Compliance Option (Region 2)
- New Practices added to the Code Workbook (e.g., Non-point source pollution prevention within the vineyard block)

Program Updates

- Code Workbook reviewed and updated regularly
- Certification Standards reviewed every five years, but updates made annually
  - Stakeholder review with public comment periods (NGOs, academic institutions, government agencies, etc.)
  - Joint Committee (50+ growers/vintners) provides technical oversight and CSWA Board approves changes

TRANSPARENCY & IMPACT

Annual Certification Reports

- By-the-numbers and examples of aggregate data for Vineyard, Winery and Community Practices
- Appendix detailing aggregate data for all prerequisites, often higher than required practices
- Certifications Standards are publicly available

DATA SHARING

- Aggregate prerequisite scores shared in the Annual Certification Reports
- All practice data is aggregated and shared in the 5-Year Sustainability Reports
- Metrics data collected but not publicly shared (data collection and measurement verified by auditors)

CODE WORKBOOK CRITERIA	CATEGORY 4	CATEGORY 3	CATEGORY 2	CATEGORY 1	NON-APPLICABLE	YEAR TWO AND BEYOND MINIMUM REQUIREMENT:
2-1. Integrating Sustainability into Business Strategy	42%	50%	7%	1%	0%	Sustainability is integrated into the company business strategy.
2-2. Environmental Compliance Planning	29%	40%	27%	4%	0%	A compliance strategy to address legal and regulatory requirements is implemented.
3-12. Addressing Biological Problems	9%	52%	39%	1%	22%	Biological problems in soil verified by testing are addressed, if applicable.
3-16. Scion/Cultivar	31%	56%	13%	0%	15%	Scion was selected for appropriate climate, soil and rootstock.
3-18. Conservation of Habitat for Wildlife and Pest Predators	34%	40%	26%	0%	42%	Important habitat was protected during vineyard establishment.
4-3. Nutrient Management	67%	31%	2%	0%	0%	Results of plant tissue analysis and other factors are used to guide nutrient applications.
4-4. Nitrogen Management	28%	59%	12%	1%	0%	Nitrogen is only applied when needed and when vines can best utilize it.
4-5. Fertigation	66%	32%	1%	0%	6%	Fertilization timing is seasonally correct and based on soil and vine needs.
4-10. Surface Water Diversions for Erodible Sites	29%	57%	13%	0%	20%	Erosion is controlled with temporary measures in winter.
4-11. Management of Erosion from Roads, Ditches and Culverts	13%	35%	52%	0%	0%	Soil erosion is controlled.
5-1. Water Management Strategy	14%	39%	36%	11%	3%	A water management strategy is developed based on grape growing goals, soil types, slopes, etc.
5-2. Monitoring and Amending Quality of Irrigation Water	42%	55%	2%	0%	0%	Irrigation water is tested for quality.
5-3. Off-Site Water Movement	11%	38%	46%	5%	3%	Off-site water movement is mini-mized.
5-5. Distribution Uniformity for Irrigation Systems	44%	38%	18%	0%	3%	Irrigation distribution uniformity is checked.
5-6. Filters and Lines	17%	43%	41%	0%	1%	Irrigation lines and filters are cleaned and inspected.
5-7. Water Budget	14%	31%	49%	6%	4%	Irrigation water is applied at the optimized amount.
5-8. Measuring Water Use	10%	48%	41%	1%	3%	Vineyard water use is measured.
5-9. Soil Water-Infiltration Rates and Water-Holding Capacity	26%	66%	8%	0%	1%	Water-holding capacity of soil is estimated and used for estimating volume for irrigation applicatio
5-10. Soil Moisture and Plant Water Status Monitoring Methods	51%	41%	8%	0%	0%	Soil moisture monitoring devices are used to schedule irrigation.

CERTIFIED VINEYARDS & WINERIES

CERTIFIED CALIFORNIA SUSTAINABLE WINERY

CERTIFIED CALIFORNIA SUSTAINABLE VINEYARD

CERTIFIED SUSTAINABLE CALIFORNIA

80%

255M Cases

171 Wineries

33%

204K Acres

2,247 Vineyards

20M

228M Bottles

Another 22% of California vineyard acreage is certified to other programs in the state


CALIFORNIA
SUSTAINABLE WINEGROWING
ALLIANCE
THANK YOU
TO LEARN MORE, VISIT:
sustainablewinegrowing.org | wineinstitute.org | discovercaliforniawines.com
californiasustainablewine.com | sustainablewinegrowing.us