Napa County

1195 THIRD STREET
SUITE 310
NAPA, CA 94559

Agenda

Thursday, September 11, 2025
1:30 PM

Board of Supervisors Chambers
1195 Third Street, Third Floor

Groundwater Technical Advisory Group

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

Brian D. Bordona, Secretary - Director
Chris Apallas, County Counsel
Jamison Crosby, Natural Resources Conservation Manager
Brendan McGovern, Principal Planner
Nick Fetherston, Planner II
Alexandria Quackenbush, Meeting Clerk
Angie Ramirez Vega, 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 January, May, June or October. August 19, 2025 will be a special-joint meeting of the GTAG & GSA.

The Groundwater Technical Advisory Group meets at 1195 Third Street, Suite 310, Napa, California 94559. The meeting room is wheelchair accessible. Assistive listening devices and interpreters are available through the clerk of the Groundwater Technical Advisory Group. Requests for disability related modifications or accommodations, aids or services may be made to the Clerk of the Groundwater Technical Advisory Group's office no less than 72 hours prior to the meeting date by contacting (707) 253-4417 or meetingclerk@countyofnapa.org.

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 April 10, 2025 TAG meeting. **25-1623**

Approving Authority: Groundwater Technical Advisory Group

Attachments: 4-10-25 Draft Minutes

4. REPORTS AND ANNOUNCEMENTS

5. ADMINISTRATIVE ITEMS

A. Receive an update on Napa Valley Subbasin Groundwater Sustainability Plan (GSP) implementation progress. **25-1619**

Approving Authority: Groundwater Technical Advisory Group

Attachments: A_Projects and Management Actions as of 22Aug2025
B_Presentation, GSP Implementation Progress Since 2022 and Work Underway, TAG 22Aug2025
Item 5A - Public comment (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 9/8/25 BY 12:00PM. A HARDCOPY SIGNED VERSION OF THE CERTIFICATE IS ON FILE WITH THE COMMITTEE CLERK AND AVAILABLE FOR PUBLIC INSPECTION.

ANGIE RAMIREZ VEGA (By e-signature)
Angie Ramirez Vega, 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:** 9/11/2025 **File ID #:** 25-1623

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

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

REPORT BY: Jamison Crosby, Natural Resources Conservation Manager

SUBJECT: TAG Minutes from April 10, 2025

RECOMMENDATION

The Secretary of the committee requests approval of the minutes from the April 10, 2025 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 twenty-third meeting on April 10, 2025. Minutes were prepared and are ready for the committee's approval.

Meeting Minutes

Technical Advisory Group

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

Brian D. Bordona, Director
Chris Apallas, County Counsel
Jamison Crosby, Natural Resources Manager
Brendan McGovern, Principal Planner
Alexandria Quackenbush, Meeting Clerk
Angie Ramirez-Vega, Meeting Clerk

Thursday, April 10, 2025	**1:30 PM**	**Board of Supervisors Chambers 1195 Third Street, Third Floor**

1. CALL TO ORDER / ROLL CALL

Group Members Present: Chair Albert Filipelli, Matt Kondolf, Miguel Garcia, Monica Cooper.
Group Members Absent: Julie Chambon

2. PUBLIC COMMENTS AND RECOMMENDATIONS

(2) Public comments were received.

3. APPROVAL OF MINUTES

Motion by Member Cooper to approve minutes for the March 13, 2025, meeting as presented, seconded by Member Garcia.
Vote: Carried 4-0-1
Yes: Cooper, Garcia, Filipelli, Kondolf
No: N/A
Absent: Chambon

4. AGENDA REVIEW

Brendan McGovern provided the agenda review.

5. ADMINISTRATIVE ITEMS

A. Technical Advisory Group (TAG) members will receive a presentation on the revised version of the NCGSA Water Certification Partnership document. In addition, the TAG will also receive an update on the extended replanting concept. This is intended to spur discussion, questions, and provide feedback to staff and participants.
Duncan McEwan, ERA Economics, presented the item.

Chair Filipelli opened public comment; two public comments were received.
Chair Filipelli closed public comment.

B. Provide an update on streamflow depletion model scenarios and model updates to the Napa Valley Integrated Hydrologic Model (NVIHM).
Nick Newcomb, Luhdorff and Scalmanini, presented the item.
Chair Filipelli opened public comment; two public comments were received.
Chair Filipelli closed public comment.

6. FUTURE AGENDA ITEMS
Brendan McGovern reminded members the next meeting is scheduled for July 10, 2025.

7. ADJOURNMENT
Meeting adjourned at 2:54pm.

_____
ANGIE RAMIREZ VEGA, Meeting Clerk

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Groundwater Technical Advisory Group **Agenda Date:** 9/11/2025 **File ID #:** 25-1619

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: Update on Implementation of the Water Conservation, Groundwater Pumping Reduction and Interconnected Surface Water/Groundwater Dependent Ecosystems Workplans

RECOMMENDATION

Receive an update on Napa Valley Subbasin Groundwater Sustainability Plan (GSP) implementation progress.

Procedure
Staff introduces.
Questions and answers with the TAG.
Public comments.

BACKGROUND AND DISCUSSION

Overview of GSP implementation Progress

The GSP sets forth the Napa Valley Subbasin sustainability goal and provides a roadmap for implementation efforts. Following the NCGSA's adoption of the GSP in January 2022, GSA staff and technical consultants developed several workplans regarding interconnected surface waters and groundwater dependent ecosystems (GDEs), water conservation, stormwater resources, groundwater pumping reduction, and outreach. Since early 2024, workplan implementation has included implementing advanced technologies for water conservation, pumping reduction, potential utilization of surplus stormflows for managed aquifer recharge, measures for tracking and reporting groundwater use in the Subbasin, and assessments of GDEs within the Subbasin.

GSAs are required to evaluate their GSPs at least every five years; for the Napa Valley Subbasin, the Periodic Evaluation is due January 31, 2027. Among other elements, the Periodic Evaluation "shall describe whether the Plan implementation, including implementation of projects and management actions, are meeting the sustainability goal in the basin" (GSP Regulations 356.4). If progress towards achieving the sustainability goal by at least 2042 is not occurring, then the NCGSA may require mandatory actions to ensure that progress is being made to achieve the sustainability goal

Climate change necessitates new strategies and innovation to build resilience. However, strategies require understanding the response of interconnected surface water and groundwater systems under highly variable and uncertain hydrologic conditions. Successful water resources management strategies require robust data. Bill Dodd (Emeritus Senator District 3) in a June 2025 California Water Data Consortium Roundtable welcome speech about improving water management, including public access to high-quality water and ecosystem data, commented, "…with the escalating impacts of climate change, more extreme climatic events, and the risks and

opportunities associated with artificial intelligence and other technological drivers, the need to modernize California's water data systems is more urgent now than ever."

The TAG will receive a presentation that includes: 1) update on several other Water Conservation and Groundwater Pumping Reduction program elements; 2) update on the Interconnected Surface Water and Groundwater Dependent Ecosystems Workplan implementation focused on monitoring results from 2025 and work related to the California Environmental Flows Framework; and 3) an update on the NCGSA Water Certification Partnership process; The TAG will also receive a brief overview of GSP accomplishments and a summary of numerous voluntary management actions underway to support sustainable groundwater management (Attachments A and B).

Water Conservation and Groundwater Pumping Reduction Workplans and Implementation

The NCGSA is implementing the Water Conservation (WC) and Groundwater Pumping Reduction (GPR) Workplans (March 2024). The WC Workplan identified a suite of water conservation practices and the GPR Workplan developed an implementation plan to achieve measurable groundwater pumping reductions and overall water savings. GPR implementation includes a voluntary, incentive-driven program for growers and other water users/industries in the Subbasin to adopt and expand water conservation practices. Mandatory measures (e.g., mandatory metering and reporting) are also included if the voluntary incentive-driven programs are insufficient. Napa Valley Subbasin GSP implementation also includes evaluation of on-farm practices to increase infiltration (recharge).

The GPR includes multiple elements from outreach and education to incentive-driven conservation programs and groundwater recharge opportunities. At this meeting, the TAG will receive an update on the development and implementation of GPR programs. This will include an overview of the GPR programs and summary of the timeline for developing key program elements: 1) water conservation certification program, 2) domestic conservation program concepts, 3) water measurement pilot, and 4) water conservation education and outreach. The TAG will also have an opportunity to review progress toward other GPR implementation elements, including a recharge feasibility study and the extended vineyard replant concept (similar to the concept of vineyard "mothballing" described by Napa Valley Grapegrowers). Preliminary work will be presented. The recharge feasibility study is an assessment of potential recharge opportunities, technical feasibility, and economic feasibility. An overview of the study progress, including review of developed scenarios and considerations will be presented to the TAG with an opportunity to offer feedback. The extended vineyard replant concept would offer incentives for extending the fallow/idle period between when an old vineyard is removed and a new vineyard is (re)planted. An overview will be presented with updates on program development and an overview of the initial results of the preliminary geospatial analysis developed for both studies. Extending replanting and recharge opportunities provide groundwater benefits particularly for interconnected surface water and GDEs.

Napa Valley Integrated Hydrologic Model (NVIHM) Scenarios

NVIHM scenarios will be presented to illustrate the potential benefit of groundwater pumping reductions near significant streams in the Subbasin. The scenarios consider the effect of pumping reduction on reduced streamflow depletion. Groundwater pumping is modeled to reduce demand by about 10 percent of the pumping for all agricultural, domestic, and small public water supply wells located within 500 feet and within 1500 feet of significant streams. The scenario results provide context for the benefits of pumping reduction. At a future TAG meeting, NVIHM scenarios will illustrate the potential benefits of recharge and the extended replant concept.

Interconnected Surface Water and GDE Workplan Implementation

Climate change, including drought effects and hotter/drier conditions, have resulted in increased pumping in response to those conditions. The Subbasin was significantly affected by persistent drought conditions during Water Years (WY) 2020, 2021, and 2022; groundwater levels exceeded Minimum Thresholds , and Undesirable Results occurred for two sustainability indicators - interconnected surface water and reduction in groundwater storage (key requirements of the Sustainable Groundwater Management Act and sustainable

management criteria (SMC) for the Napa Valley Subbasin are summarized in the GSP Executive Summary). In WY 2024, one Undesirable Result occurred for reduction in groundwater storage. While significant groundwater replenishment occurred in WYs 2023 and 2024, the reduction in groundwater storage emphasizes the importance of achieving sustainability by maintaining balanced conditions over a period representative of long-term conditions (the Napa Valley Subbasin GSP definition for an Undesirable Result for the SMC for reduction of groundwater storage is for a period of seven years). As described previously, the Subbasin responds relatively quickly to changed hydrologic conditions; slight differences in groundwater levels affect stream flow. This highlights the importance of Water Conservation as a Napa Way of Life and water management strategies that help mitigate climate change effects by reducing groundwater demand and increasing groundwater replenishment even during wetter years.

Napa County and the NCGSA recognize that future water resiliency must encompass all the County's communities, agricultural heritage, and ecosystems. Other California programs underway are also promoting climate resiliency related to healthy watersheds for all beneficial users; examples include:

- On January 30, 2024, Governor Gavin Newsom issued the Administration's document, California Salmon Strategy for a Hotter, Drier Future: Restoring Aquatic Ecosystems in the Age of Climate Change, which "outlines a path to a healthier, thriving salmon population in California, but achieving this result will have broader benefits beyond salmon", and promotes "working with local partners on locally driven solutions and coordinating on options for incentivizing the reduction of diversions and groundwater pumping"; and "working together, state agencies and partners will depending on available resources...by 2026, complete supply-demand assessment pilot projects in three watersheds to better manage water allocations and provide data for local water management decisions," and "expand to at least 12 additional watersheds by 2029."

- The State Water Resources Control Board (State Board) established the Supply and Demand Assessment Unit (SDA) in 2022 to develop water supply models and refine water demand data throughout California, and in April 2025 the State Board signed a Memorandum of Understanding with Napa County/NCGSA in support of data sharing and coordination of Napa River Watershed (one of the three pilot watersheds) modeling efforts. NCGSA technical consultants shared the Napa Valley Integrated Hydrologic Model (NVIHM) with State Board staff. The NCGSA staff, GSA technical consultants, TAG member Matt Kondolf, State Board staff, and State Board technical consultants met on August 15 for an update on the State Board's watershed model development progress.

- Napa County together with the state and local partners prepared the SB 552-Drought Resilience Plan (Napa County, 2024) to aid the County in preparing for and identifying drought and water shortage risks and proposed short-term response actions and long-term mitigation strategies and actions, and the County also prepared the draft Napa County Regional Climate Action and Adaptation Plan (RCAAP, in progress). The State Drought Resilience Interagency Partners (DRIP) Collaborative has several goals for 2025 to increase resilience to droughts and water shortages, including reducing ecosystem impacts due to drought.

As part of the implementation of the Interconnected Surface Water (ISW) and Groundwater Dependent Ecosystems (GDEs) Workplan: Napa Valley Subbasin (2024), the technical team is using the California Environmental Flows Framework (CEFF) to characterize aquatic and terrestrial GDEs and assess instream flows in the Subbasin. The goal is to complete the science-based sections of CEFF (Sections A and B) by late 2025/early 2026 to inform updates for the GSP Periodic Evaluation. The CEFF evaluation includes monitoring to better understand special-status species and GDEs' distribution and associated aquatic habitat and water quality, including stream temperature and dissolved oxygen, at the extensive study sites. Most high-quality aquatic and riparian habitats in the Napa River Watershed generally occur upstream of the Subbasin, but the degree to which the Subbasin is used by aquatic species to maintain their populations and provide resiliency to

disturbance in the upper watershed is unknown.

The CEFF process involves identifying overarching ecological management goals, including streamflow goals to maintain ecosystem health. These goals are a function of the species and lifestages present, their ecological needs, the physical system (e.g., water year type, temperature, water year trends), and the degree to which the ecological functional needs are being met or can be met in the future (i.e., whether flows would be sufficient given the constraints of the physical system). Some ecological management goals are similar throughout the Subbasin while other goals vary depending on the species using the site and their ecological needs. Flow constraints under variable conditions, including climate extremes and ISW conditions with and without groundwater pumping, will be characterized and assessed using the NVIHM. Ecological management goals will be refined based on evaluation of the literature for the Napa River and similar watersheds and the 2024 and 2025 ISW and GDEs' monitoring results for the Subbasin. Stream reach-specific objectives will be developed as the NVIHM update is completed later in 2025. A comprehensive summary of GDEs monitoring conducted in 2024 is provided in the Technical Memorandum, Napa Valley Subbasin Interconnected Surface Water and Groundwater Dependent Ecosystems Monitoring, 2024 (Stillwater Sciences, Napa Resource Conservation District, and Luhdorff and Scalmanini Consulting Engineers; 2025). This Technical Memorandum is in the Napa County Groundwater Sustainability, Annual Report - Water Year 2024 (March 2025) in Appendix K.

The outcome of CEFF will be groundwater and associated flow recommendations to support the ecological management goals. The flow recommendations will likely vary by site and may differ from the requirements of other beneficial users of water in the Subbasin. The flow recommendations from CEFF will be used to inform future refinement of ISW sustainable management criteria.

2025 Monitoring

The climate in 2025 differed from 2024. WY 2024 was a below average water year at the Napa State Hospital rain gage with a very hot period in June. Precipitation at the State Hospital was slightly lower in 2025 than 2024, but Summer 2025 was much cooler, with maximum average temperature about 10 degrees Fahrenheit lower than 2024 in June and July. Through mid-August, the maximum average temperature was about the same in 2025 as 2024. While precipitation was slightly different between 2024 and 2025 at the Napa State Hospital, rainfall in the northern portion of the watershed was much higher in 2025 relative to 2024, in part due to a very large November rainstorm concentrated in the northern half of the watershed.

The 2025 ISW and GDEs monitoring occurred at all six sites outlined in the ISW and GDEs Workplan, including:

- Napa River at Calistoga
- Napa River at St. Helena
- Napa River at Yountville
- Napa River at Oak Knoll
- Sulphur Creek
- Bale Slough

Due to challenges involved with site access, this was the first year of surveys at the Napa River at Oak Knoll and Bale Slough sites, and the second year of surveys at the other sites.

Surveys conducted in 2025 at each of the sites included:

- Flow connectivity studies;
- Continuous water quality measurements for temperature and dissolved oxygen;
- Fish surveys (May and June);

- Special-status plant surveys (April);
- Visual encounter surveys and environmental DNA surveys for northwestern pond turtle and foothill yellow-legged frog (one in May and one in July); and
- Audio recording of bird usage at all sites except Bale Slough

Fish habitat was mapped at the Napa River at Oak Knoll and Bale Slough in June 2025 to supplement habitat surveys at the four other sites in 2024. Surveys for California freshwater shrimp in the Calistoga Reach of the Napa River and groundwater-dependent vegetation community health and composition will occur in early October and September, respectively, and the flow connectivity data will be processed in October following the end of the water year.

Juvenile steelhead were observed in large numbers at the Sulphur Creek site, and smaller numbers occurred at the Napa River at St. Helena site. Surprisingly, juvenile Chinook salmon were observed at every site, with over 2500 individuals noted at the Napa River at Calistoga site. Foothill yellow-legged frog eggs, tadpoles, and adults were observed at the Sulphur Creek site, and repeated surveys revealed that they metamorphosed to subadult frogs capable of leaving the stream prior to the creek going dry. An environmental DNA sample at Oak Knoll found evidence of foothill yellow-legged frogs at that site. A subsequent survey found that foothill yellow-legged frog DNA was likely from Dry Creek, just upstream of the site. Northwestern Pond Turtles were detected by eDNA at the Napa River at St. Helena site. None of the 15 special-status plants that were identified in the Workplan as likely or possibly associated with groundwater were observed at any of the study sites. Sound recorders deployed in Spring 2025 at all the sites except Bale Slough identified 62 bird species.

The groundwater and flow connectivity data from 2025 are still being processed; however, wet conditions generally persisted for longer in 2025 relative to 2024, and stream temperature and dissolved oxygen were more suitable for rearing steelhead juveniles in 2025.

Ecological Management Goals

Based on the 2024 and preliminary 2025 monitoring results, previous observations, and relevant literature, preliminary ecological goals for all sites include:

- Maintain upstream and downstream fish passage for adult and juvenile steelhead and Chinook salmon.
- Support spring and early summer habitat for juvenile Chinook salmon.
- Maintain groundwater levels within the rooting zone of mapped GDEs (generally 10 to 30 ft for willows and oaks, respectively).
- Support the current distribution and populations of special status species and natural communities to maintain ecosystem diversity.

Site-Specific Ecological Management Goals

- **Napa River at Calistoga**: maintain isolated pools to support California Freshwater Shrimp habitat steelhead rearing if water temperatures are sufficient (i.e., wet years with cool summer temperatures).
- **Sulphur Creek, Napa River at St. Helena, and Dry Creek**: maintain flowing conditions (generally in the late spring/early summer depending on temperature) to support emergence of foothill yellow-legged frogs as well as support Northwestern Pond Turtle.
- **Sulphur Creek:** maintain flowing conditions (generally in the late spring/early summer depending on temperature) to support emergence of foothill yellow-legged frogs and growth of juvenile steelhead.
- **Napa River at Yountville and Napa River at St. Helena**: support habitat for Northwestern Pond Turtle and perhaps juvenile steelhead.

- **Sulphur Creek and Napa River at Calistoga**: sustain habitat conditions to promote juvenile steelhead and Chinook salmon rearing sufficient to promote successful migration to cooler water with dependable flow later in the dry season.

Continuing uncertainties related to fish habitat in the Napa Subbasin include:

1) the degree to which streams in the Subbasin provide rearing habitat for steelhead and Chinook salmon,

2) the spatial variability of available habitat from year-to-year, and

3) the degree to which juveniles rearing in streams in the Subbasin are able migrate to more suitable habitat as habitat conditions decline.

The preliminary goals listed above are based on two years of data; these goals will be refined based on the results of subsequent surveys coupled with results of the updated NVIHM. The science-based portions of CEFF will be completed in late 2025/early 2026 but may be refined based on future data collection. The CEFF analysis will be included as an appendix to the 2027 Periodic Evaluation. As new monitoring results are obtained, adaptive management principles will be applied to adjust ecological management goals and flow recommendations as appropriate.

Water Conservation Community Engagement and Education Plan

GSP implementation includes strong elements of outreach and education, and the NCGSA continues to provide opportunities for public engagement. To engage stakeholders, the NCGSA updated the Communication and Engagement Plan (CEP Update; Stantec, 2024) to better align with implementation activities. Extensive stakeholder outreach occurred in WY 2024 and is ongoing to provide information about GSP implementation. In WY 2025, extensive outreach and engagement has occurred, especially with vineyard and winery organizations and entities administering existing certification programs, to support GPR program implementation.

The TAG will receive an update on ongoing outreach and education. Outreach and education has been expanded into a Water Conservation Community Engagement and Education Plan (WCCEEP), which presents an actionable strategic plan for countywide, all-sector stakeholder engagement, outreach, and education.

Questions for TAG Discussion

Staff and the technical team invite any questions from the TAG and request TAG members' input and feedback on two (2) questions below:

1. **What other considerations should be included in the development of recharge scenarios for the recharge feasibility study? How can they be improved?**

    - Additional context: The current recharge scenarios developed offer three different potential projects to enhance water capture and groundwater storage in the Subbasin. Understanding the range of factors that may impact the feasibility and efficacy of each proposed scenario can improve the resulting program design and implementation.

2. **What else might strengthen the geospatial analyses for potential recharge and/or replant programs, especially when determining ideal recharge and replant sites?**

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

A. Summary of Napa Valley Subbasin GSP Implementation Efforts including Projects and Management Actions (as of August 22, 2025)

B. Powerpoint Presentation, GSP Implementation: Progress Since 2022 and Work Underway, September 11, 2025

Summary of Napa Valley Subbasin GSP Implementation Efforts including Projects and Management Actions (as of August 22, 2025)

GSP IMPLEMENTATION AND RELATED ACTIVITIES	Activity Type	2022				2023				2024				2025			
		Wtr	Spr	Sum	Fall	Wtr	Spr	Sum	Fall	Wtr	Spr	Sum	Fall	Wtr	Spr	Sum	Fall
GSP Submitted to DWR	A	X															
DWR GSP Approval	A					X											
TAG RFP and Selection	A		X														
TAG Meetings	A			X	X	X	X	X	X	X	X	X	X	X	X	C	C
Communications, Outreach, Education	A	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	C
Annual Report WY 2021	A	X	X														
Napa County Human Right to Water and Public Trust Resolution	A				X												
GSP Monitoring: 6 Sustainability Indicators (ongoing)	A	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	C
GW Monitoring Facilities & Instrumentation: DWR Grant 8 Sites (16 Wells) and SW Stage at Same Sites	A			X	X	X	X	X	X								
Groundwater Model Updates	A				X	X			X	X			X	X	X	X	C
Groundwater Model Scenarios related to Management Actions and Climate Scenarios	A											X		X	X	X	C
Annual Report WY 2022	A				X	X	X										
Review and assist with RCAAP	A									X	X	X	X			C	C
Sonoma Subbbasin Interbasin Coordination	A											X	X	X	X	X	C
Recruit Vineyard Pilot Program Participants (Influencers)	MA1							X	X	X						C	C
Stormwater Resource Management Plan	P1				X	X	X	X	X								

Napa County Well Inventory Update	A			X	X	X											
Webmap Groundwater Monitoring and SMCs	A					X	X	X	X	X	X	X	X	X	X	X	C
Communication and Engagement Plan Update	A						X	X	X	X							
SB 552 Drought Resilience Plan	A							X	X	X	X	X	X				
Water Conservation Workplan	MA1				X	X	X	X	X	X	X						
Groundwater Pumping Reduction Workplan	MA2				X	X	X	X	X	X	X						
Interconnected Surface Water (ISW) and Groundwater Dependent Ecosystems (GDEs) Workplan	A				X	X	X	X	X	X	X						
Annual Report WY 2023	A								X	X	X						
Water Conservation Workplan Implementation	MA1										X	X	X	X	X	X	C
Groundwater Pumping Reduction Workplan Implementation	MA2										X	X	X	X	X	X	C
Workplan Outreach and Education	MA2								X	X	X	X	X	X	C	X	C
Water Certification Partnership Program	MA2												X	X	X	X	C
Vineyard Extended Replanting (Rotational Idling) Concept	MA2													X	X	X	C
GW Benchmarking Pilot Program	MA2												X	X	X	X	C
Pilot Sites Partnerships	MA2									X	X	X	X	X	X	X	C
Potential Conservation/Program Incentives	MA2									X	X	X	X	X	X	X	C
Water Availability Analysis Update	MA3			X					X	X	X	X	X	X	X	X	C
Countywide Map Significant Streams	MA3									X	X	X	X	X	X		

Pilot GW Use Data Collection w/TAPP H2O (Streamline & Consolidate; Existing Discretionary Permits)	MA3													X	X	X	C
Meter Data and Reporting Program (Pilot: Small Volunteer Group)	MA3														X	X	C
Feasibility Analysis of On Farm and Other Recharge Opportunities	P1											X	X	X	X	X	C
Coordination St. Helena; Recycled Water Opportunities	P2												X	X	X	X	C
ISW and GDEs Workplan Implementation	A										X	X	X	X	X	X	C
ISW and GDEs Monitoring (RCD and Stillwater); Aquatic & Terrestrial Species & Habitats & Stream Connectivity	A										X	X	X	X	X	X	C
Coordinate with State Board Napa River Watershed Modeling	A											X	X	X	X	X	C
DWR Stream Gage Improvement Program (CalSIP); Grant Approved; Install 5 Stream Gages	A												X	X	X	X	C
Coordination Abuelitos Foundation; Climate Adaptation Approaches	A										X	X	X	X	X	X	C
Coordination w/ Dry Farming Research Project	A											X	X	X	X	X	C
Fee Study	A						X	X	X	X	X	X	X	X	X	X	C

X= in progress to completion; C= Continuing

Activity Types: GSP Admin, Monitoring, Reporting (A); Project (P) or Management Action (MA)

Napa County Technical Advisory Group

GSP Implementation: Progress Since 2022 and Work Underway

September 11, 2025

Outline

- GSP Implementation Progress and Roadmap
- GPR Programs and Progress
- NVIHM Scenarios
- CEFF Goals and Monitoring
- Water Conservation: Expanded Outreach
- Discussion

Napa Valley Subbasin GSP Roadmap

2022

GSP Submitted to DWR 1/2022; DWR approved 1/2023

WY 2022 Annual Report

TAG Meetings

2023

Develop 5 Workplans w/Stakeholder Input

WY 2022 Annual Report

Monitoring; installed 16 MWs

Model Update

2024

Complete 5 Workplans and Begin Implementation

WY 2023 Annual Report

Monitoring

Model Update

2025

Workplan Implementation

WY 2024 Annual Report

Monitoring, including add 2 MWs , 5 stream gages (CalSIP)

Model Update and Coordinate with SB SDA Unit on Napa River Watershed Model

2026

Prepare Five-Year Periodic Evaluation

WY 2025 Annual Report

Monitoring, including O&M CalSIP gages

Workplans & Initiatives Implementation

PMAs and Modeling Scenarios, including Climate

Coordinate with SB SDA on Watershed Model

2027

Five-Year Periodic Evaluation Due 1/2027

WY 2026 Annual Report

Workplans & Initiatives Implementation

Monitoring, CalSIP Gages

Modeling Scenarios

2028-2041

Ongoing Annual Reports

Monitoring and Modeling

PMA Implementation

Outreach

Adaptive Management

2042

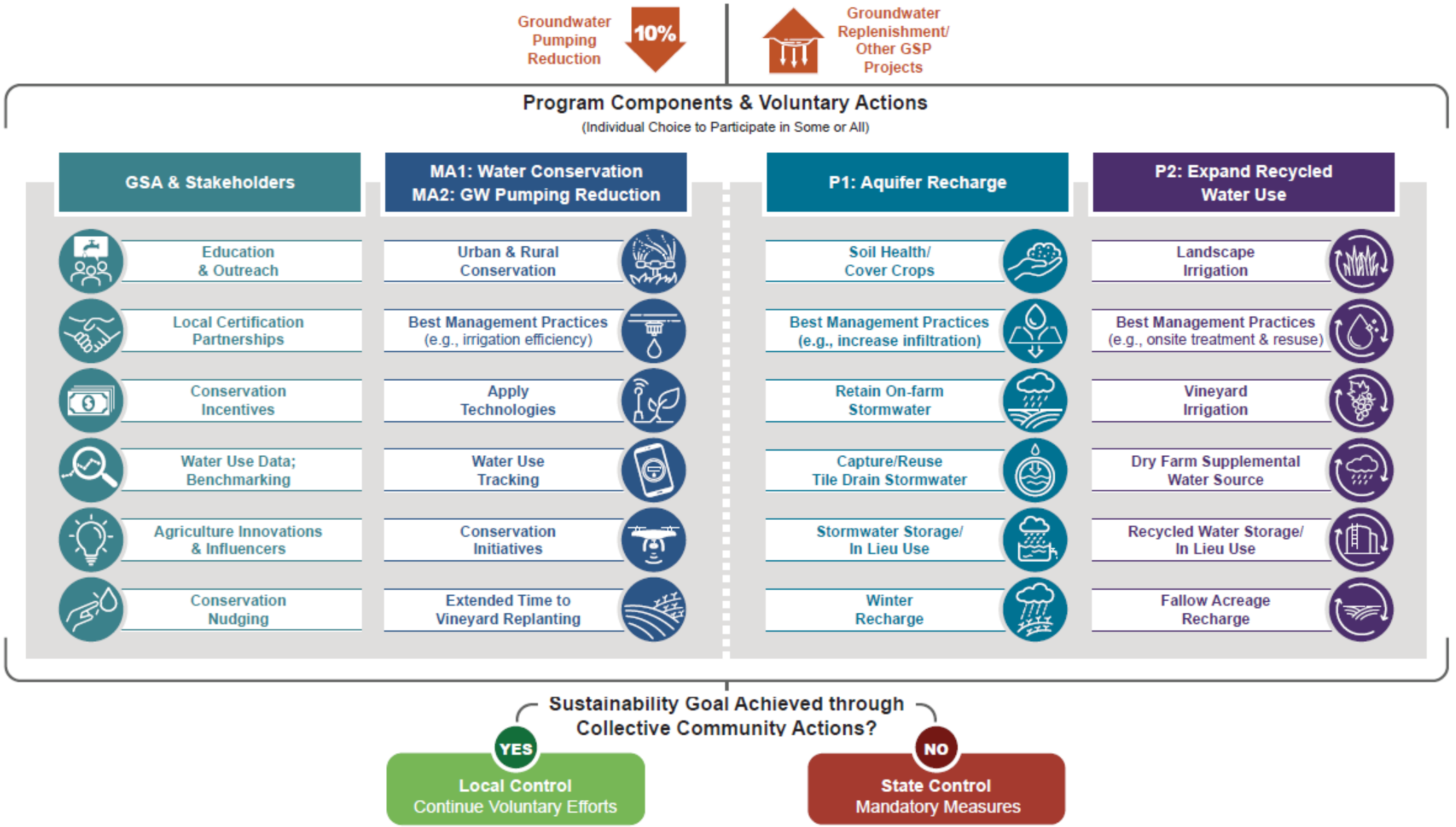
Achieve Subbasin Sustainability

GSP Implementation 2022 – 2025 (Highlights)

Community Engagement and Adaptive Management

Water Conservation (MA-1)	GW Pumping Reduction (MA-2)	Recharge (P-1); Recycled Water (P-2)	ISW & GDEs (Address Data Gaps)	GSP Monitoring	Integrated Hydrologic Modeling (NVIHM)
Workplan *Voluntary BMPs*	**Workplan** *Voluntary BMPs* *Reduce Subbasin Pumping ~10%*	**Recharge** *BMPs – Soil Health, Incr. Infiltration* *AgMAR*	**Workplan** *CEFF* *Eco Goals* *Establish Flow Needs*	**Groundwater** *+16 MWs (2023)* *+2 MWs (2025)*	**Annual Updates** *Hydrology* *Water Use* *Land Use*
Subbasin Coordination *RCD- DU, etc.* *NVG, WnGr, NG, FB – Education* *Dry Farming*	**Water Certification Program** *Demand Mgmt.* *Metering & Reporting* *Track Subbasin Response*	**Recharge** *Ponds* *Riparian Easement* *Multi-Benefit*	**Monitoring** *Aquatic* *Terrestrial* *Wet/Dry Mapping*	**Surface Water** *+8 Stns (2023-2024)* *+ 5 CalSIP (2025)* *StreamWatch*	**NVIHM Refine** *Channel Configuration* *Conceptualization* *Well Locations*
All Sectors *Water Conserv. BMPs* *WC Initiatives* *Incentives*	**Benchmark** *Pilot* *TAPP H2O* *Nudge*	**In Lieu Use** *SW Diversions* *Stormwater Capture* *Tile Drain Capture*	**Aquatic** *Seasonal Flows* *Fish Surveys* *Freshwater Shrimp*	**Other GSP** *GW Storage* *ISW & GDEs* *Subsidence*	**NVIHM Refine** *Parameters (e.g, ET)* *Soil Moisture* *Calibration*
Outreach *All Sectors* *Mind the Drip* *Collaboration/ Education*	**Other** *Replant* *Optimize pumping* *Incentives*	Recycled *St. Helena Coord.* *NapaSan* *Wineries*	**Terrestrial** *Vegetation* *Birds* *Amphibians*	**Other GSP** *SW Quality* *GW Quality* *Seawater Intrusion*	**NVIHM Scenarios** *Recharge* *Demand Mgmt.* *Climate*

Workplan Implementation:
Water Conservation and Groundwater Pumping Reduction



Preparing for Future Water Resources Resiliency

- Complex groundwater and interconnected surface water conditions in the Napa Valley Subbasin
- Regulatory requirements govern implementation of the DWR-approved Subbasin GSP
- Uncertain climate change and drought effects must be integrated into water resource monitoring and management

Finding common ground for future water resources resiliency must encompass all the County's communities, agricultural heritage, and ecosystems.

Achieving Sustainability Relies on Best Available Data

Bill Dodd (Senator 2016-2024):

"In 2016, I authored the Open and Transparent Water Data Act (AB 1755) with the recognition that greater public access to ***high-quality water and ecosystem data would support improved water management*** *outcomes for everyone living and working in California.*

I continue to believe this to be the case, and with the escalating impacts of climate change, more extreme climatic events, and the risks and opportunities associated with artificial intelligence and other technological drivers, the need to modernize California's water data systems is more urgent now than ever."

June 3, 2025, Opening Comments at California Water Data Consortium Roundtable on Open and Actionable Data and Climate Adaptation Strategies

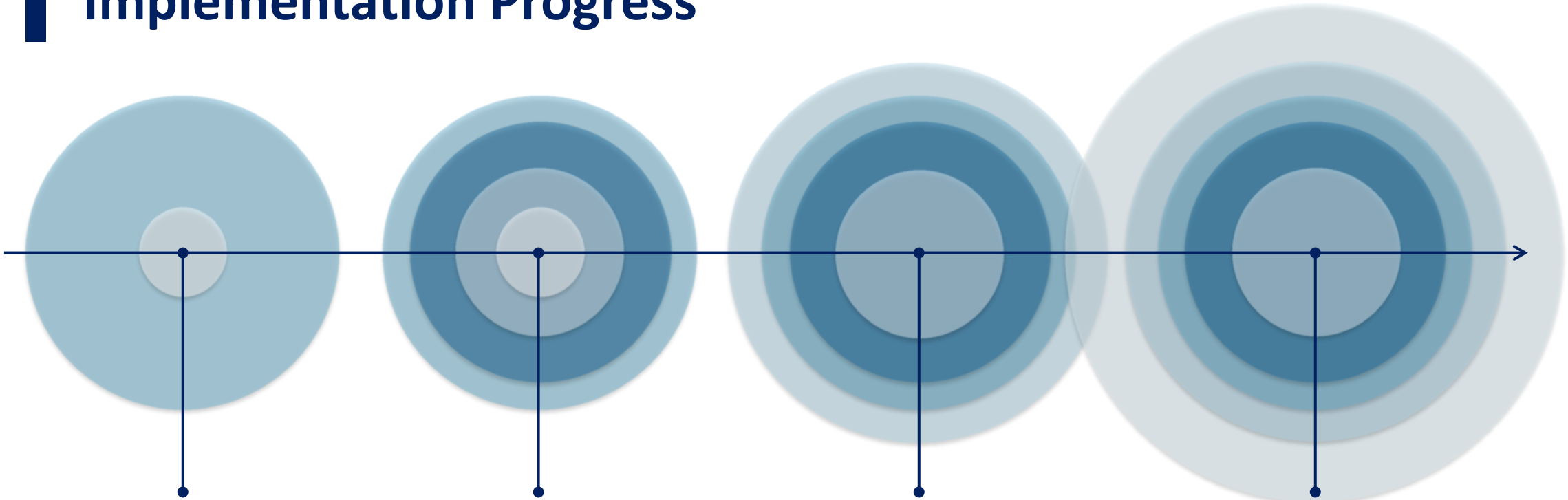
Groundwater Pumping Reduction Programs and Progress

Water Conservation and Groundwater Pumping Reduction Workplans: 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
- Mandatory measures if voluntary programs do not achieve measurable reductions in groundwater pumping (e.g., mandatory metering/reporting)

MA1: Water Conservation
MA2: GW Pumping Reduction

WC & GPR Workplans: Implementation Progress



2022

GSP Adoption

Outreach & Engagement

2023

GSP Approval
Workplan Development
Outreach & Engagement
Measurement & Monitoring

2024

Workplan Implementation
Outreach & Engagement
Measurement & Monitoring
Certification Partnership
Benchmarking & Nudging

2025

Workplan Implementation
Outreach & Engagement
Measurement & Monitoring (Pilot)
Certification Partnership
Benchmarking & Nudging
Recharge & Replant
Domestic Programs

WC & GPR Workplans: Program Implementation

Pilot Sites

Benchmarking

Certification Partnership

Community Engagement

Incentives

Expanded Measurement

Domestic Initiatives

Extended Replant

Groundwater Recharge

Water Conservation Practices

- The WC Workplan developed a list of water conservation best management practices (BMPs) for all water users
- Cost, adoption, water saving potential, and economic analysis of alternatives

Practice	Estimated Annualized Cost per AF Conserved* $/AF	Estimated Potential Subbasin-wide Water Savings AFY	Adoption Timeline** Years	Overall Feasibility Ranking
Water Practices for All Users				
★Water Metering	$150 - $2,500	350 - 550	Medium-Term	High
★Recycled Water	$362 - $720	200 - 300	Medium-Term	High
★Benchmarking	$100 - $350	300 - 1,100	Medium-Term	High
Water Practices for Vineyards (Established)				
Drip Irrigation	$2,800 - $9,200	75 - 250	Near-Term	Medium
★Distribution Uniformity	$175 - $450	500 - 2,100	Near-Term	High
★Plant Water and Soil Moisture Monitoring	$155 - $3,340	1,000 – 2,000	Near-Term	High
High Tech, Low Labor	$350 - $1,450			
Medium Tech, Medium Labor	$740 - $3,340			
Low Tech, High Labor	$155 - $1,170			
Cover Cropping	$5,000 - $18,000	50 - 550	Medium-Term	Low
Canopy Management	$3,500 - $5,000	200 - 300	Near-Term	Medium
Water Practices for Vineyards (New Plantings)				
Row Orientation	No additional cost	200 - 325	Long-Term	High
★Rootstock Selection	No additional cost	Data Gaps	Long-Term	Data Gaps
Water Practices for Wineries				
Waterless Sanitation	$1,900 - $2,800	100 - 165	Near-Term	Low
Process Water Treatment and Reuse	Data Gaps	275 - 450	Long-Term	Medium
Water Practices for Residential, Commercial, and Hospitality				
★WaterSense Devices	$775 - $1,200	500 - 575	Near-Term	High
Other Urban Water Conservation	Data Gaps	Data Gaps	Near-Term	Data Gaps

★ *High Priority Practices*

Domestic Water Conservation

Overview and Current Status

- A domestic conservation concept for increasing adoption of water conservation practices in the Napa Valley Subbasin
- Includes practices for urban, rural residential, and municipal users
- Leveraging existing water conservation frameworks and community's commitment to sustainability
- Currently under development

Pilot Water Certification Partnership Program

Program Overview

- Voluntary, incentive-driven partnership to:
  - Encourage more water conservation practices
  - Increase awareness of groundwater management
- Partnership with existing certification programs or other organizations to recognize vineyards and wineries implementing practices within the Napa Valley Subbasin
- Leveraging existing conservation efforts and ag industry commitment to sustainability

Pilot Water Certification Partnership Program (continued)

Current Development & Implementation Status

- Request for Qualifications (RFQ)
- Ongoing discussions with potential partners
- Analyzing a suite of potential incentives for both participating growers/wineries and partners
- Applying information learned in development process to domestic water conservation opportunities

Subbasin-Wide Groundwater Recharge

Currently Planned Recharge Project Scenarios

- Scenario 1: Surface water diversion for direct recharge
- Scenario 2: Surface water diversion to on-farm pond or reservoir for in-lieu use
- Scenario 3: Recharge combined with repurposing (e.g., riparian, recharge basin) for SGMA benefits (e.g., ISW and GDE)

Subbasin-Wide Groundwater Recharge (continued)

Feasibility Study Overview

- Increase groundwater recharge
  - Target SGMA benefits (e.g., ISW and GDE)
  - Link to other GPR elements
- Assessment of recharge opportunities
  - Technical
  - Economic
  - Financial

Current Status

- Initial analysis
- Ongoing grower discussions for existing activities, feasibility, infrastructure, costs, existing experience and knowledge

Subbasin-Wide Groundwater Recharge (continued)

Technical and Economic Considerations

- Water Rights for Groundwater Recharge
  - Required for diversions
  - Existing water rights and permitting
  - Cost
- Vineyard Water Management
  - Infrastructure, such as tile drains and ponds, align with current practices for soil, drainage, frost, and irrigation
  - Challenges or opportunities?
- Pond Establishment or Expansion
  - Permits required from State Board and Napa County
  - Time and cost?

Extended Vineyard Replant Concept

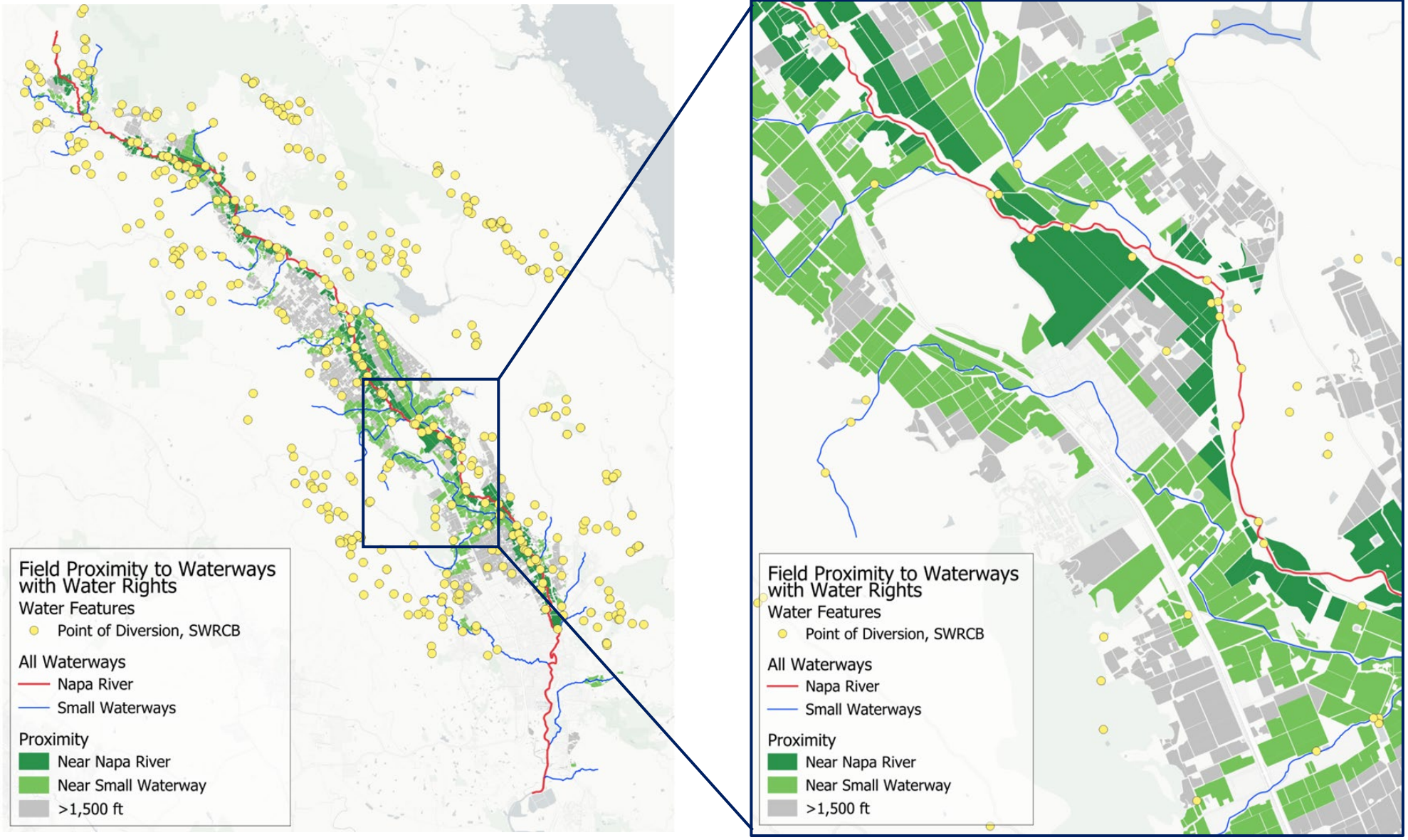
MA1: Water Conservation
MA2: GW Pumping Reduction

P1: Aquifer Recharge

Concept Overview

- Voluntary program with incentive offered to increase the duration of idle/fallow between removal and replanting
  - Water savings as replants are shifted
- Explore in combination with other practices to increase benefits (Recharge Scenario 3)
- Considerations
  - Market conditions
  - ISW and GDE
  - “Mothballing” is a similar potential concept

Replant & Recharge Analysis Overview



Replant and Recharge Analysis

MA1: Water Conservation
MA2: GW Pumping Reduction

P1: Aquifer Recharge

Current Development in Progress

- Assessing water rights and costs for each scenario
  - Grower outreach
  - Analysis
- Integrating groundwater (ISW and GDE) benefits with water rights
  - Co-benefit opportunities – suitability for conservation, recharge, and infrastructure
- Preparing feasibility study

Discussion

Subbasin-Wide Groundwater Recharge

- What other considerations should be included in the development of these scenarios for the recharge feasibility study? How can they be improved?

Replant and Recharge Spatial Analysis

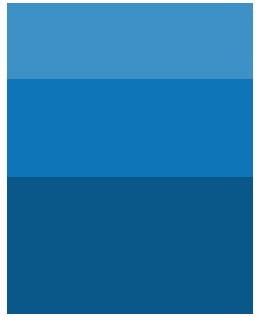
- What else should be considered in the analyses for these programs, especially from a vineyard operation or multi-benefit perspective?

GPR Water Conservation Programs

- NCGSA Water Certification Partnership
- Domestic Water Conservation/WELO
- Water Availability Analysis (In Progress)

Estimated Potential Water Savings: 1,031 AFY

Sustainable Yield 15,000 AFY;
GPR Objective 10% Reduction, or ~1,500 AFY



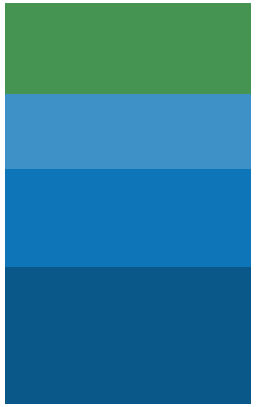
Average Annual Estimated Water Savings

GPR Water Conservation Programs

- Pilot Water Certification Partnership
- Domestic Water Conservation/WELO
- Water Availability Analysis (in Progress)
- Education and Outreach Campaign
  - Benchmarking Program

Estimated Potential Water Savings : 1,331 AFY

Sustainable Yield 15,000 AFY;
GPR Objective 10% Reduction, or ~1,500 AFY



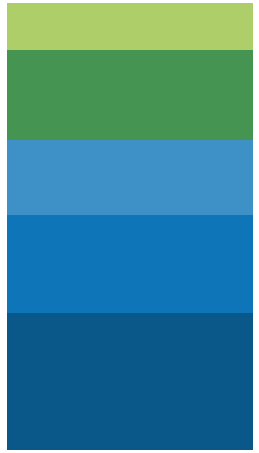
Average Annual Estimated Water Savings

GPR Water Conservation Programs

- NCGSA Water Certification Partnership
- Domestic Water Conservation/WELO
- Water Availability Analysis
- Education and Outreach Campaign
  - Benchmarking Program
- Land Fallowing Program
  - Extended Vineyard Replant Program
    - Emphasis on land near significant rivers and streams
  - On-Farm Recharge and Conservation Programs

Estimated Potential Water Savings : 1,484 AFY

Sustainable Yield 15,000 AFY;
GPR Objective 10% Reduction, or ~1,500 AFY



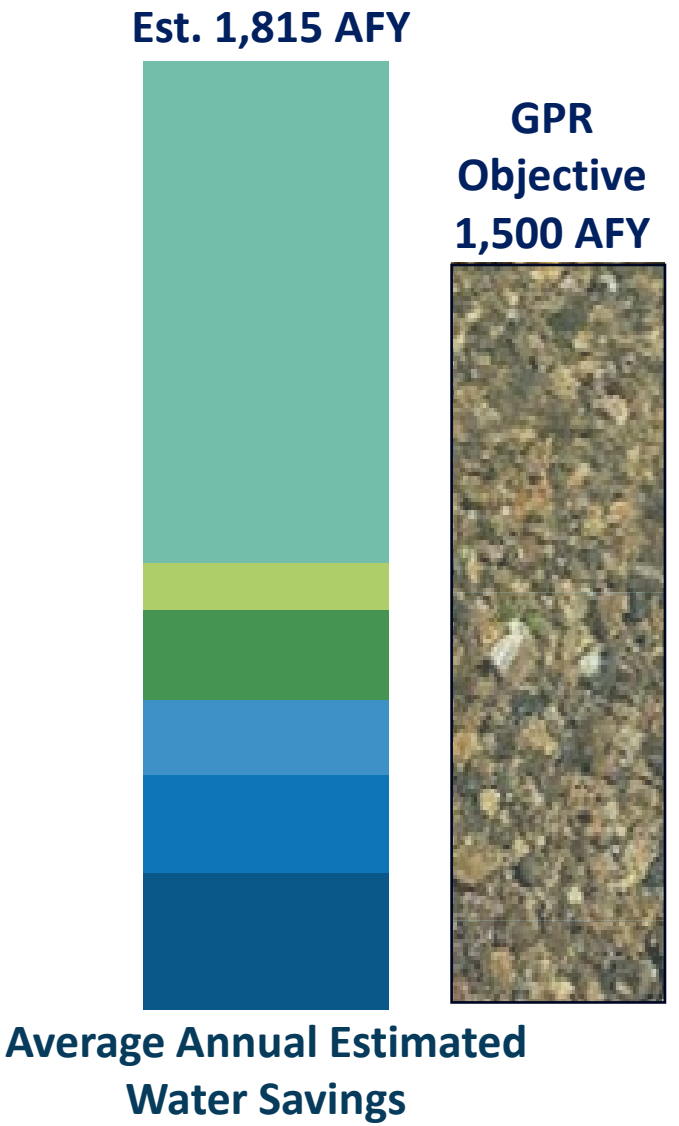
Average Annual Estimated Water Savings

GPR Water Conservation Programs

- NCGSA Water Certification Partnership
- Domestic Water Conservation/WELO
- Water Availability Analysis
- Education and Outreach Campaign
  - Benchmarking Program
- Land Fallowing Program
  - Extended Vineyard Replant Program
    - Emphasis on land near significant rivers and streams
  - On-Farm Recharge and Conservation Programs
- Other WC & GPR Workplan Measures

Estimated Potential Water Savings: 1,815 AFY

Sustainable Yield 15,000 AFY;
GPR Objective 10% Reduction, or ~1,500 AFY



Pilot Water Measurement: MST Area

Program Overview

- Milliken-Sarco-Tulucay Area (MST) is a groundwater deficient area with County reporting requirements
- Pilot project focus
  - Support water measurement
  - Standardize internal county data
- Progress
  - Pilot users onboarded covering domestic, agriculture, and industrial
  - Draft dashboard integrating new and historical data for seamless measurement and monitoring
  - Simplified water tracking

Pilot Water Measurement Reporting: Tracking Technology

- Simple water accounting and tracking
- Piloting in MST Area
- Simplify county data management and MST area reporting

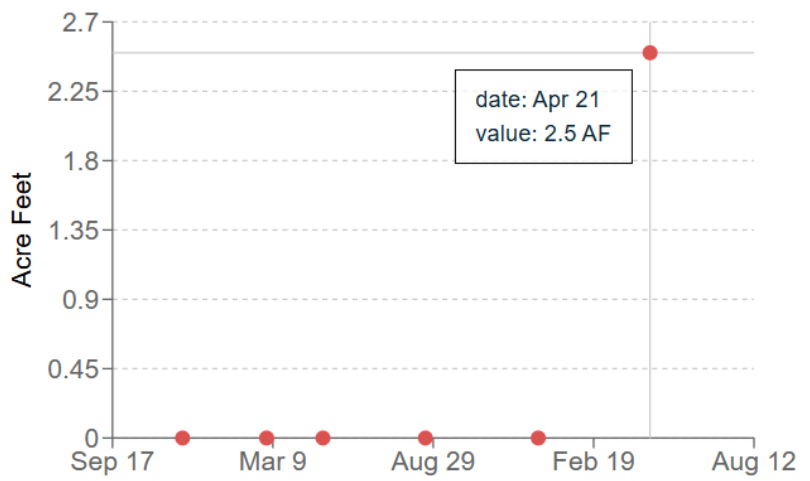
TAPP H2O User Dashboard (Example w/o Data)

Field-Level Data

DATE LAST READ	IRRIGATED ACRES	CROP TYPE	CURRENT READING	PUMPED SINCE LAST READING	YTD PUMPING
4/21/2025	40 acres	Grapes	680 AI	2.5 AF	2.5 AF

LAST NOTE TAKEN

YTD Pumping

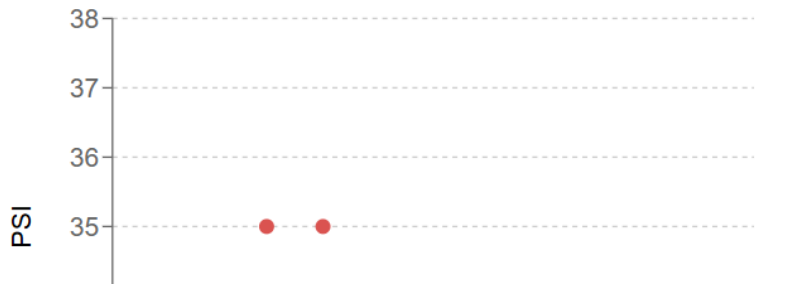


Water Rights

WATER RIGHT NUMBER	ALLOCATION PERIOD	PREVIOUS YEARS' USAGE	THIS YEARS' USAGE	REMAINING IN ALLOCATION	OVER
Example	1 year	-	2.5 AF	5.5 AF	0.0 AF

Well Health Indicators

GPM | PSI



Napa County Groundwater Permit Dashboard ≡

Water Usage Map

Field Opacity

0 0.8 1

0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1

Data Year

2000 2024

2000 2002 2004 2006 2008 2010 2012 2014 2016 2018 2020 2022 2024

Permit Details

Permit: PRM:8

Owner:

Acres: 10.7

Allocation: 11.03 AF

YTD Pumping: 5.83 AF

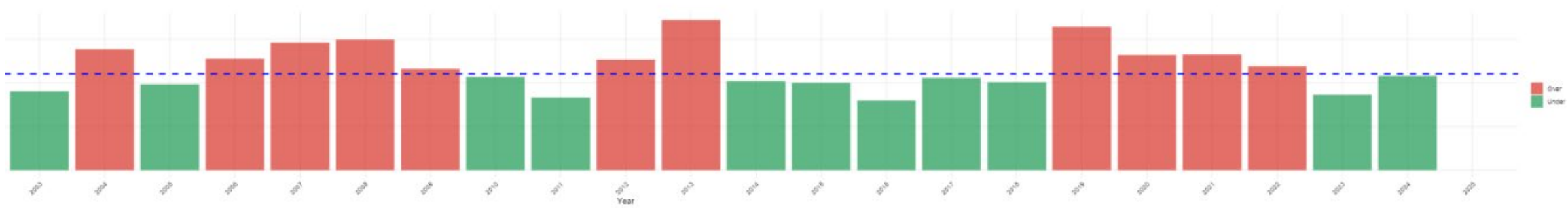
Date of Last Reading: 04/01/21

Usage Ratio: 53%

Permit Data

Previous 1 2 3 4 5 ... 30 Next

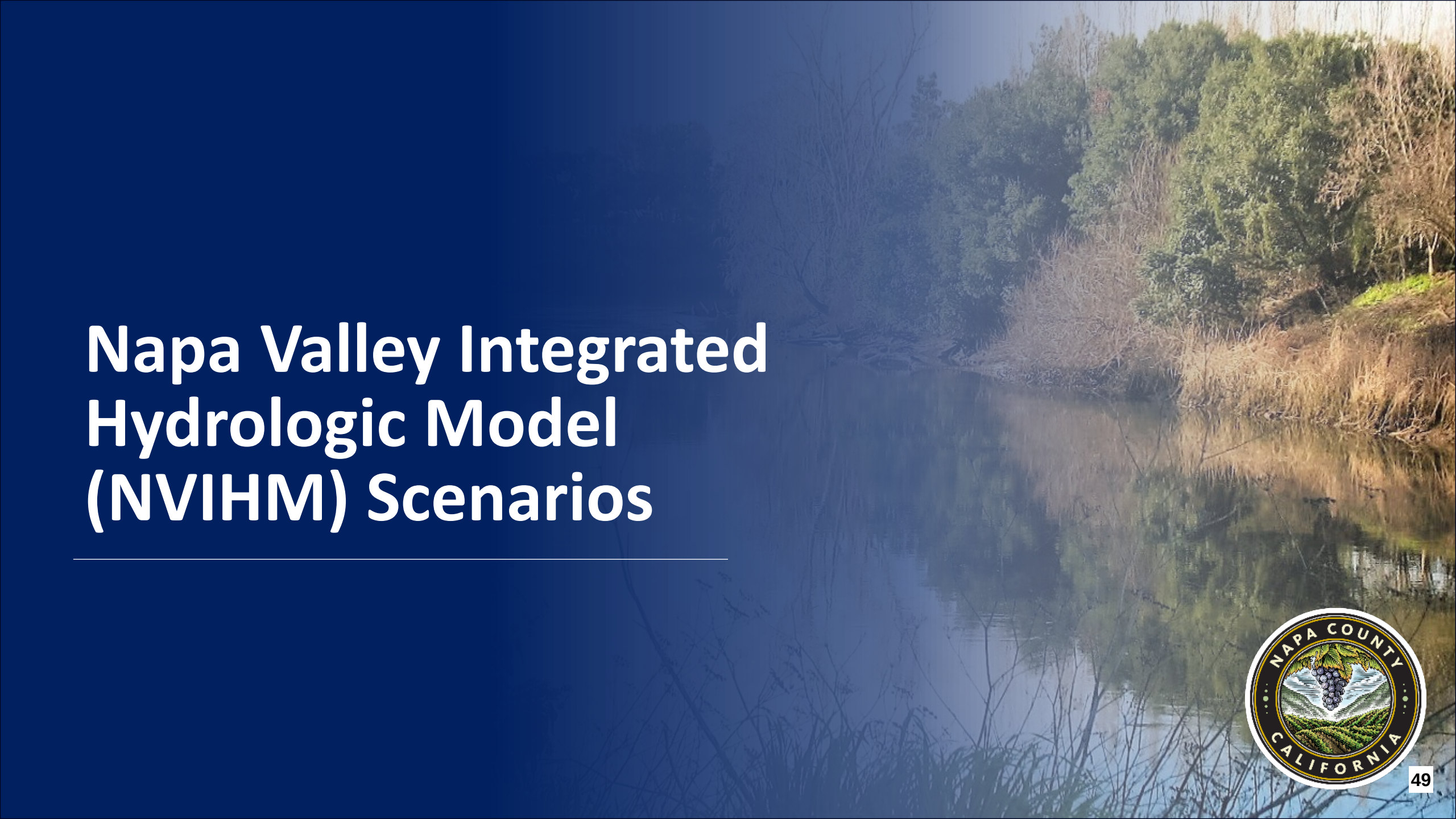
Date	Reading	Used (Gal)	Used (AF)	AF per Year	Well
12/31/99	1	1	0.12	0.12	AgWell
12/31/00	1	1	1.15	1.15	AgWell
12/31/01	1	1	1.62	1.62	AgWell
12/31/02	1	1	1.09	1.09	AgWell
12/31/03	1	1	0.23	0.23	AgWell
12/31/04	1	1	1.72	1.72	AgWell
12/31/05	1	1	1.67	1.67	AgWell



GPR Implementation – Next Steps

- Continue Water Certification Partnership Request for Qualifications Process
- Engage stakeholder groups for feedback and interest in extended replant and recharge programs
- Continue to implement programs, including:
  - Recharge Feasibility
  - Pilot Water Certification Partnership
  - Benchmarking
  - Community Engagement and Education
  - Pilot Measurement

Napa Valley Integrated Hydrologic Model (NVIHM) Scenarios



Demand Reduction Scenarios

Approach

Evaluate impact of 10% decrease in irrigation and groundwater pumping on lands located within 500 and 1,500 feet of "Significant Streams"

Irrigation Reduction Approach:

- Scaled crop coefficients in irrigated lands within 500 and 1,500 ft buffers respectively such that:

$$Irrigation_{final} = 0.9 \times Irrigation_{initial}$$

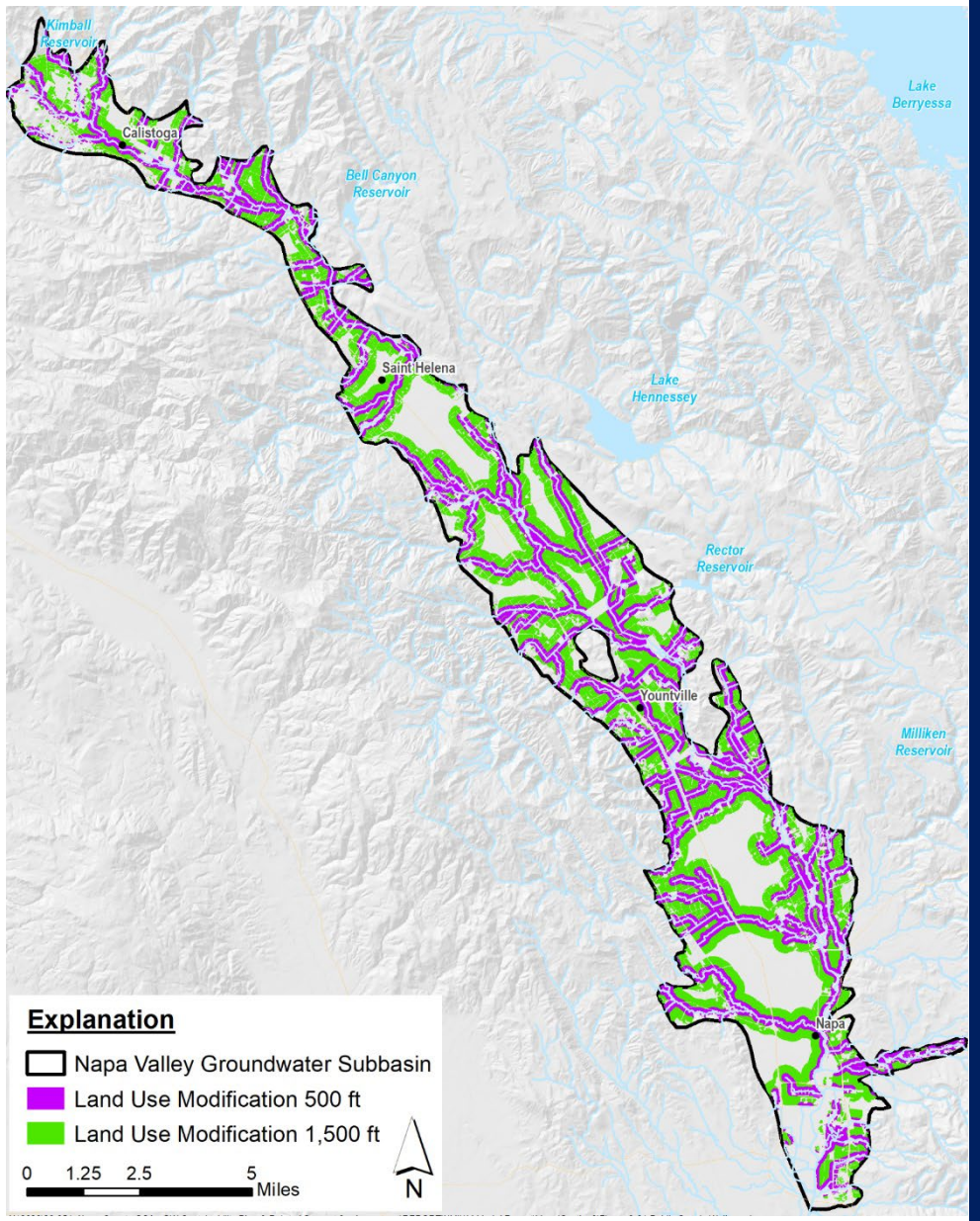
Pumping Reduction Approach:

- **Pumping for Irrigation (Calculated Internally)**: Reduced well capacity in wells located within 500 and 1,500 ft buffers such that:

$$Pumping_{final} = 0.9 \times Pumping_{initial}$$

- **Specified Pumping**: Directly reduced pumping specified in municipal wells, public water supply and winery wells, and for self-supplied indoor domestic pumping.

Irrigated Lands within 500 and 1,500 ft of Significant Streams



Demand Reduction Results: Pumping and Irrigation (WY 2005-2024)

Irrigation

500 ft Buffer: 834 AFY (3.6%) decrease in total irrigation in Subbasin

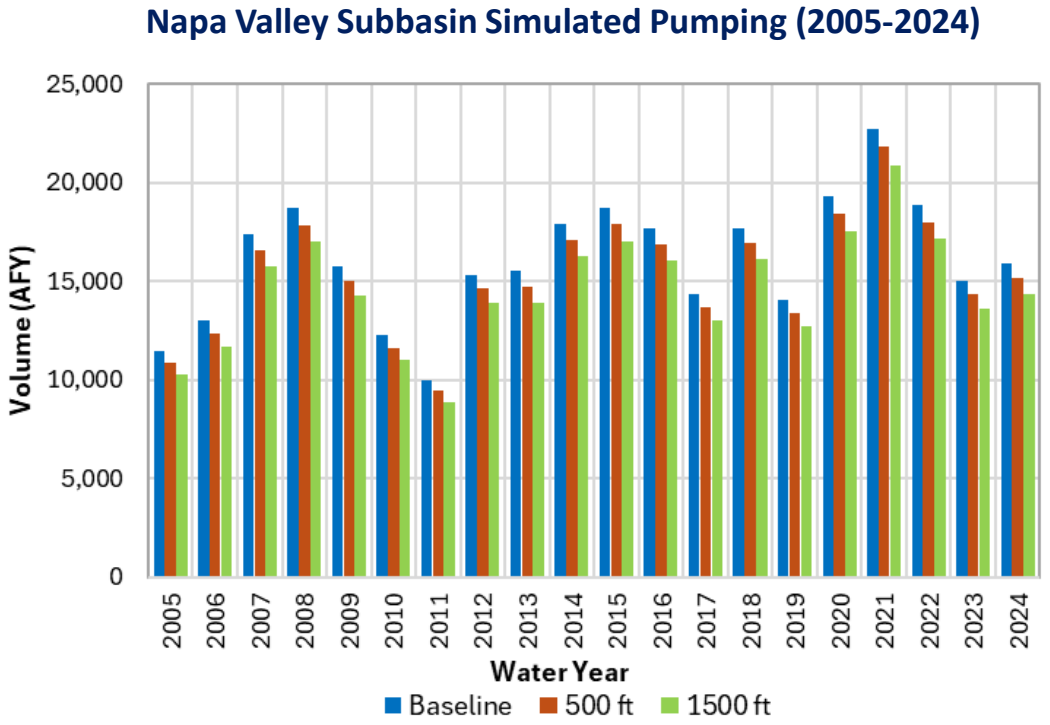
1,500 ft Buffer: 1,751 (7.5%) decrease in total irrigation in Subbasin

Pumping

500 ft Buffer: 750 AFY (4.7%) decrease in pumping in Subbasin

1,500 ft Buffer: 1,500 AFY (9.4%) decrease in pumping in Subbasin

**Difference in irrigation and pumping are not directly proportionate due to other sources of water for irrigation (stream diversions, local reservoirs, and imported water)



Demand Reduction Results: Impacts on Low Flow

Low flow defined as when simulated discharge at Pope Street in "Baseline" is less than 10 cfs

500 ft Buffer Scenario

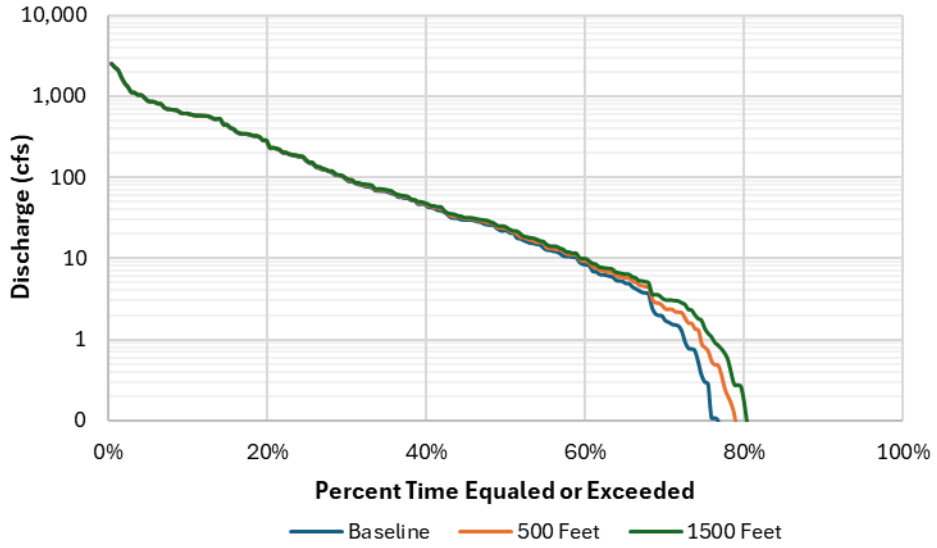
- Avg. monthly increase in low flow at **Pope Street** ranges from 0.1 to 0.2 cfs
- Avg. monthly increase in low flow at **Oak Knoll** ranges from 0.2 to 0.45 cfs

1,500 ft Buffer Scenario

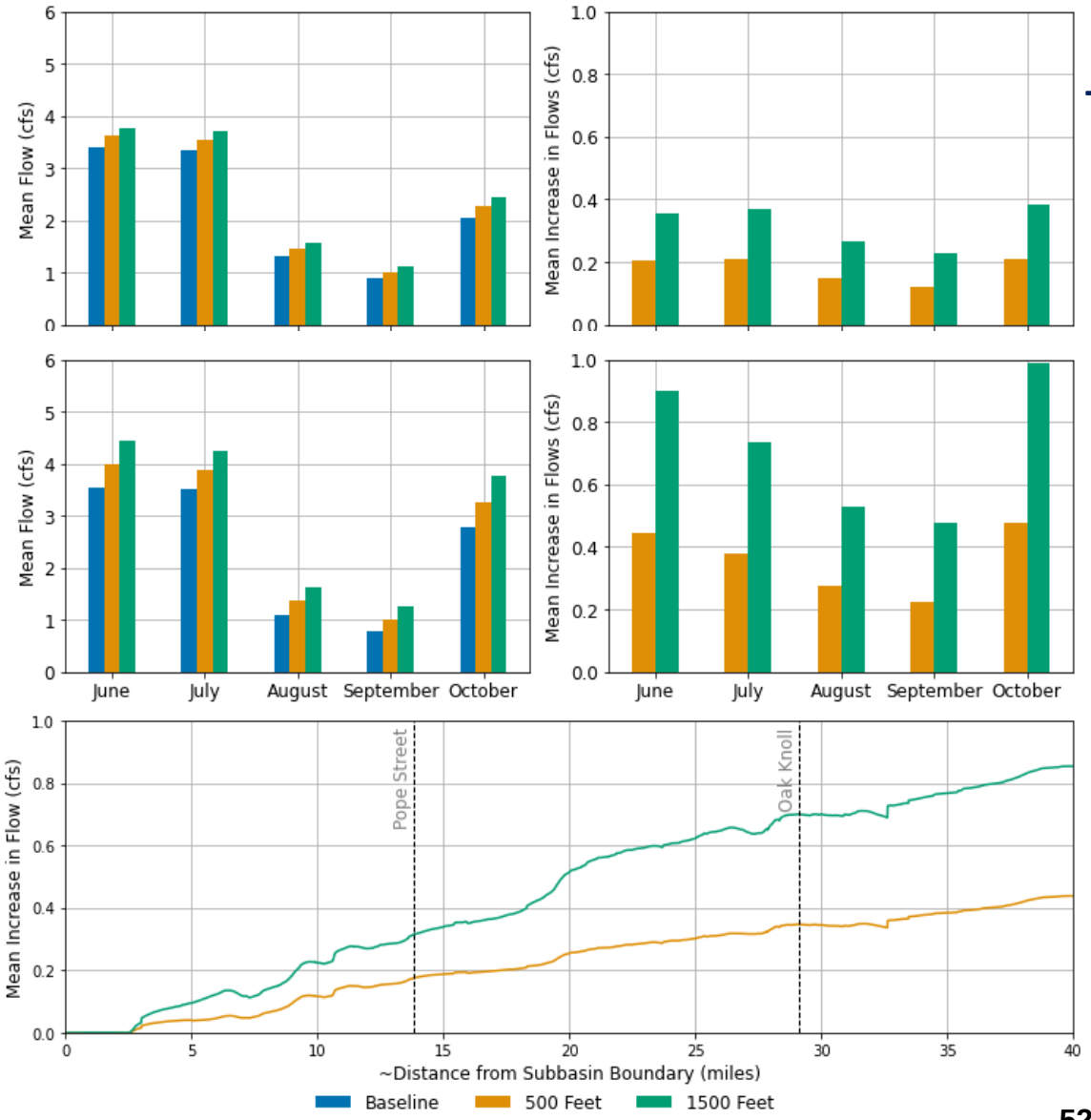
- Avg. monthly increase in low flow at **Pope Street** ranges from 0.2 to 0.4 cfs
- Avg. monthly increase in low flow at **Oak Knoll** ranges from 0.45 to 1 cfs

Difference in simulated flow between demand reduction scenarios and Baseline increases in downstream direction

Napa River at Oak Knoll – Flow Duration Curve (2005-2024)



Napa River Low Flow Statistics (2005-2024)



Demand Reduction Results: Impacts to SMCs

Minimum Thresholds

- Both the 500 ft and 1500 ft buffer scenarios eliminate exceedances of the MT in the Baseline Period (2005-2014) at Pope Street and Oak Knoll
- Both the 500 ft and 1500 ft buffer scenarios reduce exceedances of the MT in the Recent Period (2015-2024) at Pope Street and Oak Knoll

Measurable Objectives

- Both the 500 ft and 1500 ft buffer scenarios increase the number of years the MO is met in the Baseline Period (2005-2014) at Pope Street and Oak Knoll
- The 500 ft and 1500 ft buffer scenarios have no impact on the number of years the MO is met in the Recent Period (2015-2024)

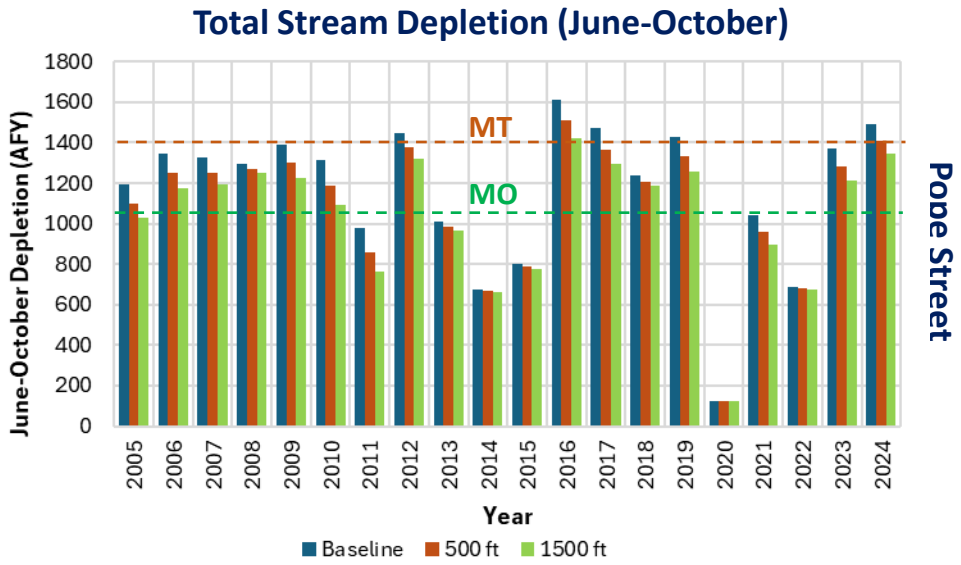
SMC Summary

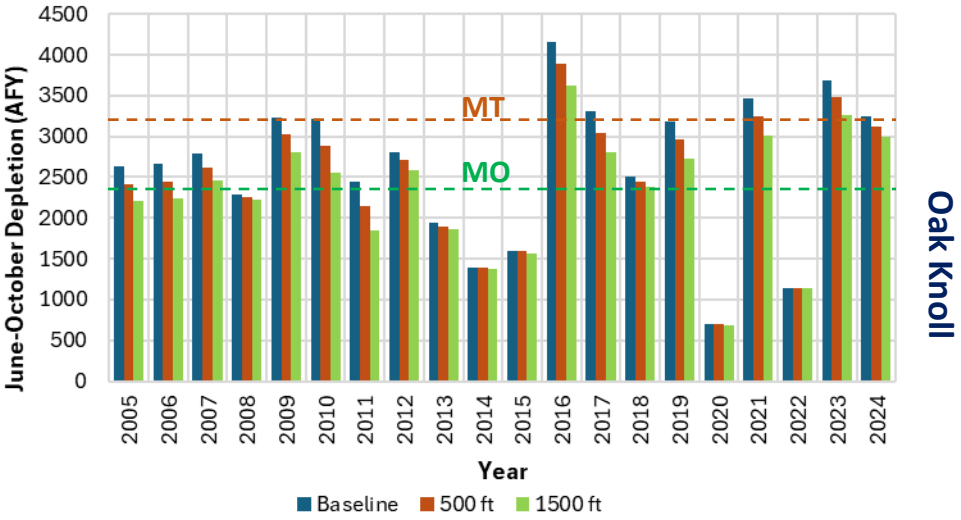
Pope Street

	Period	2005-2014			2015-2024		
SMC (AFY)	Scenario	Baseline	500 ft	1500 ft	Baseline	500 ft	1500 ft
1,400	Exceeds MT	1	0	0	4	2	1
1,120	Meets MO	3	4	5	4	4	4

Oak Knoll

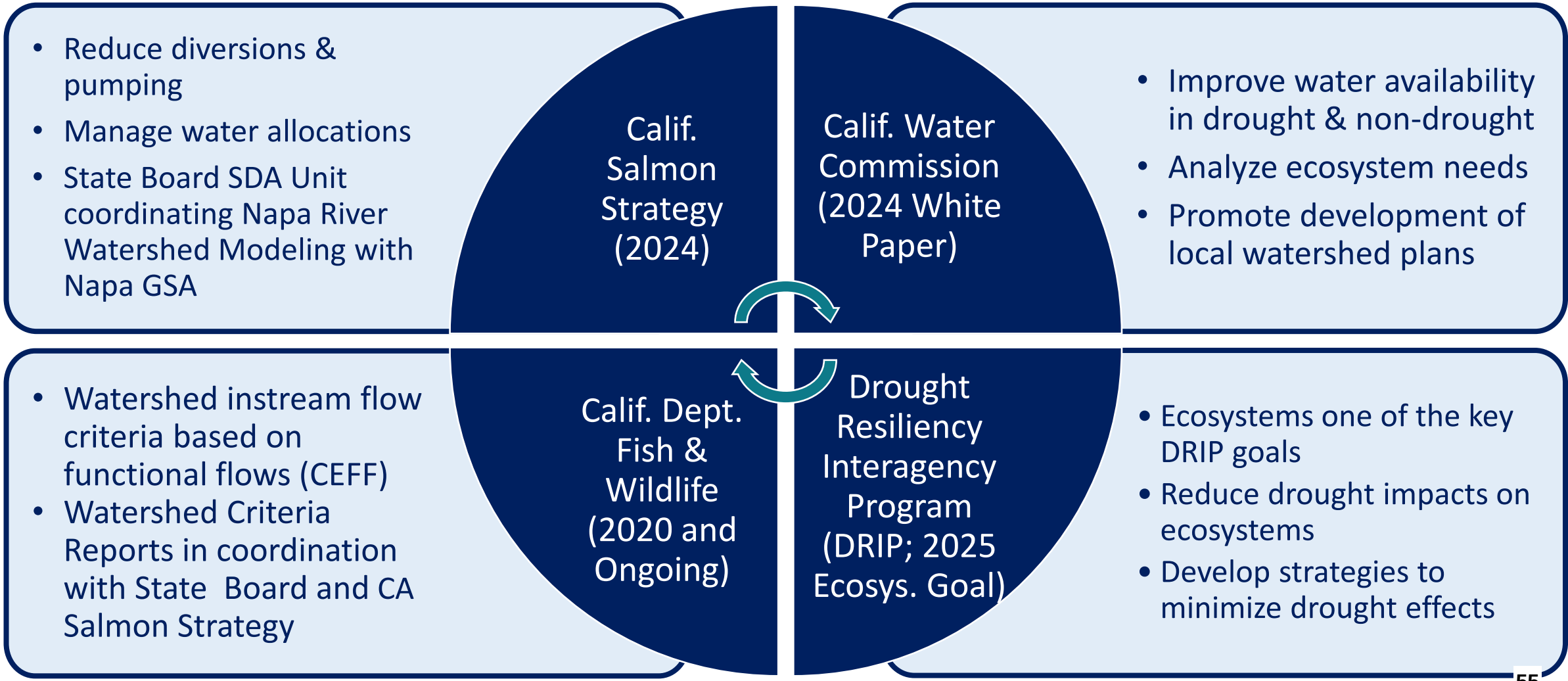
	Period	2005-2014			2015-2024		
SMC (AFY)	Scenario	Baseline	500 ft	1500 ft	Baseline	500 ft	1500 ft
3,190	Exceeds MT	1	0	0	5	3	2
2,370	Meets MO	3	4	6	3	3	3





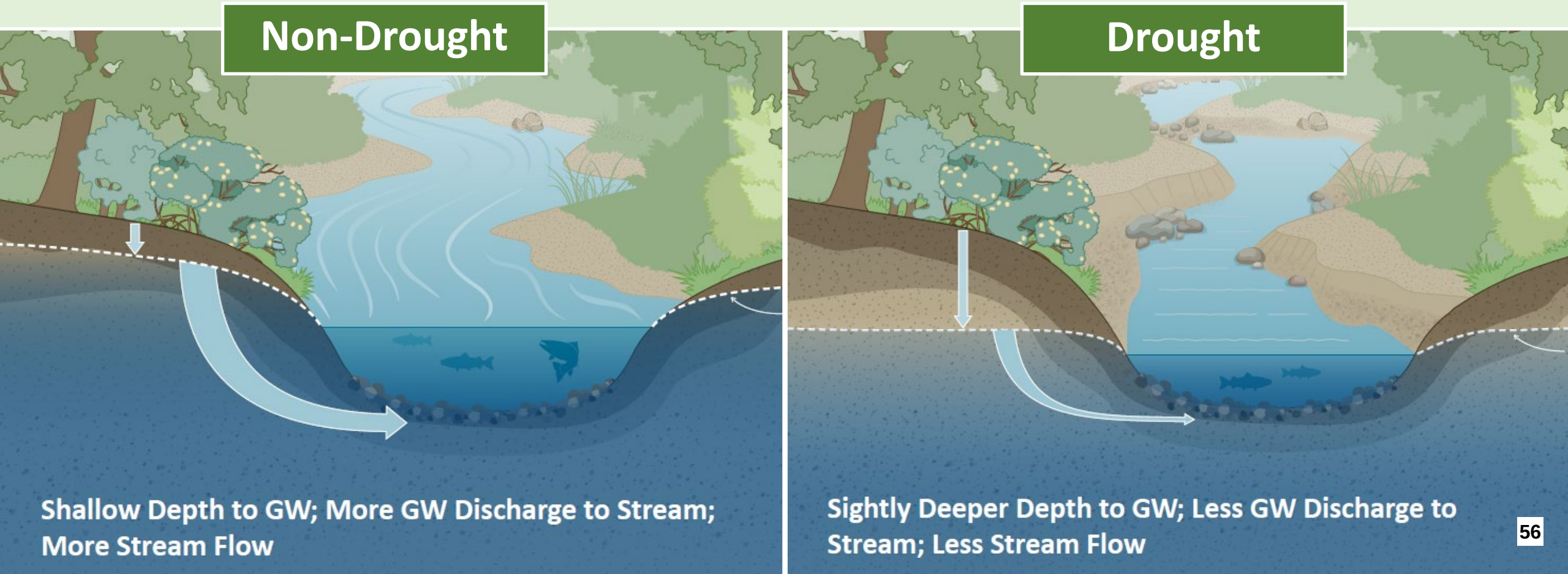
California Environmental Flows Framework, Goals, and Ecological Monitoring

State-Related Water Management, Interconnected Surface Water and Ecosystem Programs

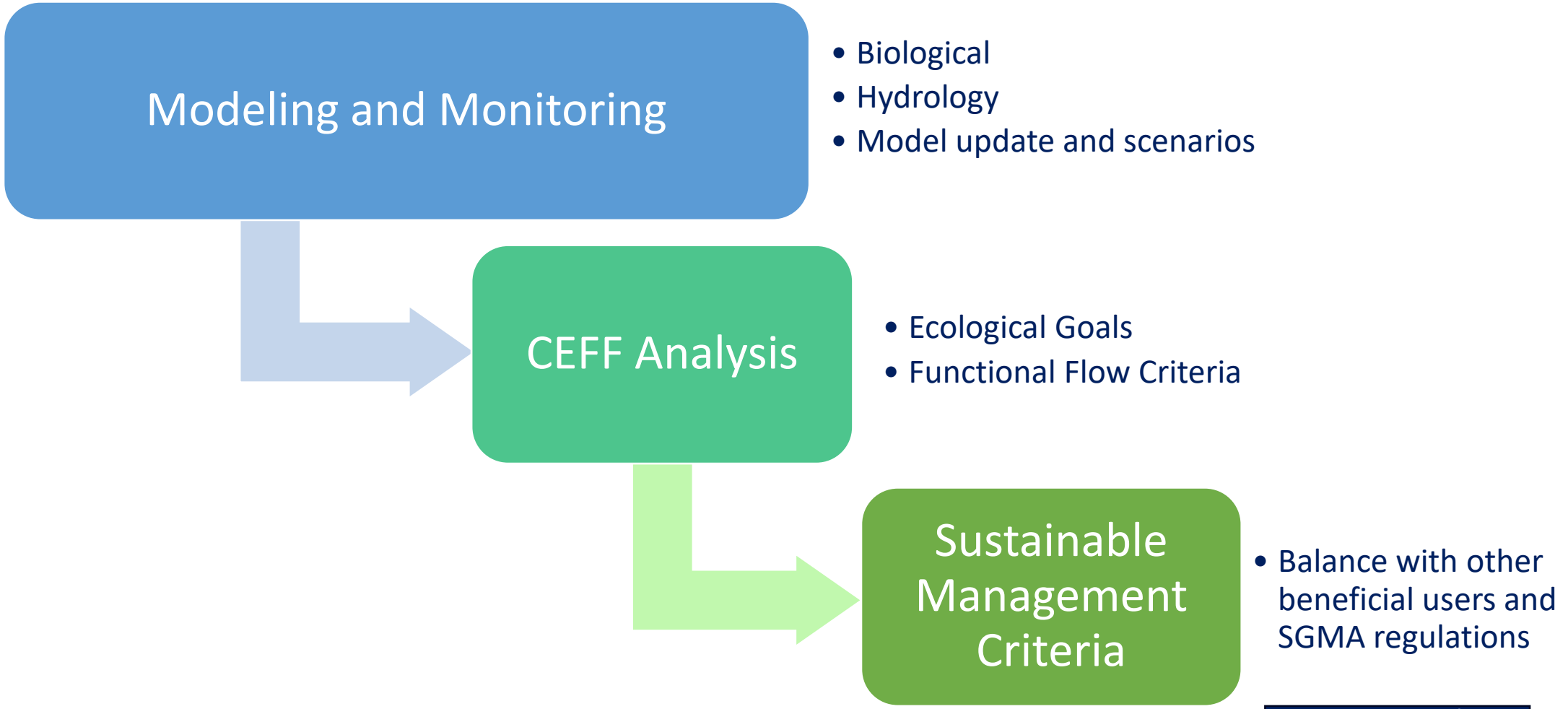


The Napa Valley Subbasin is very susceptible to uncertain precipitation patterns, drought, and less natural recharge. Slight differences in groundwater levels affect flow in the stream system.

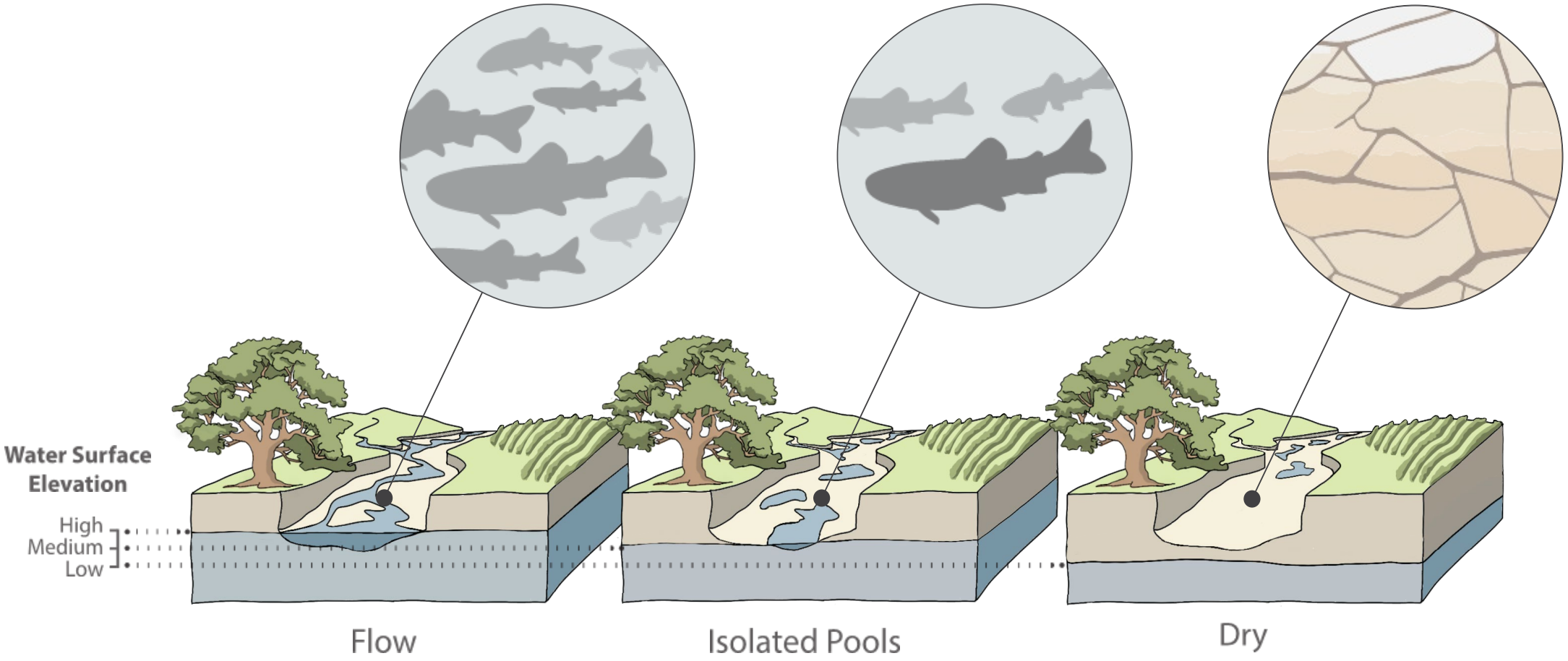
Ecosystems, vineyards, and other land uses rely on groundwater during the summer months. Climate change necessitates new strategies and innovation to use less groundwater and increase groundwater replenishment regardless of Non-Drought or Drought Conditions.



Process and Timing



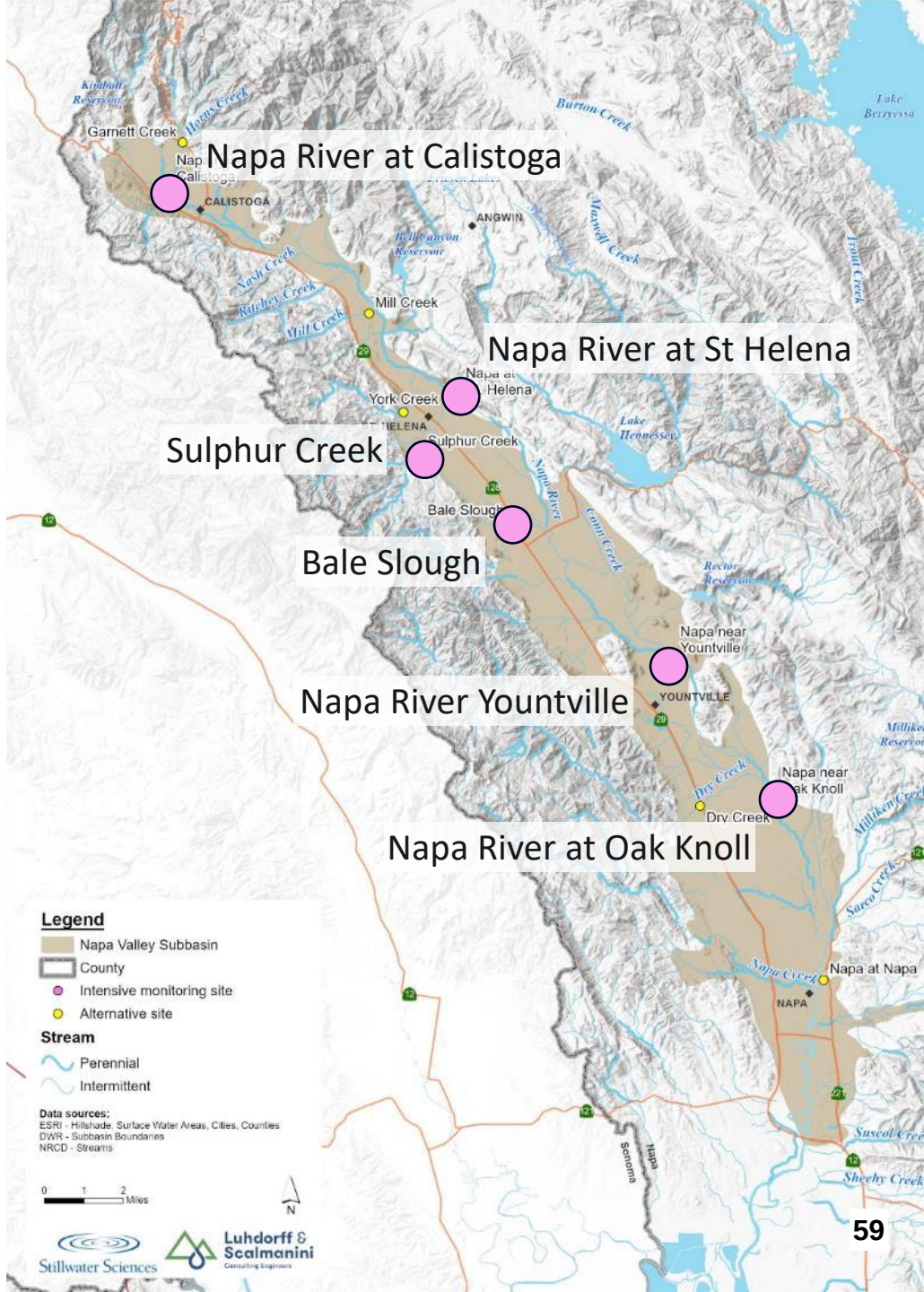
Hydrology, Biological Surveys and Literature Inform Functional Flow Criteria and Linkage to GSP



Functional Flow Criteria >> Used to Inform Ongoing Interconnected Surface Water Monitoring and Refining/Establishing Sustainable Management Criteria

ISW and GDEs Workplan Implementation

- Six intensive survey sites
  - 4 mainstem sites and 2 tributaries
- Field visit to 4 sites in May 2025 with Stillwater Sciences, Napa County, Napa RCD, LSCE, and TAG members
- CEFF aquatic and terrestrial GDEs data collection



ID species present

(biological monitoring)

Water conditions in the Subbasin

(physical monitoring and modeling)

ID water requirements for different species life stages (timing, magnitude)?

Groundwater levels and surface flows required to meet Napa-specific ecological goals

CEFF

Other beneficial uses and users

Sustainable Management Criteria

CEFF and Ecological Goals

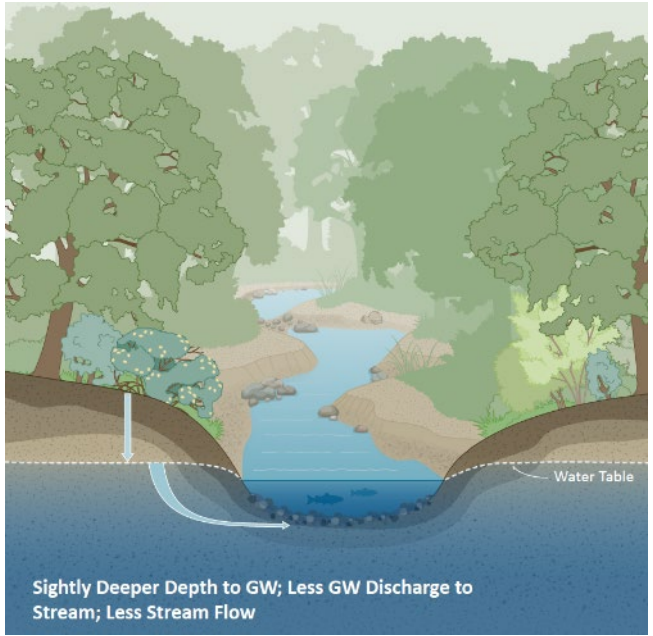
The ISW and GDEs Workplan goal is to use physical and biological data coupled with integrated hydrologic modeling to better understand the conditions required to protect and enhance healthy terrestrial and aquatic GDEs. The Workplan describes the steps needed to understand the conditions necessary to:

- Protect and enhance steelhead spawning, rearing, and migration in the watershed,
- Support special-status aquatic species, and
- Protect and enhance terrestrial GDEs and special-status species.

Ecological Goals

Vary by site and are a function of:

- Hydrology
- Habitat (physical habitat, water quality, etc.)
- Biological use (species present)



Questions:

- What species use the site?
- What are their biological needs?
- How do these needs depend on groundwater management?

Ecological Goals (continued)

Goals at All Sites

- Support groundwater-dependent riparian vegetation (maintain summer groundwater within the rooting zone of riparian trees)
- Support upstream and downstream fish passage
- Maintain ecosystem diversity

Site-Specific Goals

- Calistoga: maintain isolated pools for California Freshwater Shrimp
- Sulphur Creek, Napa at St. Helena, Dry Creek: maintain foothill yellow legged frog habitat to support metamorphosis
- Steelhead/Chinook rearing were present and sufficient temperatures

Ecological goals will likely focus on timing of flows and sufficient water quality to support migration of juveniles/metamorphs.

Data Analysis

Hydrology

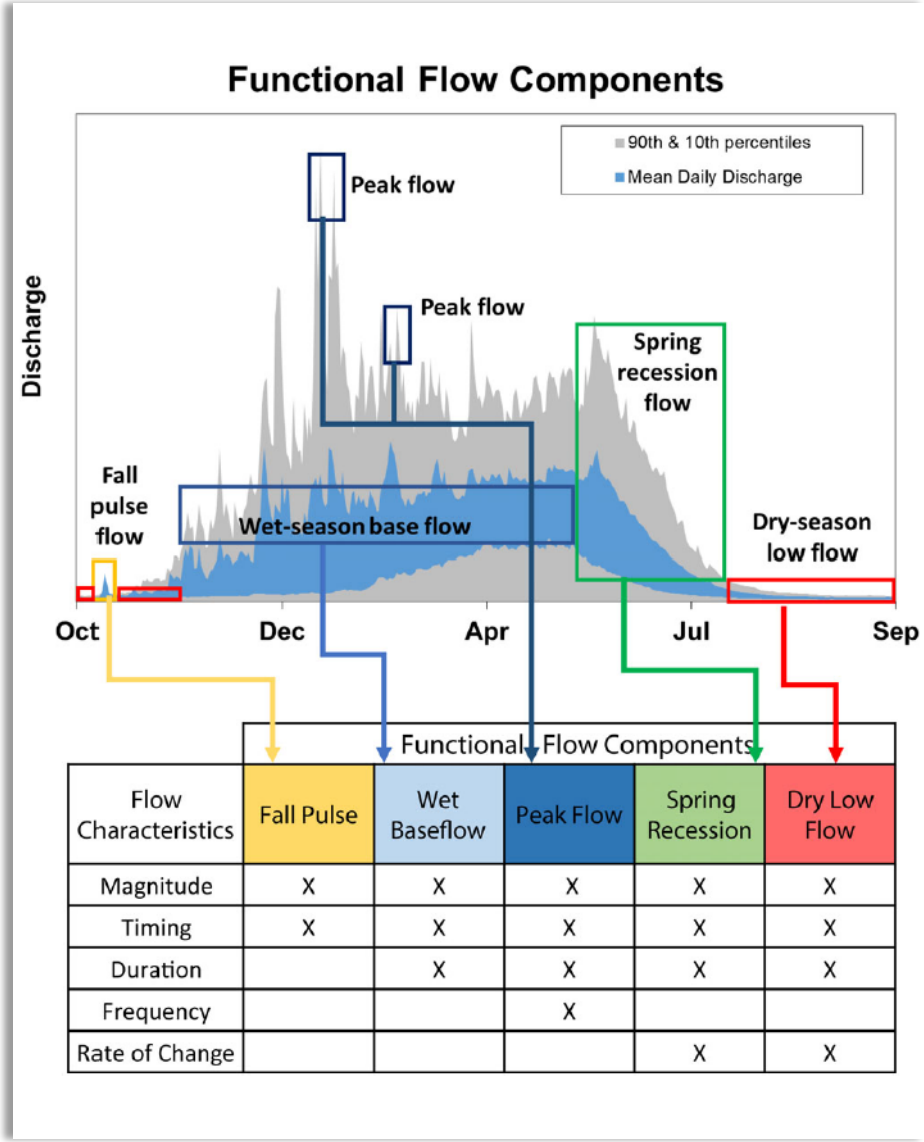
Compare existing condition versus "no pumping" or "natural" scenario

- NVIHM (dry season, spring recession)
- Natural Flows Database (fall pulse flow, peaks)

Biology

Biological monitoring (2024-2025, plus literature)

- What species use the site? Ecological goals?
- What are the biological needs and constraints (e.g., habitat)?
- What are the flow-ecology relationships (including magnitude, timing, and duration of flows)?
- How do these goals depend on groundwater management?



Flow Characteristics	Fall Pulse	Wet Baseflow	Peak Flow	Spring Recession	Dry Low Flow
	Functional Flow Components				
Magnitude	X	X	X	X	X
Timing	X	X	X	X	X
Duration		X	X	X	X
Frequency			X		
Rate of Change				X	X

Biological and Habitat Monitoring 2024 and 2025

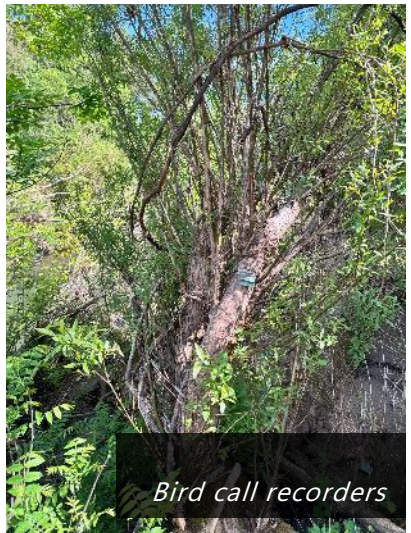
Biological Surveys:

- Amphibians and reptiles (2024 and 2025)
- California Freshwater Shrimp surveys (Calistoga only) (2024 and 2025)
- Riparian bird surveys (2025)
- Vegetation health and special-status plants (2024 and 2025)

Habitat Surveys:

- Fish habitat at each site (2024 or 2025)
- Stream temperature (2024 and 2025)
- Dissolved oxygen (2024 and 2025)
- Wet-dry mapping and flow connectivity (2024 and 2025)
- Shallow groundwater and streamflow


Herpetology visual encounter surveys

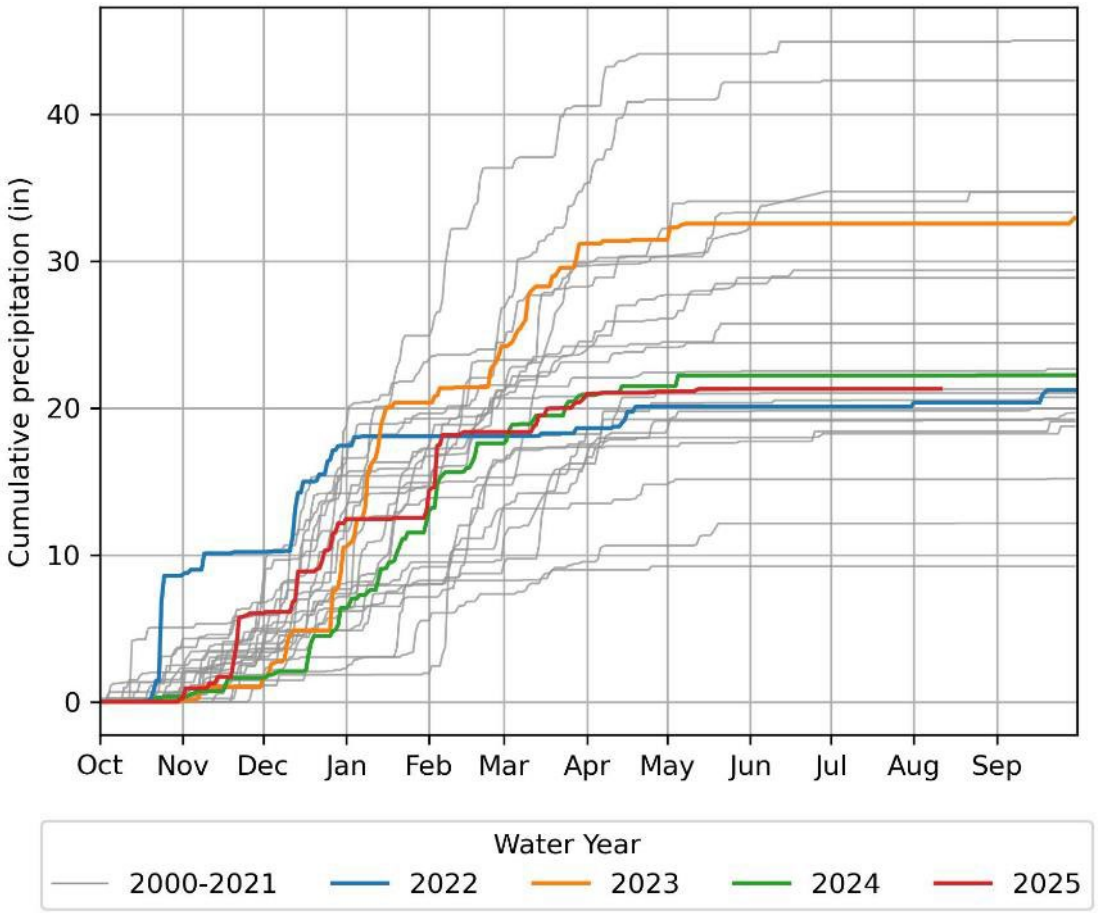

Bird call recorders

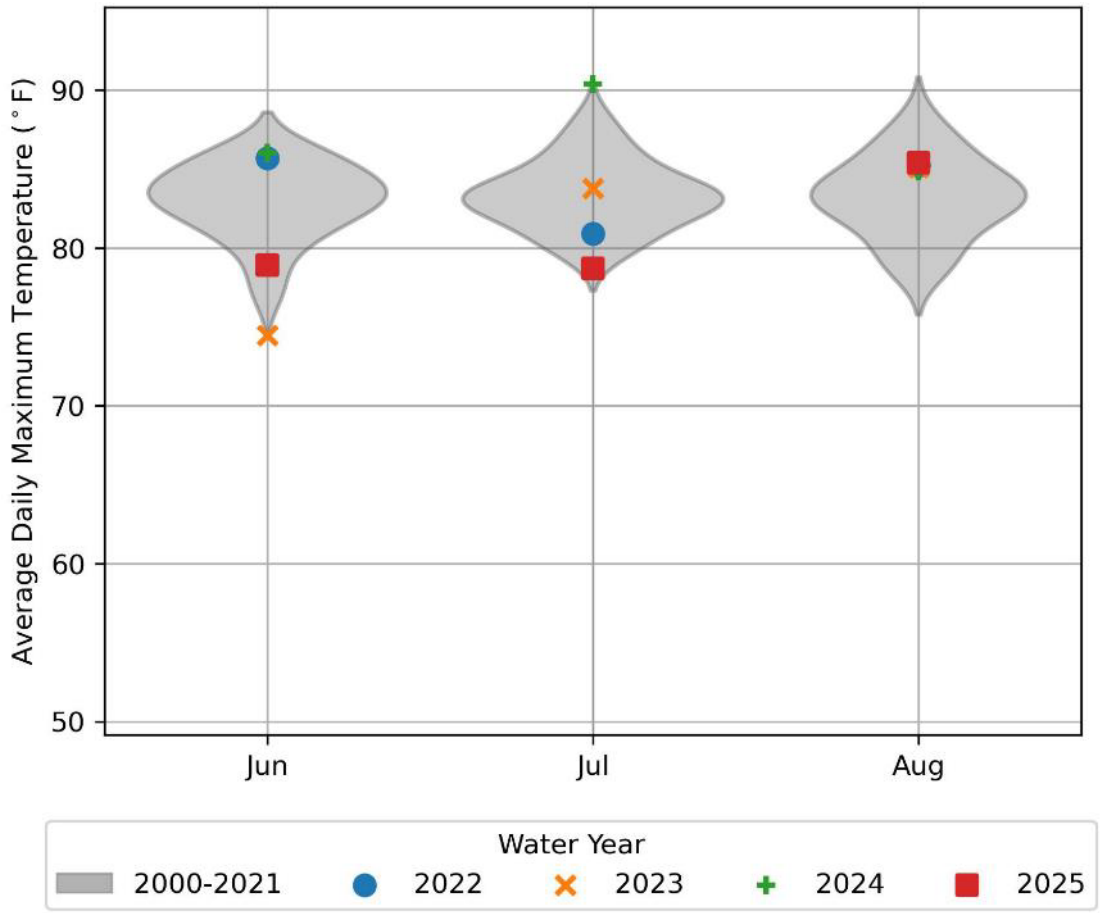

Vegetation surveys


Napa RCD staff mapping flow connectivity

Year-to-Year Variability

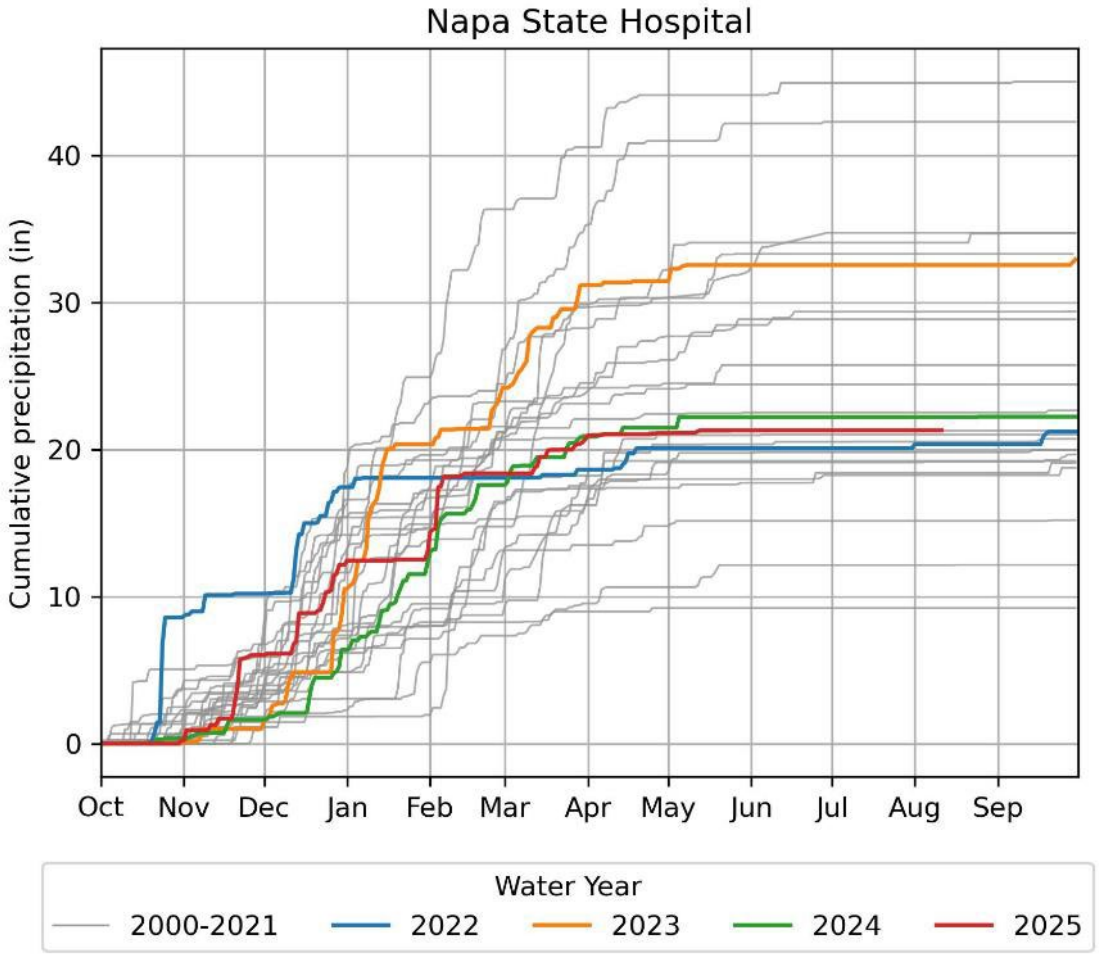
- 2025 had less rainfall than 2024 (at Napa State Hospital) but was much cooler.

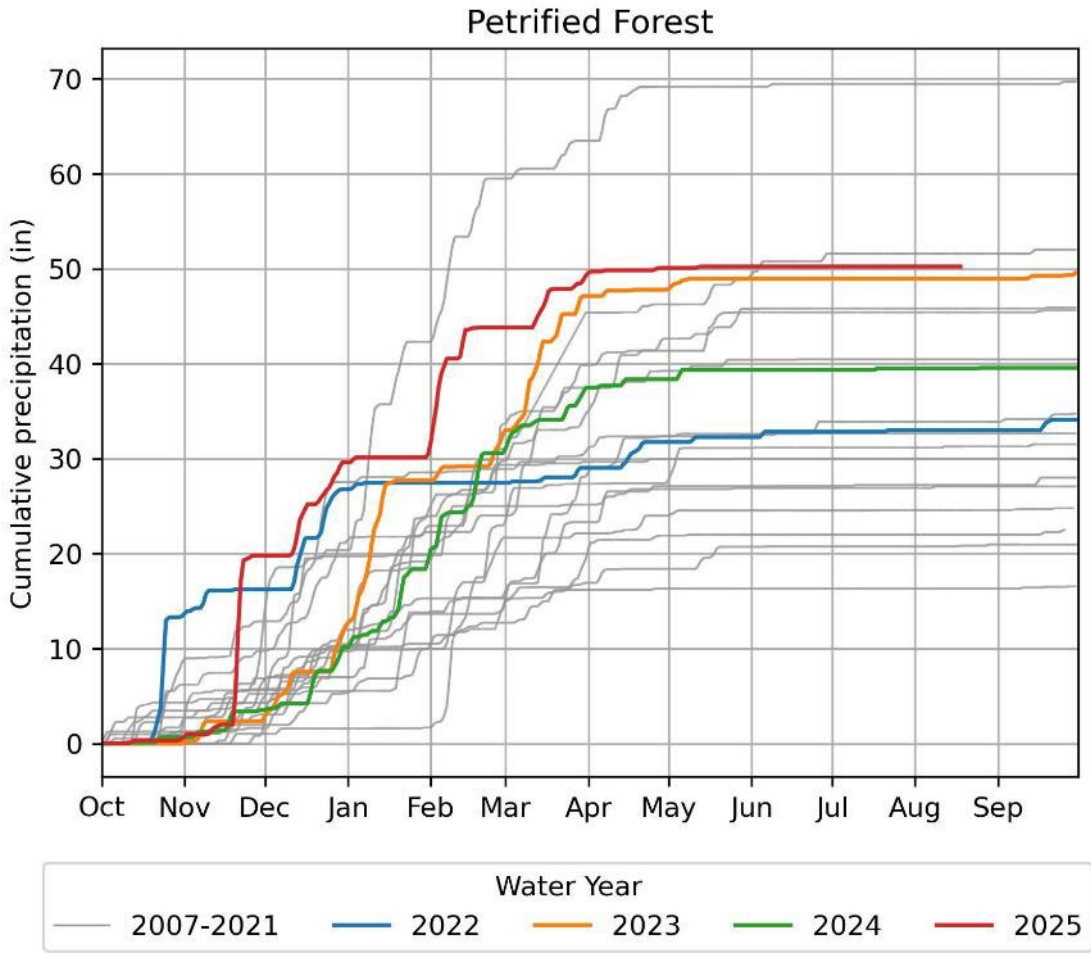




Spatial Variability

- 2025 was slightly below average at Napa State Hospital, but more like a wet year in the northern parts of the watershed





Water Temperature More Suitable in 2025 than 2024

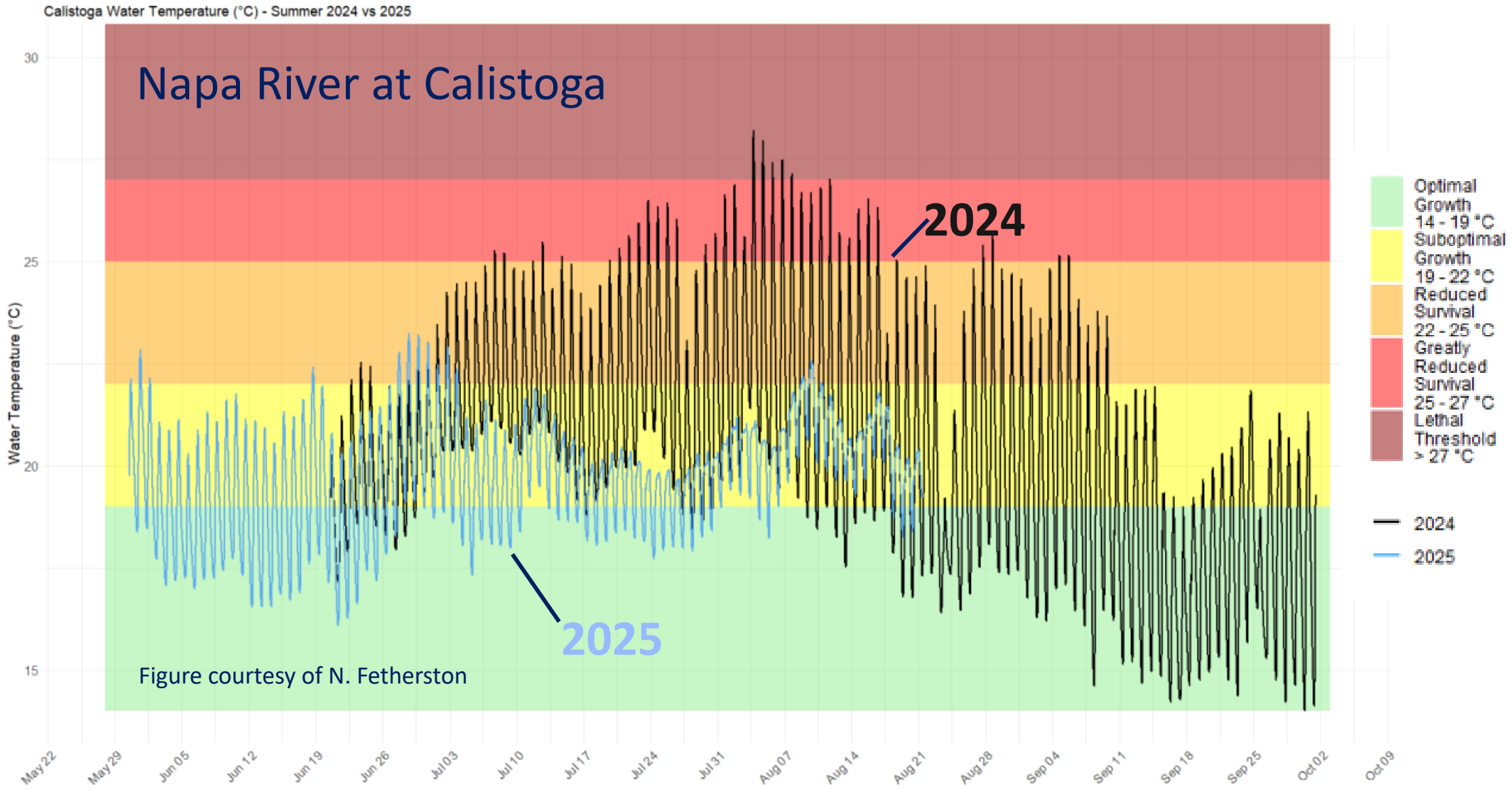


Figure courtesy of N. Fetherston

Water temperature more suitable in 2025 than 2024

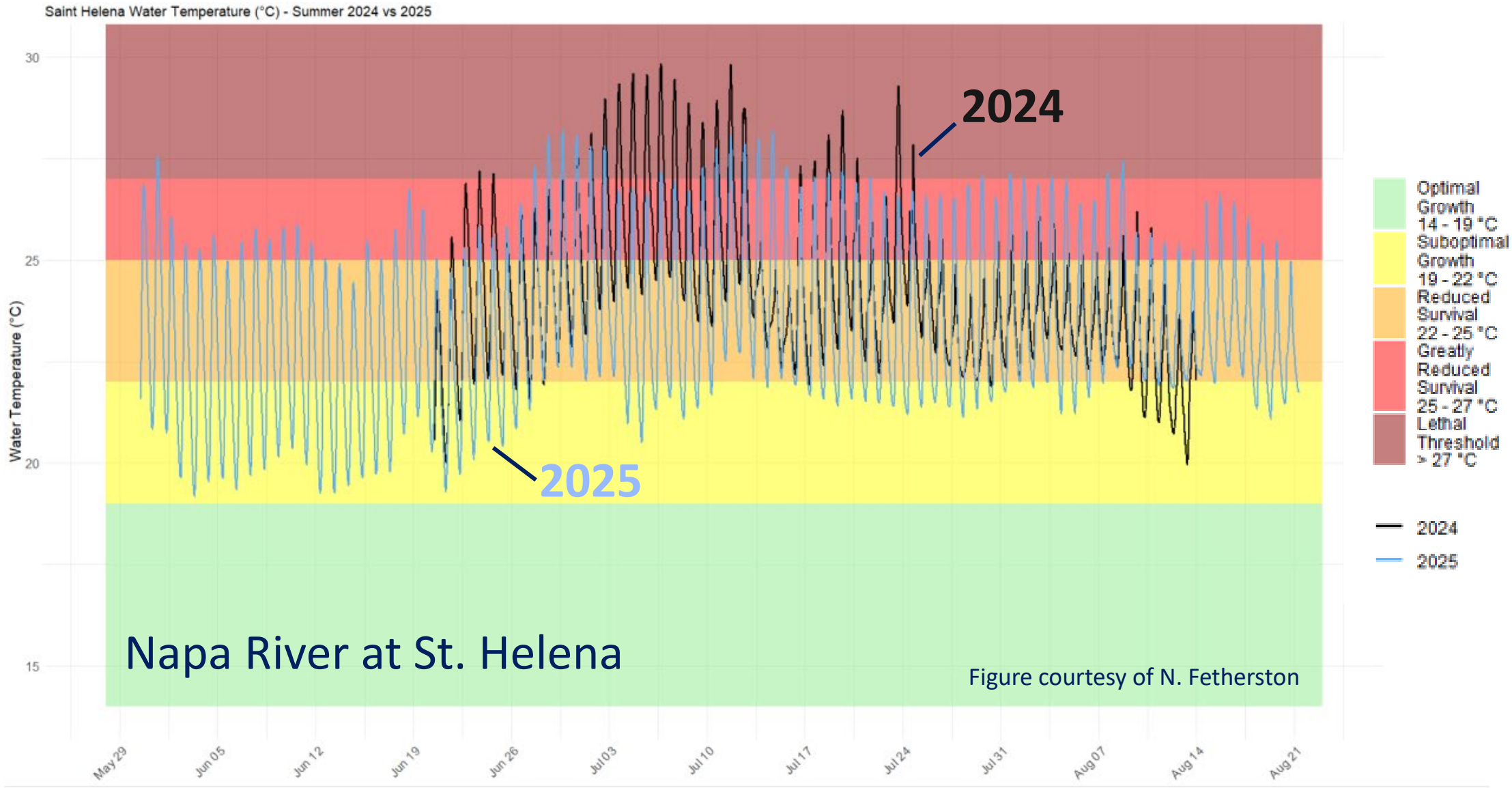


Figure courtesy of N. Fetherston

Biological Surveys

- Foothill yellow-legged frog metamorphs observed prior to Sulphur Creek going dry
- Steelhead and Chinook juveniles were more widespread and abundant in 2025 than 2024
- GDE vegetation mapped at each site (2024, 2025 surveys in September)
- 62 bird species identified using sound recorders at 5 of the sites (data still being processed)

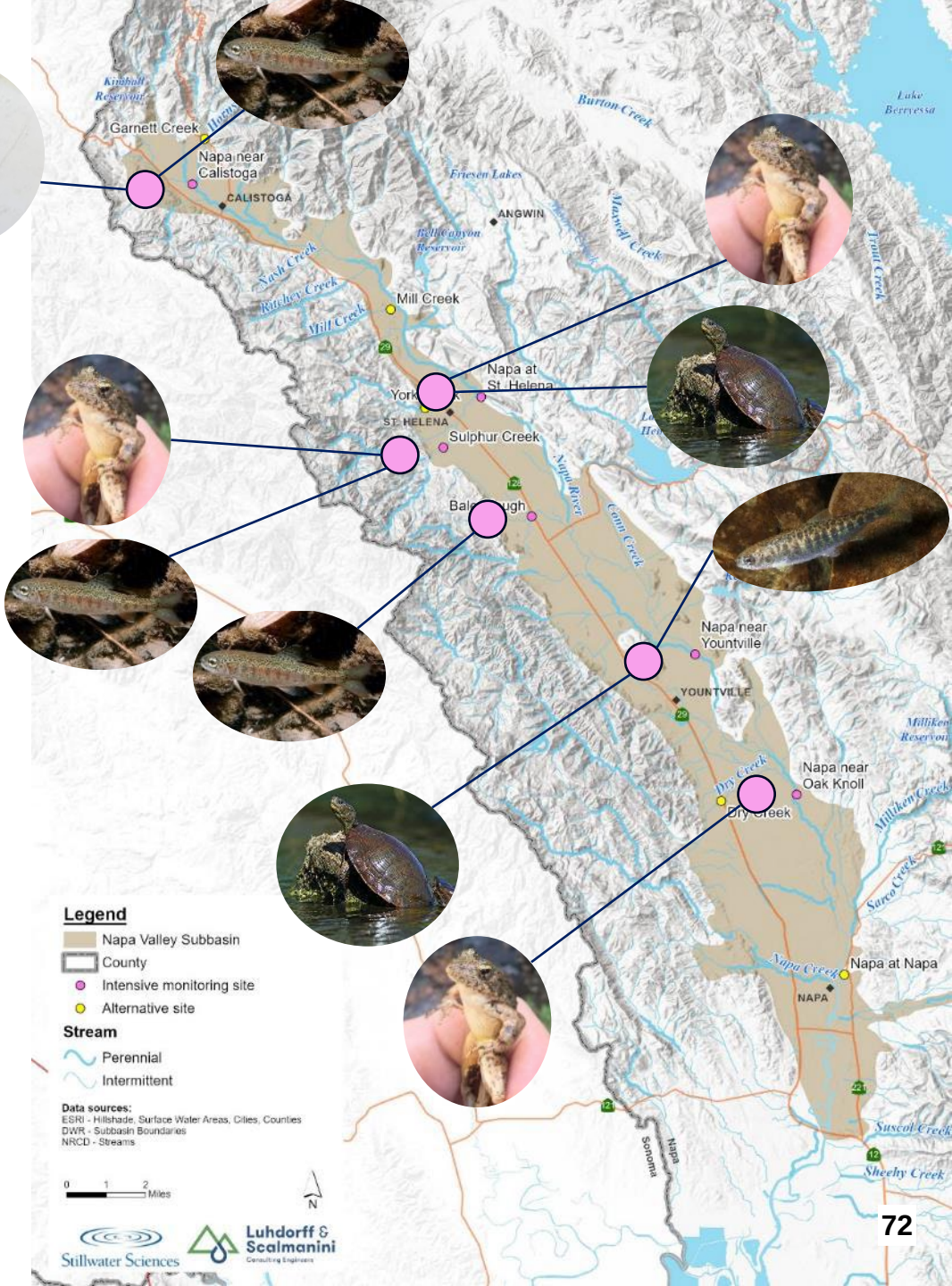
Fish Survey Results

Site	2024				2025			
	O. Mykiss* Adult	O. Mykiss (100-200 mm)	O. Mykiss (<100 mm)	Chinook parr	O. Mykiss Adult	O. Mykiss (100-200 mm)	O. Mykiss (<100 mm)	Chinook parr
Napa R. @Calistoga	0	3	118	0	0	0	0	2592
Napa R. @ St Helena	0	0	2	0	0	10	5	13
Napa R. @ Yountville	0	0	1	0	12	0	0	42
Napa R. @ Oak Knoll	N/A	N/A	N/A	N/A	2	0	0	1
Sulphur Creek (May)	N/A	N/A	N/A	N/A	0	5	773	239
Sulphur Creek (June)	26	8	3	1	0	4	244	128
Bale Slough	N/A	N/A	N/A	N/A	0	0	0	19

*Oncorhynchus mykiss = Steelhead

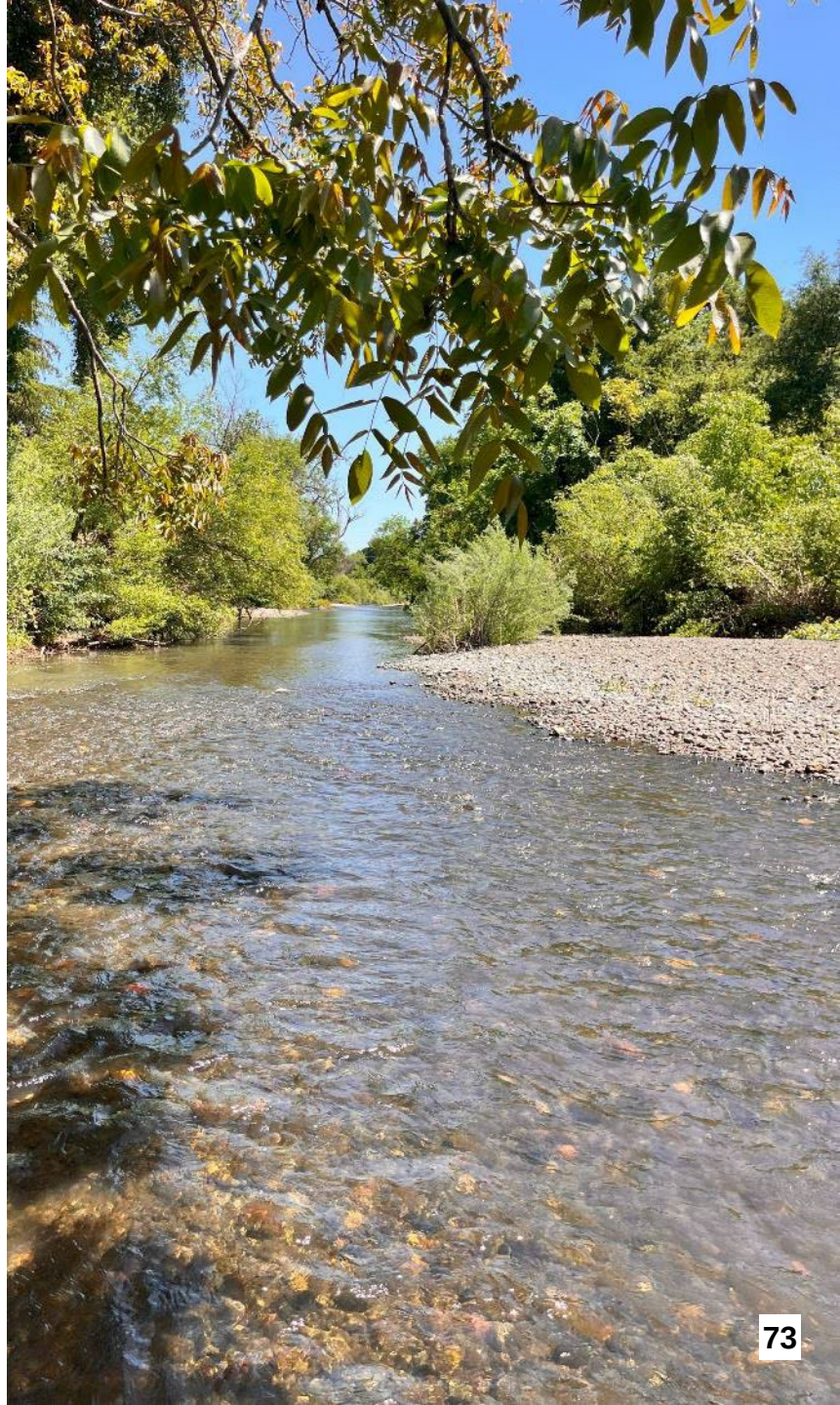
Biological Survey Results

- **Napa River at Calistoga:** Steelhead fry (2024), Chinook fry (2025), and California Freshwater Shrimp (2024)
- **Napa River at St. Helena:** Foothill yellow-legged frog (2024), Northwestern pond turtle (2024-2025)
- **Napa River at Yountville:** Northwestern pond turtle (2024)
- **Napa River at Oak Knoll:** Foothill yellow-legged frog eDNA (likely from Dry Creek)
- **Sulphur Creek:** Foothill yellow-legged frog (2024 and 2025). Steelhead fry, parr, and adults (2024-2025), Chinook fry (2025).
- **Bale Slough:** Chinook fry (2025) (western toad and Sierra chorus frogs)



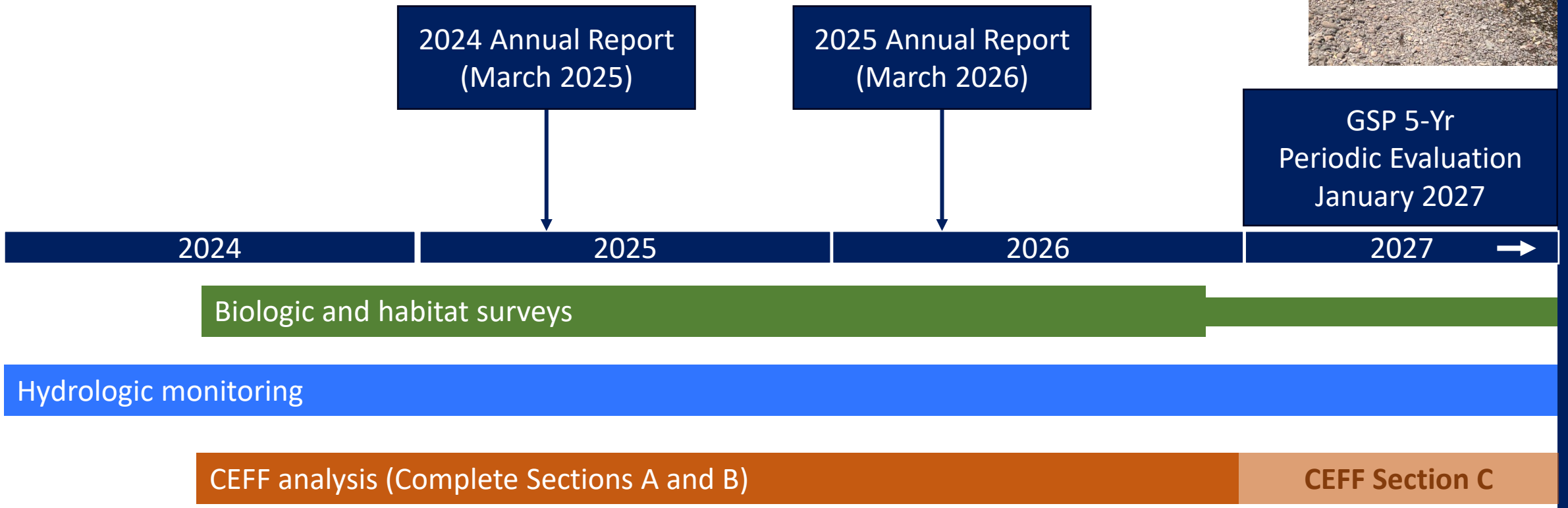
2025 Monitoring Implications for Ecological Goals

- Stream temperatures (and dissolved oxygen) may be suitable for longer in the Napa mainstem during wetter, cooler years like 2025.
- Fish observations varied from year-to-year; importance of habitat to be explored. Chinook juveniles were at nearly all the sites in 2025 and none in 2024. Do rearing juveniles survive sites that go dry or become isolated pools?
- Tributaries (and mainstem channels near junctions) provide good foothill-yellow-legged frog habitat (more bars and pools)



Next Steps

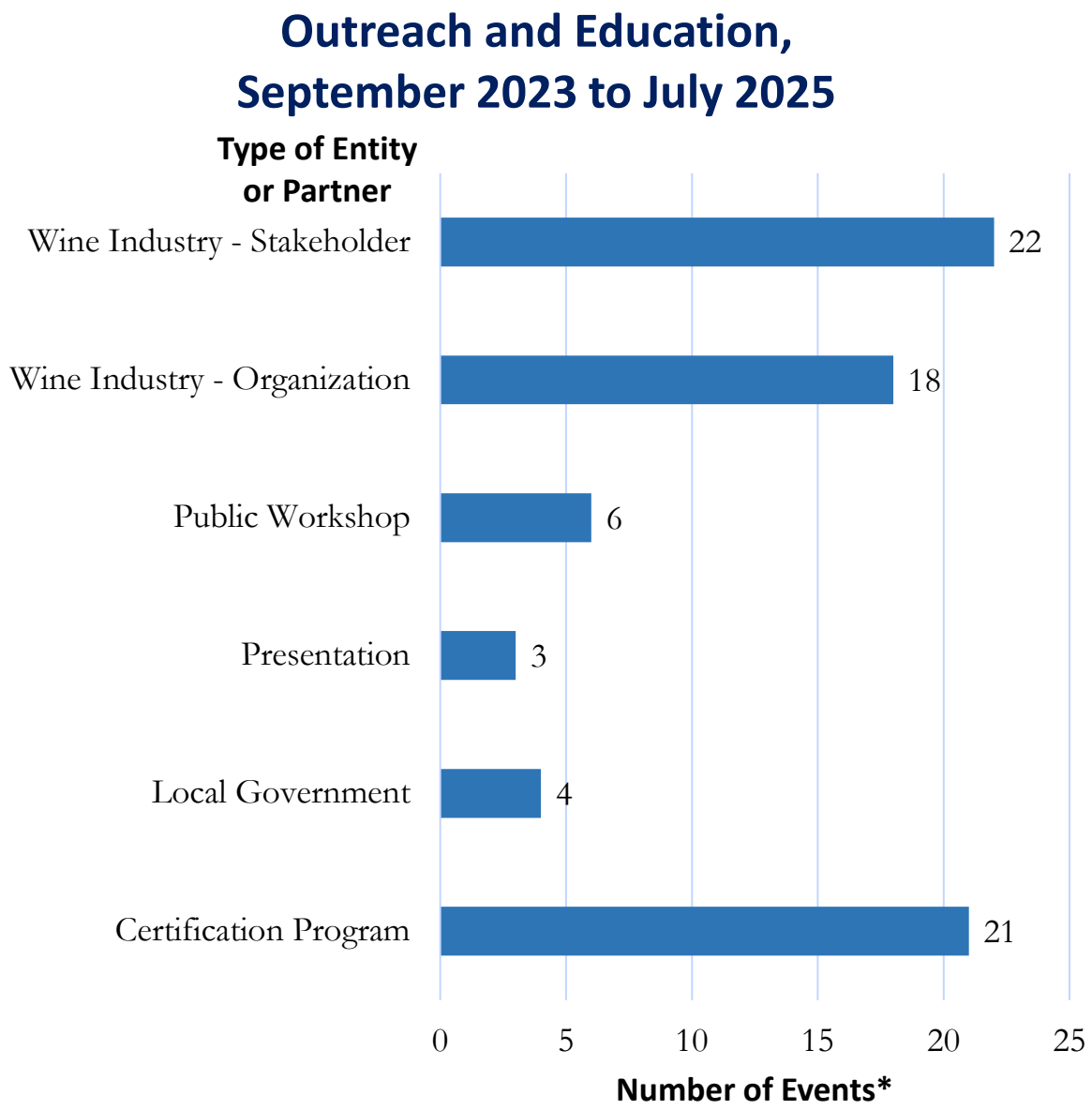
- Continued monitoring in 2026
- CEFF Analysis



Water Conservation: Expanded Outreach

Outreach and Engagement

- Since 2023, outreach and education has reached a wide range of stakeholders through presentations, workshops, and one-on-one meetings.
- Last year, outreach heavily focused on outreach to the wine industry and sustainability programs during development of the certification partnership.

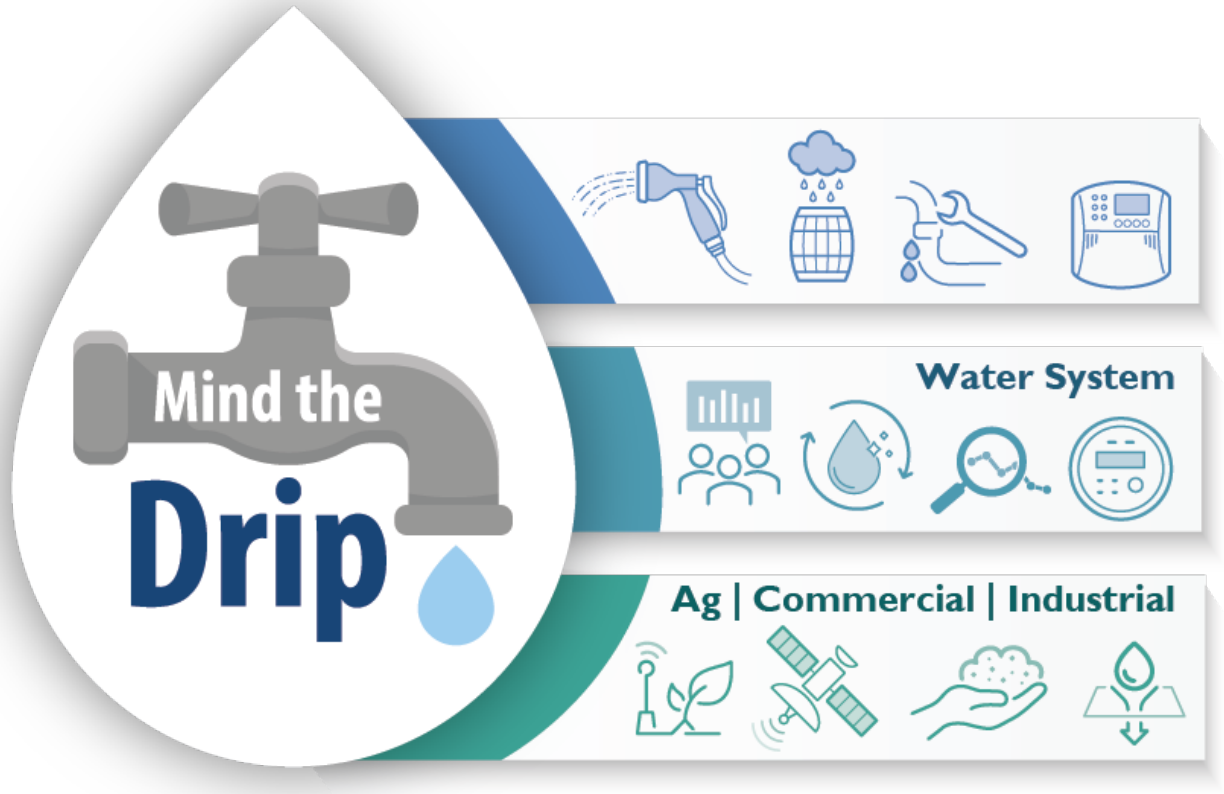


*Excludes coordination meetings, other public meetings (e.g., TAG, GSA), and technical meetings

Expanded Outreach and Engagement

- Now, broadening outreach efforts, including development of Water Conservation Community Engagement and Education Plan (WCCEEP).
- The WCCEEP seeks to support effective implementation of the GSP by creating an actionable strategic plan for meaningful stakeholder engagement, outreach, and education. The plan is intended to meet the following goals:

Water Conservation: A Napa Way of Life



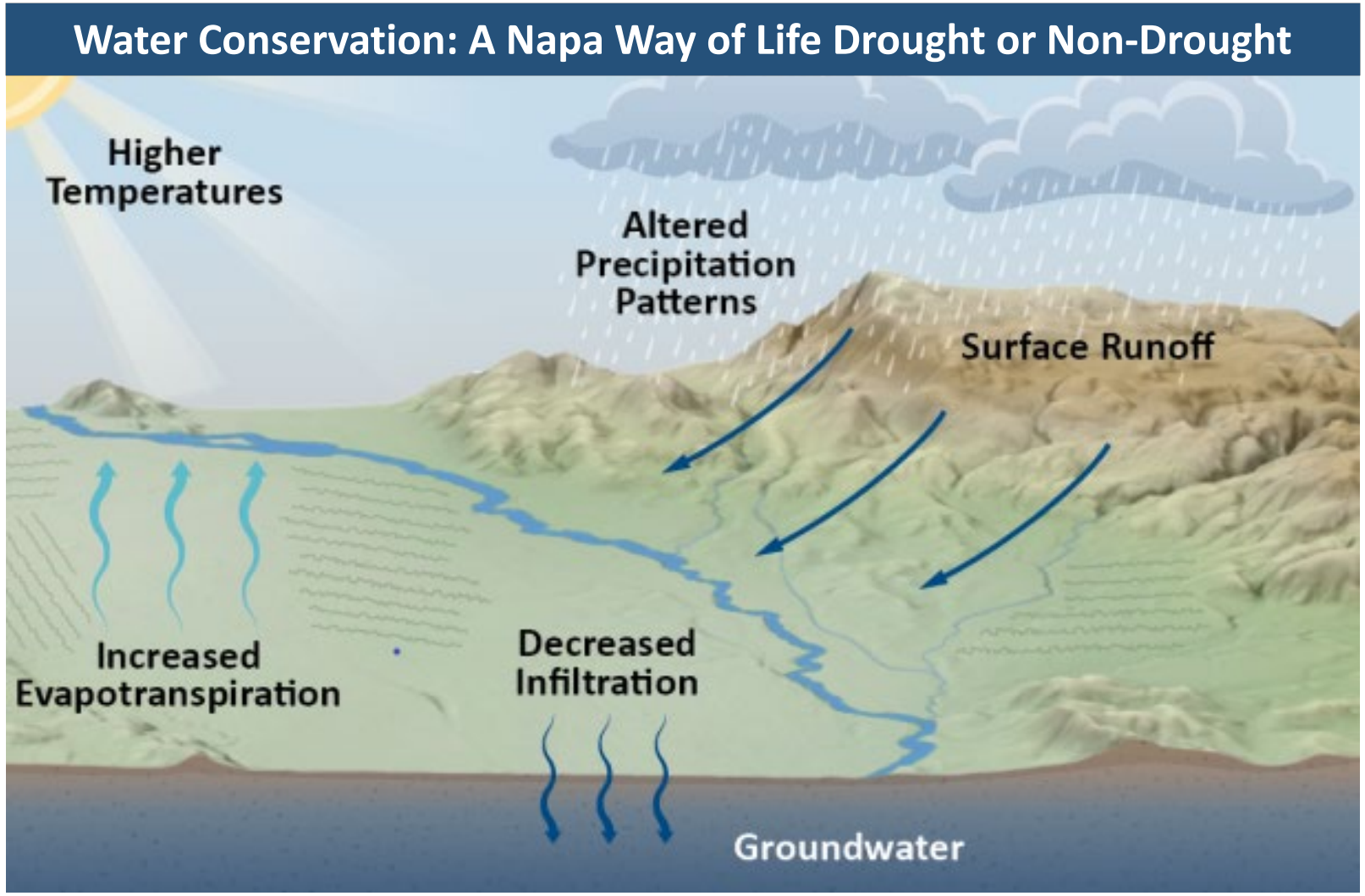
Use Water Wisely: Become a Water Steward

- All sectors are engaged in Water Conservation.
- Additional conservation will help achieve the sustainability goal.
- What actions are needed to increase water conservation?

Achieving More Conservation Together

- Everyone has an interest in watershed resiliency.
- Collaboration among entities already knowledgeable of natural resource stewardship is needed for public outreach and education to achieve additional countywide water conservation.
- Organizing and implementing educational workshops, briefing service organizations and others, and delivering simple messages for effective actions.

Community Engagement and Education: Plan & Partners



Potential Partnering Organizations (Examples)

- Napa RCD
- Napa Co. FCWCD
- WICC
- Local Ag and Wine Industry Organizations
- Sustainability Certification Programs
- Business, civic, and community organizations
- Conservation and environmental organizations

Discussion

Thank You

Napa County Groundwater Sustainability Agency

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Planning, Building, and Environmental Services Department
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Napa, CA 94559

From: Pamela Smithers
To: MeetingClerk
Subject: pubic comment re sept 11 TAG meeting
Date: Thursday, September 11, 2025 10:01:48 AM

[External Email - Use Caution]

please distribute my public comment below to TAG in advance of today's meeting, thank you!
Groundwater Technical Advisory Group,
Thank you for taking my public comment on the issue of groundwater sustainability.
As a member of WICC for over a decade, I have followed the groundwater sustainability issue since the first groundwater sustainability report to the State Water Control Board years ago. I find the fact that groundwater extraction targets have not been met in the last 6 of 7 years (as per the most recent annual groundwater report) alarming.
A collection of technical experts gathered by the County set a standard for a sustainable yield for groundwater, 15,000 AY, and *the ag industry has not been able to meet this target*. Their response to this (via Napa County Winegrowers) is to suggest that the target is wrong. To suggest that the target is wrong, because the users have not been able to meet the target voluntarily, would be funny if not for the seriousness of the issue. The target is not wrong. What isn't working is the *voluntary nature* of the extraction reductions needed. What we have here is the beginning of a tragedy of the commons. No one wants to use less groundwater unless others are also compelled to do so. Therefore, we are currently in a race to the bottom.
The sustainable target set by technical experts determined what it will take *over time* to set our county groundwater on a sustainable path (by ~2040). The fact that this target of pumping has exceeded the sustainable yield in 6 of the last 7 years means that the voluntary efforts at conservation are not working and metering of well extractions or some other action must be considered.
We have had a couple of good rain years (good, relatively speaking) and now some are pulling out their vines due to industry woes. Maybe the reduction of use due to pulling out of vines will mean the target will be met next year. On the flip side, however, is climate change/increasing temperatures (but again, this summer temps were good to us which may result in less pumping). *What we cannot do at this point is increase the amount of extraction allowed.* That's the exact opposite of the reaction needed. The failure to meet the sustainable yield target, i.e. the over pumping of groundwater. means that voluntary measures are not working and other measures must finally be considered.
This "undesirable result" in the category of groundwater pumping is just that: an undesirable result. Groundwater is a long game. Please protect all users of our precious groundwater and take appropriate action to reduce over extraction. The ag industry is not the only stakeholder. I urge you to hold some meetings for the general public (evening library meetings) to review these undesirable results and discuss how we, as a county, are going to get to a sustainable groundwater situation in Napa County, for all.
Thank you for your time.
Pam Smithers
WICC board member since 2014
St Helena, CA
707-696-0530