County of Santa Cruz

Water Advisory Commission

701 Ocean Street, Room 312, Santa Cruz, CA 95060
(831) 454-2022 TDD/TTY -Call 711 www.scceh.com
EnvironmentalHealth@santacruzcounty.us

AGENDA

SANTA CRUZ COUNTY WATER ADVISORY COMMISSION

Wednesday December 4, 2024, 4pm

This meeting will be held in hybrid format. Commissioners are expected to attend in person.
In-Person: 701 Ocean Street; **Fifth Floor Redwood Room**
Remote via Teams: **Join the meeting now** Meeting ID: 268 343 818 58 Passcode: i8iVEK
Dial in by phone +1 831-454-2222 Phone conference ID: 114 012 689#
Commissioner Wilson will be attending from 1829 San Ramon Ave, Berkeley, CA 94707

A. OPENING

1. Call to Order
2. Roll Call

B. PUBLIC COMMUNICATIONS

Opportunity for the public to comment on items under the purview of the Water Advisory Commission but not on today's agenda.

C. CONSENT AGENDA

Items on the consent agenda are considered to be routine in nature and will be acted upon in one motion. Specific items may be removed by members of the advisory body or public for separate consideration and discussion. Routine items that will be found on the consent agenda are meeting minutes, drought response updates, and Groundwater Sustainability Agency updates.

1. Approval of Meeting Minutes for October 2, 2024
2. Update from Groundwater Sustainability Agencies
3. Drought Response and DROP implementation update

D. COMMISSIONERS' REPORTS

Opportunity for Commissioners to provide brief updates

E. STAFF REPORTS AND ANNOUNCEMENTS

Opportunity for staff to provide brief updates

F. NEW BUSINESS

None

G. UNFINISHED BUSINESS and UPDATES

1. Commissioner Agenda Item Guidelines

Discuss general guidelines for Commissioners to submit items to appear in the agenda packet.

Attachments: Staff memo
Guidelines

2. Well Ordinance Update Process

Staff will report on progress advancing the Well Ordinance Update. The item is scheduled for a first reading with the Board of Supervisors on December 10th with final adoption by the Board of Supervisors expected December 17th. The documents being formally approved by the Board of Supervisors are attached.

Attachments: Staff memo
Ordinance amending SCCC Chapter 7.70
Ordinance amending SCCC Chapter 7.73
Resource Protection Policy.

3. Annual Water Status Report for 2024

In response to the Board of Supervisors action that created the Water Resources Program, staff compiles an annual report of water management activities throughout the County. The attached report includes input from many internal and external stakeholders. The WAC has previously requested an opportunity to review and approve the Water Status Report before it is presented to the Board of Supervisors.

Attachments: DRAFT Water Status Report for 2024

H. CORRESPONDENCE

None

I. BOARD OF SUPERVISORS ACTION ON ITEMS AFFECTING WATER:

None

J. ITEMS OF INTEREST

- Senate Bill 552 (pages 8-10). Hydrovisions, Fall 2024.
- Pajaro Valley Water celebrates 40 years; looking back on struggles and looking ahead to new projects. Santa Cruz Sentinel. November 5, 2024.

- Measure Q, climate resilience bond, passing with over 59% of vote. Lookout Santa Cruz. November 19, 2024.
- Addressing costs of PFAS

K. AGENDA ITEMS FOR FUTURE MEETINGS

- Intercommission Working Group
- Update on LAMP implementation
- Meet the new Supervising Water Quality Specialist

L. ADJOURNMENT

County of Santa Cruz

Water Advisory Commission

701 Ocean Street, Room 312, Santa Cruz, CA 95060
(831) 454-2022 TDD/TTY -Call 711 www.scceh.com
EnvironmentalHealth@santacruzcounty.us

Minutes

SANTA CRUZ COUNTY WATER ADVISORY COMMISSION

Wednesday October 2, 2024, 4pm

A. OPENING

1. Call to Order 4:02
2. Roll Call

Commissioner	attendance
Frank Cheap (1)	present
Ray Pereyra (2)	present
Linda A. Wilson (3)	present
Brian Lockwood (4)	present
Bryan Largay (5)	present, remote
Paul G. Lego, Chair – Rep. of Private or Mutual Water Companies)	Absent w notification
Nate Gillespie – Rep. of Public Water Purveyors	present

Commissioner Largay attended remotely due to family medical situation; As required by AB 2449, Commissioner Largay requested that the Commission allow him to participate remotely due to an emergency circumstance. No adults over the age of 18 were in the room with Commissioner Largay. Motion to approve: Pereyra, second: Gillespie. Unanimous.

B. PUBLIC COMMUNICATIONS

Opportunity for the public to comment on items under the purview of the Water Advisory Commission but not on today's agenda.

One public comment regarding AEM surveys

C. CONSENT AGENDA

Items on the consent agenda are considered to be routine in nature and will be acted upon in one motion. Specific items may be removed by members of the advisory body or public for separate consideration and discussion. Routine items that will be found on the consent agenda are meeting minutes, drought response updates, and Groundwater Sustainability Agency updates.

1. Approval of Meeting Minutes for August 7, 2024

2. Update from Groundwater Sustainability Agencies
3. Drought Response and DROP implementation update

Motion to approve: Lockwood, second: Gillespie, all in favor

D. COMMISSIONERS' REPORTS

Lockwood: attended a ground-breaking ceremony for the Pajaro River Levee project.

Gillespie: Soil Control Labs no longer analyzing drinking water samples, commend County Environmental Health Lab for accommodating this
Question about drinking water well sampling

Pereyra: tracking PFAS detections in drinking water, map from EPA; number of locations increased and number of chemicals detected increased
Recommend intercommission meeting topic

Gillespie: UCMr5 testing may be related to increased detections; recommend contact local water district with questions and for clarification of results

Cheap: EPA smart septic system week last week; not sure where County fees collected go; concerned County is not doing enough, recommend County does more

Largay: SLVWD making progress toward consolidation w Bracken Brae, Forest Springs and Big Basin Water; complicated and difficult; look forward to Senator Laird's presentation

E. STAFF REPORTS AND ANNOUNCEMENTS

None

F. NEW BUSINESS

1. Presentation by Senator John Laird on Senate Bill 1188

Senator Laird discussed his bill, SB 1188, which was signed by Governor Newsom on September 24, 2024.

Many Small Water Systems don't have means to address modern problems; Bill says SWSs have to demonstrate operational feasibility; at some point question of forced consolidation will come up; Bill gives Water Board a few years to set up regulations, and figure out how to implement this.

Read comment submitted by Commissioner Lego, who has offered to help.

Senator: Water Board doesn't want to cause SWSs to go out of business; will have to figure out how to help the ones that most need it.

Lockwood: feedback from PV might be thank you, but how are we going to pay for; these systems often don't have reserves

Senator: hope spending less money in preventative way; San Lucas example; responsible parties have to make difficult decisions about paying rates or costs of projects;

Gillespie: Frequency of review for technical requirements? Things can change quickly.
Senator: were looking at electronic annual report;

Largay: commend LAFCO on report on SWSs in SLV; to what extent is consolidation important for them; case specific – BBWC is worst case scenario; regarding water quality, 1800 septic systems present opportunity for contamination; clean water is important to people; SLV also seeing collapse of fire districts due to lack of volunteerism; hope SLVWD can accommodate; may want to revise numbers about reserves, templates and standards would help a lot; very costly per connection absorbed.

Public Comment from Owen Sharp, former Commissioner representing Small Water Systems: Connection between fiscal situation and physical hardware and contamination; disconnect between what's needed and what is in this bill; current state required annual financial review is already very costly for us and what effect has it had? Report not looked at. Bill will require expenses that do not help us address the problem and to raise rates even more; ensure that a benefit for the expense actually happens.

Member of public, small water system (Steinbruner): increase burden to what good; hope that reps of SWSs are at table when Water Board comes up with regs.; some systems don't want consolidation; County would be asked to do more work with no more resources;

Senator: goal is that this is brief summary of what is already being prepared, or notice if not being prepared; goal is to catch the Big Basins; to get in front if system is not getting what they need;

Submitted by Martin Mills and Jennifer Young: My comment is that we also operate a small system, and are concerned that this is a technique to essentially force consolidation of small water systems. Bigger is not always better! Small water systems have advantages also. These advantages are often ignored at worst and at best seem to be just not discussed. Funding seems to be directed to and available for large systems almost exclusively. Small systems don't have the capacity to get through the application process for funding, even if they are doing a great job of operating the water system. The system seems rigged against smaller systems, rather than just against non-compliant systems. The Water Board freely admits that they don't want small systems to exist.

Senator: not necessarily forced, San Lucas example is consolidation works for both

Serrano: another report to be published soon, will describe what happened with BBWC; opportunity to build relationships w stakeholders; if consolidation makes sense, if not it doesn't; goal to ensure quality and level of service; if opportunity to be more efficient it should be discussed.

<u>Consolidation Support Survey Question Brainstorm</u>
Provide input to staff regarding questions to ask both large and small water systems on the topic of consolidation. The survey will be used to aid in the development of a brochure describing the steps for consolidation in Santa Cruz County as well as an analysis of barriers. The results of a survey sent in 2022 are provided.

Summary by Ryan
Gillespie: add operational difficulty; elevation, storage, environmental sensitivity;
Abbey: intend to use public ROWs if possible;
Largay: road map, series of studies, legal agreements, anticipate who pays for what, authorities, issues to address first followed by more expensive steps; economies of scale

List other options to consider; looking at examples of success
Consider not using "consolidation" in title

2. Commissioner Agenda Item Guidelines

Discuss general guidelines for Commissioners to submit items to appear in the agenda packet.

Staff forgot to include the agenda item in the Packet, so the item will be returning at the December meeting.

G. UNFINISHED BUSINESS and UPDATES

1. Well Ordinance Update Process

Staff will report on progress advancing the Well Ordinance Update. The item is scheduled to appear at the Planning Commission on October 23rd, 2024.

Summary by Ryan: Sonoma County case; stakeholder outreach; target dates;

Largay: with Assn of Realtors, recommend that you don't water down point of sale provision

H. CORRESPONDENCE

None

I. BOARD OF SUPERVISORS ACTION ON ITEMS AFFECTING WATER:

August 27, 2024

13. DOC-2024-690 : Consider approving in concept "Ordinance Amending Chapter 2.96 Of The Santa Cruz County Code Regarding Water Advisory Commission To Be Updated And Consistent With Recent Revisions To Chapter 2.38 Of The Santa Cruz County Code", approve proposed revisions to the Water Advisory Commission bylaws, and take related actions (Health Services Agency)

No Discussion

J. ITEMS OF INTEREST

- Santa Cruz County PFAS Contamination Sites per EPA (attached). Source : Interactive Map: PFAS Contamination Crisis: New Data Show 7,457 Sites in 50 States (ewg.org)
- Article "PFAS Exposure for People and Wildlife" PFAS Exposure for People and Wildlife - The National Wildlife Federation Blog (nwf.org)
- Harkin's Slough Watershed Map (attached). Source: GISWeb (santacruzcounty.us) Comment: Maps shows Harkin's Slough vulnerability to PFAS contamination. Water from two known PFAS contaminated wells are used to irrigated

county landscape and dust control within and in the immediate vicinity of Harkin's Slough. Harkin's Slough is an integral part of Watsonville Wetlands.

No Action

K. AGENDA ITEMS FOR FUTURE MEETINGS

Lockwood: Intercommission Coord Work Group
Peyrera: PFAS share with Commission on the Environment (FWAC)
Cheap: proactive maintenance of installed OWTS, ultimately to BOS
Sierra: agena item guidelines and working w Chair
Lockwood: Water Status Report

L. ADJOURNMENT

6:02

County of Santa Cruz

Water Advisory Commission

701 Ocean Street, Room 312, Santa Cruz, CA 95060
(831) 454-2022 TDD/TTY -Call 711 www.scceh.com
EnvironmentalHealth@santacruzcounty.us

Subject: December 4, 2024 Water Advisory Commission Consent Agenda

Title: Groundwater Sustainability Agency Updates

Background

There are three groundwater basins in the County subject to the Sustainable Groundwater Management Act. The following updates come from the Groundwater Sustainability Agencies tasked with managing and monitoring those basins.

Pajaro Valley Water Management Agency

- Funding
    - Department of Conservation (DoC) Multibenefit Land Repurposing Grant, $8.89 million: Staff and consultants have been meeting monthly with DoC staff and the Statewide Support Entity (SSE): staff are continuing to work with Regional Block Grant partners to finalize sub-grantee agreements; staff issued a Request for Qualifications for consultant support services on October 24, 2024 and will review Statements of Qualifications submitted along with Regional Block Grant partners later this month.
    - DWR Watershed Resilience Pilot Grant, $2 million: Staff and support team has been communicating about this pilot program with regional partners and is hosting the first advisory group meeting on November 21, 2024; staff and the support team met with DWR staff twice in the last month to discuss various aspects of the program; staff received reimbursement for invoice number 1 in the amount of $12,282 on October 7, 2024.
- College Lake Integrated Resources Management Project
    - Construction:
        - Water Treatment Plant & Intake Facility
            - Work continues on the Intake Facility and Water Treatment Plant; commissioning meetings are taking place.
        - Treated Water Pipeline
            - The contractor has completed the trenchless crossing at Salsipuedes Creek Boring, augering approximately 420 feet

from the launch pit to the receiving pit; contact grouting occurred the week of November 11, along with removal of the diversion pipe and seeding of the channel banks; the next part of the project includes installing the carrier pipe into the 42-inch steel conduit, pressure testing the pipeline, grouting the annular space, and backfilling the pits.
        - Due to a cultural resource discovery, Caltrans is requiring PV Water to excavate a portion of the roadway to search for additional artifacts; this work is not yet scheduled.
    - Environmental: Biological, Cultural, and Native American resource monitoring is taking place, and worker environmental training continues as needed.
    - Adaptive Management Plan: Hydrologic monitoring, waterfowl monitoring, and steelhead surveys occurred this year and/or continue to occur. Waterfowl surveys were conducted on at least 24 separate days in 2024 thus far. Vegetation surveys were conducted in late October.
    - Outreach Activities: Staff continue to post information about the project online and are hosting staff from Monterey One Water and Monterey County Water Resources Agency on an upcoming tour. Please check https://www.pvwater.org/construction regularly for construction related updates.
- Watsonville Slough System Managed Aquifer Recharge & Recovery Projects
    - Permitting: Staff received and reviewed the revised biological assessment for the project and are reviewing chapters to the addendum to the Environmental Impact Report.
    - Design: The consultant has completed the 100% Design Package.
    - Environmental: Permitting work and frog mitigation site design is underway.
    - Outreach: Communications are ongoing; staff issued offer letters to property owners in the last month.

Santa Margarita Groundwater Agency

- The Agency Board met on October 24, 2024. At the meeting, the Board:
    - Received an update of water level monitoring data collected at the end of Water Year 2024 (WY24).

    - Appointed an ad hoc committee to review an upcoming draft of the Agency's GSP WY24 Annual Report.
    - Approved the Agency Annual Financial Report for the Fiscal Year ended June 30, 2024.
    - Thanked retiring Directors McPherson and Dilles for their years of dedicated service on the Agency Board.
- The next regular meeting of the Agency is on February 27, 2025, at 6:00 pm.

Santa Cruz Mid-County Groundwater Agency

- The Agency Board will meet on December 12, 2024, at 6:00 p.m. at the Capitola Branch Library. At the meeting, the Board is expected to:
    - Consider approval of the Agency Annual Financial Report for the Fiscal Year ended June 30, 2024.
    - Consider approval of the Agency Periodic Evaluation of its Groundwater Sustainability Plan (GSP).
    - Consider authorizing work to improve the Agency groundwater model.
    - Receive a presentation on long-term funding options for regulatory compliance under the Sustainable Groundwater Management Act and discuss the recommended approach for a fee study.

By: Sierra Ryan, Water Resources Program Manager with information from Rob Swartz and Brian Lockwood

County of Santa Cruz

Water Advisory Commission

701 Ocean Street, Room 312, Santa Cruz, CA 95060
(831) 454-2022 TDD/TTY -Call 711 www.scceh.com
EnvironmentalHealth@santacruzcounty.us

Subject: December 4, 2024, Water Advisory Commission Consent Agenda

Title: Drought Response & Outreach Plan (DROP) Update

Background

On September 23, 2021, Senate Bill (SB) 552 was signed into law. SB 552 requires that "a county shall establish a standing county drought and water shortage task force to facilitate drought and water shortage preparedness for state small water systems and domestic wells within the county's jurisdiction". The Water Advisory Commission voted to adopt the responsibility for implementing SB 552 and receives regular updates on the progress of implementation.

Senate Bill 552 Compliance (scceh.org)

Updates:

- There are currently 160 confirmed applicants to the Regional Water boards free well testing program.
- The pause in sampling to focus on Santa Barbara County extended longer than expected due to an issue with the lab that was contracted to analyze samples. Sampling is back on schedule to begin the first week of December.
- With 49 wells tested, no new wells have been sampled since the previous report in October,.
- To date, 3 households have enrolled in county services
    - 1 household has received a point of use treatment system that has successfully reduced Nitrate levels in the source water to below drinking water limits
    - 2 households are receiving bottled water while additional sampling is scheduled to determine if POU treatment systems can be installed.
- Sierra Ryan continues to represent interests of local government at the State Drought Response Interagency Partnership (DRIP) Collaborative.

By: Sean Abbey
Water Quality Specialist III

County of Santa Cruz

Water Advisory Commission

701 Ocean Street, Room 312, Santa Cruz, CA 95060
(831) 454-2022 TDD/TTY -Call 711 www.scceh.com
EnvironmentalHealth@santacruzcounty.us

Subject: December 4, 2024 Water Advisory Commission Agenda item G1

Title: Guidelines for Agenda Items and Packet Submittals (Informational Item)

Background:

Water Advisory Commission (WAC) agendas are guided by Santa Cruz County Code 2.38 and the WAC Bylaws which were approved by the Board of Supervisors on August 27, 2024. While the staff liaison is responsible for setting the agendas, both the code and bylaws create opportunities for Commissioners to request the addition of items for the agenda. In setting the agenda and developing the packet, the liaison determines which items are on the agenda and how they are presented. These guidelines are to outline for Commissioners what should be provided and when to allow for streamlined agenda item addition.

SCCC 2.38.160 Agendas and minutes of meetings

(A) The official agenda for each public meeting shall be prepared in accordance with any legal requirements by the designated Staff Liaison of each commission or committee unless the body's authorizing ordinance provides for a different designee. The Staff Liaison may consult with or seek input from the chair of the body, or in the chair's absence or unavailability, the vice chair or co-chairperson, during the preparation of the agenda. The Staff Liaison is also responsible for ensuring the official meeting agenda is properly noticed and posted according to law.

Water Advisory Commission Bylaws

(A) Commissioners who wish to place an item on the agenda shall give that item to the staff of the Commission at least one week in advance of the meeting. If the agenda for the next meeting is already full, staff may suggest that the item be postponed to a later meeting.

(B) The agenda shall contain a brief general description of each item of business to be transacted or discussed at the meeting. No action or discussion shall be undertaken on any item not appearing on the posted agenda except that members of the Commission may briefly respond to statements made or

questions posed by persons exercising their public testimony rights or ask a question for clarification, refer the matter to staff or to other resources for factual information, or request staff to report back at a subsequent meeting concerning any matter. Notwithstanding the foregoing, action may be taken on an item of business not appearing on the posted agenda upon a determination by two-thirds vote of the membership of the Commission, or if less than two-thirds of the members are present, by unanimous vote of those members present, that there is a need to take immediate action and that the need for action came to the attention of the County subsequent to the agenda being posted.

The attached Guidelines are proposed to clarify the process to add agenda items, and to hold Commissioners to the same standards as the Staff Liaison for the development of agenda items

By: Sierra Ryan
Water Resources Program Manager

County of Santa Cruz

Water Advisory Commission

701 Ocean Street, Room 312, Santa Cruz, CA 95060
(831) 454-2022 TDD/TTY -Call 711 www.scceh.com
EnvironmentalHealth@santacruzcounty.us

Water Advisory Commission Agenda Submittal Guidelines

The Guidelines provided below have been developed in accordance with Santa Cruz County Code Chapter 2.38.160 and the Water Advisory Commission Bylaws.

When a Commissioner wants to provide items to appear in the packet or on the agenda, they should notify the Staff Liaison as early as possible about the request. All related materials must be provided in writing no later than three days before the agenda is to be posted. If there is not time on the upcoming agenda, or if the materials are not complete, the Liaison may recommend a postponement to a later meeting.

A Commissioner presenting an item for the agenda should provide sufficient information on the item for the staff to develop the memo. The level of detail provided in advance can vary depending on the desired action from the Commission:

1) If the item is regarding water but is not necessarily directly relevant to the WACs work plan, it may make sense to provide it as an Item of Interest to provide in the packet but not to discuss.

2) If the Commission is just to receive information, the Liaison only needs a title and short description of the item. Additional materials can be included but are not required. If the Commission wants more information and to possibly take action, they can request the item be added again for action at the subsequent meeting.

3) If the Commission is to take action, sufficient information and background should be provided to the Commissioners in the packet for them to make an informed decision. Differing actions may have differing degrees of detail:

- If the Commission is to take an action to adopt or approve a document, the document needs to be provided along with relevant context.
- If the Commission is to form a sub-committee, enough information must be provided to define the general scope and responsibilities to the Commission.
- If the Commission is to provide a letter to the Board of Supervisors recommending that they take subsequent action, the item should have a review by relevant stakeholders and should include the following details where applicable: background, link to the roles and responsibilities of the WAC, analysis of the request including costs, staff time, available resources, and provide quantified benefits. These are the details that the Board of Supervisors would need in order to move forward with an action.

Based on the Commission's Roles and Responsibilities, the Commission is limited in the action it can take to internal activities or recommendations to the Board of Supervisors.

By: Sierra Ryan
Water Resources Program Manager

County of Santa Cruz

Water Advisory Commission

701 Ocean Street, Room 312, Santa Cruz, CA 95060
(831) 454-2022 TDD/TTY -Call 711 www.scceh.com
EnvironmentalHealth@santacruzcounty.us

Subject: December 4, 2024 Water Advisory Commission Consent Agenda G.2

Title: Final Well Ordinance Update Review

Recommended Action: Approve the final documents and recommend adoption by the Board of Supervisors.

Current Status:

The updates to Santa Cruz County Code Chapters 7.70 and 7.73 have been overseen by the Water Advisory Commission for the past one and a half years. After the August 7th WAC Public Workshop, the materials were approved by the Planning Commission on October 23rd. The Board of Supervisors will receive a first reading and presentation on the materials on December 10th, with a second reading and adoption scheduled for December 17th.

There have been some minor adjustments to some of the supporting documents, which can be viewed at:
https://scceh.com/NewHome/Programs/WaterResources/WellOrdinanceUpdate.aspx

The attached documents include the two ordinances amending SCCC 7.70 and 7.73, and the Resource Protection Policy, which are the materials that will be formally adopted by the Board of Supervisors.

Submitted by:

Sierra Ryan, Water Resources Program Manager

BEFORE THE BOARD OF SUPERVISORS
OF THE COUNTY OF SANTA CRUZ, STATE OF CALIFORNIA

ORDINANCE NO. ____

ORDINANCE AMENDING CHAPTER 7.70 OF THE SANTA CRUZ COUNTY CODE RELATING TO WELLS AND BORINGS

The Board of Supervisors of Santa Cruz County hereby finds and declares the following:

WHEREAS, Santa Cruz County Code Chapter (SCCC) 7.70, Wells (SCCC 7.70), includes various policies for the siting, design, and use of wells to protect groundwater and natural resources, as also provided for in the Santa Cruz County General Plan and Local Coastal Program (LCP); and

WHEREAS, in 2014, the State of California adopted the Sustainable Groundwater Management Act, which requires local entities to sustainably manage groundwater to prevent overdraft, protect water quality, maintain groundwater levels and prevent depletion of surface water; and

WHEREAS, recent judicial decisions have required counties to consider impacts on public trust resources and the environment when issuing well permits; and

WHEREAS, California Water Code Section 13801 and related provisions require oversight of the construction and destruction of soil borings to protect groundwater quality; and

WHEREAS, amendments to SCCC 7.70 have been prepared in order to be consistent with the State policies and guidance; and

WHEREAS, the County's Environmental Coordinator has determined that the proposed amendments to SCCC 7.70 would improve protection of the environment and are exempt from further consideration under the California Environmental Quality Act pursuant to 14 Cal. Code Regs. §§ 15308 and 15061(b)(3) and a Notice of Exemption has been prepared; and

WHEREAS, the County of Santa Cruz Planning Commission held a public hearing on October 23, 2024, and adopted a resolution recommending that the Board of Supervisors adopt the proposed ordinance amending SCCC 7.70; and

WHEREAS, the Board of Supervisors of the County of Santa Cruz finds that the proposed amendments to SCCC 7.70 are consistent with all other provisions of the SCCC and the General Plan/LCP, and with State law;

NOW THEREFORE, the Board of Supervisors of the County of Santa Cruz ordains as follows:

SECTION I

Chapter 7.70 of the Santa Cruz County Code is hereby amended to read as follows:

Chapter 7.70
WELLS AND BORINGS

Sections:

7.70.010 Purpose of provisions.
7.70.015 Applicability.
7.70.020 Definitions.
7.70.030 Permit—Required—Issuance.
7.70.040 Permit—Expiration.
7.70.050 Permit—Suspension or revocation.
7.70.060 Licensed contractor required.
7.70.070 State and Federal reporting regulations.
7.70.080 Inspections.
7.70.090 Technical standards.
7.70.100 Well abandonment and destruction—Inactive well.
7.70.105 Soil Borings.
7.70.107 Stormwater Infiltration Devices.
7.70.110 Resource protection.
7.70.120 Soquel Creek service area restrictions.
7.70.130 Groundwater emergencies.
7.70.140 Abatement—Investigation.
7.70.150 Abatement generally.
7.70.160 Nuisance—Abatement of safety hazard.
7.70.170 Amendments.
7.70.180 Violations.
7.70.190 Recording notices of violations.
7.70.180 Promulgation of policies.

7.70.010 Purpose of provisions.

The purposes of this chapter are to:

(A) Provide for the location, construction, repair, and reconstruction of all wells, including geothermal heat exchange wells, cathodic protection wells, test wells, monitoring wells, and soil borings, to the end that the groundwater of this County will not be polluted or contaminated and that water obtained from such wells will be suitable for the purpose for which used and will not jeopardize the health, safety or welfare of the people of this County;

(B) Provide for the destruction of any abandoned wells, monitoring wells, test wells, geothermal heat exchange wells, cathodic protection wells, or soil borings, which may serve as a conduit for movement of contaminants, or which are found to be a public nuisance, to the end that such a well or boring will

not cause pollution or contamination of groundwater or otherwise jeopardize the health, safety or welfare of the people of this County;

(C) Protect surface and ground water resources, and related public trust resources; and

(D) Implement policies of the County General Plan and the Local Coastal Program Land Use Plan, the California Sustainable Groundwater Management Act, and local groundwater sustainability plans.

7.70.015 Applicability.

Except as otherwise provided in this chapter, this chapter shall apply to all wells and soil borings within the unincorporated area of the County, except the following:

(A) Oil and gas wells, or geothermal wells constructed under the jurisdiction of the Department of Conservation, except those wells converted to use as water wells;

(B) Wells or bores used for the purpose of dewatering excavation during construction, or stabilizing hillsides or earth embankments; or

(C) Seepage Pits.

7.70.020 Definitions.

As used in this chapter, the following words shall have the meanings provided in this section:

(A) "Abandoned well" means any well whose original purpose and use have been permanently discontinued or which is in such a state of disrepair that it cannot be used for its original purpose. A well is considered abandoned when it has not been used for a period of one year, unless the Owner demonstrates their intent to use the well again for supplying water or other associated purposes and the well is maintained as an inactive well.

(B) "Abatement" means the construction, reconstruction, repair or destruction of a well so as to eliminate the possibility that such well could pollute or contaminate groundwater.

(C) "Cathodic protection well" means any artificial excavation in excess of 50 feet in depth constructed by any method for the purpose of installing equipment or facilities for the protection electronically of metallic equipment in contact with the ground, commonly referred to as "cathodic protection."

(D) "Contamination" or "contaminated" means an impairment of the quality of water to a degree that water contains contaminants in excess of the applicable standards currently promulgated by the California State Water Resources Control Board.

(E) "Contamination hazard" is the hazard to a well when the water entering a well contains, or that within a reasonable period of time it will likely contain, contaminants in excess of the applicable standards currently promulgated by the California State Water Resources Control Board.

(F) "Control Zone" means an area around a groundwater management project where well drilling is prohibited. Control Zones are defined by a water district and/or groundwater sustainability agency in order to comply with State health and safety requirements as required by Section 60320.200(e) of Title 22 of the California Code of Regulations.

(G) “Geothermal heat exchange well” means any uncased artificial excavation, by any method, that uses the heat exchange capacity of the earth for heating and cooling, and in which excavation the ambient ground temperature is 30 degrees Celsius (86 degrees Fahrenheit) or less, and which excavation uses a closed-loop fluid system to prevent the discharge or escape of its fluid into surrounding aquifers or other geologic formations. Geothermal heat exchange wells include ground source heat pump wells. Such wells or boreholes are not intended to produce water or steam.

(H) “Groundwater” means water beneath the surface of the earth within the zone below the water table in which the soil is completely saturated with water.

(I) “Groundwater Extraction Concern Area” means an area designated by the Health Officer where groundwater availability is limited due to inadequate supply or poor quality, or where construction of additional wells may cause significant adverse impacts on groundwater levels, surface water flow, or seawater intrusion.

(J) “Health Officer” means the County Health Officer or their authorized representative.

(K) “Inactive well” means a well not routinely operated but capable of being made an operating well with a minimum of effort.

(L) “Karst” means a type of underlying geology that may have the presence of subsurface fissures, caverns, sinkholes or other features resulting from dissolution of limestone or marble that could lead to the rapid subsurface movement of water. Known areas of karst are shown on maps maintained by the Health Officer and other underground karst areas may be discovered in the process of drilling.

(M) “Monitoring or observation well” means any artificial excavation by any method for the purpose of obtaining groundwater, vadose zone, or other subsurface data, including groundwater levels, groundwater quality, and soil vapor quality.

(N) “Order of abatement” means both mandatory and prohibitory orders requiring or prohibiting one or more acts; the term also includes those orders effective for a limited as well as an indefinite period of time, and includes modifications or restatements of any order.

(O) “Owner” means the person who is the well owner, who is also the owner of the property on which the well is located. The well owner shall be responsible for the use of the well on the property on which the well is located and on any other properties that are served by the well. The well owner shall maintain control over the use of the well through agreements with other property owners, lessees or others that use the well. All users of the well shall be held jointly and severally liable for complying with the provisions of this chapter and with any conditions or restrictions imposed as a condition of a permit to construct the well.

(P) "Pajaro groundwater protection zone" means the area in the Pajaro Valley Groundwater Basin within the boundaries of the Pajaro Valley Water Management Agency.

(Q) "Person" means any person, firm, corporation or governmental agency.

(R) "Pollution" means an alteration of the quality of water to a degree that unreasonably affects:
(1) Such waters for beneficial uses; or
(2) Facilities which serve such beneficial uses.
Pollution may include contamination or the presence of contaminants in amounts less than the applicable standards currently promulgated by the California State Water Resources Control Board.

(S) "Public Trust Resources" mean resources, such as fisheries, wildlife, aesthetics, and navigation, which are held in trust for the public.

(T) "Seepage pit" means a large diameter borehole for the disposal of sewage.

(U) "Soil Boring" or "Boring" means an excavation or boring constructed to obtain information on subsurface conditions.

(V) "Stormwater infiltration device" or "dry well" means a trench or large diameter borehole for the infiltration of stormwater.

(W) "Structure" means anything constructed or erected which requires a location on the ground, including a building, but not including a fence or a deck less than 18 inches in height.

(X) "Sustainable yield" means the annual draft of water that can be withdrawn from an aquifer without producing some significant unreasonable, undesirable result such as chronic lowering of groundwater levels, reduction of storage, seawater intrusion, degraded water quality, or depletion of interconnected surface water. Where applicable, sustainable yield would be as defined by the Groundwater Sustainability Agency in their Groundwater Sustainability Plan or Alternative.

(Y) "Test well" means a well constructed for the purpose of obtaining information needed to design a well prior to its construction. Test wells are cased and can be converted to observation or monitoring wells and under certain circumstances to production wells.

(Z) "Tier" means the type of well application and the level of review and conditions that will be needed for approval based on the proposed volume of pumping, type of water use, proposed increase in water use, the aquifer characteristics and the potential for impact on streams, public trust resources, nearby wells, groundwater sustainability, control zones, and/or the environment.

(AA) "Water Well" means a well constructed to extract groundwater. Types of water wells include:
(1) "Agricultural well" means a water well used to supply water for commercial agricultural purposes, including so-called "livestock wells."
(2) "Community well" means a water well used to supply water for domestic purposes in public water systems or State small water systems as defined in Section 116275 of the Health and Safety Code.

(3) "De Minimis Well" means a water well used to supply water for domestic needs of up to four individual primary dwelling units, as defined in SCCC 13.10.700-D, using a total of less than 2 acre-feet per year. An approved accessory dwelling unit is not considered a separate primary dwelling unit for this purpose. De minimis domestic use may include up to one half acre of non-commercial residential irrigated landscaping and gardening per primary dwelling unit.

(4) "Industrial Well" means a water well used to supply industry or a commercial use on an individual basis.

(5) "New Well" means a water well that will serve a new or significantly expanded use, which represents an increased extraction of groundwater.

(6) "Replacement Well" means a water well that will serve an existing use with no significant increase in water use and will replace an existing water source such as a spring or well that is to be destroyed.

(7) "Supplemental Well" means a water well that that will support an existing use with no overall increase in water use. The existing source could be a shared well or other well that will be maintained as a backup source.

(BB) "Well" means any artificial excavation, constructed by any method, for the purpose of extracting water or injecting water into the underground, evaluating subsurface conditions, providing for geothermal heat exchange or cathodic protection, or any other subsurface installation that may create a potential conduit or preferential pathway for movement of water or contaminants to groundwater.

(CC) "Well reconstruction" or "well repair" means certain work done to an existing well in order to restore its production, replace defective casing, seal off certain strata or surface water, or similar work, not to include the cleaning out of sediments or surging, or maintenance to the pump or appurtenances where the integrity of the annular seal or water-bearing strata is not violated.

7.70.030 Permit—Required—Issuance.

(A) No person shall, within the unincorporated area of the County, construct, repair, reconstruct or destroy any well, abandoned well, cathodic protection well, geothermal heat exchange well, monitoring well, test well, or soil boring unless a written permit has first been obtained from the Health Officer as provided in this chapter, and the work conforms to the conditions of such permit and this chapter. Applications for such permits shall be made on the forms provided for that purpose and in accordance with procedures established by the Health Officer.

(B) A permit shall be required to change the use of a well when the change would: cause the well to no longer meet the definition of a de minimis well, as specified in Section 7.70.020(AA)(3); place the well in a different Tier, as specified in Section 7.770.110(E); or result in increased use beyond that specified in an approved well construction permit. Applications for such permits shall be made on the forms provided for that purpose and in accordance with procedures established by the Health Officer.

(C) A coastal development permit shall be required for any well proposed to be drilled in the Coastal Zone unless it qualifies for an exemption, exclusion, or de minimis waiver, as provided in SCCC 13.20.

(D) Well permits for wells that meet the Tier 1, Tier 2 or Tier 3 requirements of SCCC 7.70.110(E) are ministerial unless the issuance of the well permit requires one or more discretionary approvals pursuant to SCCC 13.20, 16.20, 16.30, 16.32, 16.40, or 16.42.

(E) For proposed wells or changes in use that do not meet the Tier 1, Tier 2, or Tier 3 requirements of SCCC 7.70.110(E), the Health Officer may require a report evaluating the potential impact of the proposed well use to nearby wells, surface waters, public trust resources, or groundwater sustainability that is to be prepared and submitted to the Health Officer prior to issuance of the permit. The report shall be prepared by a professional geologist, engineering geologist, or professional engineer and shall at a minimum include conclusions and data supporting the conclusions including a description of site and regional geology, subsurface conditions, strata, direction and rate of groundwater flow, locations of nearby water wells, and construction details for those wells as can be determined based on existing data. The report shall describe proposed well construction methods and other measures to be taken to prevent adverse impacts of the well. The Health Officer shall deny a permit or require specific construction requirements in order to prevent significant adverse impacts on nearby wells, surface water, public trust resources, or groundwater sustainability as defined by the applicable groundwater sustainability agency.

(F) Each application shall be accompanied by a filing fee set by resolution of the Board of Supervisors. No part of the fee shall be refundable.

(G) Permit applications shall be transmitted to the water system, water district, and/or groundwater sustainability agency that has jurisdiction over the parcel where the proposed well will be located or that could be impacted by the proposed well or change in use. Those entities shall have ten (10) business days to provide any comment, request additional information, or identify any other requirements that must be met for the construction and use of the proposed well within their jurisdiction.

(H) Within twenty (20) business days after receipt of a complete application including all studies or additional information requested by the Health Officer, the County Health Officer shall either grant or deny the permit. Permits shall be issued only if the proposed well is in compliance with all applicable County codes and will be located on a legal lot of record. Permits may be approved with specific requirements to comply with this chapter.

(I) At the discretion of the Health Officer and prior to the commencement of any work, an emergency approval may be granted for any work for which a permit is required by this chapter if the Health Officer determines that a sudden, unexpected occurrence demands immediate action to prevent loss of or damage to life, health, property, or essential public services, and it is not practical to obtain a permit before the commencement of the work. The Health Officer may request, at the applicant's expense, verification by a professional geologist, engineering geologist, or professional engineer of the nature of and solutions to the emergency situation. In all cases in which emergency work is necessary, a permit shall be applied for within three (3) business days after commencement of the work. If emergency approval by the Health Officer is not requested or an application is not submitted within the specified time, the work shall be considered a violation of this chapter. The applicant for a permit for any such emergency work shall demonstrate that all work performed is in compliance with the technical standards of SCCC 7.70.090.

(J) Any person who commences or completes any work or action for which a permit is required without first having obtained a permit therefor shall, if subsequently permitted to obtain a permit, pay double the permit fee established by resolution of the Board of Supervisors for such work. If such well does not meet the requirements of this chapter, the Health Officer shall require the well to be destroyed under permit.

7.70.040 Permit—Expiration

(A) Each permit issued pursuant to this chapter shall expire and become null and void if the work authorized thereby has not been completed within two (2) years following the issuance of the permit.

(B) Upon expiration of any permit issued pursuant thereto, no further work may be done in connection with construction, repair, reconstruction or destruction of a well, monitoring well, test well, geothermal heat exchange well, cathodic protection well, or soil boring unless and until a new permit for such purpose is secured in accordance with the provisions of this chapter.

(C) The Health Officer may authorize renewal of a permit for an additional year upon payment of 20 percent of the application fee within 180 calendar days after the date of permit expiration.

7.70.050 Permit—Suspension or revocation

(A) A permit issued under this chapter may be revoked or suspended by the Health Officer as provided in this section if they determine that a violation of this chapter exists, that written notice has been directed to the permittee specifying the violation, and that the permittee has failed or neglected to make necessary adjustments within thirty (30) calendar days after receiving such notice.

(B) A permit may be revoked or suspended by the Health Officer if they determine at a hearing held by the Health Officer for such purpose that the person to whom any permit was issued pursuant to this chapter has obtained the same by fraud or misrepresentation; provided, that notice of the time, place, and purpose of such hearing is given to the permittee at least five (5) calendar days prior thereto.

(C) The suspension or revocation of any permit shall not be effective until notice thereof in writing is provided to the permittee.

7.70.060 Licensed contractor required.

Construction, reconstruction, repair, and destruction of all wells covered by this chapter shall be performed by a contractor with a C-57 contracting license or an equivalent license issued by the Department of Professional and Vocational Standards.

7.70.070 State and Federal reporting regulations.

Nothing contained in this chapter shall be deemed to release any person from compliance with the provisions of Article 3, Chapter 10, Division 7 of the California Water Code or any other State or Federal reporting regulations.

7.70.080 Inspections.

(A) Upon receipt of an application, an inspection of the location of the well, test well, geothermal heat exchange well, or cathodic protection well shall be made by the Health Officer prior to issuance of a well permit. Inspection of monitoring well and soil boring locations prior to permit issuance may be made by the Health Officer.

(B) The person responsible for construction, reconstruction, or destruction of any well shall notify the Health Officer at least two (2) business days prior to commencement of work. All work shall be subject to inspection by the Health Officer to ensure compliance with all the requirements of this chapter.

(C) The Health Officer shall make inspection of the well seal and completed work to determine compliance with the well standards. After work has been completed, the person performing the work shall file with the Health Officer a notice of completed work or a copy of the California Department of Water Resources well report.

7.70.090 Technical standards.

Standards for the construction, repair, reconstruction of, or destruction of wells, abandoned wells, monitoring wells, test wells, geothermal heat exchange wells, and cathodic protection wells shall be as set forth in Chapter II of the Department of Water Resources Bulletin No. 74-81, “Water Well Standards” (December 1981), the Department of Water Resources Bulletin No. 74-90, “Water Well Standards” (June 1991), and Chapter II of the Department of Water Resources Bulletin No. 74-1, “Cathodic Protection Well Standards” (March 1973), or as subsequently revised or supplemented, which are incorporated by reference in this chapter, with the following modifications:

(A) The minimum horizontal distance between wells and potential sources of contamination shall be:
(1) 100 feet between subsurface sewage leaching fields, septic tanks, animal enclosures, accumulations of manure, or other sources of contamination as identified by the Health Officer. If the property is already developed and served by a well that is less than 100 feet from the septic system, and if no other alternative water source is available, a replacement well may be drilled less than 100 feet from the septic system if a sanitary seal at least 100 feet deep is installed and the existing well is destroyed under permit.
(2) 150 feet to seepage pit.
(3) 150 feet between a community well and subsurface sewage dispersal system less than 10 feet deep.
(4) 200 feet between a community well and a subsurface sewage dispersal system greater than 10 feet deep. A greater separation up to 600 feet may be required in order to maintain a 2-year time of travel.

(B) No well shall be constructed within 50 feet horizontal from the property line of the property owner authorizing construction of the well. This setback may be reduced to not less than five feet horizontal if the owner of the adjacent property authorizes a reduction in setback or if the Health Officer determines area on the adjacent property within 100 feet of the proposed well is unsuitable for installation of an onsite sewage disposal system.

(C) No well shall be constructed within 5 feet horizontal from any structure.

(D) All wells shall be constructed so that the well seal shall be a minimum of 50 feet below the surface of the ground. If usable water is only available less than 50 feet from the surface, the Health Officer may allow the seal depth to be reduced to not less than 20 feet if the well construction, site conditions, and the characteristics of the underlying geology will preclude the downward movement of contaminants into the aquifer.

(E) Drilling fluids and other drilling materials used in connection with well construction shall not be allowed to discharge onto streets or into waterways and shall not be allowed to discharge off the parcel on which the well is constructed onto adjacent properties; provided, that adjacent property may be used temporarily for the discharge of such fluids and materials pursuant to written agreement with the owner(s) of the adjacent property; and provided, that such fluids and materials are removed and cleaned up within thirty (30) days of completion of the well drilling.

(F) Water generated during test pumping of wells shall be dispersed or disposed of in a manner which will not cause excessive erosion or turbidity, in violation of SCCC 16.22 or 16.24.

(G) Subsections (A), (B) and (D) of this section do not apply to monitoring wells.

(H) New wells that supply water to a public water system must use the methodology, as required by the California State Water Resources Control Board Drinking Water Source Assessment and Protection Program, to determine the 10-year time-of-travel groundwater protection zone. For other wells, e.g., de minimis wells, the default groundwater protection zone minimum radius of 1,000 feet for a five-year time-of-travel shall be used to protect the drinking water source from chemical contamination. If sites with existing soil and/or groundwater contamination are present within the 10-year zone for public water systems, or five-year zones for other wells such as domestic wells, and the Health Officer determines that there is a potential for a contamination hazard to be created, the Health Officer may require that a report evaluating the potential for contamination or pollution of the well from existing nearby activities be prepared prior to issuance of a well permit. The report shall be prepared by a professional geologist, engineering geologist, or professional engineer and shall at a minimum include conclusions and data supporting the conclusions including without limitations a description of site and regional geology, subsurface conditions, strata, direction and rate of groundwater flow, locations of vicinity water wells, and construction details for those wells as can be determined based on existing data. The report shall describe proposed well construction methods and other measures to be taken to prevent contamination or pollution of the well and surrounding aquifers. The Health Officer shall deny a well permit or require specific construction requirements in order to prevent contamination or pollution of the well or surrounding aquifers.

(I) The Health Officer shall have the power to allow minor variances from the standards set forth in this section so as to prevent unnecessary hardship or injustice and at the same time accomplish the general purpose and intent of the standards and the resource protection policies of the County's General Plan and Local Coastal Program Land Use Plan. In no case may a variance be granted that constitutes a special privilege.

(J) The Health Officer may establish standards and procedures for the construction and destruction of wells or soil borings to be used for evaluation, monitoring or remediation of sites with known or threatened contamination.

7.70.100 Well abandonment and destruction—Inactive well.

(A) A well is considered abandoned when it has not been used for a period of one (1) year and it is not being maintained as a monitoring well or an inactive well.

(B) The Owner of an inactive well shall properly maintain the well in such a way that:

(1) The well is covered such that the cover is watertight and cannot be removed, except with the aid of equipment or the use of a tool.

(2) The well is marked so it can clearly be seen.

(3) The area surrounding the well is kept clear of brush or debris.

(4) The pump shall be maintained in the well with an approved power supply, except for temporary removal for repair or replacement.

(C) On abandonment of a well, or on the order of the Health Officer, a well shall be destroyed under permit by methods described in Bulletin Nos. 74-81 and 74-90, or as subsequently revised or supplemented, which are incorporated by reference in this chapter with the following modifications.

(1) All open wells shall be immediately capped with a fixed cover until the well is properly destroyed.

(2) The well shall be completely sealed with acceptable sealing material from the true bottom of the well up to five (5) feet of the surface. The casing should be cut off five (5) feet below the surface, with the excavation backfilled by compacted native material.

(3) Acceptable sealing materials are 23 sack neat cement, 10 sack cement grout, or any other compound approved by the Health Officer.

(4) A tremie pipe or other method approved by the Health Officer shall be used to pump the sealing material into the well under pressure if the well is over 30 feet deep or more than three (3) feet of standing water is present in the well.

(5) Where there is potential for movement of contaminants between the outside of the well casing and the borehole, the Health Officer shall require perforation of the casing at certain depths, overdrilling, and/or other techniques which will seal the annular space outside the well casing as needed to prevent the migration of contaminants.

(6) For destruction of wells where groundwater quality problems are known to exist, the Health Officer may require that destruction be designed and supervised by a professional geologist, professional engineer, or other qualified person. The proposed method of destruction shall be subject to approval by the Health Officer prior to performance of the work.

(D) A well which has any defects which will allow the impairment of quality of water in the well or in the water-bearing formations penetrated shall be destroyed and may not be designated inactive. In areas where groundwater problems are known to exist, abandoned wells that penetrate and/or are perforated in two or more aquifers shall be destroyed and may not be designated inactive.

(E) To prevent the contamination of underground water supplies through open wells, no person shall knowingly permit the existence on premises in their ownership or possession or control of any well opening or entrance which is not sealed or secured in such a way as to prevent the introduction of contaminants.

(F) No person shall knowingly permit on premises in their ownership or possession or control the existence of any abandoned well that constitutes a known or probable pathway for the vertical movement of contaminants.

7.70.105 Soil Borings.

The Health Officer shall establish policies and procedures for installation and destruction of soil borings so that such soil borings do not create a conduit or preferential path for movement of contaminants into groundwater.

7.70.107 Stormwater Infiltration Devices.

The Health Officer shall establish policies and procedures for installation and destruction of stormwater infiltration devices so that such installations do not create a conduit or preferential path for movement of contaminants into groundwater.

7.70.110 Resource protection.

(A) Within the Pajaro groundwater protection zone, and in other areas where water contains constituents in excess of the applicable standards currently promulgated by the California Department of Health or where a monitoring agency or groundwater sustainability agency has determined that seawater intrusion is threatened, all wells shall be constructed in such a manner that the well does not provide a conduit for contamination or pollution between aquifers.

(1) In such areas, the Health Officer shall impose a requirement for new wells which penetrate more than one aquifer that an electric log device measuring spontaneous potential and resistivity be run in the uncased well borehole by a certified hydrologist, geohydrologist or other qualified person approved by the Health Officer. Based on the data obtained from the electric log and the geologic log of the well, the certified hydrologist, geohydrologist or other qualified person approved by the Health Officer shall identify strata containing poor water quality and recommend to the well driller the location and specifications of the seal or seals needed to prevent the entrance of poor-quality water or its migration into other aquifers.

(2) The well shall be completed with the seal or seals specified by the certified hydrologist, geohydrologist or other such qualified person approved by the Health Officer. The person performing and evaluating the electric log shall submit a written report to the Health Officer.

(B) Prior to completion of a well, a water sample shall be collected and tested for total dissolved solids, chloride, nitrate, and any other constituent which the Health Officer has reason to believe could be present in the well. The sample results shall be submitted to the Health Officer. If any constituent exceeds drinking water standards, the Health Officer shall require testing and sealing of the well pursuant to subsection (A) of this section. If standards for the proposed use cannot be met or the aquifer cannot be adequately protected from contamination or pollution, the Health Officer shall require that the well be destroyed. The Health Officer may require additional water quality testing upon completion of the well.

(C) Each application for a new, supplemental, or replacement well shall accurately specify the parcels proposed to be served, the type of land uses to be served, the estimated annual water use for non-de minimis wells, and the presence of any existing wells which also serve those uses. The Health Officer may require documentation to support the water use estimates provided.

(D) For new, supplemental, or replacement wells, the following measures will be taken to ensure that groundwater is put to beneficial use and is not wasted:

(1) A water use efficiency evaluation shall be completed, with recommendations for increased efficiency of use identified. The Health Officer shall require that all reasonable measures be implemented.

(2) In lieu of performing an efficiency evaluation as required by subsection (D)(1) of this section, the Owner may provide verification that conservation measures to achieve efficient interior and exterior water use have been taken.

(3) For new uses that will be developed after the well is completed, the Owner shall provide certification that conservation measures will be implemented as a part of the new use.

(4) Requirements for water efficiency evaluations and acceptable conservation measures shall be established by policy by the Health Officer. The Health Officer may specify maximum annual water use based on Tier and mitigation of potential impacts.

(5) For non-de minimis wells, a meter shall be installed and maintained to accurately measure water use and usage shall be reported annually to the Health Officer, according to procedures established by the Health Officer. The cost of meter installation, maintenance, and reporting shall be borne by the Owner. As a condition of the approval of a well with limitations on water use, the Owner shall enter into an agreement with the County of Santa Cruz acknowledging and accepting the requirements for limitations on water use. A notice of water use limitation shall be recorded by the Health Officer with the County Recorder's Office on the deed of the property with an approved well with limitations on water use.

(6) The Health Officer may require the Owner to provide information to confirm that the required conservation measures are being maintained. If such information is not provided or water usage is not being reported, the Health Officer may conduct an inspection to observe the meter and/or verify that water conservation measures are being maintained. Inspections shall be conducted at reasonable times and the inspector shall first make a reasonable effort to contact the Owner or occupant(s) of the premises. If the inspection requires the entry into a building or an area that is designed for privacy, then prior permission shall be obtained from the Owner or occupant(s). If permission is denied, then a site inspection warrant shall be obtained.

(7) If the usage information or the results of a site inspection show that the Owner is not in compliance with this chapter or with the requirements of the permit, the Health Officer shall require that corrective measures be taken.

(E) Each application for a new, supplemental, or replacement well shall be evaluated and specific measures may be required to ensure that the well will not have significant adverse impacts on groundwater sustainability, nearby wells, surface water, or the environment. The level of evaluation and required measures will depend on the Tier in which the well falls, based on the type of well, the location, and the aquifer characteristics. The Health Officer shall establish specific criteria and procedures for assigning the Tier and the extent of required evaluation and protective measures. Such criteria shall be adopted by the Board of Supervisors by resolution. The Health Officer may deny applications for Tier 4 wells that will have a significant adverse impact on groundwater sustainability, nearby wells, surface water, or the environment.

(1) Tier 1 will include de minimis wells and non-domestic wells using less than 2 acre-feet per year that do not require any discretionary review under other chapters of the SCCC and meet the minimum standards for preventing impacts on streams and nearby wells based on aquifer characteristics, well characteristics, depth of well seal, and location.

(2) Tier 2 will include supplemental and replacement non-de minimis wells with no significant increase in water use and meet the minimum standards for preventing impacts on streams and nearby wells based on aquifer characteristics, well characteristics, depth of well seal, and location.

(3) Tier 3 will include new non-de minimis wells serving new uses that will pump less than 50 acre-feet per year and wells that do not meet the Tier 1 or Tier 2 requirements. Tier 3 wells must also meet the minimum Tier 3 requirements for stream depletion and nearby well drawdowns.
(4) Tier 4 will include wells that do not meet the Tier 1, 2, or 3 requirements, are in a control zone, are in specified Tier 4 Groundwater Extraction Concern Areas, or are wells that could adversely affect the sustainability of a groundwater basin.

(F) A well permit shall not be approved for a well that poses a significant conflict with the implementation of a groundwater replenishment project or other project specified in an adopted groundwater sustainability plan as determined by the affected water district or groundwater sustainability agency.

(G) For non de minimis wells, if a well is proposed in a known karst area or if karst is encountered during the drilling process, further drilling shall be suspended, and the Health Officer shall evaluate whether a well can be completed without causing adverse impacts on groundwater resources, surface waters, or other water users. The Health Officer shall establish procedures for such evaluation and may require analysis at the expense of the applicant by a professional geologist familiar with occurrence and movement of water in karst landscapes. Recommendations may include procedures for destroying the borehole without adversely affecting subsurface conditions. For de minimis wells that are proposed in karst or that encounter karst, the Health Officer shall be notified prior to well completion, and additional protective measures may be required as determined by the Health Officer.

(H) Wells located in designated groundwater extraction concern areas will be subject to additional requirements to ensure reliability, adequate quality, and limited resource impact, as established by the Health Officer's policy. Approval of wells located in Tier 4 groundwater extraction concern areas shall be discretionary and may not be granted if resource impacts cannot be mitigated.

(I) If a groundwater sustainability agency has required metering or other conditions for an existing, new, replacement, or supplemental well, the Owner shall abide by those requirements. If the usage information or the results of a site inspection show that the Owner is not in compliance with those requirements, the Health Officer shall require that corrective measures be taken.

(J) New, supplemental, or replacement wells shall not be constructed within a designated control zone for a groundwater management project.

(K) A permit shall be required to change the use of a well when the change would: cause the well to no longer meet the definition of a de minimis well, as specified in Section 7.70.020(AA)(3); place the well in a different Tier, as specified in Section 7.770.110(E); or result in increased use beyond that specified in an approved well construction permit. Such permit would be processed according to provisions in Section 7.70.030.

7.70.120 Soquel Creek service area restrictions.

(A) Findings. The Board of Supervisors finds and determines that:
(1) Several reports have been prepared which indicate the potential for seawater intrusion into the Santa Cruz Mid-County Groundwater Basin; and

(2) There is need for careful monitoring and management of the groundwater basin; and
(3) Careful management is greatly facilitated by restricting the number of new wells and requiring that new development be supplied by Soquel Creek Water District, a public agency empowered to carry out monitoring and management efforts; and
(4) Construction of new wells within the water district service area increases the potential public health hazard of cross-connection between public and private water systems; and
(5) Current County General Plan policies require that new development within the urban services line be served by a public water system.

(B) Well Construction within the Soquel Creek Water District Service Area. The construction of new wells shall be prohibited on parcels that are within 200 feet horizontal of a water distribution line of the Soquel Creek Water District.

(C) New Well Construction—Exceptions. The following new well construction shall not be subject to the prohibition of this section:
(1) Replacement of existing wells;
(2) Construction of a well for commercial agricultural use, monitoring and observation purposes, geothermal heat exchange or cathodic protection;
(3) Well construction on parcels which cannot be served by the Soquel Creek Water District, as determined by the Environmental Health Director based on a written statement from the District clearly demonstrating their inability to provide service; or
(4) Construction of a well by any public water purveyor or state small water system.

7.70.130 Groundwater emergencies.

(A) A groundwater emergency shall be declared in areas demonstrated to be experiencing a groundwater overdraft exceeding the sustainable yield in order to prevent further depletion and degradation of water resources where such degradation threatens the public health, safety and welfare of the community, or the ability of a groundwater sustainability agency to meet its minimum thresholds, and where the Board of Supervisors finds that adequate measures are not already being taken to alleviate the overdraft situation. The emergency shall have no effect on drilling of monitoring, soil borings, geothermal heat exchange, or cathodic protection wells.

(B) Declaration. A declaration of a groundwater emergency shall be made by the Board of Supervisors only after a public hearing. Such an emergency shall be declared by resolution of the Board of Supervisors after the public hearing to consider all relevant information such as, but not limited to, the most current groundwater study, recommendations of groundwater sustainability agencies, water purveyors, and the Water Advisory Commission and only after the following findings can be made:
(1) The designated area is experiencing a groundwater overdraft exceeding the long-term sustainable yield;
(2) The creation of new wells or the expansion of existing wells will significantly increase the demand on the affected aquifer and thereby increase the overdraft;
(3) The continuation of the overdraft will result in further depletion and degradation of the water resource that can lead to, but is not limited to, impairment of the aquifer, allowing the ingress of low-quality or saline water, or other undesirable results; and
(4) Adequate measures are not being taken by water users and other responsible agencies to alleviate the overdraft situation.

(C) Immediate Measure to Alleviate. In areas where a groundwater emergency is declared, the Board of Supervisors shall take action to establish water conservation measures, to limit construction of new wells, and to regulate pumping from or expansion of existing wells, in order to prevent further depletion and degradation of the affected aquifer. In taking these actions, the Board of Supervisors shall give consideration to the seasonal needs of agriculture including, but not limited to, the following factors.

(1) Agriculture's need to repair, maintain, and replace existing wells serving existing agricultural use acreage;

(2) Well construction for agricultural use to serve existing agricultural acreage when new parcels are created due to change in legal ownership, split parcels or parcels created by change in zoning laws, or other governmental regulations; and

(3) The different water requirements of agricultural crops.

(D) Long-Term Measures to Alleviate. The Board of Supervisors shall initiate actions such as, but not limited to, joint power agreements with other agencies with the goal of finding permanent solutions to the groundwater problem.

(E) Duration. A groundwater emergency and the measures enacted to alleviate the emergency shall remain in effect until rescinded as established in subsection (G) of this section.

(F) Annual Review. The establishment of a groundwater emergency and all actions to alleviate the emergency shall be reviewed by the Board of Supervisors within one (1) year of the date of enactment of the measures at a public hearing to decide whether the declaration of emergency shall remain in effect.

(G) Rescinding. A groundwater emergency shall be rescinded by resolution of the Board of Supervisors after a public hearing when one of the following findings is made:

(1) Alternative water sources which compensate for the existing overdraft and supply the affected area are developed;

(2) A groundwater management program is implemented which will allow for additional development without contribution to groundwater overdraft; or

(3) The Board of Supervisors determines that new information is available which indicates that the technical data upon which the original findings were based is no longer valid.

7.70.140 Abatement—Investigation.

The Health Officer may, upon reasonable cause to believe that an abandoned well, a cathodic protection well, or any other well or soil boring that may potentially either contaminate or pollute groundwater, investigate the situation to determine whether such potential threat to groundwater quality or present nuisance does, in fact, exist. The Health Officer shall have the power upon presenting identification to any person apparently in control of the premises to enter upon any such premises between the hours of 8:00 a.m. and 6:00 p.m. to discover or inspect any thing or condition which may indicate such a nuisance or threat to groundwater quality. The Health Officer may examine such premises, things or conditions, take such samples and make such tests as needed, and take other steps reasonably necessary for the proper investigation and determination of whether a nuisance or threat to groundwater quality exists. The burden, including costs, of these activities, analyses, and reports shall be borne by the responsible party.

7.70.150 Abatement generally.

Whenever the Health Officer determines that an abandoned well, a cathodic protection well, or any other well or soil boring is presently polluting or contaminating groundwater, or poses a substantial threat to groundwater quality, or is otherwise not in compliance with the provisions of this chapter, the Health Officer shall abate the well as a nuisance in accordance with the provisions of SCCC 1.14.

7.70.160 Nuisance—Abatement of safety hazard.

This chapter shall not affect the right of the County to abate as a public nuisance pursuant to Article 9, Chapter 1, Division 1, Title 5, of the Government Code (commencing with Section 50230) any abandoned well, cathodic protection well, or other well or soil boring which presents a safety hazard.

7.70.170 Amendments.

Any revision to this chapter which applies to the Coastal Zone shall be reviewed by the Executive Director of the California Coastal Commission to determine whether it constitutes an amendment to the Local Coastal Program. When an ordinance revision constitutes an amendment to the Local Coastal Program, such revision shall be processed pursuant to the hearing and notification provisions of SCCC 13.03, and shall be subject to approval by the California Coastal Commission.

7.70.180 Violations.

(A) In the event of a violation of the provisions of this chapter or the conditions of any permit issued under this chapter, the Owner or permittee shall be given notice of such violation and a reasonable time to correct the violation.

(B) Whenever the Health Officer visits a property to ensure compliance with a permit condition or a notice to correct violation, and the condition or requirement is not satisfied or the violation has not been corrected, the Owner shall be subject to a violation reinspection fee, the amount to be established by resolution of the Board of Supervisors.

(C) Reimbursement of the costs of investigation and enforcement of a violation including any fines or fees related to the violation shall be borne by the responsible party.

7.70.190 Recording notices of violations.

Whenever the Health Officer has knowledge of a violation of any of the provisions of this chapter or any condition of a permit issued under this chapter, the Health Officer may provide a notice of intent to record a notice of violation to the Owner of the property on which the violation is located. Notice shall be provided by posting on the property and by mail at the address shown on the latest assessment roll or at any other address of the Owner known to the Health Officer. The notice shall state that within twenty (20) calendar days of the date of the notice, the Owner may request a meeting with the Health Officer to present evidence that a violation does not exist. In the event that a meeting is not requested and the violation has not been corrected, or, in the event that after consideration of the evidence the Health Officer determines that a code violation in fact exists, the Health Officer may record a notice of code violation in the Office of the County Recorder. At the request of any affected property owner, the Health Officer shall issue a notice of expungement of code violation upon correction of any violation

noticed hereunder. The notice of expungement may be recorded by the affected property owner at their expense. The decision of the Health Officer shall be final.

7.70.200 Promulgation of policies.

Any policy, specification, or procedure which the Health Officer is authorized by this chapter to adopt shall be in writing with copies made available to the public. Such policies, specifications, or procedures shall be made available to the public thirty (30) days before their implementation by the Health Officer.

SECTION II

The Board of Supervisors hereby finds and determines that, on the basis of the whole record before it, the amendments to SCCC Chapter 7.70 are exempt from consideration under the California Environmental Quality Act because they will result in improved protection of the environment (Class 8 categorical exemption, 14 Cal. Code Regs. §15308) and because it can be seen with certainty that there is no possibility the activity will have a significant effect on the environment (common-sense exemption, 14 Cal. Code Regs. §15061(b)(3)).

SECTION III

Should any section, clause, or provision of this Ordinance be declared by the courts to be invalid, the same shall not affect the validity of the Ordinance as a whole, or parts thereof, other than the part so declared to be invalid.

SECTION IV

This ordinance shall take effect on July 1, 2025, or upon certification by the State Coastal Commission whichever event occurs last.

PASSED AND ADOPTED this ____ day of _____, 2024, by the Board of Supervisors of the County of Santa Cruz by the following vote:

AYES: SUPERVISORS
NOES: SUPERVISORS
ABSENT: SUPERVISORS
ABSTAIN: SUPERVISORS

_____
Justin Cummings
Chairperson of the Board of Supervisors

Attest:_____
Juliette Rezzato
Clerk of the Board

Approved as to form:

DocuSigned by:

F0F6FD189D784BF...

Office of County Counsel

BEFORE THE BOARD OF SUPERVISORS
OF THE COUNTY OF SANTA CRUZ, STATE OF CALIFORNIA

ORDINANCE NO. ____

ORDINANCE AMENDING CHAPTER 7.73 OF THE SANTA CRUZ COUNTY CODE RELATING TO INDIVIDUAL WATER SYSTEMS

The Board of Supervisors of Santa Cruz County hereby finds and declares the following:

WHEREAS, Santa Cruz County Code (SCCC) Chapter 7.73, Individual Water Systems (SCCC 7.73), includes various policies for ensuring adequate water availability and water quality to support approved uses served by individual water systems, as also provided for in the Santa Cruz County General Plan and Local Coastal Program (LCP); and

WHEREAS, the State of California adopted Senate Bill 552, which amended the Water Code to require counties to take additional responsibilities to assist small water systems and individual well users respond to drought impacts; and

WHEREAS, the California Department of Fish and Wildlife has taken action to limit the diversion of stream water during the dry season in order to maintain adequate flow for fish; and

WHEREAS, State drinking water standards have evolved and there are a number of water quality constituents that may occur in Santa Cruz County that could make water unsafe for drinking; and

WHEREAS, amendments to SCCC 7.73 have been prepared in order to be consistent with the State policies and guidance; and

WHEREAS, the County's Environmental Coordinator has determined that the proposed amendments to SCCC 7.73 would improve protection of the environment and are exempt from further consideration under the California Environmental Quality Act (14 Cal. Code Regs. §§15308 and 15061(b)(3)) and a Notice of Exemption has been prepared; and

WHEREAS, the County of Santa Cruz Planning Commission held a public hearing on October 23, 2024, and adopted a resolution recommending that the Board of Supervisors adopt the proposed ordinance amending SCCC 7.73; and

WHEREAS, the Board of Supervisors of the County of Santa Cruz finds that the proposed amendments to SCCC 7.73 are consistent with all other provisions of the SCCC and the General Plan/LCP, and with State law;

NOW THEREFORE, the Board of Supervisors of the County of Santa Cruz ordains as follows:

SECTION I

Chapter 7.73 of the Santa Cruz County Code is hereby amended to read as follows:

Chapter 7.73
INDIVIDUAL WATER SYSTEMS

Sections:

7.73.010 Purpose of provisions.
7.73.020 Definitions.
7.73.030 Requirement for permit.
7.73.040 Application for permit.
7.73.050 Yield requirements.
7.73.060 Yield testing.
7.73.070 Quality requirements.
7.73.075 Water source evaluation upon transfer of property.
7.73.080 Amendments.

7.73.010 Purpose of provisions.

It is the purpose of this chapter to establish standards for safe and adequate water supplies for individual water systems and to ensure that such systems do not induce contamination of aquifers and therefore jeopardize the health, safety, and welfare of the people of Santa Cruz County. It is also the purpose of this chapter to implement policies of the County General Plan and Local Coastal Program Land Use Plan.

7.73.020 Definitions.

As used in this chapter:

(A) "Destroy" means the complete filling of the well, with impervious sealing materials to an appropriate level in accordance with procedures established by Department of Water Resources Bulletin No. 74-81, "Water Well Standards" (December 1981), the Department of Water Resources Bulletin No. 74-90, "Water Well Standards" (June 1991), and Chapter II of the Department of Water Resources Bulletin No. 74-1, "Cathodic Protection Well Standards" (March 1973), or as subsequently revised or supplemented, and Chapter 7.70 SCCC, in order to restore, as nearly as possible, those subsurface conditions which existed before the well was constructed.

(B) "Dwelling unit" means a structure for human habitation providing complete independent living facilities for one or more persons, including permanent provisions for living, sleeping, eating, cooking and sanitation, with the restrictions that only one kitchen or set of food preparation facilities is allowed in each dwelling unit and an interior stairway shall be provided between all stories. These restrictions shall not apply where an Accessory Dwelling Unit (ADU) or Junior Accessory Dwelling Unit (JADU) is

permitted pursuant to SCCC 13.10. ADUs and JADUs shall be considered as extensions of the primary dwelling unit.

(C) "Health officer" means the County Health Officer or authorized representative.

(D) "Horizontal well" means a well drilled approximately horizontally into a water-bearing stratum as contrasted with a common vertical well, and from which water issues without the aid of a pump.

(E) "Individual water system" means any combination of water sources, storage facilities and related appurtenances which provides domestic water service to:

(1) A single parcel under one ownership with not more than four dwelling units or other permitted land uses on the parcel;

(2) Up to four parcels, if:

(a) All parcels served are either contiguous with one another or are contiguous with the parcel on which the water source is located; provided, that public or private rights-of-way shall not be taken into consideration in determining contiguity; and

(b) The water source(s) is located on one of the parcels served; and

(c) Each parcel owner has not less than a one-quarter interest in the water system (source, facilities and appurtenances) and a sufficient legal interest in the land upon which it is located to guarantee access thereto and a right to the use thereof; and

(d) All of the parcels taken together have a total of no more than four primary dwelling units or other permitted land uses existing on them.

(3) A permitted land use that includes the provision of water to members of the public and/or employees but does not regularly serve more than an average of twenty-five (25) individuals daily for more than sixty (60) days out of the year.

(F) "Permit" means the written permission of the Health Officer or authorized representative to utilize water from, or otherwise participate in, an individual water system.

(G) "Spring" means a place where water issues from a rock or soil strata onto the land.

(H) "Well" means any artificial excavation constructed by any method for the purpose of extracting water from underground.

7.73.030 Requirement for permit.

No parcel which is or shall be dependent in whole or in part upon an individual water system for its water supply shall be developed for human habitation until an individual water system permit is granted by the Health Officer. No land use which is or shall be dependent in whole or in part upon an individual water system for its water supply shall be approved until an individual water system permit is granted by the Health Officer.

7.73.040 Application for permit.

(A) An application for an individual water system permit shall be made to the Health Officer on forms provided for that purpose and each such application shall be accompanied by a filing fee set by resolution of the Board of Supervisors. No part of the fee shall be refundable.

(B) Whenever an applicant seeks a permit for an individual water system which is to supply water to other properties in addition to the applicant's, the applicant must submit a copy of a recorded deed showing not less than one-quarter individual interest in the water source, storage and transmission facilities, and the land upon which the system is situated. The applicant must also identify the holders of the remaining interests in the water system, and comply with the requirements of SCCC 7.73.050, 7.73.060 and 7.73.070.

(C) Within ten (10) business days after receipt of a completed application, the Health Officer shall either grant, conditionally grant, or deny the permit. A permit shall be granted if the applicant has complied with all the provisions of this section and if those conditions specified in SCCC 7.73.050, 7.73.060 and 7.73.070 are satisfied.

7.73.050 Yield requirements.

No permit shall be issued unless and until the following water source requirements are established as prescribed in SCCC 7.73.060:

(A) November Through July. For each connection to a well water source, a minimum of three gallons per minute of yield must be sustained during a 24-hour period of continuous pumping, or until 4,320 gallons have been achieved during a time period of 24 hours or less of continuous pumping.

(B) August Through October. For each connection to a well water source, a minimum of two gallons per minute of yield must be sustained during a 24-hour period of continuous pumping, or until 2,880 gallons have been achieved during a time period of 24 hours or less of continuous pumping.

(C) For water systems serving new or expanded uses other than a residential dwelling unit, the applicant shall estimate the proposed water use and shall demonstrate that the water source can reliably and sustainably supply that amount of water and meet the requirements to protect resources as specified in SCCC 7.70.110. Such estimates and demonstration of water availability and compliance with SCCC 7.70.110 must be approved by the Health Officer. The Health Officer may develop policies for the demonstration of adequate non-residential supply.

(D) Limited Yield Areas. In areas where groundwater yield is known or expected to be limited, as determined by the Health Officer, more extensive yield testing will be required, which may include longer duration testing and monitoring of groundwater levels in the source well and nearby wells. Yield testing will also be required to demonstrate that yield requirements are met prior to approval of accessory dwelling units in Limited Yield areas. Limited Yield areas are those areas where underlying geologic conditions are limiting the storage and transmittal of groundwater, particularly where rock is impermeable, and water only occurs in fractures.

(E) Spring or Horizontal Well.

(1) For each connection to a spring or horizontal well, a continuous yield of at least one gallon per minute during the dry season (August through October). The yield requirements of this subsection may not be satisfied by tests conducted during the months of November through July.

(2) Notwithstanding the provisions of subsection (E)(1) of this section, the Board of Supervisors may, upon finding of drought or other unusual weather conditions of limited duration, extend or redefine by resolution the period of time defined in subsection (E)(1) of this section as the "dry

season" for purposes of undertaking the required testing to establish compliance with the yield requirements of this subsection. Any resolution adopted pursuant to this subsection shall be resubmitted to the Board of Supervisors for consideration of whether or not it should continue to be in effect on or before the first meeting of the calendar year which follows the calendar year in which the resolution was first adopted.

(F) Streams. Due to water quality concerns and limited availability of available flow during dry periods, streams shall not be permitted as a new source of domestic water supply.

(G) Existing Permit—Yield Retesting. The applicant for a building permit for a dwelling unit or other expanded use proposed for connection to a previously permitted individual water system shall submit a new certified yield test for any water source which is a component of that system in the event that two (2) years or more have elapsed since the last certified test of that water source or sources. The yield test must demonstrate that the source or combination of sources meet the present yield requirements for the existing and proposed connection to the individual water system. A bacteriological analysis shall be performed in accordance with the requirements of SCCC 7.73.070(A). A chemical analysis may be required by the Health Officer under the requirements of SCCC 7.73.070(B).

7.73.060 Yield testing.

Compliance with the standards set forth in SCCC 7.73.050 shall be established by well pumping tests to be performed by a California-licensed well driller, pumping contractor maintaining a C-61 license with a D-21 classification, registered engineer, registered geologist, certified hydrogeologist, or registered environmental health specialist, according to the standards and procedures established by the Health Officer. Water yield reports shall be reported and certified on forms provided by the Environmental Health Service.

7.73.070 Quality requirements.

No permit shall be issued until required reports of bacteriological analysis and chemical analysis performed by a laboratory approved by the Health Officer are submitted to the Health Officer, and the Health Officer determines that water produced by the system is fit for human consumption, according to standards established by the California State Water Resources Control Board. The Health Officer shall require that the water sample(s) be obtained by the approved laboratory or an independent third party acceptable to the Health Officer.

(A) Bacteriological Analysis. Bacteriological analysis shall be performed by a laboratory approved by the Health Officer. The analysis shall be for total coliform organisms by the methods as prescribed by the latest edition of the Standard Methods for the Examination of Water and Wastewater, American Public Health Association.

(B) Chemical Analysis. Chemical analysis must conform to the specifications of the California Drinking Water Standards Test as set forth in Article 4, Chapter 15, Division 4 of Title 22 of the California Code of Regulations for inorganic (chemical) analyses and shall be performed by a laboratory approved by the Health Officer. Such analysis shall be as prescribed by the latest edition of the Standard Methods for the Examination of Water and Wastewater, American Public Health Association. More extensive analysis may be required on a case-by-case basis if the Health Officer determines that the quality of the water may not be safe for domestic use because of evidence of contamination of groundwater in the area or

because of past or present land use related or potentially related to the use or disposal of hazardous materials.

(C) Sealing or Destruction of Substandard Wells. All new wells found to be of unsuitable quality according to standards established by the California State Water Resources Control Board shall be sealed or destroyed as prescribed in the Department of Water Resources Bulletin No. 74-81, or as subsequently revised or supplemented, unless mitigating measures can be found to make the water potable and to assure that the groundwater supply is protected, as determined by the County Health Officer.

(D) Deviation or Treatment. Deviations exceeding any of the maximum contaminant levels for secondary (aesthetics) chemicals may be allowed, in the discretion of the Health Officer, if adequate chemical treatment is provided, or if the owners of each parcel served by the well sign a waiver stating that they do not object to the exceedance. Individual water systems which fail primary or secondary drinking water standards as set forth in Chapter 15, Division 4 of Title 22 of the California Code of Regulations, as may be amended from time to time, may choose to treat the supply at the source. In lieu of a source treatment facility, an individual water system may choose to install a Point of Use (POU) or Point of Entry (POE) treatment device at each connection, subject to approval by the Health Officer.

(E) Notification Requirement. A notice of nonstandard water quality shall be recorded by the Health Officer with the County Recorder's Office on the deed of any property served by a water source that does not meet water quality standards for drinking water according to standards established by the California State Water Resources Control Board. The Notice shall include:

(1) The date(s) the well was tested and the identity and amount of the constituent(s) found that did not meet standards.

(2) The type of treatment device(s) installed to reduce the constituent to a level that meets standards.

(3) Statement of the operating requirements to ensure proper performance of the treatment system such as: use of water conservation measures, disposal of byproducts, maintenance of a contract for servicing of the treatment system, and other maintenance requirements.

(4) Specification of any restriction on system use or property use, such as limitations on amount of water used, wastewater generated, and restrictions on building additions.

(5) Notification that County staff may conduct routine inspections of the system, as necessitated by the increased likelihood that the treatment system might fail.

7.73.075 Water source evaluation upon transfer of property.

(A) Evaluation Prior to Sale of Property. Prior to selling a property that is served by an individual water system, a property owner shall cause the water quality of the water source to be tested pursuant to the requirements of Section 7.73.070 and the yield of the source to be tested pursuant to the requirements of Section 7.73.060. The results of water quality testing and yield testing shall be provided to prospective buyers and the Environmental Health Division. Tests must have been completed within three (3) years prior to the date of transfer.

(B) Water Treatment Systems. If the property is served by a water treatment system or if a notice of nonstandard water quality has been recorded for the property, the seller is required to disclose any active annual service agreements, contact information of the current service provider, and the associated annual county and service provider fees.

(C) Enforcement. Failure to comply with any of the provisions of this section will be considered a violation of this chapter and subject the violator to any and all enforcement remedies provided by the SCCC.

7.73.080 Amendments.

Any revision of this chapter which applies to the Coastal Zone shall be reviewed by the Executive Director of the California Coastal Commission to determine whether it constitutes an amendment to the Local Coastal Program. When a revision constitutes an amendment to the Local Coastal Program such revision shall be processed pursuant to the hearing and notification provisions of SCCC 13.03 and shall be subject to approval by the California Coastal Commission.

SECTION II

The Board of Supervisors hereby finds and determines that, on the basis of the whole record before it, the amendments to SCCC Chapter 7.73 are exempt from consideration under the California Environmental Quality Act because they will result in improved protection of the environment (Class 8 categorical exemption, 14 Cal. Code Regs. §15308) and because it can be seen with certainty that there is no possibility the activity will have a significant effect on the environment (common-sense exemption, 14 Cal. Code Regs. §15061(b)(3)).

SECTION III

Should any section, clause, or provision of this Ordinance be declared by the courts to be invalid, the same shall not affect the validity of the Ordinance as a whole, or parts thereof, other than the part so declared to be invalid.

SECTION IV

This ordinance shall take effect on July 1, 2025, or upon certification by the State Coastal Commission whichever event occurs last.

PASSED AND ADOPTED this ____ day of _____, 2024, by the Board of Supervisors of the County of Santa Cruz by the following vote:

AYES: SUPERVISORS
NOES: SUPERVISORS
ABSENT: SUPERVISORS
ABSTAIN: SUPERVISORS

_____
Justin Cumings
Chairperson of the Board of Supervisors

Attest:_____
Juliette Rezzato
Clerk of the Board

Approved as to form:

DocuSigned by:
_____
F0F6FD189D784BF...
Office of County Counsel

Resource Protection Policy
for Evaluation of Well Applications to Minimize Resource Impacts

This policy specifies the level of review of proposed well applications and requirements to minimize potential impacts on water resources, public trust resources, and other wells; (SCCC 7.70.110 (C-G)), and coastal, biotic and cultural resources (SCCC 7.70.030(C)). This policy addresses the following issues:

- Water use efficiency measures to prevent waste and minimize overdraft;
- Influence on groundwater levels and production of nearby wells;
- Influence on surface water and public trust resources;
- Evaluation of wells that encounter karst;
- Consistency with groundwater sustainability plans;
- Applicability of environmental and coastal review and assessment of biotic and cultural resources;
- Metering and reporting for non-de minimis wells; and
- Additional requirements in groundwater extraction concern areas.

1. Definitions:

(1) "Community Well" means a water well used to supply water for domestic purposes in public water systems or state small water systems as defined in Section 116275 of the Health and Safety Code.
(2) "De Minimis Well" means a water well used to supply water for domestic needs of up to four individual primary residences using a total of less than 2 acre-feet per year. An approved accessory dwelling unit is not considered a separate primary residence for this purpose. De minimis domestic use may include up to one half acre of non-commercial residential irrigated landscaping and gardening per primary unit.
(3) "Groundwater Extraction Concern Area" means an area designated by the Health Officer where groundwater availability is limited due to inadequate supply or poor quality, or where construction of additional wells may cause significant adverse impacts on groundwater levels, surface water flow, or seawater intrusion. These areas are shown in the County's Geographic Information System.
(4) "Impermeable Layer" means a material layer that limits the downward movement of groundwater and will be identified based on information on local geology or nearby well logs, and will be confirmed by the well log of the newly installed well.
(5) "New Well" means a well that will serve a new or expanded use, which represents a significant increase in extraction of groundwater.
(6) "Non-De Minimis Well" means a well that is not a de minimis well: it serves a non-domestic use, or serves more than 4 separate primary dwelling units.
(7) "Replacement Well" means a well that will serve an existing use or change of use with no significant increase in water use as defined below and will replace an existing water source such as a spring or a well that is to be destroyed.
(8) "Significant Increase in Water Use" means a new use or change of use in the area served by the well that will result in an increase in the maximum annual amount of water extracted in the past 5 years.
(9) "Stream" means a perennial stream fed by groundwater. Streams are those that are mapped as perennial streams as shown on a USGS map, the County Geographic Information System (GIS), or that are identified in the field. Required setbacks from streams shall be measured horizontally from the mean rainy season flowline. These standards shall apply to wells near streams or reaches of streams that are hydraulically connected to groundwater more than 5% of the time. (This does not include lower Valencia

Creek, lower Corralitos Creek, upper East Soquel Creel, and Rider Creek. Specific reach designations and other exempt streams may be added.)
(10) "Supplemental Well" means a well that that will support an existing use, including a change of use, with no significant increase in total water use as described above. The existing source could be a shared well or other well that will be maintained as a backup source.
(11) "Tier" means the type of well application and the level of review and conditions that will be needed for approval based on the proposed volume of pumping, type of water use, proposed increase in water use, the aquifer characteristics and the potential for impact on streams, nearby wells, groundwater sustainability, and/or the environment. Each application for a new, supplemental, or replacement well shall be evaluated and specific measures may be required as a condition of approval to ensure that the well will not have significant adverse impacts on groundwater sustainability, nearby wells, surface water, or the environment. The level of evaluation and required measures will depend on the Tier in which the well falls, based on the type of well, the location, and the aquifer characteristics. The Health Officer shall establish specific criteria and procedures for assigning the Tier and the extent of required evaluation and protective measures. Such criteria shall be adopted by the Board of Supervisors by resolution. The Health Officer may deny applications for Tier 4 wells that will have a significant adverse impact on groundwater sustainability, nearby wells, surface water, or the environment.

(a) Tier 1 will include de minimis wells and non-domestic wells using less than 2 acre-feet per year that do not require any discretionary review under other chapters of the SCCC and meet the minimum standards for preventing impacts on streams and nearby wells based on aquifer characteristics, well characteristics, depth of well seal, and location.
(b) Tier 2 will include supplemental and replacement non-de minimis wells with no significant increase in water use that meet the minimum standards for preventing impacts on streams and nearby wells based on aquifer characteristics, well characteristics, depth of well seal, and location.
(c) Tier 3 will include new non-de minimis wells serving new uses that will pump less than 50 acre-feet per year and wells originally considered Tier 1 or Tier 2 wells that are unable to meet those requirements. Tier 3 wells must also meet the minimum Tier 3 requirements for stream depletion and nearby well drawdowns as described below.
(d) Tier 4 will include wells that do not meet the Tier 1, 2, or 3 requirements, are in a seawater intrusion area (non-de minimis), or are wells that could adversely affect the sustainability of a groundwater basin.

2. Requirements for Minimizing Impacts on Stream, Public Trust Resources, Groundwater Dependent Ecosystems, and Groundwater Sustainability

No well will be approved in the Pure Water Soquel Control Zones or Aquifer Storage and Recovery (ASR) Control Zone, or other designated control zone, unless it can be shown that the well will not impact or be impacted by the injection and/or extraction program.

Tier 1: (New and replacement de minimis wells, non-domestic wells using less than 2 acre-feet per year)

- All wells located within 1000 ft of perennial stream as mapped on a USGS map, County GIS or as identified in the field shall meet the following standards for minimizing impact on streamflow unless that stream is designated as exempt by the Health Officer.

    - Wells shall be located a minimum of 50 ft from the streambank, outside riparian woodland, and outside the 100 year floodplain, whichever distance is greater. If a 50 ft setback cannot be attained due to the size of the property, steep slopes, setbacks from onsite wastewater treatment systems, or other factors, the setback shall be the maximum attainable and shall not be less than the existing well if the proposed well is a replacement or supplemental well.
    - The minimum depth of the well seal shall be 100 ft or into first Impermeable Layer, whichever is less.
    - No well shall be completed in alluvium deposited into a known and definite channel with a direct hydraulic connection to surface water.
- Additional measures, as outlined in the *'Groundwater Extraction Concern Table'* below*,* may be required for proposed Tier 1 wells located within a designated groundwater extraction concern area.

Tier 2 (Replacement/supplemental non-de minimis wells, with no increase in water use)

- All wells located within 2000 ft of perennial stream as mapped on a USGS map, County GIS or as identified in the field shall meet the following standards for minimizing impact on streamflow unless that stream is designated as exempt by the Health Officer.
    - Wells shall be located a minimum of 100 ft from the streambank, outside riparian woodland, and outside the 100 year floodplain, whichever is greater. If a 100ft setback cannot be attained due to the size of the property, steep slopes, setbacks from onsite wastewater treatment systems, or other factors, the setback shall be the maximum attainable and shall not be less than the existing well.
    - The minimum depth of the well seal shall be 200 ft or into first Impermeable Layer, whichever is less.
    - No well shall be completed in alluvium deposited into a known and definite channel with a direct hydraulic connection to surface water.
- Replacement or supplemental wells in the Pajaro Groundwater Protection Zone that are proposed to draw from a deeper formation than the existing well and that may threaten basin sustainability as determined by the Pajaro Valley Water Management Agency may be treated as Tier 3 or 4 wells and require more extensive evaluation.
- Additional measures, as outlined in the *'Groundwater Extraction Concern Table'* below*,* may be required for proposed Tier 2 wells located within a designated groundwater extraction concern area.

Tier 3 (Wells that do not meet Tier 1 or 2 requirements and new non-de minimis wells that will not pump more than 50 acre-feet per year or more than a daily average of 100 gallons per minute and are consistent with local Groundwater Sustainability Plans):

- All wells located within 2000 ft of perennial stream as mapped on a USGS map or as identified in the field shall meet the following standards for minimizing impact on streamflow unless that stream is designated as exempt by the Health Officer.
    - The minimum depth of the well seal shall be 200 ft or into first Impermeable Layer, whichever is less.
    - The well shall be located and designed so that a calculation of projected streamflow depletion shall not cause exceeding the allowable additional cumulative depletion percentage of the 10th

percentile dry season flow in an affected fish-bearing stream after 10 years of pumping, as calculated by Environmental Health staff based on well characteristics, water usage, aquifer characteristics using the most appropriate streamflow depletion model (e.g. Reeves, 2008; Hunt, 1999 ; Hunt, 2003, Li et. al. 2022, Bakker 2013). 10th percentile dry season flow shall be the observed flow, if available, or the calculated natural flow as indicated in the most recent version of the California Unimpaired Flow Database (Zimmerman, et.al, 2023). Environmental Health staff will utilize the Critical Stream Table and will develop additional resource and streamflow information for the specific location of the proposed well as needed.

- Consideration will be given for mitigating flow depletion impacts through increased groundwater recharge, use of summer storage, limitations on water use, or other methods of reducing impact on flow or associated public trust resources.

- Additional measures, as outlined in the *'Groundwater Extraction Concern Table'* below*,* may be required for proposed Tier 3 wells located within a designated groundwater extraction concern area.

Tier 4 (Wells that do not meet Tier 1, 2, or 3 requirements, are in a seawater intrusion area (excluding de minimis wells), are wells that could adversely affect the sustainability of a groundwater basin, or are new Public Water System wells serving 200 or more connections):

- An analysis of the projected impacts on groundwater levels, streamflow, and groundwater dependent ecosystems in the groundwater basin and watershed where the well will be located shall be conducted by a certified hydrogeologist or other approved licensed/certified professional with demonstrated competency, taking into account specific aquifer characteristics, well characteristics, cumulative impacts of existing groundwater and surface water withdrawals, the presence and lifecycle needs of protected species in affected surface waters, and the potential impact on public trust resources.
- Consideration will be given for mitigating flow depletion impacts through increased groundwater recharge, use of summer storage, limitations on water use, or other methods of reducing impact on flow or associated public trust resources.
- This analysis will be required for any proposed Tier 4 well located within a half mile of a stream that is not exempt, in a designated Tier 4 seawater intrusion area, or anywhere within the watershed of a critical Level 1 stream (e.g., Scott Creek, San Vicente Creek, Laguna Creek, Bean Creek, Zayante Creek, East Branch Soquel Creek). Critical Streams are indicated in the critical stream table and additional streams may be added as additional information on habitat value and/or extent impairment becomes available.
- This analysis will also be required for any Tier 4 well located within or near a groundwater basin where the Groundwater Sustainability Agency has determined that the well may threaten achieving groundwater sustainability pursuant to the Groundwater Sustainability Plan.
- Tier 4 wells are subject to discretionary review and evaluation under the California Environmental Quality Act (CEQA).
- Specific construction and/or operating measures may be required as a condition of approval and the application may be denied if the project would result in significant adverse impacts on groundwater resources, control zones, surface water, and/or public trust resources.

3. Critical Streams:

Allowable Additional Cumulative Flow Depletion				
Current Depletion	**>20%**	**10-20%**	**5-10%**	**<=5%**
Resource Value				
Coho Core-1	1%	1%	5%	10%
Coho Recovery-2	1%	5%	5%	10%
Steelhead high intrinsic=3	1%	5%	5%	10%
Steelhead/Other Fish-4	1%	5%	10%	15%

Stream	Resource Value	All years 10th Percentile Dry Season Unimpaired Flow - NFD	Local Estimates of Dry Seaon Unimpaired Flow	All Years 10th Percentile Dry Seas. Observed Flow	Data Sources Observed Flow, Local Estimates	Current Estimated Depletion	Data Sources Estimated Depletion	Allowed Additional Depletion *	Allowed Depletion cfs*
Lower Soquel @USGS	2	2.44		0.84	A	65%	B,G,H,G	1%	0.008
E. Branch Soquel @ W. Branch	1	1.23	0.25	0.1	B,D,E,G	60%	B,D,E,G	1%	0.001
W. Branch Soquel @ E. Branch	2	0.63	0.95	0.81	B,D,E,F	15%	B,D,E,F	5%	0.041
Moore's Gulch	4	0.05	0.2	0.15	E,F	17%	E,I	5%	0.008
Other Soquel Tribs	4					10-20%	E	5%	
Aptos ab Valencia	2	0.46	0.7	0.66	D,E,G	<=5%	D,E	10%	0.046
Valencia	4	0.11		0.02	D,E,G	82%	D,E	1%	0.001
Upper Corraltios	4	0.63		0.3	D, E	50%	D,E	1%	0.006
Browns Valley Cr.	4	0.22		0.2	D, E	>20%	D,E	1%	0.002
SLR @ Big Trees (Felton, mainstem)	2	15.2		12	A,C,G,H	30%	C,D,E,G,H	1%	0.120
Branciforte	2	0.34	0.66	0.5	C,D,E,F	25%	C,D,E	1%	0.003
Bean	1	0.5	2.8	2.3	C,D,F,G	21%	C,F,G,H	1%	0.023
Zayente ab Bean	1	1.19	1.65	1.53	A,D,E,G,H	5-10%	C,D,E,G	5%	0.077
Bear	2	1.12	0.66	0.63	C,D,E,F	<=5%	C,D,E	10%	0.063
Kings	2	0.58	0.25	0.2	A,C,E,F	<=5%	C,E	10%	0.058
Boulder Creek	3	0.89	1.4	1.1	A,C,D,E,F	25%	C,D,E	1%	0.011
SLR Other Tribs	4				C,E	5-10%	C,E	10%	
Laguna	1	0.5	1.1	0.9	A,E,G	>10%	E,F,G	1%	0.009
Majors	2	0.22	0.9	0.71	A,E,G	>10%	E,F,G	5%	0.036
San Vicente	1	0.85			A	>10%	E	1%	0.009
Scott	1	1.99			A	>10%	E	1%	0.020
Other County Streams	4				E	5-10%	E	10%	

Notes:

* Allowed depletion for Tiers 1-3. Additional Analysis would be required for Tier 4.

Data Sources (See Notes for more information)

A-California Natural Flows Database

B-RCDSCC-TU surface diversion info

C- San lorenzo River Watershed Plan

D-JSSH September Flow Summary-cbec

E - Judgement and observations

F-Flow Measurements

G-Gage data, current

H-Numerical Basin Model

I - Calculated Water Budget

Proposed Level of Review and Mitigation Required for Various Types of Well permit Applications					
Tier	**Criteria**	**Average Number of Permits/year**	**CEQA Review Required?***	**Connected Stream Setback**	**Nearby Well Setback**
Tier 1	De Minimis, domestic < 5 connections; Non-de minimis <2 AFY	44	Ministerial	>50 ft and 100 ft deep seal within 1000 ft of stream**	>50 ft
Tier 2	Non-De minimis Replace/Supplemental	11	Ministerial	>100 ft or not less than existing, and 200 ft deep seal within 2000 ft of stream**	>50 ft, or not less than existing
	Public Water system replace/supplemental	1			
Tier 3	New Non-De minimis wells that are consistent with GSPs, meet Tier 3 calculated setbacks, and will pump less than 50 afy/100gpm	1	Ministerial	If within 2000 ft of stream, Using depletion model, 10th percentile dry season flow shall not be reduced by more than allowed % after 10 years of pumping ***	Calculated minimum setback so that drawdown at nearby well is less than 5 feet****
	Wells that do not meet Tier 1 or 2 minimum setbacks, but do meet Tier 3 calculated setbacks	?			
Tier 4	Wells that do not meet Tier 1,2,or 3 requirements; or located in a control zone or Tier 4 gw concern area	?	Yes	Analysis, including cumulative effect on streamflow in overall basin	Analysis and mitigation
	New Public Water System Serves > 199 connections	<1			

Notes:	
*	Well permit is discretionary if other discretionary permits are requried by other sections of County Code.
**	Deep Seal is specified depth or first impermeable layer, whichever is less.
***	Allowed depletion is function of stream value and current impairment, as shown in Critical Stream Table
****	Use modified Theis Non-Equilibium Equation (Cooper-Jacob), with proposed well parameters and regional aquifer properties. Calculated drawdown at proposed distance of nearby well should not exceed 5 foot after 60 days of pumping.
Water use efficiency measures are required for all wells; metering and reporting is required for all non-de minimis wells; other mitigation measures may be required.	

4. Minimizing Impact on Nearby Wells

- Tier 1 and 2: The minimum setback from existing wells shall be 50 ft. If this cannot be met, the setback shall not be less than the setback of the existing well to be replaced. Minimum setbacks will not be required for wells located on the same parcel or an adjacent parcel owned by the same owner.
- Tier 3: The minimum setback to a nearby well shall be calculated using the modified Theis Non-Equilibrium Equation (Cooper-Jacob), with proposed well parameters and regional aquifer properties. Calculated drawdown at the proposed distance of nearby well shall not exceed 5 feet after 180 days of pumping.
- Tier 4: A geohydrologic analysis shall be required for Tier 4 wells that will evaluate the projected effect on nearby wells and shall demonstrate that the new well will not cause significant and unreasonable impacts on nearby wells. If projected impacts are found to be significant and unreasonable, the well applicant must implement a monitoring plan with possible mitigation measures to address observed impacts.

5. Karst Areas

- For non-de minimis wells, if a well is proposed in a known karst area or if karst is encountered during the drilling process, further drilling shall be suspended, and the Health Officer shall evaluate whether a well can be completed without causing adverse impacts on groundwater resources, surface waters, or other water users. The Health Officer may require analysis at the expense of the applicant by a professional geologist familiar with the occurrence and movement of water in karst landscapes. The analysis shall take into account the potential effect of the proposed well on nearby wells, springs, and streams in terms of flow, water temperature, and water quality. Recommendations may include depth of casing, perforations and seal, or procedures for destroying the borehole without adversely affecting subsurface conditions.
- For de minimis wells that are proposed in karst or that may encounter karst, the Health Office shall be notified prior to completion, and additional protective measures may be required.
- Known karst areas and outcrops of marble or limestone are shown on the map of Groundwater Extraction Concern Areas, but other unmapped areas of karst may be encountered during drilling, particularly within mapped metasedimentary formations.

6. Compliance with California Environmental Quality Act and Protection of Coastal, Biotic and Cultural Resources

Tier 1, 2, and 3 wells that meet the requirements for those tiers may be approved ministerially. unless the issuance of the well permit requires one or more discretionary approvals pursuant to SCCC Chapter 13.20, 16.20, 16.30, 16.32, 16.40, or 16.42. Tier 4 wells are subject to discretionary review and evaluation under the California Environmental Quality Act (CEQA), pursuant to state and local environmental review guidelines.

Wells within the Coastal Zone require a coastal development permit (CDP) and are subject to evaluation under CEQA unless they qualify for an exemption, exclusion, or de minimis waiver under SCCC Chapter 13.20:

1. The following wells are exempt from coastal permit requirements: Replacement well on Park land (SCCC 13.20.064) or serving an existing single-family dwelling (including ADU) or other existing legal structure where there will be no increase or expansion of the use and where the well or access road will not encroach into a sensitive biotic habitat.
2. A well can qualify for a coastal exclusion under the following circumstances:
    a. The well is for agriculture on lands designated for agriculture on a parcel greater than 10 acres, the well location is greater than 100 feet from a stream or waterbody, and is not between the coast and the first public through road paralleling the coast (typically Hwy 1, or San Andreas Rd)
    b. The well will serve a proposed single-family dwelling (including ADU) and is not located in a sensitive habitat, urban services line, rural services line, appealable area, or in an area subject to saltwater intrusion or groundwater emergency.
    c. If a well meets the above requirements, a notice of coastal exclusion must be completed and sent to the Coastal Commission. These forms must be completed by staff in the Community Development and Infrastructure Department (CDI).
3. In some cases, the CDI Director may waive the requirement for a CDP through a de minimis CDP waiver in compliance with a written determination that the well meets all of the criteria and procedural requirements set forth in SCCC 13.20.051.
4. In all other cases, the well is subject to Coastal Development Permit Requirements, and the applicant must submit their permit application to CDI. In some cases, an emergency coastal permit may be obtained, but the applicant will still need to go through the process to obtain a CDP.

When a well application is submitted, County staff will assess the presence and potential impact on mapped resources, including, sensitive habitat (SCCC Chapter 16.32), riparian corridors (SCCC Chapter 16.30), native American cultural sites (SCCC Chapter 16.40), and historic resources (SCCC Chapter 16.42). Where the proposed well location may impact any of those resources, further analysis, additional requirements, and/or discretionary review may be required prior to well permit approval. Any site disturbance required for the well construction must be in compliance with the County Grading ordinance (SCCC Chapter 16.20), and as such may require further discretionary review and permitting.

7. Metering and Reporting

- For all newly installed non-de minimis wells that are not already required by a GSA to install a meter and report to them, a meter shall be installed to measure water use and usage shall be reported annually to the Health Officer, according to procedures established by the Health Officer. The cost of meter installation and reporting shall be borne by the well owner(s).
- The Health Officer may require the property owner to provide information to confirm that any required water use efficiency measures are being maintained. If such information is not provided or water usage is not being reported, the Health Officer may conduct an inspection to observe the meter and/or verify that /water use efficiency measures are being maintained. Inspections shall be conducted at reasonable times and the inspector shall first make a reasonable effort to contact the owner or occupant of the premises. If the inspection requires the entry into a building or an area that is designed for privacy, then prior permission shall be obtained from the owner or occupant. If permission is denied, then an inspection warrant shall be obtained by County staff.

If the usage information or the results of a site inspection show that the well owner is not in compliance with Chapter 7.70 or with the requirements of the permit, the Health Officer shall require that corrective measures be taken.

8. Water Use Efficiency

SCCC 7.70.110(D) requires that as a condition of approval of a well permit, it is demonstrated that groundwater will be put to beneficial use and will not be wasted. To that end, each non-de minimis well permit application shall be accompanied by supplemental water use efficiency information as specified by the Health Officer. De minimis users are required to complete a water efficiency checklist and ensure that irrigated areas do not exceed 0.5 acre. The checklist requires that a water efficiency evaluation be performed, with reasonable recommendations for improved efficiency implemented. Following are the elements to be addressed in the water use efficiency audit.

Water Use Efficiency Audit for Non-Agricultural Uses

- Measure showerhead flow rates and install low flow showerheads, if needed.
- Measure faucet flow rates and install faucet aerators for kitchens and bathrooms, if needed.
- Check toilet for leaks and install tank displacement devices or retrofit, if needed.
- Evaluate the efficiency of the irrigation system.
- Identify and correct irrigation leaks, broken or mismatched sprinkler heads, high pressure, and other common problems.
- Evaluate any other water uses in the home or business for efficiency.
- Institute measures for dispersal and infiltration of stormwater where feasible, ensuring slope stability is not compromised.

SCCC 7.70.110(D)(2) allows the installation of standard conservation measures in lieu of performing an audit. In this case, the following measures would be required. Some optional measures could be substituted to offset high water use landscaping.

Conservation Measures (** - Mandatory Measures)

1. Install ultra-low flow toilets (<1.2 gal/flush)** (retrofit waived if 1.6 gal/flush toilet is already in use)
2. Install low-flow showerheads (<2.0 gpm)**
3. Retrofit Clothes Washer
4. Audit for leaks**
5. Audit for irrigation efficiency**
6. Use xeriscape landscaping
7. Utilize drip irrigation if feasible. (Required for agricultural use if feasible)
8. Evaluate water use and water savings by installation and use of a water meter

Water Use Efficiency Measures for Agricultural Uses

Groundwater pumped for agricultural uses shall be used efficiently and not wasted. Supplemental information documenting that agricultural water use efficiency practices are implemented shall be required, as specified in the supplemental information forms developed by the Health Officer. Irrigation efficiency evaluation reports completed by another qualified party may be accepted in lieu of these

forms, at the discretion of the Health Officer. Examples of efficient agricultural water use practices include but are not limited to variable frequency pump drives, irrigation systems operating at the optimal pressure, uniform water application, immediate repair of leaks, precise water application methods, soil moisture monitoring, and matching water applications to crop demand. Additional efficiency measures may be required to prevent unnecessary water waste.

9. Groundwater Extraction Concern Areas

Additional measures will be required in designated groundwater extraction concern areas:

Type of Concern:	Karst	Limited Yield	Elevated Nitrate/ TDS/Cl	Tier 4 Seawater Intrusion
Protective Measure:				
Geohydrologic Evaluation	x			x
Modified Yield test observed by County		x		
Discretionary CEQA Review	x			x
Water Quality Testing			x	x
Seal Design	x		x	x
Treatment/Deed Recordation			x	
Well Interference Evaluation?		x		
Water Conservation/ Recordation		x		

Limited Yield Areas:

These are areas of the county known to provide limited amounts of groundwater due to the presence of non-water-bearing formations, with limited fractures. These areas have a history of dry holes and/or wells going dry during the summer or dry years. Wells proposed to serve a new or expanded use (including an accessory dwelling unit) in these areas will require a yield test that includes observation of a sustained pumping rate over a four-hour period that meets the requirements of SCCC Chapter 7.73 and concurrent observation of groundwater level in the well to show the level is stable and that it recovers at least 90% within 24 hours after the pump test is completed. Tier 2, 3 and 4 wells will also require concurrent observation of groundwater levels in existing wells within 2000 ft of the new well, subject to authorization by the affected well owners, who will also be required to stop pumping their wells during the test period. If the yield test does not meet standards, additional water efficiency measures may be required and a notice may be recorded on the deed to note the limitations of the well.

Elevated Water Quality Concern

Areas of the county are known to have elevated levels of nitrate, total dissolved solids, chloride, chromium, or other constituents. Water quality testing is required for all newly constructed wells. In water quality concern areas, this testing must be completed and submitted to the Health Officer for review and approval prior to well completion. If constituents are found to exceed drinking water standards, or may degrade nearby groundwater quality, the Health Officer may require additional testing, electronic logging, evaluation by a qualified professional, specific completion and sealing measures,

treatment, complete destruction and sealing of the borehole, and/or other measures necessary to protect groundwater quality and ensure the water quality is suitable for the proposed use. If treatment is required to meet drinking water standards, a notice will be recorded on the deed, pursuant to SCCC Chapter 7.73.

Tier 4 Seawater Intrusion Areas

Some areas of the county are experiencing seawater intrusion that is not currently being controlled by implementation of groundwater sustainability plans. In these areas, continued or expanded pumping may further threaten groundwater quality. Any new or replacement non-de minimis well in these areas shall be considered Tier 4 and will require an evaluation by a qualified professional to evaluate the likely impact of that well on seawater intrusion and groundwater quality, also taking into account the potential effects of sea level rise and climate change. The Health Officer may deny drilling of a non-de minimis well in these areas if such well is expected to worsen seawater intrusion.

SANTA CRUZ COUNTY
WATER RESOURCES MANAGEMENT
2024 STATUS REPORT

Prepared by County of Santa Cruz
Environmental Health

PureWater Soquel Purification Plant (above) courtesy of Soquel Creek Water District. Collegel Lake Project (below) Courtesy of Pajaro Valley Water Management Agency

Introduction

Santa Cruz County's water resources serve a critical role in providing municipal, domestic, and agricultural water supply, preserving fragile watersheds, providing resilient habitats, and supporting recreational and commercial activities. Nearly all water supplies are derived from local rainfall and captured through stream diversions and groundwater wells (Figure 1: Local Water Supply Distribution. . County staff, local agencies, organizations, and the community continue to work together toward long term adaptive solutions to sustain environmental quality and provision safe and reliable water resources to meet current and future water resource needs.

Projects and planning efforts undertaken by regional agencies and non-profits are preparing for a future with a greater variability in precipitation and temperature than Santa Cruz experienced when our existing infrastructure was built. This report encompasses activities that took place during calendar year 2024, and reflects water use and rainfall from the 2024 water year which began October 1, 2023 and ended September 30, 2024.

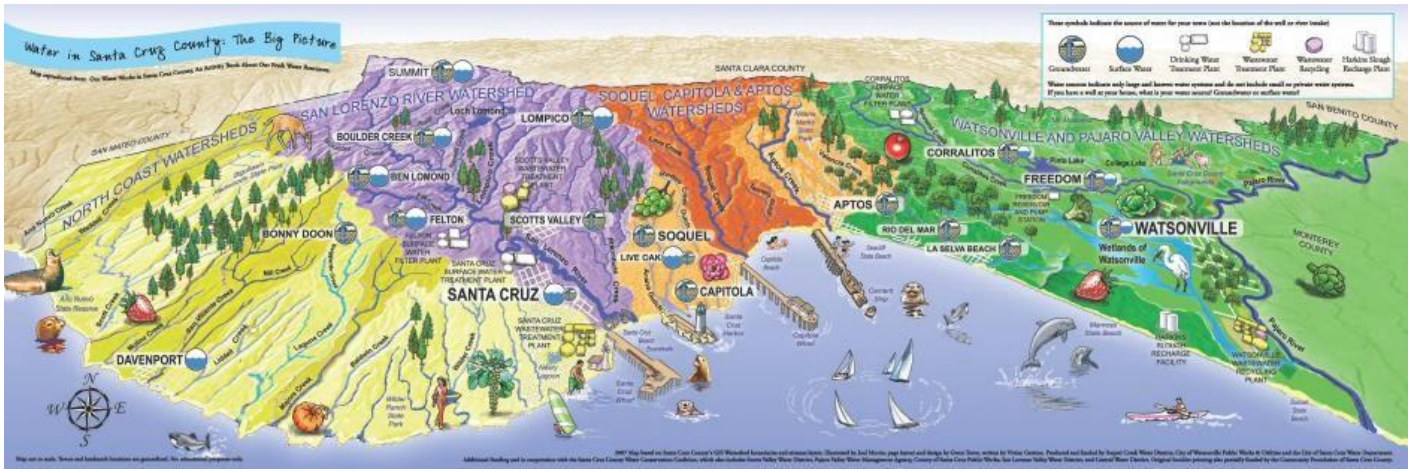


Figure 1: Local Water Supply Distribution.

Water Resource Management activities during 2024 were influenced by:

- Rain: A second consecutive, though thankfully less eventful, wet year led to the end of the Governor's drought declaration for Santa Cruz County.
- Construction: Soquel Creek Water District, Pajaro Valley Water Management Agency, and the City of Santa Cruz Water Department all made progress on constructing new water supply projects. These projects combined total a similar amount of water to the capacity of the Loch Lomond Reservoir.
- Algal blooms: Large Harmful Alga Blooms (HABs) occurred throughout the County this year, most notably at Pinto Lake which was closed for nearly four months, and at Corcoran Lagoon. The County Water Quality Viewer now has a "Serious Risk" category.

Key highlights for the year include:

- For the second year in a row, total municipal water use reached its lowest level since 1984.
- Several big retirements took place over the year: Rosemary Menard, Santa Cruz Water Director retired in February; Dr. Audrey Levine, Supervising Water Quality Specialist for the County of Santa Cruz, retired in July; Ron Duncan, General Manager of the Soquel Creek Water District retired in October.
- The County of Santa Cruz Board of Supervisors adopted amended ordinances regulating well construction and Individual Water Systems. The new ordinances strive to strike a balance between making domestic and replacement well permits straightforward and attainable, while ensuring that new, larger wells are thoroughly evaluated for their impact on the Public Trust.

Rainfall is critical to sustaining the County's surface and groundwater resources. Water Year 2024 was a welcomed respite from the Whiplash Weather we have seen over the previous three years. Rainfall totals throughout California have been described as "abnormally normal" (see Figure 2).[1] This water year following a very wet 2023 led to the official end of the drought that had been declared by the Governor for Santa Cruz County in 2021.

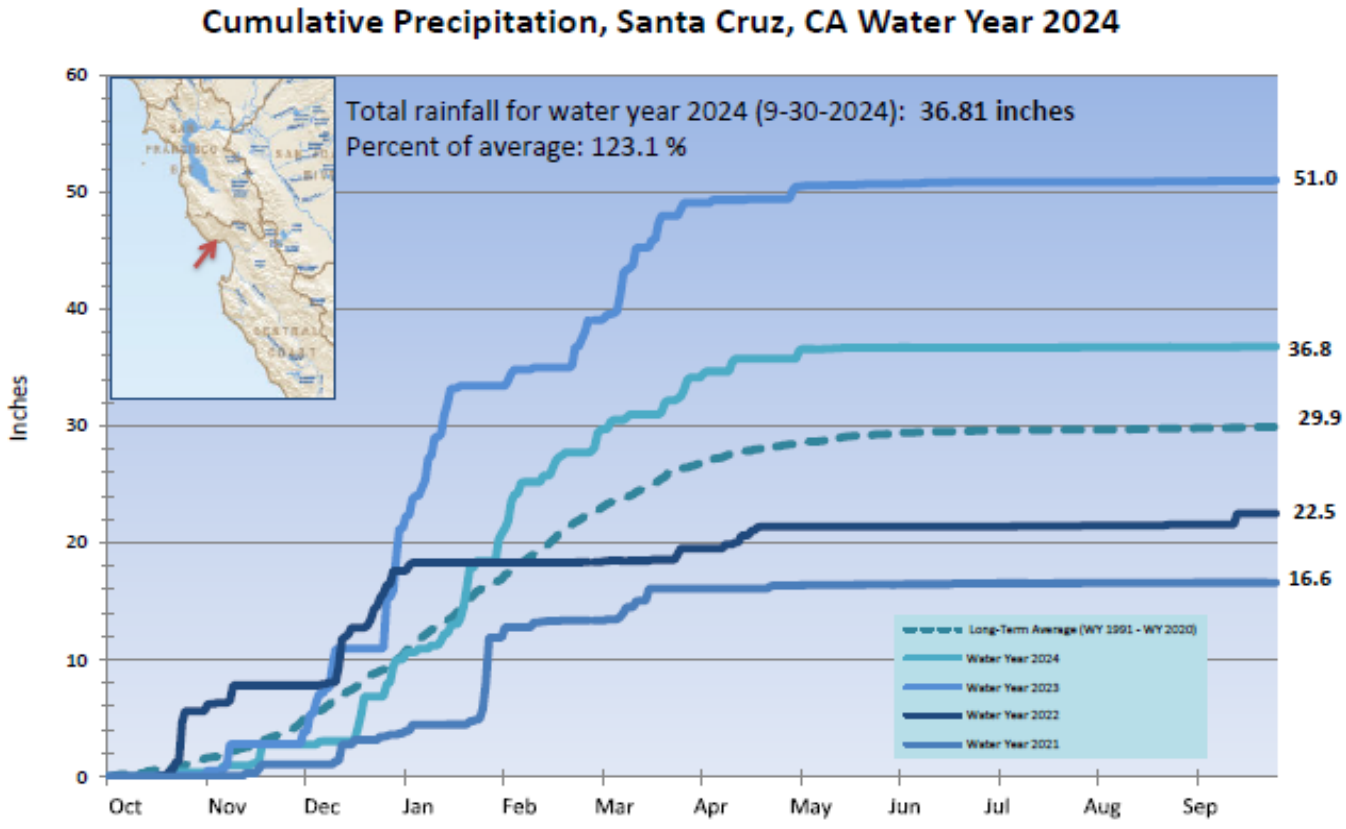


Figure 2: Rainfall in water years 2021-2024 compared to the long-term average, data from cimis, credit City of Santa Cruz Water Department.

[1] Data from CIMIS (California Irrigation Management Information System): https://cimis.water.ca.gov/

A comparison of water year 2023 and 2024 San Lorenzo River flows are shown in Figure 3, demonstrating that wet winters can keep streamflows high throughout the dry season. Loch Lomond, the only surface water reservoir in the County, which filled during the winter and remained high, ending the water year at over 90% capacity[2]. Groundwater elevations react differently to rain depending on their depth and formation type. That said, all groundwater basins continued to benefit from direct recharge and lower than average groundwater pumping due to ample surface water and cooler temperatures[3].

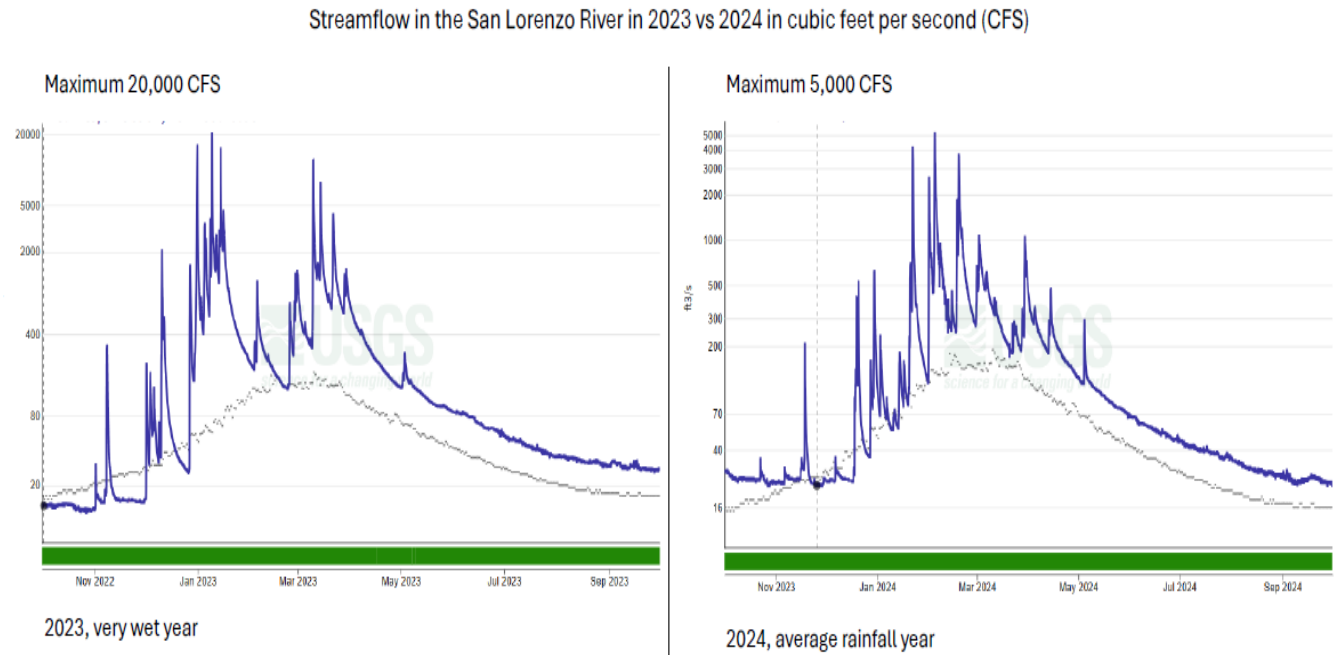


Figure 3. Water year 2023 Streamflow vs. 2024 Streamflow for the San Lorenzo River at the Big Trees gaging station [4] in comparison to median values (1937-2024).

Coordination between water practitioners is critical to regional resilience. Water exchanges through interties are becoming more common, a trend that will continue as a new intertie between the City of Santa Cruz Water Department and Scotts Valley Water District is under development. This intertie will complete the connection of every water system from the upper reaches of the San Lorenzo Valley Water District, all the way down to Central Water District. The first effort to support the integrated nature of water management including water quality, environmental users, and water utilities was the Integrated Regional Water Management (IRWM) program, which has been underway in Santa Cruz County for over 20 years. Partner agencies continue to work together on the IRWM program, with the Regional Water Management Foundation (RWMF) serving as a hub for the 12 agencies in the Regional Water Management Group. The County and all the cities and public agencies dealing with water are

[2] https://www.cityofsantacruz.com/government/city-departments/water/weekly-water-conditions
[3] https://sccwaterdata.us/#/overview/GroundwaterLevel
[4] https://waterdata.usgs.gov/monitoring-location/11160500/#parameterCode=00065&period=P7D

signatories to the Santa Cruz IRWM Memorandum of Agreement, which was updated and renewed in 2024. http://www.santacruzirwmp.org/.

This report was written by staff in the Santa Cruz County Water Resources Program in Environmental Health. Updates were provided by four County departments and by partners throughout the county including the San Lorenzo Valley Water District, Scotts Valley Water District, City of Santa Cruz Water Department, Soquel Creek Water District, Central Water District, City of Watsonville, Pajaro Valley Water Management Agency, Regional Water Management Foundation, Pajaro River Flood Management Agency, and the Resource Conservation District of Santa Cruz County.

Contents

Introduction 1
Section 1: Regional Water Supply Resilience 8
Efficiency in Existing Water Supply – Municipal Suppliers 10
San Lorenzo Valley Water District (SLVWD) 10
Scotts Valley Water District (SVWD) 10
City of Santa Cruz Water Department (SCWD) 11
Soquel Creek Water District (SqCWD) 11
Central Water District (CWD) 12
City of Watsonville Water Division (CoW): 13
Regional Project Funding 13
Efficiency in Existing Water Supply – Agriculture 14
Ag Irrigation Efficiency Assistance 14
Managed Aquifer Recharge/ Recharge Net Metering Program 15
Creation of New Water Supplies – Municipal 15
Scotts Valley Water District (SVWD): 15
City of Santa Cruz Water Department (SCWD): 16
Soquel Creek Water District (SqCWD) 16
Groundwater Management 17
Santa Margarita Groundwater Agency 18
Santa Cruz Mid-County Groundwater Agency 19
County's Roles in Supporting MGA and SMGWA 20
Pajaro Valley Water Management Agency (PV Water) 20
County of Santa Cruz Well Ordinance Update 24
Small Water Systems and Domestic Wells 26
Services Offered by the County 28
Big Basin Water Company 30
Section 2: Water Quality 31
Santa Cruz County Water Quality Program and Laboratory 32
Cyanobacterial blooms 33
Beach Water Quality 35
Red Tide 37
Local Area Management Program Pilot Study 37

County Regulatory Programs 39
Drinking Water Quality and Supply Protection 39
Scotts Valley Water District (SVWD) 39
City of Santa Cruz Water Department (SCWD) 39
Soquel Creek Water District (SqCWD) 40
City of Watsonville Water Division (CoW) 41
Rural roads and home drainage 42
Agricultural Water Quality Programs 42
Section 3: Natural Resources and Flood Management 44
Storm and Flood Preparation and Response 44
Fisheries Monitoring and Protection 47
Watershed Management Activities 51
Attachment 1: Water Use in Santa Cruz County, 2024 56
Attachment 2: Common Acronyms 57
Attachment 3: Online Resources 58

List of Figures

Figure 1: Local Water Supply Distribution. 1
Figure 2: Rainfall in water years 2021-2024 compared to the long-term average, data from cimis, credit City of Santa Cruz Water Department. 2
Figure 3. Water year 2023 Streamflow vs. 2024 Streamflow for the San Lorenzo River at the Big Trees gaging station in comparison to median values (1937-2024). 3
Figure 4: Water production compared against the number of connections and rainfall from 1984-2024 for all municipal pumpers in the County. Water use peaked in 1997 and has steadily declined despite ongoing population increases and climate variability. 8
Figure 5: Small Community Water Systems 2023 Monthly Use, demonstrating an increase during the summer months. 9
Figure 6: Cunnison Well drilling. Photo courtesy of SqCWD. 12
Figure 7: Group photo after ceremonial ribbon cutting at the advanced water purification center. Photo courtesy of SqCWD 17
Figure 8: Pipe for the College Lake Project. Source: PV Water. 23
Figure 9: Map of watersheds with impaired water bodies in the County as identified by the Central Coast Regional Water Quality Control Board, ... 31
Figure 10: Example of water quality monitoring location and results as displayed on the County's Water Quality Viewer as of November 21, 2024 : Water Quality Status (SCCEH.COM) 32
Figure 11: Cyanobacterial blooms at Corcoran Lagoon(left) and Pinto Lake (right), summer 2024 33

Figure 12: Photomicrographs from Pinto Lake Boat Rental (PL0), Corcoran Lagoon (R0) and Kelly Lake (K01). Micrographs from samples collected July 30 and October 1. Courtesy of Eric Baugher, County of Santa Cruz 34
Figure 13: Microcystin toxin concentration from late May to late October 2024. 35
Figure 14: Data are from grab samples taken by the County of Santa Cruz Environmental Health. Cowell Beach had no health advisories; Capitola Main Beach had three episodes of health advisories on June 10, July 23, August 21. 36
Figure 15: Microscope images of Akashiwo sanguinea, Ceratium, and Alexandrium. Photo by Eric Baugher. 37
Figure 16: Shingle Mill-Photo taken on January 24, 2024 38
Figure 17: Hexavalent Chromium treatment pilot. Photo courtesy of SqCWD. 41
Figure 18: College Lake Project Weir. Photo courtesy of PV Water. 53

Section 1: Regional Water Supply Resilience

This section focuses on efforts by the County, municipal water providers, Groundwater Sustainability Agencies, and non-profit organizations, to shore up existing water supplies and infrastructure, manage existing resources appropriately, and develop new water supplies.

As the effects of climate change become more pronounced, water sources will become increasingly stressed. To meet this challenge, county residents and agencies will have to continue efficient water use. This will help reduce stress on our water supplies and make them more resilient to climate change. Local agencies have been tremendously successful in decreasing domestic water demand by financially supporting the transition to more efficient methods of water use and educating residents about water conservation. This success can be seen when looking at the number of water connections in the county compared to water production. Since 1984, the number of water connections for large water systems has increased by approximately 32%, while annual water production during the same period has decreased 24% (see Figure 4). This trend reflects a dramatic increase in water efficiency across indoor fixtures, like toilets and washing machines, and outdoor irrigation.

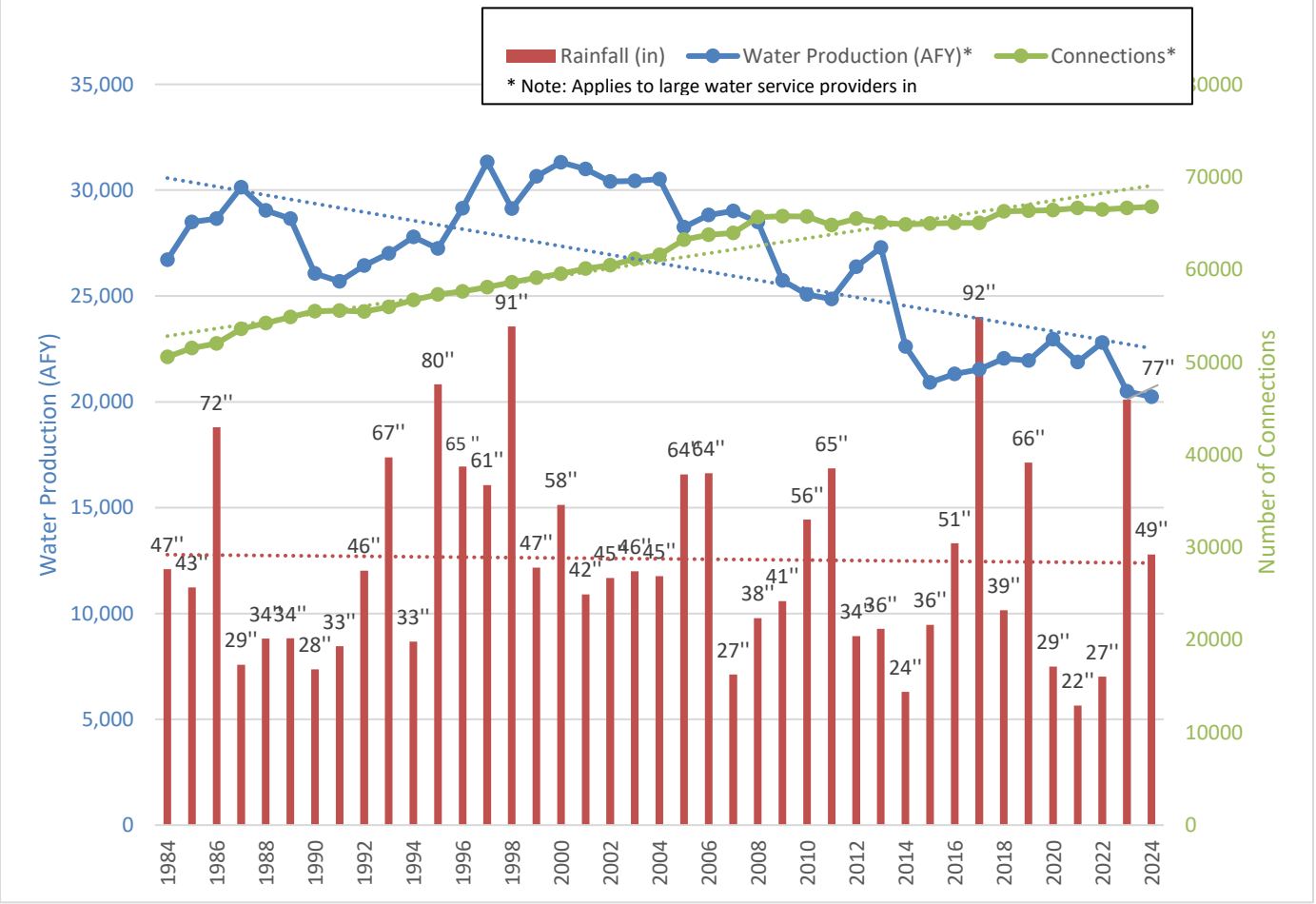


Figure 4: Water production compared against the number of connections and rainfall from 1984-2024 for all municipal pumpers in the County. Water use peaked in 1997 and has steadily declined despite ongoing population increases and climate variability.

Local partners continue, to promote efficient water use is through the WaterSavingTips.org website, which creates a single location for every county resident to find information on water conservation and what conservation incentives are provided by their water supplier.

As indoor fixtures have become increasingly efficient, outdoor water use is expected to become a larger proportion of water waste. According to the California Department of Water Resources, outdoor water use accounts for 30-60% of household usage[5], which makes it a great candidate for further reductions. The nature of outdoor water use also makes it a particular challenge to our water resources because outdoor water use is highest during the driest times of the year, when water supplies are most stressed. This is illustrated in Figure 5, which shows the 2023 water extraction data of small Community water systems (<200 connections) in Santa Cruz County. The peak water demand in August was double that of April, which can largely be attributed to increased outdoor water use.

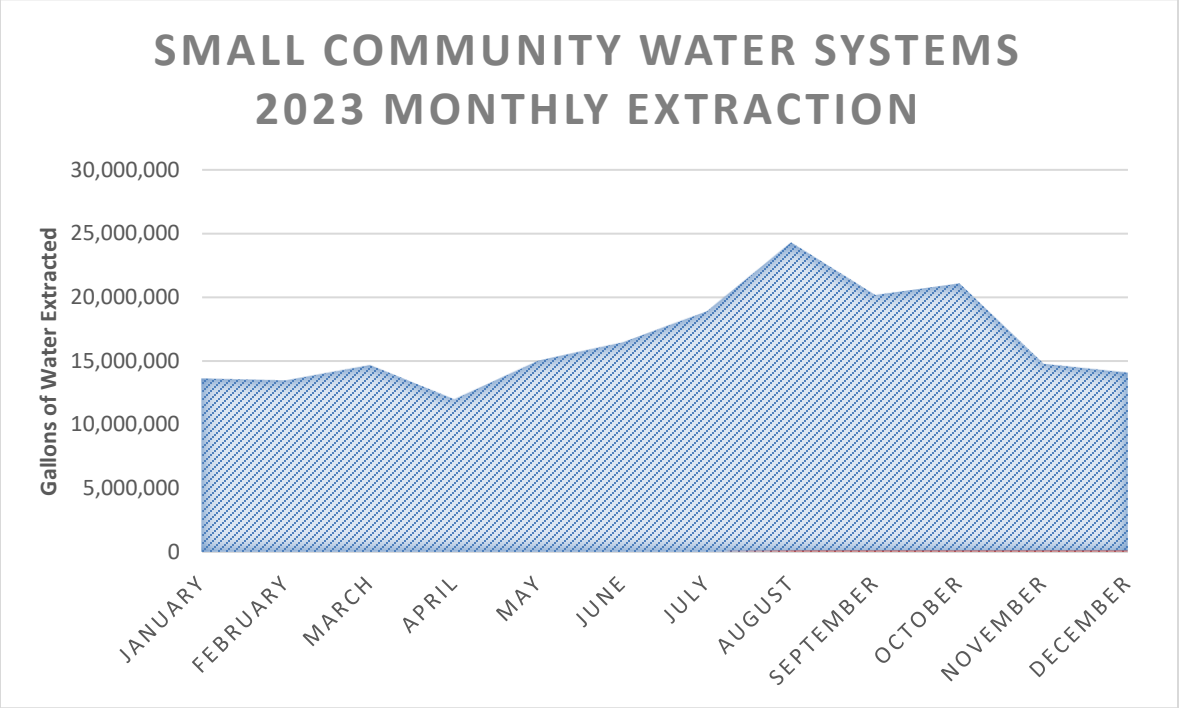


Figure 5: Small Community Water Systems 2023 Monthly Use, demonstrating an increase during the summer months.

Improving outdoor water use efficiency will continue to be a priority, but it is also important to recognize that low density development has greater potential for high outdoor water use and water waste. According to the SPUR report "Water for a Growing Bay Area"[6], increasing density can allow for more homes without using more water. This is because infill, multifamily, housing tends to be the most water-efficient type of housing for several reasons:

[5] How to Save Water (saveourwater.com)
[6] Water for a Growing Bay Area | SPUR

1. **Infill development often occupies space that was already irrigated.** Infill development, such as adding an accessory dwelling unit (ADU), converting a single-family home to a multiplex, or splitting a single lot into two will not increase the possible space irrigated, but can reduce it.
2. **New construction tends to be more efficient than older buildings.** New construction needs to comply with current building code standards and efficient landscaping requirements. Older buildings also tend to accumulate plumbing leaks over time.

County Planning[7] continues to encourage more infill development with both multi-family housing and ADUs.

Efficiency in Existing Water Supply – Municipal Suppliers

For municipal water providers, water supply projects and activities encompass two primary categories. The first is using existing water sources efficiently by incentivizing low water use, reducing leaks, upgrading infrastructure, and using new tools to reduce irrigation water needs. Santa Cruz County is one of the most efficient counties in the state when it comes to per capita water use, and incentives and meter upgrades by the larger water suppliers continue to encourage efficiency. The second supply category is the creation of "new" water supplies through projects like groundwater recharge and wastewater recycling, and optimizing when existing surface and groundwater resources are used.

Activities being undertaken by water agencies to improve efficiency of current water supplies include the following:

San Lorenzo Valley Water District (SLVWD)

- SLVWD completed its Water Master Plan and is beginning implementation. The Master Plan provides a quantification of the existing system, including pipelines, storage reservoirs, treatment plants, pump stations, wells, and surface water intakes. The Plan reflects damage suffered during the CZU fires and not repaired as of September, 2021.
- Design of improvements necessary for consolidation of Bracken Brae and Forest Springs is ongoing, supported by grant funds and FEMA funding for system repairs.
- SLVWD is moving forward with plans to update 12 aging water tanks using a combination of grant money and local match.
- SLVWD is working with the Big Basin Water Company Receiver through a grant from the County to investigate the feasibility of consolidation.

Scotts Valley Water District (SVWD)

- SVWD continued assisting City of Scotts Valley in assessing the condition of the Scotts Valley Tertiary Treatment Plant and finding a mutually advantageous solution for wastewater operations, which provides the source of recycled water used throughout the City.

[7] Sustainable Santa Cruz County Plan (2014) and the Housing Element of the General Plan (2016-2023)

- SVWD utilized WaterSmart customer engagement portal for leak notification procedures, contributing to a continued reduction in the volume of water lost through leaks. Achieved a 47% registration rate at WaterSmart in 2024.
- SVWD continued Think Twice Water Use Efficiency Program in response to the Stage 1 Water Condition. Program activities included 2x Turf Rebate, and a Pool Cover Rebate.
- The SVWD is also working on rehabilitation of Bethany tank site, and modifications at Glenwood tank to prevent undermining of the tank foundation in reaction to a landslide that occurred below tank site during the winter storms of 2023.
- SVWD installed a Variable Frequency Drive (VFD) pump motor control at Well 10a.

City of Santa Cruz Water Department (SCWD)

- Continuing design of major infrastructure improvements at the Graham Hill Water Treatment Plant (GHWTP) under an innovative design-build framework. Issued the Final Environmental Impact Report, certified by City Council in September, Construction anticipated to begin in mid-2025. Ongoing construction of the Concrete Tanks Replacement Project as a predecessor project to the larger infrastructure improvements at the GHWTP, project expected to be completed in spring, 2025
- Completed contracting for the Newell Creek Pipeline: Felton to Graham Hill Segment and Brackney Landslide Area Risk Reduction project. The Newell Creek Pipeline provides the critical pipeline connection between Loch Lomond Reservoir and the Graham Hill Water Treatment Plant. Both projects are anticipated to start construction in early 2025.
- Continued construction of the Graham Hill Water Treatment Plant Concrete Tanks Replacement Project, including commissioning of two of the three new concrete tanks and solids and residuals pumping stations.
- Successfully cleared over three years of accumulated residuals in the Graham Hill Water Treatment Plant sediment basins, making use of two of the three new concrete tanks at the Graham Hill Water Treatment Plant.

Soquel Creek Water District (SqCWD)

- SqCWD continues a robust conservation program including: a large variety of indoor and outdoor rebates, a landscape budget tool for commercial landscapes, high water use diagnostics via phone, and free water saving devices like hose nozzles, faucet aerators, and low flow showerheads. The WaterSmart Customer Portal provides customers with their digital meter's daily and hourly water use, notifies them of potential leaks, and helps them diagnose the potential cause of high use. In addition to the WaterSmart Portal, staff assist customers by providing various tools (e.g., the Leak Guide, phone diagnostics, technician visits, etc.) to help them locate and resolve leaks. In 2024, average residential consumption was approximately 48 gallons per person per day.
- Work is underway on several components of the $7.6 million Sustainable Groundwater Management Act Implementation Grant awarded to the Santa Cruz Mid-County

Groundwater Agency that focus on SqCWD infrastructure and/or collaboration, including the:

- Design and construction of a groundwater extraction well on Cunnison Lane in Soquel (Figure 6). The new well will improve redundancy and flexibility and help redistribute groundwater pumping further inland.
- Park Avenue transmission main/bottleneck improvements to increase system reliability and allow more flexibility to redistribute pumping inland away from coastal wells.
- Regional Water Resources Optimization Study. In collaboration with the City of Santa Cruz, this project will conduct modeling and analyses to inform and advance the implementation of select programs and management actions identified in the Basin's Groundwater Sustainability Plan.

Figure 6: Cunnison Well drilling. Photo courtesy of SqCWD.

Central Water District (CWD)

- The Central Water District is continuing its efforts to install a new well that will ensure water resilience for current and future needs.
- CWD is continuing to replace or update its water storage tanks located throughout the water district's boundaries.
- The District has actively been clearing plant overgrowth and debris for the purpose of reducing fire fuel loads at the District Office and at pertinent tank sites. The District has been working closely with the California Conservation Corp to complete these important projects.
- Central Water District customers continue to demonstrate commitment to ongoing conservation efforts by maintaining over 40% reduction in water consumption compared to the Dististrict's highest historical water usage.
- The District continues efforts to replace aging meters with new technology meters to allow customers more control over their water consumption. To date we have replaced over a quarter of the District's meters and are on target to replace the remaining meters within the next 5 years.

City of Watsonville Water Division (CoW):

- The City of Watsonville Water Division has begun construction of the new 2.4MG water storage tank back-up. This new tank will help the City maintain and continue to provide its customers with safe and reliable potable water. It will also provide emergency storage in the event of a catastrophic event such as an earthquake, drought, or in case of failure of the neighboring existing tank. Construction is expected to complete in the Fall of 2025. This project is funded by a drought mitigation grant which is administered by the RWMF.
- The City of Watsonville drilled a new well and has begun the latter phase of construction of the pump station, expected to be complete in Fall 2025. This new well and pump station will supplement existing sources and maintain the water system's high level of reliability.
- City of Watsonville residents and businesses continue to receive water conservation education and outreach provided by the City's Outreach Team via the CoW's website, social media, newsletter, events, workshops and in-person presentations. The CoW also continues to offer conservation devices and financial incentives to encourage conservation.

Regional Project Funding

- The Regional Water Management Foundation (RWMF) is providing grant administration and acting as coordinator on two IRWM implementation grants awarded to the RWMF on behalf of the Santa Cruz Region.
- Proposition 1 IRWM Implementation Grant Program Round 1 award is funding three projects that collectively benefit water supply, water quality, watershed stewardship, stormwater and flood management and habitat restoration.

Project Title	Lead Agency	Grant Award	Schedule
Countywide Sediment Reduction from Developed Parcels & Rural Roads	Resource Conservation District Santa Cruz County	$823,237	2020 – 2025
Davenport Water Supply Tank	County of Santa Cruz, Davenport County Sanitation District	$457,000	2020 – 2024
Watsonville Slough Farms Wetland Restoration	Resource Conservation District Santa Cruz County	$400,305	2021 – 2025

- Work on the Proposition 1 IRWM Implementation Grant Program Round 2 grant award began in Fall 2023. The projects provide benefits to water supply, water quality, watershed stewardship, stormwater and flood management, habitat restoration, and climate change response.

Project Title	Lead Agency	Grant Award	Schedule
Fire Hardening of Critical Water Supply Infrastructure	San Lorenzo Valley Water District	$305,000	2023 – 2027
Equalization Tank Replacement	County of Santa Cruz, Boulder Creek County Sanitation District	$405,312	2023 – 2026
Decision-Support Tool - Understanding Climate Influenced River Flooding	City of Santa Cruz, Department of Public Works	$179,375	2023 – 2025
Recreational Vehicle Sewage Disposal Station	City of Santa Cruz, Department of Public Works	$85,000	2023 – 2026
Atkinson Lane Integrated Flood Management and Watershed Restoration	City of Watsonville	$545,000	2023 – 2027
Drinking Water Treatment System & Secondary Water Source Rountree Facility	County of Santa Cruz, General Services	$800,000	2023 – 2026

Efficiency in Existing Water Supply – Agriculture

Ag Irrigation Efficiency Assistance

The RCD continues to assist growers with conserving water through improved irrigation efficiency and irrigation water use management, leveraging funds from PV Water, CDFA, CA FarmLink, and NRCS. Assistance with nitrogen management (related to water quality protection) is also often incorporated into the irrigation efficiency assistance. During 2024, RCD assisted 21 farming operations at 26 different sites to monitor and improve irrigation scheduling to achieve water conservation. The RCD also provided:

- irrigation system evaluations to identify operation and design improvement opportunities.
- irrigation system design recommendations to optimize irrigation efficiency.
- season-long monitoring of water applied, weather data, and soil moisture to inform growers of how the amount of water applied to their crops compares to the amount of water required by their crops,
- irrigator trainings in English and Spanish.
- technical and financial assistance to implement more efficient water use practices.

During the year of 2024 RCD and PVWater staff revised the water conservation rebate program to refine application documents and procedures. As a result, a temporary hiatus to processing rebates was implemented for a portion of the year. Rebates for 2024 totaled $2800. Rebates and cost-share from PV Water helps growers purchase and install more

efficient irrigation equipment such as lower flow sprinklers, sprinkler check valves, pressure regulators, pressure compensating drip tape, pipe retrofits, soil moisture sensors, irrigation monitoring equipment like flow meters and data loggers, and repairs of leaky pipe joints.

Managed Aquifer Recharge/ Recharge Net Metering Program

Managed Aquifer Recharge (MAR) is a landscape management strategy that can help support groundwater supply by capturing stormwater in an infiltration system (typically a strategically designed basin) where it can then infiltrate into the aquifer. Since 2016, the RCD, the University of California, Santa Cruz (UCSC) and private landowners have collaborated to implement three active MAR projects in the Pajaro Valley with funding from DWR, USDA NRCS, California Coastal Conservancy and State Water Resources Control Board. Monitoring results were received for 2 of 3 systems for the 2023 water year. The two systems infiltrated 189 af/yr and 369 af/year in the 2023 rain year. The annual monitoring results of the other 1 system infiltrated 4 af/year in both WY22 and 23. Additionally, water quality monitoring indicates that these projects likely help to improve groundwater quality. Data indicate that water infiltrated in the MAR basins had lower Nitrate [NO3-N] levels than ambient groundwater.

The RCD, UCSC, PV Water and private landowners continue to collaborate to implement the Recharge Net Metering (ReNeM) Program in the Pajaro Valley. This innovative program includes collaborating with landowners to install MAR systems on their land, monitoring the performance of the systems, and providing a financial incentive to the landowners based on the volume of water infiltrated. The RCD in partnership with PV Water and UCSC secured funding from the Department of Water Resources and the Department of Conservation to assess, plan, and implement two additional MAR projects over the next three years. Additionally, the past year has seen a focused effort to further the ReNeM program by creating a business plan with dedicated staff time and associated materials. This work will result in more MAR systems in the Pajaro Valley and the surrounding watersheds.

Creation of New Water Supplies – Municipal

Scotts Valley Water District (SVWD):

- Continued working with regional partners (City of Scotts Valley, City of Santa Cruz Water and Public Works) developing a strategic direction for maximizing wastewater utilization in the region and for the benefit of Santa Margarita Groundwater Basin.
- Began construction on the Scotts Valley Transit Center LID Retrofit, Phase 2 Project. This project is funded by $1.5 million in Urban and Multibenefit Drought Relief Grant to construct.
- Contractor has been awarded on the regional intertie 1 project.
- Completed construction of the Sucinto Well, which replaced failing Well 3b.
- Completed Design of the new Grace Way Well, which will be funded under the Urban and Multibenifit Drought Relief Program with the CA State DWR.

City of Santa Cruz Water Department (SCWD):

- The Water Supply Augmentation Implementation Plan is being developed as the road map towards meeting the City's reliability goals, 500 million gallons (1500 acre-feet) a year of additional water supply by 2027. The WSAIP will be completed in early 2025.
- Completed design for the Intertie 1 Project that constructs a pipeline to connect the City of Santa Cruz Water Department system with the Scotts Valley Water District water system. An addendum to the Santa Cruz Water Rights Project EIR was completed for CEQA compliance. Project is funded through a DWR grant awarded to the City of Scotts Valley. Construction is anticipated to begin in 2025.
- Continuing refinement of the Santa Cruz Water System Model in coordination with University of Massachusetts, Amherst research group. This new tool for water supply planning work incorporates a sophisticated approach to modeling for climate change allowing for analysis of thousands of scenarios to identify conditions that would particularly stress the water system.
- The Santa Cruz Mid-County Groundwater Agency (MGA) and its member agencies are advancing the five Components of the SGMA Implementation Grant. City components include completion of two aquifer storage and recovery wells at existing well sites, and groundwater modeling to support the evaluation of additional projects and management actions. Both components support the goals of the MGA as well as contributing toward the City's water supply augmentation needs.
- Ongoing coordination with State Water Resources Control Board for action on pending water rights petitions.
- Aquifer Storage and Recovery:
    - Completed demonstration projects at existing Beltz 8 and Beltz 12 wells and initiated design for conversion of these wells to permanent ASR facilities through the aforementioned SGMA grant.
    - Initiated pilot testing at Beltz 9 well.

Soquel Creek Water District (SqCWD)

- The Pure Water Soquel (PWS) Advanced Purified Groundwater Replenishment Project is expected to be operational in 2025. This project will recycle wastewater from the City of Santa Cruz's Wastewater Treatment Facility (SCWWTF) through an advanced water purification process and use it to recharge the critically overdrafted groundwater basin and protect against seawater intrusion. SqCWD made the following progress on the major components of PWS (conveyance, treatment, and groundwater replenishment) in 2024:
    - Conveyance: The conveyance pipeline will carry secondary treated effluent wastewater from the SCWWTF to the Advanced Water Purification Facility (AWPF) for treatment and purified water to the Seawater Intrusion Prevention (SWIP) wells for aquifer recharge. Construction of the conveyance pipeline continued in 2024 as well as start-up and commissioning activities.

- Purification Facility: The AWPF is a multi-step advanced water purification process involving microfiltration, reverse osmosis, and ultraviolet light with advanced oxidation with ozone pre-treatment. Construction of the AWPF continued in earnest through much of 2024. Midway through the year, construction activities largely transitioned to start-up and commissioning of the system.
- SWIP Wells: These wells will deliver purified water to the groundwater basin. Site work and equipping for the three SWIP wells continued in 2024 and is nearing completion. Start-up is expected towards the end of the year or in early 2025.
- Recycled Water Facility: As part of the overall PWS Project, SqCWD is constructing a recycled water facility at the SCWWTF for on- and off-site non-potable water uses. Construction of the recycled water facility continued in 2024. Midway through 2024, start-up and commissioning of the facility began.
- Funding: In 2024, SqCWD continued to work with the funding agencies (State Water Resources Control Board (Prop 1 Groundwater Grant and Seawater Intrusion Control Loan), Bureau of Reclamation (Title XVI Grant Program), and the Environmental Protection Agency (WIFIA Loan Program).

- Ceremonial Ribbon Cutting: On October 3, 2024, the District hosted a ceremonial ribbon cutting with over 200 attendees to celebrate the completion of the construction of the new advanced water purification center.

Figure 7: Group photo after ceremonial ribbon cutting at the advanced water purification center. Photo courtesy of SqCWD

Groundwater Management

The Sustainable Groundwater Management Act of 2014 (SGMA) went into effect on January 1, 2015 and is a key driver for developing and implementing long-range plans for groundwater sustainability. SGMA required the formation of local Groundwater Sustainability Agencies (GSAs) to prepare Groundwater Sustainability Plans (GSPs) in all of the state's high and

medium priority groundwater basins. Upon submittal of a GSP, GSAs have a 20-year implementation timeframe to demonstrate basin sustainability based on meeting locally defined sustainable management criteria. SGMA also requires annual reporting on GSP implementation progress to the Department of Water Resources (DWR) and a comprehensive periodic evaluation of the GSP every five years.

Santa Cruz County has three basins that are subject to compliance under SGMA. For each of these basins, the associated GSAs and their activities towards implementing their respective GSPs in Water Year 2024 are described below.

Santa Margarita Groundwater Agency

Management of the Santa Margarita Basin is overseen by a Joint Powers Authority (JPA) consisting of the County of Santa Cruz (County), the Scotts Valley Water District, and the San Lorenzo Valley Water District. This JPA is referred to as the Santa Margarita Groundwater Agency (SMGWA), which is the GSA for the basin. The SMGWA governing board includes two private well representatives, two representatives from each partner agency, and one representative each from the City of Scotts Valley, the City of Santa Cruz, and the Mount Hermon Association. The Santa Margarita Groundwater Basin has experienced a significant historical decline in groundwater levels, particularly in the southern part of the Basin near Scotts Valley and has likely also seen reductions in streamflow. While groundwater levels stabilized and are no longer declining, they have seen only modest recovery. A groundwater model analysis indicated the need to implement at least modest projects in order to maintain sustainability under future climate conditions. The GSP for Santa Margarita was adopted by the SMGWA Board in November 2021 and approved by DWR in April 2023.

In Water Year 2024, the SMGWA continued monitoring of its network of seven monitoring wells in areas of previous data gaps in the basin. Many of these wells are located near active stream gauges in the basin, which will help improve the understanding of the surface water-groundwater relationship in the basin as required by SGMA. SMGWA formed an ad hoc committee to review requirements and recommend the content and format of SGMA-mandated annual GSP progress reports. SMGWA submitted its latest annual report to DWR for Water Year 2023 by the April 1, 2024 deadline.

Also during Water Year 2024, SMGWA facilitated project coordination meetings between the basin's water supply agencies as they continue to develop their respective projects needed for basin sustainability. Of note, Scotts Valley Water District was awarded grant funding to construct an intertie with the City of Santa Cruz. While the primary purpose of the intertie is to address water shortages during drought or emergency conditions, it can create opportunities for expanded conjunctive use to benefit the basin. Planning for the intertie project is ongoing. San Lorenzo Valley Water District continued to take steps to conduct a feasibility analysis of the use of Loch Lomond Reservoir to expand conjunctive use in the basin. Consulting services to support the analysis were procured in 2024.

Santa Cruz Mid-County Groundwater Agency

Management of the Santa Cruz Mid-County Basin is overseen by a JPA consisting of the County, City of Santa Cruz, Soquel Creek Water District and Central Water District. This JPA is referred to as the Santa Cruz Mid-County Groundwater Agency (MGA), which is the GSA for the basin. The MGA governing board includes three private well representatives and two representatives from each member agency. The Mid-County Basin is designated by the State as being in a condition of critical overdraft due primarily to the risk of seawater intrusion into the aquifers. Despite significant improvement of coastal groundwater levels due to water conservation and pumping redistribution, groundwater modeling analyses indicate that additional projects will be necessary to achieve sustainability. The GSP was adopted by the Board in November 2019 and approved by DWR in June 2021.

Work continues on GSP implementation. In January 2024, MGA completed construction of a monitoring well in the Basin that is adjacent to a stream gauge on Soquel Creek near the Olive Springs Quarry. This brings the total number of monitoring wells constructed by MGA to improve its understanding of surface water-groundwater interaction to seven. The MGA completed a non-de minimis well registration, metering, and reporting policy in June 2024. Applicable wells are to be registered by December 31, 2024, with meter installation required by September 30, 2025. Also during the water year, MGA conducted a periodic evaluation of its GSP that is required by SGMA. The evaluation, which must be submitted by January 31, 2025, resulting in MGA deciding to not amend its GSP at this time. Also during the water year, MGA procured consulting services to explore long-term funding sources for SGMA regulatory compliance, with work expected to commence in late 2024. Finally, MGA member agencies, Soquel Creek Water District and the City of Santa Cruz, continued an optimization study to identify combinations of projects to achieve sustainability in the basin and improve water supply reliability for consumers.

Work is underway on a $7.6 million Sustainable Groundwater Management Act Implementation (SGMI) grant awarded to the MGA by the Department of Water Resources Sustainable Groundwater Management program. The grant supports the implementation of high priority projects identified in the GSP. The individual member agencies are leading the management and implementation of their respective projects. Additional description is available in this report under the lead implementing agencies:

Project Title	Lead Agency	Grant Award	Status
Cunnison Lane Groundwater Well	Soquel Creek Water District	$1,675,000	Well constructed; treatment plant design underway.
Aquifer Storage & Recovery, Beltz Wellfield	City of Santa Cruz, Water Department	$1,650,000	Design completed; construction to initiate in 2025

Park Avenue Transmission Main Improvements	Soquel Creek Water District	$800,000	Completed
Technical Development of GSP Group 1 & 2 Projects	Soquel Creek Water District and City of Santa Cruz	$1,900,000	Underway
Sustainable Groundwater Management Evaluation & Planning	MGA and County of Santa Cruz	$1,575,000	Underway

County's Roles in Supporting MGA and SMGWA

The County has served an important role in supporting the MGA and SMGWA. In addition to being a JPA signatory to both GSAs, the County has served as the lead in procuring and managing contracted services that leverage opportunities to strategically pool resources to benefit both basins. The County led a process to develop a regional data management system (DMS) to help the GSAs meet the requirements of SGMA, and additionally to collect and organize data collected by all of the water agencies in the County. The system can be viewed online at https://sccwaterdata.us/#/html/home. There are a few advantages to the regional system: it provides a robust storage system for critical historical data; it makes it easier to compare data across agencies; and the web portal makes it easy for interested parties to view results.

Pajaro Valley Water Management Agency (PV Water)

The Pajaro Valley Water Management Agency is a special district created in 1984 by the California legislature and is the GSA for the Pajaro Valley Subbasin (Basin). PV Water's 2014 Basin Management Plan Update, Basin Management Plan: Groundwater Sustainability Update 2022 (GSU22), and several other key documents, serve as a GSP Alternative which aims to achieve groundwater sustainability by 2040. PV Water's efforts to achieve sustainability directly support beneficial users and uses including drinking water, agricultural irrigation, and many more. Groundwater typically provides more than 90% of the basin's water supply with supplemental water sources such as recycled water and managed aquifer recharge water serving as the other major sources. PV Water's existing facilities, current projects, and management actions are designed to achieve multiple objectives including providing drought resilience, preserving beneficial uses of groundwater, and enhancing natural conditions. The two biggest uses of extracted groundwater are for domestic consumption and agricultural irrigation. As part of PV Water's GSU22, it conducted a well depth analysis of more than 1,150 domestic and agricultural wells to inform the development of sustainable management criteria to protect beneficial users of groundwater from significant and unreasonable negative impacts, as well as enhance the resiliency of drinking water and irrigation water supplies. The GSU22 is the most current version of PV Water's GSP Alternative, which will be updated approximately every five years following a periodic evaluation.

PV Water operates several existing water supply facilities and administers a series of programs to reduce groundwater extractions and help stop seawater intrusion. Supplemental water supply facilities reduce groundwater extractions through the production, distribution, and use of supplemental water supplies in-lieu of groundwater pumping. PV Water also funds and manages a comprehensive water conservation program that aims to improve use efficiencies for both agricultural and domestic water users. It also partners with University of California at Santa Cruz (UCSC), and the Resource Conservation District of Santa Cruz (RCD) on a program called "Recharge Net Metering," in which private landowners develop infiltration basins to capture and infiltrate rainwater runoff into the groundwater basin. PV Water's existing supplemental water supply facilities, the Recharge Net Metering Program, and water conservation program are described in greater detail below.

- **Coastal Distribution System (CDS):** The CDS is a distribution system composed of nearly 22 miles of pipeline used to deliver supplemental water supplies to farms in coastal areas of the Pajaro Valley. The area currently served by the CDS incorporates approximately 6,100 irrigated acres and is referred to as the Delivered Water Zone or the Delivered Water Service Area. Water delivered through the CDS replaces groundwater that would otherwise be pumped from coastal wells. Delivered water provides "in-lieu recharge" to the Pajaro Valley Basin; it helps to eliminate the problems of groundwater overdraft and seawater intrusion, while helping to keep agriculture viable in the Pajaro Valley.

- **Harkins Slough Managed Aquifer Recharge and Recovery Facility (Harkins Slough Facility):** The Harkins Slough Facility diverts surface water from Harkins Slough and conveys it to a recharge basin where it percolates into the surficial aquifer of the San Andreas Terrace located near the coast. PV Water utilizes a series of wells to recover recharged water and deliver it to coastal farms through the CDS. The Harkins Slough Facility commenced operations in 2002 and has recharged approximately 11,700 acre-feet through September 2024.

- **Watsonville Area Recycled Water Treatment Facility (RWF):** PV Water constructed the RWF and operates it in partnership with the City of Watsonville. Located adjacent to the Watsonville Wastewater Treatment Plant at the Water Resources Center, the RWF has the capacity to produce 4,000 acre-feet per year of tertiary treated disinfected recycled water. Recycled water is augmented with water from the Harkins Slough Facility, Blend Wells, and the City of Watsonville's potable water system to increase supply and improve the quality for agricultural irrigation needs. The RWF commenced operations in 2009 and has produced more than 40,950 acre-feet through September 2024.

- **Supplemental Wells:** PV Water operates two production wells near the inland boundary of the Delivered Water Zone that augment the delivered water supply and

improve water quality. As part of the College Lake Integrated Resources Management Project, PV Water plans to bring two additional wells into service.

- **Recharge Net Metering (ReNeM):** PV Water, along with program partners from UCSC and the RCD, and participating private landowners are implementing ReNeM to enhance recharge in the Pajaro Valley. The program incentivizes small scale recharge projects by providing rebates to landowners based on the volume of water infiltrated through infiltration systems. The rebates are intended to help offset maintenance and operation costs incurred by landowners. Currently, the program includes three infiltration basins, with additional sites under evaluation. The ReNeM program team is currently evaluating the water year 2024 performance of the three systems and in water year 2023, it set a record total of 563 acre-feet recharged as a result of the exceptionally wet conditions of 2023.

- **Water Conservation:** PV Water set a goal to achieve 5,000 acre-feet per year of water conservation when compared to the baseline period 2006-2010. The program focuses on agricultural water conservation but also provides conservation services for domestic users. The conservation program leverages numerous technical partners including the RCD, the Natural Resources Conservation Service, the UC Cooperative Extension, the Resource Conservation District of Monterey County, and private consultants. The main components of the program are conservation outreach; partner collaboration, program coordination, demonstrations, rebates for efficient devices/materials; workshops and trainings; an irrigation efficiency program; and irrigation efficiency program evaluation. In March 2024, the PV Water Board of Directors approved a $1.37 million agreement to fund the agricultural conservation program support services through June 2027. Over the most recent evaluated rolling 5-year period (2019-2023), total agricultural water use was approximately 5,600 acre-feet less than the baseline period.

While the result of operating the existing facilities and administering these programs has been effective in helping to reduce overdraft and slow seawater intrusion, PV Water is working to construct and implement additional projects and management actions in order to achieve sustainable groundwater resources and provide resiliency. These additional efforts are described below.

- **College Lake Integrated Resources Management Project (College Lake Project):** The College Lake Project includes components required to store, treat, and deliver water from College Lake, for use as an irrigation supply in-lieu of pumped groundwater to reduce the rate of seawater intrusion while helping to preserve agriculture. The components include an adjustable weir structure designed to accommodate safe fish passage, intake pump-station, water treatment plant, a 6-mile conveyance pipeline, and two groundwater wells to support project operations. The weir will be capable of raising the lake water level by 2.4 feet and increasing the total storage to approximately 1,800 acre-feet. An annual average of 1,800-2,300 acre-feet will be collected through a screened intake compliant with screening criteria for anadromous salmonids. Water will then be conveyed to the water treatment plant and then to the CDS where it will offset an equal amount of groundwater production. PV Water began construction of the College Lake Project in spring 2023 and anticipates completing construction in spring 2025.

Figure 8: Pipe for the College Lake Project. Source: PV Water.

- **Watsonville Slough System Managed Aquifer Recharge and Recovery Project (WSS-MARR):** WSS-MARR includes upgrades of the existing Harkins Slough Managed Aquifer Recharge Facility (Harkins Slough Facility) and construction of the Struve Slough Project, a new managed aquifer recharge and recovery project. WSS-MARR includes project components to divert, convey, store, and recover surface water for use as an irrigation supply in-lieu of pumping groundwater. The components include upgrading the existing Harkins Slough Facility to install fisheries-compliant intake screens, upgrading the pump-station, development of a new recharge basin, and constructing series of recovery and monitoring wells. The Struve Slough Project includes a new screened intake on Struve Slough, a pumping-station to be located adjacent to the slough, as well as an approximate 7,150-foot conveyance pipeline. Collectively, WSS-MARR is designed to yield an estimated annual average of approximately 2,280 acre-feet for recharge and subsequent recovery. PV Water is preparing an addendum to

the certified environmental impact report for the project, recently completed the 100% designs, is advancing efforts to obtain all necessary permits including a 4,000 AFY water right on Struve Slough. PV Water has begun to engage landowners to procure property rights for the project. The Project could be ready for construction in 2026.

- **Increased Recycled Water Deliveries:** PV Water continues efforts to increase recycled water deliveries to customers. PV Water is working to achieve this by increasing demand for recycled water and increasing storage to supply more water during periods of high demand. The goal aims to increase demand by approximately 1,000 acre-feet per year and shoulder season demand by approximately 250 acre-feet per year. Prior infrastructure improvements developed to increase recycled water deliveries included the construction of a 1.5-million-gallon storage tank, approximately 3.2 miles of additional CDS pipeline; an expanded RWF filter train; and improvements to the distribution pump station. PV Water continues to work closely with customers to maximize deliveries and increase recycled water use. In addition, condition and operational assessments of the RWF and the City of Watsonville Wastewater Treatment Plant have been conducted and will guide improvements in reliability and process performance in the future.

Guided by the GSU22 and future updates of the GSP Alternative, PV Water will continue efforts to achieve sustainable groundwater resources. Annual and periodic assessments every five years will evaluate basin conditions against sustainable management criteria established to provide a resilient and sustainable groundwater basin. The next major update and periodic evaluation is planned to begin in late 2025 and culminate in an updated GSP Alternative submitted by December 24, 2026.

County of Santa Cruz Well Ordinance Update

The Board of Supervisors finalized the adoption of new regulations to their well ordinance on December 17, 2024. Santa Cruz County Code (SCCC) Chapter 7.70 specifies measures for the siting, construction, and destruction of wells to protect groundwater resources and provide suitable water supply for the intended use. SCCC Chapter 7.73 specifies yield and water quality requirements for individual water systems that predominantly utilize wells. The last significant revisions of Chapter 7.70 and Chapter 7.73 were completed in 2009 and 1993, respectively. Since the last update of Chapter 7.70 was completed in 2009, policy changes at the State and local level, including the following, have taken place:

- Adoption by the State of the Sustainable Groundwater Management Act (2014), which supports the action of three local Groundwater Sustainability Agencies (Santa Margarita, Mid-County, and Pajaro Valley);
- Senate Bill 552 and Executive Order N-7-22, which required counties to evaluate and address drought impacts on wells, and evaluate the effect of new wells on existing wells and on groundwater sustainability agencies;

- Court decisions have required counties to consider CEQA review and protection of public trust values in the issuance of new well permits;
- Locally, the County has adopted the Climate Action and Adaptation Plan, and the Drought Response and Outreach Plan;
- Concerns were raised by the National Marine Fisheries Service that the County needs to consider the impact of new wells on interconnected surface waters and threatened and endangered salmonid species;
- The County has not exercised regulatory oversight of soil borings even though that is provided for in State policy and is done in most neighboring counties;
- The State is looking to counties to take more responsibility for deficiencies of private wells.

To address these issues, EH staff and the County Water Advisory Commission have undertaken a process to update the County Codes that address wells and individual water systems. Staff convened a Technical Advisory Committee (TAC) that included representatives from the Water Advisory Commission, local water agencies, well drillers, groundwater sustainability agencies, resource agencies, and agricultural interests. Staff met with the TAC four times and held additional meetings with individual stakeholder groups. Staff also conducted outreach to the Farm Bureau and realtors. The Water Advisory Commission held a public workshop on the proposed amendments on August 7, 2024. The Planning Commission held a Public Hearing on October 23, 2024, and recommended staff proceed to take the proposed amendments to the Planning Commission and the Board of Supervisors.

Staff conducted extensive analysis and analytical modeling to evaluate the impact of groundwater pumping on streamflow and the effectiveness of various measures to reduce the impact on streamflow, including increased setbacks from streams and deeper well seals. These measures have been incorporated into the resource protection policy to reduce the impact of small domestic wells and replacement wells with no increase in water use. New non-domestic wells with significant increase in water use will require more extensive CEQA review and analysis and may be subject to denial if impacts cannot be mitigated.

<u>Code Amendments</u>
Staff worked with the TAC and interested stakeholders to prepare proposed amendments to Chapters 7.70 and 7.73. The objectives of the updates included:

1. Follow all applicable laws and regulations.
2. Honor the core tenets of the County General Plan which includes recognition of agricultural land as an essential and irreplaceable resource for future generations.
3. Be equitable in consideration of impacts to groundwater users, including consideration of public trust resources.
4. Limit impacts on existing users and small domestic users while providing improved protection of resources.
5. Facilitate communications with Groundwater Sustainability Agencies and recognizes their mandate to sustainably manage their groundwater basins.
6. Acknowledge the impact that climate change is having on water resources.

The following are the significant changes proposed to Chapter 7.70:

1. Additional measures are added to reduce impact of wells on groundwater resources, streams and associated public trust resources, karst areas, nearby wells, and designated groundwater extraction concern areas;
2. Different levels of review and protective measures for different types of wells are provided for, including discretionary review and potential for denial of Tier 4 wells;
3. Explicit provisions are added for review and comment on well applications by affected water agencies and groundwater sustainability agencies;
4. Provisions are added for regulation of soil borings and stormwater infiltration devices;
5. Metering of all newly installed non domestic wells will be required;
6. Penalties for code violations are added; and
7. Provisions are added for promulgation of specific policies for implementation of code requirements to allow more flexibility for implementation and adjustment of specific elements of effective policy.

The following are the significant changes proposed to Chapter 7.73:

1. More extensive water quality testing for individual water systems: Title 22 constituents, plus other constituents in water quality concern areas;
2. More stringent yield testing in known limited yield areas;
3. Recordation of a notice on the deed for new wells with limited yield or quality;
4. Individual Water System requirements also apply to non-domestic uses and additional testing is required for change or expansion of use;
5. Water quality testing and yield testing at the time of property transfer to inform the buyer.

Updates are provided through the website:
https://scceh.com/NewHome/Programs/WaterResources/WellOrdinanceUpdate.aspx

Small Water Systems and Domestic Wells

The Santa Cruz County Drinking Water Program oversees 106 active small water systems (SWSs), including water systems with 5-199 residential connections and systems serving at least 25 people per day for 60 or more days per year. These systems include housing developments and mutual water companies, in addition to facilities such as schools, office buildings, outdoor camps, and stores. SWSs can have greater water supply vulnerabilities than larger systems because they tend to have few sources, often just one well or spring, and a small population to bear the cost of repairs for their aging water sources and distribution systems.

The water quality and reliability of these systems is of critical importance to the County residents and visitors that depend on them. Recent extreme weather events since 2020 (e.g., the CZU Lightning complex Fire and winter storms of 2023) have exposed and heightened some of the vulnerabilities of these systems, such as lack of redundance and aging infrastructure. Recent legislation such as SB 552 (drought planning for small water suppliers and rural communities) require SWSs, subject to funding availability, to implement specific

resiliency measures such as joining a mutual aid network, obtaining a backup source of electricity, and securing additional water sources if feasible.

While SWS drinking water quality in Santa Cruz County is generally very good, water quality challenges are still a reality for some systems. Nitrate contamination is a concern, and primarily affects areas in South County near agricultural land uses. Drinking Water Program staff work closely with a number of SWSs in this area which provide nitrate removal treatment to ensure water quality standards are met.

Another contaminant of local concern is Hexavalent Chromium, also known as Chromium-6. Chromium-6 occurs naturally in the Aromas Red Sands aquifer that is found in parts of Aptos and Watsonville. Drinking Water Program staff are working with 10 small water systems in this area with elevated levels of Chromium-6 to respond to the newly created Maximum Contaminant Level (MCL) of 10 micrograms per liter. Staff will be working with the affected systems to review proposed treatment solutions that will provide the affected residents with a source of water that meets the new requirements.

Per- and polyfluoroalkyl substances (PFAS), also known as “forever chemicals”, are another emerging group of contaminants. These substances are found in many consumer products, including nonstick cookware and waterproof coatings, and end up concentrating in landfills. The EPA implemented a rule in 2024 requiring sampling for PFAS by 2027 and treatment by PFAS have been found in elevated levels in wells serving some SWSs adjacent to the Buena Vista Landfill. One of these facilities has proposed a PFAS treatment system and is working with Drinking Water Program staff for approval, and another received a grant to address this issue as described below.

The County General Services Department has secured an $800,000 grant from the Department of Water Resources’(DWR) Proposition 1 Implementation Grant Program via the Integrated Regional Water Management Program to install a treatment system for Chromium-6 and PFAS, and to study options to improve source quality and reliability at the Rountree Facility in Watsonville. The system is served by a single well and is proactively working to address these emerging contaminants and improve the resiliency of the system.

County staff are also involved with coordinating several long-term projects to improve water supply reliability for SWSs. Renaissance High School is currently working to consolidate with the Soquel Creek Water District due to a lack of backup sources for its single supply well, and water quality concerns, including hexavalent chromium. The Crestwood Heights Water Association is working to consolidate with the City of Watsonville due to diminishing water supply from their source wells and a lack of funds to upgrade their system.

The County has also been awarded $97,800 in grant funding from DWR’s Small Community Drought Relief Program for improvements to the Waterman Gap water system, a small water system at the northern edge of the County in Boulder Creek. The current stream source has declined in flow, and the system’s backup wells have limited capacity. These funds will cover

the cost of reconstructing a water line to an existing stream intake on Little Boulder Creek and installing four storage tanks to improve the system's ability to provide a reliable supply to residents.

Drinking Water Program staff continue to host Small Water Systems Forum meetings to provide regulatory updates to SWSs and encourage discussion and collaboration between these systems. Two forum meetings were held in 2024, with topics including LAFCO and local partnerships, drought resilience, water quality sampling, and emergency preparedness.

Services Offered by the County

On December 1, 2021, the Water Advisory Commission (WAC) voted to take responsibility for implementing Senate Bill (SB) 552. SB 552 required the County to write a plan that includes potential water shortage risk analysis and proposed interim and long-term solutions for State Small Water Systems and domestic wells. This plan is now referred to as the Santa Cruz County Drought Response and Outreach Plan (DROP). The Water Quality Specialist and Water Resource Planner in the Water Resources Division have taken the lead on the implementation of the DROP.

Since the Board of Supervisors approved the DROP in December of 2022, staff created web portals for both domestic wells and State Small Water Systems that utilize the information gathered in creating the DROP. These pages are intended to act as a single repository for both informational and direct support resources. To gather feedback on these webpages, draft versions were presented to private well owners that participate in the County well sounding program and the State Small Water Systems regulated by the County. This effort resulted in 16 survey respondents. County staff will provide access to this survey again during future public outreach events.

In addition, County staff have initiated GIS analyses to assess the feasibility of interties or consolidations—both physical and managerial—as solutions to water supply and water quality challenges faced by state small and small community water systems throughout the County. For the physical consolidation analysis, cost-driving criteria include factors such as the distance of the pipeline, slope of terrain, elevation differences between the source and sink (accounting for pressure requirements such as the need for booster pumps), and the presence of expansive soils, faults, high groundwater, liquefiable materials, or landslides. For the managerial consolidation analysis, the primary criteria for assessing feasibility included the driving time between small water systems.

The County also finalized a grant agreement with the State Water Resources Control Board that will pay for staff time, outreach, water quality testing, water hauling, bottled water, and treatment devices for qualifying residents. The County also received a further $125,000 grant from DWR to focus on gaps in the DROP such as a comprehensive wells GIS layer and clarity regarding the consolidation process.

Santa Cruz County Environmental Health was awarded funding through the SWRCB Safe and Affordable Funding for Equity and Resilience (SAFER) grant program and the DWR Urgent Drinking Water grant in 2021 and the contract was executed in 2023. This funding will be used to make progress to implement this plan, beginning with the tasks outlined in Table 1: Funding Received by Santa Cruz County below (subject to change as the work progresses).

Table 1: Funding Received by Santa Cruz County to support Individual and State Small Water Systems.

Task	Funding allocated	Funding source
Water Quality Testing	$150,000	State Water Resources Control Board
GIS database update to identify and map all parcels served by domestic wells, and investigate consolidation feasibility	$95,000	Department of Water Resources
Small system & domestic well outreach and POU/POE treatment systems* (*recipients must meet income requirements)	$360,000	State Water Resources Control Board
Contract with bulk, potable water hauler	$90,000	$80,000 State Water Resources Control Board program, recipients must be income limited + $10,000 Department of Water Resources
Local Guide to Consolidation	$15,000	State Water Resources Control Board

Contracts are currently in place to provide emergency hauled water, bottled water, treatment devices, and water testing. The intention of these contracts are to support household well owners and state small water systems manage issues related to loss of access to water. This loss could be associated with wells that go dry due to drought conditions or have known water quality problems, such as contamination from from nitrate, arsenic, or hexavalent chromium. .

To identify households that could utilize these free services, Santa Cruz County began a partnership with the Central Coast Drinking Water Well Testing Program, a regional program from the Bay Foundation and Regional Water Quality Control Board that provides free well testing to all county residents. The goal of the Central Coast Program is to ensure that households are aware of their drinking water quality and improve understanding of

groundwater quality on the Central Coast. By coordinating these two programs, Santa Cruz County was able to reach more residents and provide faster support to financially qualified residents.

Big Basin Water Company

Big Basin Water Company (BBWC) is a privately-owned utility serving 540 households with drinking water and 30 parcels for wastewater management in the San Lorenzo Valley. BBWC was beset by years of financial mismanagement and lack of investment in critical infrastructure, leading to repeated service interruptions for customers, difficulty rebuilding for CZU survivors and litigation by the State Water Resources Control Board on the drinking water side and Regional Water Quality Control Board on the wastewater side. Since taking over in 2023, and with financial assistance from the State through a grant to the County of Santa Cruz, the court appointed Receiver has made significant strides in improving the system operations:

- Through a contract with Cypress Water Services, the drinking water system is functioning now with few water outages or boil water notices.
- Rate increases were approved by the California Public Utilities Commission, and the billing system has been updated.
- A comprehensive needs assessment[8] was developed by Moonshot Missions that evaluates the further upgrades necessary.
- The San Lorenzo Valley Water District is open to discussions about consolidation.
- The residents relying on the wastewater system voted to transition that system to be operated by the County of Santa Cruz CSA 7.
- County staff have been meeting regularly with the regulatory agencies as well as elected officials to work towards a sustainable resolution to the challenges of the BBWC.

[8] https://www.bigbasinwater.com/announcements/c64s18khew63q9snudmdzmq1cwft2y

Section 2: Water Quality

As shown in Figure 9, several watersheds within Santa Cruz County have been identified by the State of California as having impaired waterbodies pursuant to Section 303(d) of the Federal Clean Water Act (CWA)[9]. By definition, 303(d) listings and adopted TMDLs are related to impacts on one or more beneficial uses and the need to control the source(s) of these impairments. The Regional Water Board has oversight over these waterbodies and manages water quality through implementing Total Maximum Daily Loads (TMDLs) that are incorporated into Basin[10] Plans, and the National Pollutant Discharge Elimination System (NPDES)[11] permit program, including the Storm water (MS4)[12] program. The County of Santa Cruz and the Cities of Santa Cruz, Capitola, Scotts Valley, and Watsonville conduct extensive water quality monitoring and there is ongoing collaboration to exchange data among the individual stakeholders.

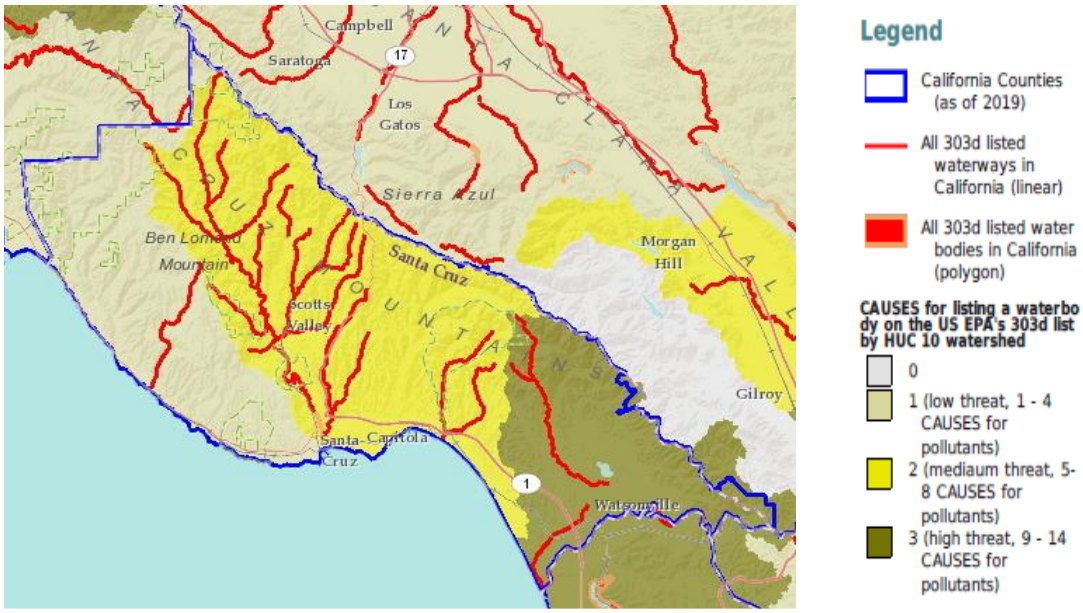


Figure 9: Map of watersheds with impaired water bodies in the County as identified by the Central Coast Regional Water Quality Control Board,

[9] https://www.waterboards.ca.gov/water_issues/programs/tmdl/background.html
[10] https://www.waterboards.ca.gov/centralcoast/publications_forms/publications/basin_plan/
[11] https://www.waterboards.ca.gov/water_issues/programs/npdes/
[12] https://www.waterboards.ca.gov/water_issues/programs/stormwater/municipal.html

Santa Cruz County Water Quality Program and Laboratory

This reporting period provided an opportunity to evaluate the multi-year effects of the intense storms of 2023 and 2024 following prolonged drought conditions and continued recovery from the 2020 CZU fires. An overview of the County's freshwater and coastal water quality monitoring sites is shown in Figure 10, with the colors representing public health advisories based on the most recent sample date. Coastal sites are monitored for fecal indicator bacteria in accordance with the California Beach Water Quality Program. [13] Freshwater sites are also monitored for fecal indicator bacteria along with other chemical and biological analyses. In the fall of 2023, the laboratory installed a new analytical instrument for the measurement of nitrogen and phosphorus compounds in water. These are nutrients that feed algal blooms in the South County lakes and red tides blooms at sea. In addition, the laboratory was able to modify other instruments to expand on the analysis of Algal toxins, salinity, surfactants, and be able to characterize water based on its origination-ground, ambient/surface, or wastewater. Furthermore, each watershed and associated tributaries received multiple sample events over the course of dry and wet seasons to build a chemical fingerprint. Each tributary feeding into the larger impaired watersheds were also monitored and some individual chemical signatures were developed. We now have robust analysis that show site-to-site and season-to-season variations at different locations across the County. In general, from observation, the variations are limited when accounting for flow.

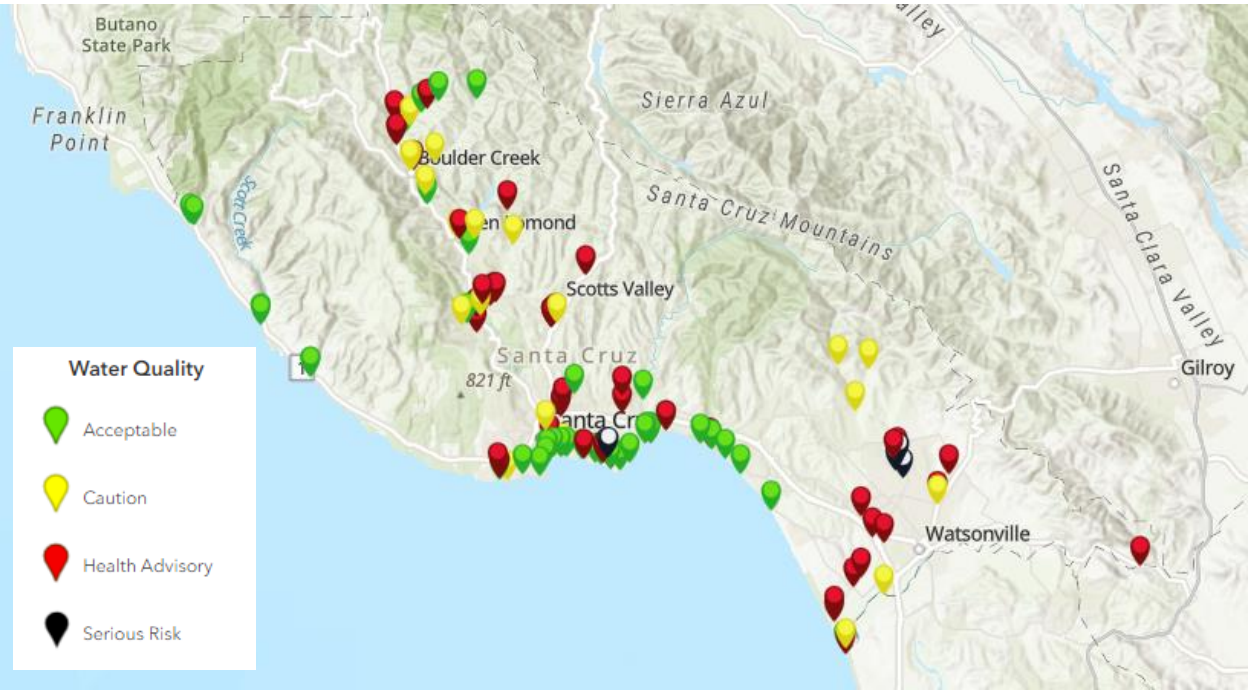


Figure 10: Example of water quality monitoring location and results as displayed on the County's Water Quality Viewer as of November 21, 2024 : Water Quality Status (SCCEH.COM)

[13] https://mywaterquality.ca.gov/safe_to_swim/

Cyanobacterial blooms

A major issue that emerged during this water year was the prevalence and persistence of cyanobacterial blooms that began earlier than 2023's Harmful Algal Bloom and persisted longer (Figure 11). The influx of nutrients during the rainy season coupled with extended periods of warm weather and stagnant water contributed to elevated levels of cyanobacteria and associated toxins in several locations including Cororan Lagoon, Pinto Lake, Kelly Lake, and Drew Lake. During the winter and spring of 2024, the County expanded their sampling upstream of Corcoran Lagoon. Knowing that this lagoon is prone to Harmful Algal Blooms, our investigation led us to Rodeo Gulch and properties that maintain livestock. The high concentrations of nitrogen and phosphorus being carried into Corcoran Lagoon provided the nutrients for a filamentous specie of cyanobacteria called *Nodularia*. It produces a hepatic toxin called microcystin. The EPA has a health advisory threshold when Microcystin is greater than 0.8 parts-per-billion.

There are many algae species that are toxin producing. Cylinderospermopsis, Anabaena can produce other forms of toxins that have adverse health effect on game and fish, wildlife, and humans and/or their pets that are using contaminated waters for recreation. When a Harmful Algal Bloom begins, it's important to begin to characterize the species present and the related type of toxins. What we are seeing in the last two seasons' blooms, that the dominant species change over the course of the bloom. One toxin may dominate the bloom at the start, then shift to another toxin. During a bloom, as algal species decay, dissolved oxygen concentration becomes reduced to a dangerous level that is toxic to aquatic life.

Figure 11: Cyanobacterial blooms at Corcoran Lagoon(left) and Pinto Lake (right), summer 2024

Qualitative microscopy and biochemical analyses were conducted to track the progress of the blooms and evaluate potential health risks. Example photomicrographs are shown in Figure 12. There were site-to-site differences in the overall density of microorganisms and differences over the duration of the cyanobacterial bloom.

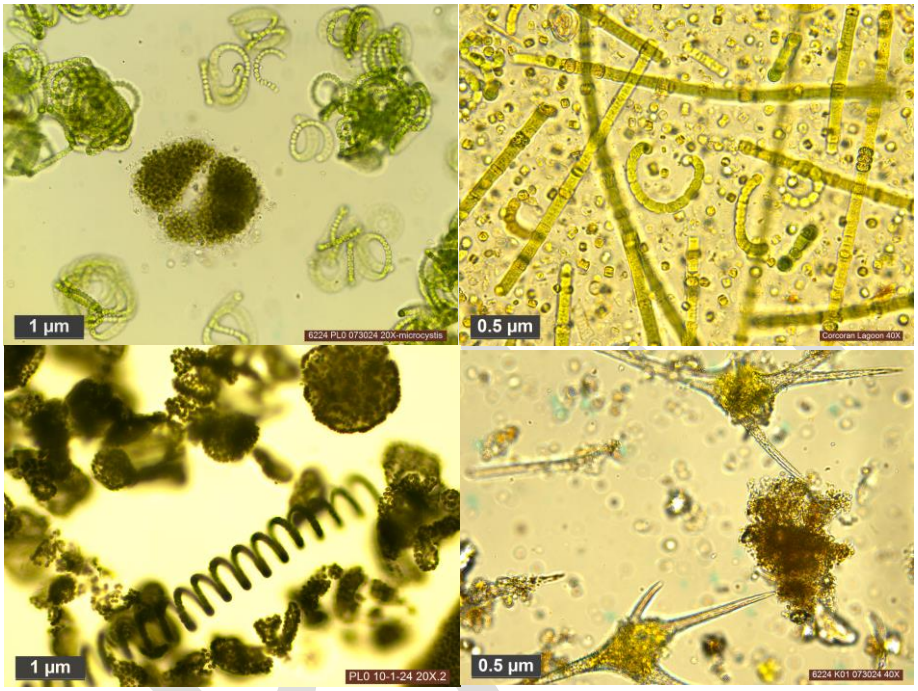


Figure 12: Photomicrographs from Pinto Lake Boat Rental (PL0), Corcoran Lagoon (R0) and Kelly Lake (K01). Micrographs from samples collected July 30 and October 1. Courtesy of Eric Baugher, County of Santa Cruz

The cyanobacteria can release toxins into the environment that are harmful to people and pets who are exposed to the water. The dominant toxin detected during the cyanobacterial blooms was microcystin. Microcystin levels between 6 and 20 parts per billion are of concern and levels exceeding 20 parts per billion pose significant health risks. A comparison of microcystin levels at Pinto Lake is shown in Figure 13 over the duration of the 2024 cyanobacterial bloom. The concentration of microcystin increased as the water temperature increased throughout summertime at Pinto Lake (PL16, PL0, PL11) and Corcoran Lagoon (R0.) Late in the season at Pinto Lake, the microcystin varied depending on wind direction blowing the algae to one side of the lake or the other.

	Microcystins, PPB			
Sample Date	PL16	PL0	PL11	R0
5/20/2024	0.38	0.08	0.91	
5/28/2024	0.95	2.21	0.80	20.00
6/4/2024	0.62	0.32	0.17	125.00
6/11/2024	0.37	1.20	0.56	125.00
6/25/2024	0.20	0.24	0.19	111.78
7/10/2024	0.37	0.33	0.74	150.00
7/16/2024	0.19	0.23	0.29	
7/30/2024	2.15	3.07	4.60	
8/5/2024	>15.000	14.02	15.00	134.46
8/19/2024	>20.000	20.00	20.00	94.26
8/27/2024	16.23	18.47	14.31	90.00
9/3/2024	>25.000	25.00	25.00	
9/10/2024	14.04	6.01	5.64	73.17
9/24/2024	16.97	13.16	8.22	
10/1/2024	2.96	25.00	7.26	
10/15/2024	4.32	4.22	16.17	13.95
10/22/2024	8.71	40.00	0.85	19.87
10/28/2024	8.55	42.45	28.99	19.00

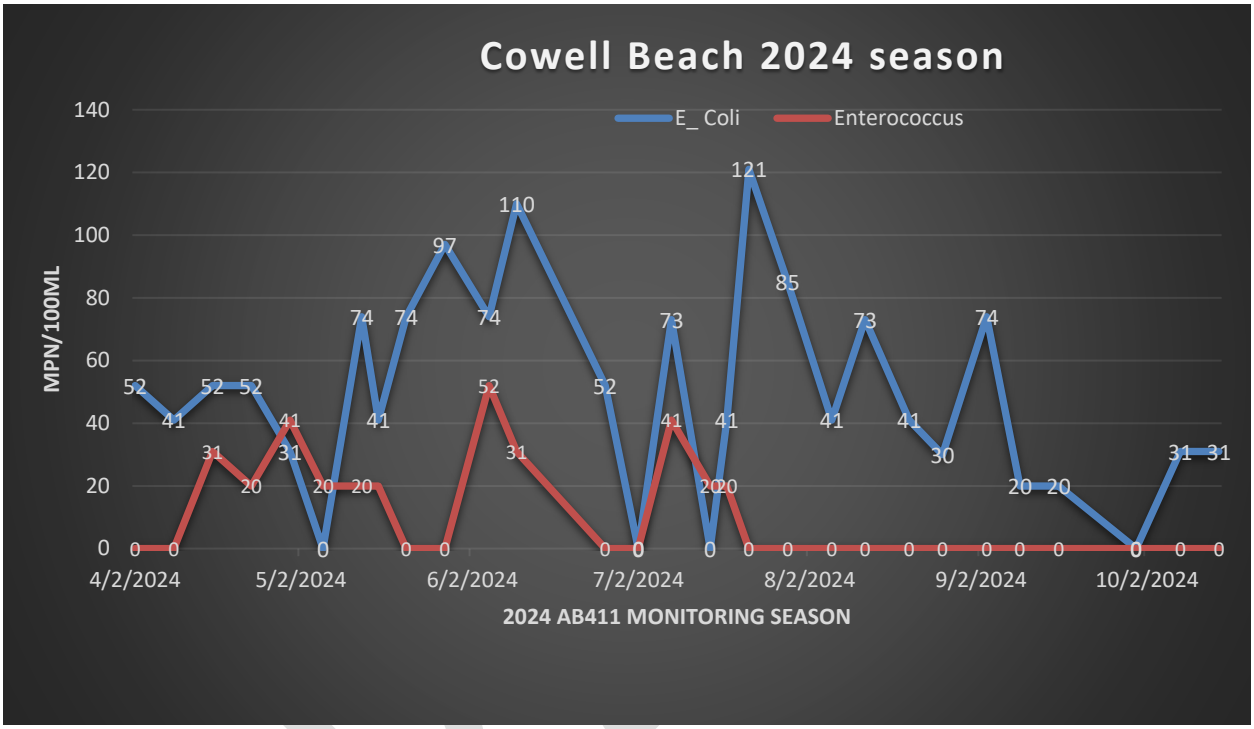
Figure 13: Microcystin toxin concentration from late May to late October 2024.

Additional work on cyanobacterial speciation will be conducted using molecular testing (digital PCR) in parallel with microscopy, analysis of algal pigments (chlorophyll and phycocyanin), and toxin surveillance. The detection of active cyanobacterial blooms will trigger supplemental testing, and areas experiencing exceedances are posted, with very high levels triggering restricted access. Thus far, digital PCR has not had successful detection of microcystis, through detection of the genetic sequence coding for the microcystin synthetase gene. It appears that there is abundant variation of the genetic sequence among the population of algae making dPCR detection non-viable. Our best methodology for detection is microscopy combined with ELISA antibody detection of the toxin itself.

Beach Water Quality

Water quality in 2024 at the County's beaches showed improvement over 2023 season. Elevated fecal indicator bacteria (E. Coli and Enterococci) were episodic with relation to tidal influence and any late spring rain events. Sampling schedules were modified to avoid directly sampling ocean water after a rain, but within 24 hours thereafter. Any elevated readings were re-tested to determine persistence of elevated fecal indicator bacteria and/or

to remove the health advisory when MPN/100mL returned to safe concentrations. For E. Coli that is less than 400 MPN/100mL and Enterococcus less than 104 MPN/100mL.



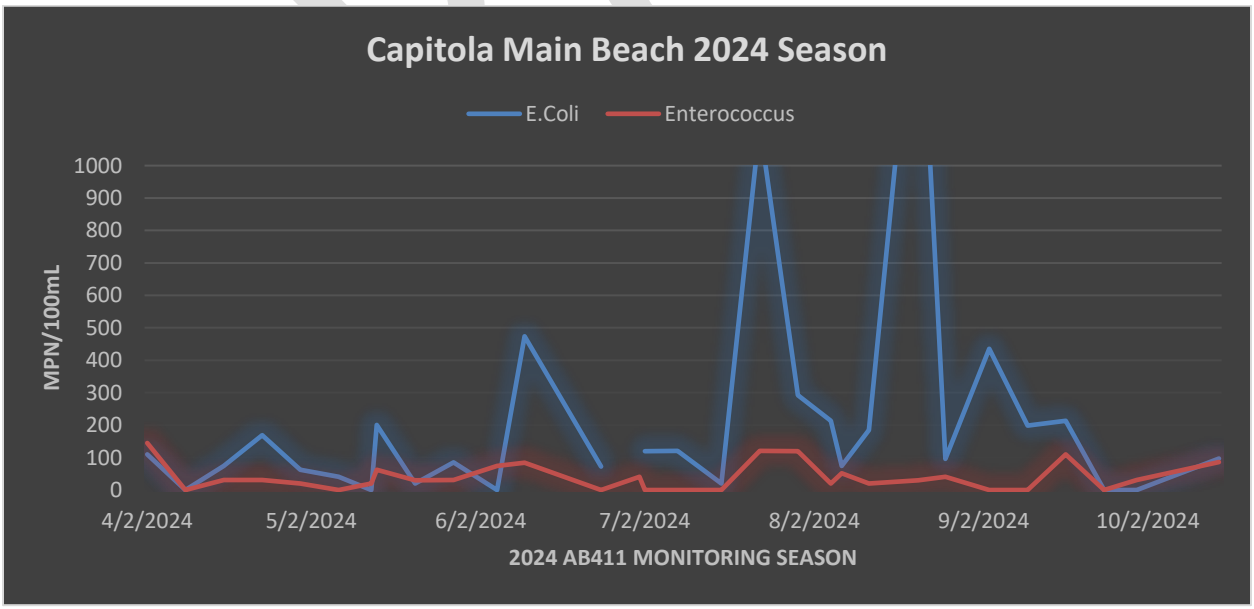


Figure 14: Data are from grab samples taken by the County of Santa Cruz Environmental Health. Cowell Beach had no health advisories; Capitola Main Beach had three episodes of health advisories on June 10, July 23, August 21.

Red Tide

Appearance of a red tide began in June 2024. It vanished in July but returned in late August and persisted into early October. The beaches with the most impacted ocean water were New Brighton, Seacliff, Rio del Mar, and Platform. The dominant specie of red tide phytoplankton found was Akashiwo sanguinea. Ceratium and Alexandrium were also found during the second bloom of late summer (Figure 15). Increased Domoic Acid and Saxitoxin were measured in ocean water samples taken during the two blooms. Domoic acid is responsible for marine mammal distress as the neurotoxin accumulates within the fish that they feed on and biomagnifies within their nervous system, affecting their brain and heart. Saxitoxin is another neurotoxin that is highly potent and causes paralytic shellfish poisoning in humans. Therefore, the ban on shellfish harvesting from May 1 to October 31 is always in place. It was more important to note the ban this year with the active red tide and phytoplankton responsible for paralytic shellfish poisoning.

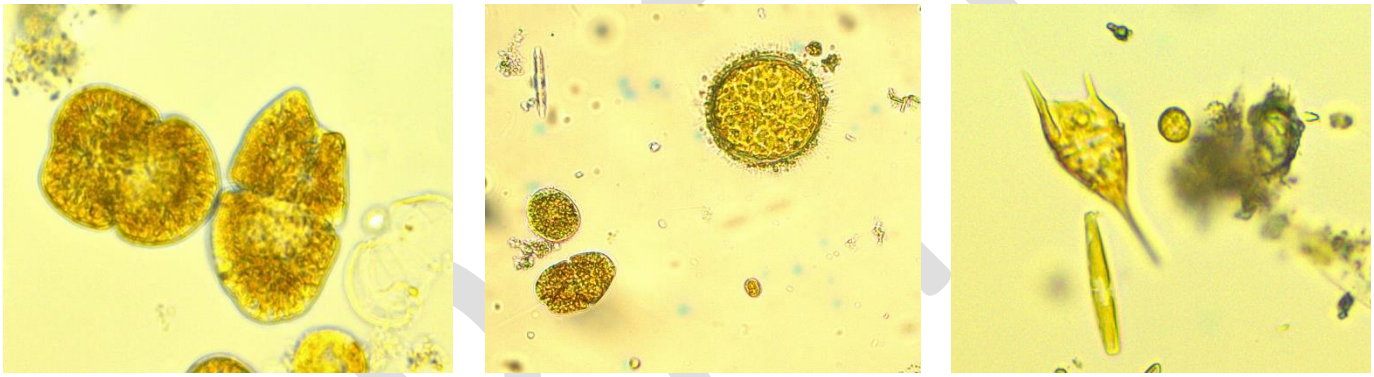


Figure 15: Microscope images of Akashiwo sanguinea, Ceratium, and Alexandrium. Photo by Eric Baugher.

Local Area Management Program Pilot Study

Environmental Health staff continued the process for implementation of the County's Local Agency Management Program (LAMP) for Onsite Wastewater Treatment Systems (OWTS). The LAMP was required to be consistent with requirements of the State OWTS Policy and was developed in consultation with local stakeholders and staff from the Central Coast Regional Water Quality Control Board. of the LAMP provides for increased protection of public health and water quality through increased water quality monitoring and surveillance of OWTS performance. and more stringent requirements for installation and maintenance of new and replacement OWTS.

Implementation of the new requirements is proceeding relatively smoothly, but the significantly increased cost of enhanced treatment systems presents a challenge to property owners wanting to upgrade or repair their system. Over 47% of the recent OWTS installations are using enhanced treatment, but the number of OWTS repair permit applications has declined by 70% since 2018, when the more stringent rules went into effect. EH staff are

seeking ways to reduce the costs and possible options to provide some funding assistance to property owners.

During the 2024 wet and dry seasons, two small tributaries of the San Lorenzo River were investigated to gather analysis to determine if their localized watersheds were impacted by OWTS. Staff selected Shingle Mill Creek which feeds into the San Lorenzo River at Henry Cowell Park at North Big Trees Park Rd. The second location was Two Bar Creek, which feeds into San Lorenzo River at Brimblcom Road. OWTS density in these two areas vary. The most densely situated OWTS exist at Shingle Mill Creek. The sampling route began at the highest elevation point and subsequent samples were collected following the creeks to their point of entering the San Lorenzo River. We repeatedly sampled these two watersheds multiple times over dry and wet weather conditions. The observed change in creek flow was noticeable in changing the geochemistry, ionic balance between anions and cations.

DNA and viral RNA extractions were performed on the water samples and human markers applied to detect presence of human waste. A target of increasing interest among environmental scientist is the Pepper Mild Mottle Virus. It's an RNA virus that can persist in the environment and is shed in human waste of those that consume peppers and several other type of vegetables. It is a plant virus specific to peppers and does not cause any health concern for humans. We have developed the means to detect its presence in water. The presence indicates human waste has been released into the watershed, either directly or via OSWT that is no longer functioning properly.

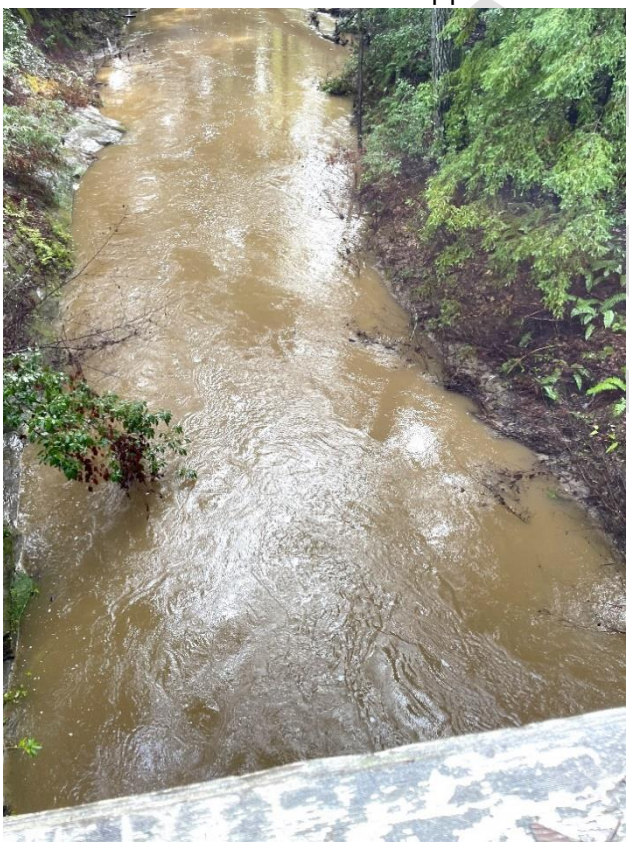


Figure 16: Shingle Mill-Photo taken on January 24, 2024

The County lab has other methods for detecting failed OWTS such as UV absorbance at 254nm and fluorescence which shows presence of dissolved organic matter and components related to clothes washing detergent that would be found in wastewater. In addition, we developed a method to detect dissolved and total organic Nitrogen and Phosphorus through oxidative digestion at 121°C. This allows us to quantify the total amount of nitrogen and phosphorus as another proxy for wastewater which contains significant concentrations of both elements. Having this multidimensional analysis for a water sample

gives us information about the influence of OWTS on their immediate watershed environments and their contribution to pollution in the impaired waterways. Robust data from both locations require more review, additional sample events in 2025, and a final report drafted to discuss the findings. In 2025, additional locations will be established in mid-county and south county, especially in the impaired watersheds that feed into Pinto Lake catchment.

County Regulatory Programs

Community Development and Infrastructure (CDI) Public Works continue to review land development projects in the county and require stormwater mitigations for all projects that add or replace over 500 sq ft of impervious area, with quantitative mitigations for those over 5,000 sq ft. This will maintain, and in some cases improve on existing infiltration conditions, help reduce flash flooding, filter runoff from developed areas, while also increasing infiltration of rainwater to lessen the impacts on groundwater resources resulting from land developments.

Drinking Water Quality and Supply Protection

Scotts Valley Water District (SVWD)

- The Scotts Valley Water District replaced filter media at the Orchard Run WTP, El Pueblo WTP and Well 10a WTP.
- SVWD completed monitoring for UCMR5 at all entry points to the distribution system in March 2024.
- In support of the intertie 1 project, SVWD and SCWD staff is conducting a Disinfection By-Products formation potential study. Hydraulic modeling was conducted to determine approximate water age at extremities of the SVWD water system under the scenario of receiving SCWD water from the GHWTP. A bench test study of DBP formation potential is being conducted based on raw water supply of SCWD GHWTP water, and approximate age in SVWD's distribution system.
- Initial Lead Service Line Inventory was completed and submitted to the SWRCB, utilizing a machine learning approach.

City of Santa Cruz Water Department (SCWD)

- Processed over 41,000 water samples testing for microbial, inorganic, organic, pesticides, herbicides, and radioactive contaminants.
- Continued ongoing monitoring of the Loch Lomond (4400912) and Santa Cruz (4410010) potable drinking water systems in compliance with drinking water permit regulations and bacteriological sample siting plan.
- Completed the United States Environmental Protection Agency's (EPA) fifth unregulated contaminant monitoring rule (UCMR5) sampling.

- Continued ongoing management and monitoring of Loch Lomond Reservoir for cyanobacteria and cyanotoxins.
- Continued ongoing monitoring of raw source water and treated finished water for unregulated contaminants of emerging concern such as Per- and polyfluoroalkyl substances (PFAS)and pharmaceuticals and personal care products.
- Completed the Beltz Well 8 and Beltz Well 12 aquifer storage and recovery (ASR) demonstration project.
- Completed the Beltz Well 9 ASR pilot study.
- Completed the triennial Lead and Copper Rule (LCR) monitoring.
- Published the 2023 Annual Water Quality Report in English and Spanish.
-
- Began initial monitoring requirements to comply with the final National Primary Drinking Water Regulation (NPDWR) for six PFAS.
- Began initial monitoring requirements to comply with the California State Water Resources Control Board Division of Drinking Water's (SWRCB-DDW) hexavalent chromium Maximum Contaminant Level (MCL).
- Maintained California State Water Resources Control Board Environmental Laboratory Accreditation Program certified drinking water laboratory. Initiated CEQA compliance for the Graham Hill Water Treatment Plant Facility Improvements Project
- Completed the lead and copper customer-side service line inventory.
- Continued 6ppd monitoring in the San Lorenzo River in support of NMFS anadromous salmonid recovery efforts.

Soquel Creek Water District (SqCWD)

- Replacement of Soquel Creek Water District's Country Club well is part of a larger plan to build a water treatment plant at the location to treat 1,2,3 – Trichloropropane. Construction of the replacement well is complete and additional water quality investigation is ongoing before commencing treatment plant construction.
- As part of the SqCWD's Well Master Plan and the Santa Cruz Mid-County Basin's Groundwater Sustainability Plan, SqCWD continues to redistribute groundwater pumping further inland where possible to reduce seawater intrusion at the coast.
- SqCWD maintains and continues to collect samples from a network of monitoring wells along the coastline to track groundwater levels and water quality to track seawater intrusion.

Figure 17: Hexavalent Chromium treatment pilot. Photo courtesy of SqCWD.

• A pilot study to treat Hexavalent Chromium (Cr.6) using reduction coagulation filtration (RCF) treatment is underway to treat water from the Seascape, San Andreas, and Bonita Wells (Figure 17). Design of the treatment system is underway. Construction is targeted for completion by October 2026 to meet compliance deadlines.
• Planning for construction of the Cunnison/Tannery Iron and Manganese Treatment Plant to support the new Cunnison well was underway in 2024.
• Completion of an initial Lead Service Line Inventory was completed in 2024. Over 1,200 visual inspections of customer service lines were completed as part of the process and no lead service lines were found.

City of Watsonville Water Division (CoW)

- The City of Watsonville Environmental Sustainability Division is striving to implement multi-benefit projects that incorporate climate change, natural hazard mitigation, green infrastructure and habitat restoration benefits. The following grant funded projects are active:
    - Middle Struve Slough Water Quality and Habitat Improvement Project funded by the Ocean Protection Council in partnership with Watsonville Wetlands Watch is in implementation. This project will implement water quality measures and habitat restoration. This year, this project area was part of World Wetlands Day.
    - Upper Struve Slough Wetland Enhancement and Public Access project funded by the Department of Water Resources in partnership with Watsonville Wetlands Watch is in implementation. This project will reduce localized flooding and improve habitat.
    - Watsonville Ramsay Park Phase IV California Natural Resource Agency grant will implement green infrastructure elements at the new Nature Center. Improvements include a green roof, bioswale, and reduction of heat island effects.
- Pinto Lake experienced a significant cyanobacteria harmful algal bloom this year. The CoW had to restrict access for nearly four full months from August through November

2024. The CoW worked with the County of Santa Cruz to plan the closures. Additionally, the CoW submitted the CDFW Aquatic Invasive Species Annual report for Pinto Lake.

- The Water Division continues to monitor its groundwater quality. The presence of hexavalent chromium (Cr6+) and Per- and polyfluoroalkyl substances (PFAS) have been detected in some of our groundwater wells. A maximum contaminant level (MCL) for Cr6+ is effective as of October 1, 2024. The EPA finalized the MCLs for PFAS in April 2024. The City continues its quarterly monitoring as it prepares treatment designs for both Cr6+ and PFAS.

Rural roads and home drainage

The RCD completed site visits to 14 unique properties requesting technical assistance related to rural roads or drainage and erosion issues around their home and/or streambanks. Recommendations were provided based on specific concerns. RCD discussed improvements that would also reduce sediment runoff to local waterways. The RCD constructed one sediment reduction project, private road improvements including three culvert upgrades, 8 rolling dips and other road grading and surfacing on a private road in the Bear Creek watershed.

Agricultural Water Quality Programs

- In 2024, PV Water continued to operate multiple basin water quality monitoring programs in addition to operating water supply projects that achieve the dual purpose of augmenting water supply needs while helping to maintain or improve basin water quality. These programs are briefly summarized below.

    - **Surface Water Quality Monitoring Program:** PV Water staff routinely collects and analyzes water quality data from approximately 40 locations to provide information on the water quality conditions of streams, creeks, rivers, sloughs, and lakes in the Pajaro Valley. In addition, PV Water also maintains a large network of autonomous data loggers, and measures discharge to monitor hydrologic conditions with major focuses on the Watsonville Slough System, Pajaro River, and College Lake watersheds.
    - **Supplemental Water Quality Monitoring Program:** PV Water staff routinely collect and analyze water quality data from the CDS sources and points of delivery to provide information on changing water quality conditions, assess its suitability for agriculture customers, and to quantify nutrient and salinity inputs into the soil and groundwater in the Delivered Water Service Area.
    - **Groundwater Quality Monitoring Program:** PV Water staff directly monitor groundwater quality from a network of over 180 public and private wells that staff routinely visit to obtain water level and water quality information. At minimum, staff visit these wells in the spring and fall of each year with a subset of wells

monitored more frequently. PV Water's groundwater monitoring network is supplemented by data collected by local water purveyors and other publicly available water quality datasets.

- **Salt and Nutrient Management Plan:** PV Water developed and continue implementing the Salt and Nutrient Management Plan to ensure attainment of water quality objectives for protection of beneficial water uses and guide management of salts, nutrients, and other significant chemical compounds within the groundwater basin. As part of the plan implementation, PV Water works with community partners, such as the RCD and U.C. Cooperative Extension, to continue to offer resources and education opportunities that equip growers to efficiently irrigate and manage nutrient application.

- RCD Agricultural Program staff continued to work with NRCS, researchers, management agencies, funders and industry to get effective water quality best management practices developed, incentivized, and on the ground. RCD staff collaborated with California FarmLink and Kitchen Table Advisors to deliver a variety of technical assistance services targeting socially disadvantaged farmers and ranchers (SDFRs), including assistance with improved soil and nitrogen management for water quality regulatory compliance (Ag Order 4.0). Additionally, RCD continued to support growers to receive funding and implement projects through the California Department of Food and Agriculture (CDFA) State Water and Energy Efficiency Program (SWEEP) and the Healthy Soils Program (HSP). The SWEEP program offers growers the opportunity to apply for up to $200,000 for projects that improve water and energy use efficiency, and the HSP program offers growers up to $100,000 to help implement practices that improve soil health. In 2023 CDFA received additional funding and launched a pilot "block grant" program to support further distribution and implementation of SWEEP projects. The RCDSCC was awarded one of these block grants, in partnership with RCDMC and SMRCD. Through this block grant these three RCDs are currently supporting an additional pool of farming operations (35 total) for implementing water and energy conservation projects in the central coast region. The RCD also has secured funding to launch a compost cost-share program supporting growers to further the adoption of compost application to boost soil organic matter and increase soil water holding capacity.

- A sediment basin was completed at Watsonville Slough Farm. The basin will detain up to 485 CY of sediment and treat agricultural storm and irrigation water from a surrounding 11.6 acre area of farmland. The sediment basin directly treats water flowing into the Watsonville slough and will improve water quality and wildlife habitat.

Section 3: Natural Resources and Flood Management

Watershed management is a critical component of water supply and water quality. What happens on the landscape and in the watersheds impacts the availability and quality of water, and the damage caused by droughts and storms alike. Watershed health is also critical to the environmental users of water. The County has made deep commitments to fisheries resources and along with regional partners, and continues multi-faceted approaches to ensuring those species thrive. As these species are an indicator of overall watershed health, efforts to improve these populations have cascading benefits for all users of the watershed.

Storm and Flood Preparation and Response

- The Stream Wood Program continues to facilitate the retention of naturally recruited wood by educating landowners about the benefits of stream wood and modifying stream wood when necessary to protect property or other resources. The program received a high number of requests for assistance during the 2024 water year, largely due to several intense storm events as well as increased erosion from the extreme 2023 water year, which weakened tree stability (e.g., along Soquel Creek). This caused many trees to become more susceptible to falling, even during lower-intensity storms. In addition, the program's visibility has grown due to community outreach, heightened concerns following the previous extreme water year, and increased access to public resources such as the Stream Wood page on the county website and the RCD's website. Program staff responded to about 38 requests for assistance in water year 2024. Roughly 24% of those were referred to Public Works or other agencies due to potential impacts to roads or other infrastructure. Of the roughly 38 sites that were addressed by Water Resources staff, wood was modified (either partially cut or entirely cut) at about 29% in order to mitigate risks to homes or infrastructure. At about half of the sites, wood was not modified and was left as is. Water Resources staff continue to respond to requests for assistance and adopt new data management tools.

  We completed a Streamwood Program Training with County Public Works, Drainage, on 9/19/24. This training was attended by approximately 25 workers who handle many of the stream wood tasks for the program and perform other maintenance activities in county waterways. The training was essential for aligning field practices with the program's conservation goals and regulatory requirements. The training covered the Streamwood Program objectives, permit requirements, life history of sensitive riparian and aquatic species, and best management practices to protect County streams and riparian areas.

The County of Santa Cruz was awarded a $500,000 grant from the Wildlife Conservation Board in June 2024 to further expand and enhance the Santa Cruz County Stream Wood Program. For over 15 years, this program has operated with limited resources to address large woody debris in local streams, which is critical for salmonid habitats. Historically, large wood has often been removed by landowners, undermining its habitat benefits. The recent funding will enable the program to address an influx of post-winter 2023 requests and boost its long-term capacity. This includes evaluating and, where possible, retaining large woody debris to support habitat complexity and improve ecological resilience in salmonid-bearing streams.

- CDI's Floodplain Manager submitted the material to FEMA ISO office for the Community Rating System (CRS) 5-year cycle audit in Spring 2023. The CRS is a voluntary program the County participates in to improve floodplain management and increase development standards within the flood hazard areas. Results of the 5-year audit are pending review.

- The Pajaro Regional Flood Management Agency (PRFMA) is a joint powers authority of the County of Santa Cruz, Santa Cruz County Flood Control and Water Conservation Zone No. 7, the County of Monterey, the Monterey County Water Resources Agency, and the City of Watsonville. Formed in 2021, the agency will plan, finance and implement projects and programs to reduce flood risk from the lower Pajaro River and its tributaries in Santa Cruz and Monterey Counties. Some of the PRFMA's accomplishments in 2024 include:The federal Pajaro River Flood Risk Management Project, now called the Pajaro River at Watsonville Project, has completed the design phase for Reach 6 (Corralitos Creek between Green Valley Road and East Lake Avenue). More importantly, Reach 6 is now in the construction phase, with pre-construction phase activities occurring now (Fall of 2024) which include tree removal, utility relocation, structure demolition, the property acquisition. Earth moving to build new levees on Corralitos Creek, where none currently exist, will begin in Spring/Summer 2025.
- Design of Reaches 5, 4, and 2/3 are currently beginning and will extend over the next 2-3 years while Reach 6 is being constructed. AB 876 and other strategic implementation programs will allow the project to shave years off of its total construction timeline. However, the project will still take 5-10 years to fully complete.
- PRFMA is part of a larger consortium recently awarded $71M from the NOAA Climate Resilience Regional Challenge grant. PRFMA will receive just over $10M as part of this grant to plan, design, and build additional flood risk reduction along the Santa Cruz County side of the Pajaro River upstream of the confluence with Salsipuedes Creek, where the USACE is not planning on introducing improvements as part of the Pajaro River at Watsonville Project. Project planning and implementation in this area will extend over the next 5 years or so.

- PRFMA was also recently awarded $400,000 from the FEMA BRIC Program to start feasibility work to develop flood risk reduction solutions along what's called Reach 1 of the Pajaro River, extending downstream from the Highway 1 bridge to the ocean. It is anticipated that solutions developed will provide at least 100-yr flood protection, with implementation extending over the next 5-10 years.
- PRFMA has also partnered with AMBAG (the Association of Monterey Bay Area Governments) to receive a $2.5M grant from the California Department of Transportation to plan improvements to the Highway 1 crossing over the Pajaro River. Again, ultimate construction of any improvements will not likely be completed for 8-10 years, but this effort, combined with the progress mentioned above, will build capacity to the Pajaro River system where it is needed and outside of the Pajaro River at Watsonville Project.
- PRFMA continues to synergistically collaborate with USACE's Engineering With Nature Program, California Department of Water Resources and other entities' Ecological Floodplain Inundation Potential modeling, and the University of California and California State University to examine how multibenefit habitat and groundwater recharge features can be incorporated into all projects.
- PRMFA has also recently completed the rehabilitation of the upper 3000 feet of the Monterey County levee system on the Pajaro River to introduce more resilience to the levee system there, ahead of full reconstruction as part of the Pajaro River at Watsonville project.

- Results for the Community Rating System (CRS) 5-year cycle audit were received in October 2024. The CRS is a voluntary program the County participates in to improve floodplain management and increase development standards within the flood hazard areas. The County continues to maintain a class 8 rating for the additional floodplain management activities implemented by CDI, which affords residents a 10% reduction in their flood insurance premiums. Activities include, but are not limited to, documentation and protection of natural open spaces located in the FEMA designated Special Flood Hazard Area, higher regulatory standards for new development within the floodplain, and Stormwater and floodplain management planning activities

- The RCD provided technical assistance and conservation planning assistance to forestland managers throughout the county. In 2024 the RCD implemented four forest health and ecological restoration projects on over 350 acres across the county. These projects serve to improve ecosystem function, protecting source waters from sedimentation and other potential impacts that may result from catastrophic wildfire. The RCD's no-cost chipping program supports defensible space creation for homes in the wildland urban interface and in the spring of 2024 served 405 individuals.

Fisheries Monitoring and Protection

County Water Resource Program staff continue to implement various programs and projects to benefit steelhead and coho salmon habitat that is degraded due to historic and current land and water use. Coho salmon are listed as endangered under both the state and federal Endangered Species Act (ESA) and are critically endangered in Santa Cruz County. Water Resource staff continue to assist coho salmon conservation efforts. Steelhead are listed as threatened under the Federal ESA and continue to persist in most county streams at low to moderate population numbers. Current recovery actions focus on improving dry season streamflow and habitat complexity. A key component of these efforts includes the proposed protective standards to limit streamflow depletion associated with new non-de minimis wells. These standards are part of an updated well ordinance, expected to take effect in mid-2025. Increasing habitat complexity is also an objective of the Stream Wood Program.

- Fish Monitoring in North County Streams: Dr. Jerry Smith, Emeritus Professor, San Jose State University, performed annual fish monitoring in Waddell and Gazos Creeks (which is just outside the County border) during summer 2024. In Waddell Creek, no coho were captured, and steelhead densities were only slightly higher than in 2023, averaging 4.8 young of year per 100 ft, and 1.8 yearlings and older per 100 ft. Habitat conditions in the lower portion of Waddell Creek improved somewhat relative to 2023, due a large log jam upstream that retained sediment. Most pools sampled above this reach, and in the West Fork, have been filled by sediment following the CZU Fire.

- No coho were documented in Gazos Creek, (none have been observed since 2005). However, steelhead density rebounded relative to recent years, despite modest habitat improvements. Average densities for young of year were 33 per 100 ft and yearlings and older averaged 7 per 100 ft.

- During summer of 2024, NOAA conducted snorkel surveys throughout the Scott Creek watershed. Results were not available at the time of this report. The City of Santa Cruz also performs annual monitoring in County streams.

- Juvenile Steelhead and Stream Habitat Monitoring (JSSH): The Santa Cruz County Water Resource Program continues to partner with local water agencies and consulting fishery biologists to perform juvenile steelhead and habitat monitoring. This long-term, annual monitoring program measures the density of juvenile steelhead at monitoring sites throughout the San Lorenzo, Soquel, Aptos, and Pajaro watersheds. It also assesses habitat conditions for steelhead and coho salmon and helps inform conservation priorities throughout the County. During summer/fall of 2024, 39 stream sites were sampled by electro-fishing (26 in San Lorenzo River, 9 in Soquel Creek, and 4 in Aptos Creek watersheds), and 2 lagoons were sampled by seining (Aptos and Pajaro Lagoon; Soquel Lagoon was also sampled through the City of Capitola). Streamflow was measured at 15 locations.

Monitoring data were being processed at the time of writing this report, but a few preliminary findings indicate relatively low young-of-the-year (YOY) densities, possibly related to low egg survival and late-season storms that may have scoured out or buried redds. YOY densities were higher at upper watershed sites. Juvenile growth rate was relatively high, associated with the above average baseflows, low YOY densities and reduced competition for food. No steelhead were captured in Pajaro Lagoon, as has been the case since sampling began there in 2012. No coho salmon were observed.

Three captured juvenile steelhead and one sculpin temporarily held in a mesh basket. Photo courtesy of Sean Abbey (County of Santa Cruz)

- Water Resources staff partnered with RCD Santa Cruz County to outreach to property owners on the San Lorenzo River with the objective of identifying opportunities to remove fish passage barriers. This effort was informed by the inventory completed by Santa Cruz County staff in November 2023, that identified historical, anthropogenic (human-built) structures on the San Lorenzo River that affect fish passage. These historical structures affect upstream and downstream passage for adults and juveniles, especially during dry years or periods of low base flow in the river. This study focused on documenting 37 historical structures that completely or partially span the San Lorenzo River. Of those 37 historical structures, 24 structures span the channel and substantially affect fish passage. This report recommends the removal or modification of channel-spanning historical structures that substantially affect fish passage. Specifically, this report recommends that the County, CDFW, and NOAA Fisheries work together to facilitate the removal or modification of historical structures rated as

Medium or High Passage Severity. RCD staff continue to engage with property owners and seek funding for this work.

- The County of Santa Cruz Stream Crossing Inventory and Fish Passage Evaluation report identifies current priorities for fish passage among the County's road stream crossings. The 2022 update identifies locations on Casserly, Lompico and East Liddell Creeks where culvert replacement could improve passage for steelhead, aquatic and terrestrial animals. The study informs ongoing culvert replacement projects by Santa Cruz County CDI.

- In 2014, County Water Resources staff completed an inventory and assessment of steelhead passage barriers on Branciforte Creek. With this report, RCDSCC has completed the removal of 3 barriers.

- Program staff continue to monitor and maintain fish ladders located in County streams.

- Water Resources staff participate in the Caltrans FishPAC, a group dedicated to improving fish passage at state road crossings. In Santa Cruz County, Caltrans is actively working on 4 of the 6 highway crossings identified as high priority for replacement or remediation.

- RCD watershed restoration program staff, in coordination with the City of Santa Cruz Public Works and Water departments, completed the next phase of the Branciforte Creek Flood Control Channel Fish Passage Enhancement Project. With funding from the State Coastal Conservancy, the project team completed a feasibility study to identify preferred design alternatives that will ultimately help salmonids pass through this barrier in order to access critical spawning grounds higher up in the watershed. The RCD continues to support the City in seeking funding to move the project into the next design phase.

- The City of Santa Cruz Water Department completed public review for National Environmental Policy Act (NEPA) and CEQA compliance for the Anadromous Salmonid HCP with National Marine Fisheries Service (NMFS) and California Department of Fish and Wildlife (CDFW). A final Fish and Wildlife Section 2081 application was also submitted.

- The City of Santa Cruz continued ongoing monitoring related to fisheries, hydrology, water quality and rare terrestrial species relative to Water Department environmental regulatory compliance. Notable observations include:
    - Coho found in Laguna Creek for the 5th year in a row.

- The Scott Creek Coastal Resiliency Project is a unique, integrated bridge replacement and ecological restoration project with multiple benefits. This project will improve community and highway resilience to climate change and sea level rise, will implement a major recovery action for endangered coho salmon and a suite of other listed species, and will improve public coastal access, amongst many other benefits. For nearly 10 years the Resource Conservation District of Santa Cruz County, the Santa Cruz County Regional Transportation Commission, and Caltrans, along with our state and federal resource agency partners, have collaborated to re-envision how to plan for major transportation infrastructure projects by focusing on first understanding the needs of the ecosystem, then designing infrastructure and restoration activities together to meet those needs. This year, with funding from CDFW, the RCD completed the remaining technical coastal studies identified by the Technical Advisory Committee as essential for informing bridge design and selection of a preferred alternative bridge span and alignment. Caltrans secured $4.5M in SHOPP funding to move the project into environmental review, and the RCD secured funding from the Coastal Conservancy to continue active engagement of the Integrated Watershed Restoration Program Technical Advisory Committee in the process, and to advance ecological components of the project in partnership with Caltrans.

- RCD watershed restoration program staff continued to advance restoration planning efforts along lower Scott Creek at Swanton Pacific Ranch with funding from the California Department of Conservation. The project area is just upstream of the Scott Creek lagoon, which will be restored as part of the Scott Creek Coastal Resiliency Project. The project will eventually restore over 1 mile of creek to benefit listed species of fish, amphibians, and reptiles, and integrate with the lagoon restoration to significantly move the needle on species recovery.

- In coordination with state and federal agencies and conservation partners, RCD watershed restoration program staff helped advance design and permitting for streamwood enhancement projects on San Vicente Creek (Cotoni Coast Dairies National Monument and San Vicente Redwoods preserve) and Aptos Creek (Nisene Marks State Park) that are slated for implementation in 2025. RCD staff also continued to work with private landowners to advance barrier removal projects in the Branciforte Creek watershed, a focal watershed for salmonid recovery, conducting landowner outreach and site visits. In addition, RCD staff is working with the California Department of Parks and Recreation (State Parks) Santa Cruz District to develop restoration projects on State Parks lands impacted by illegal cannabis operations. Project examples include floodplain restoration, streamwood enhancement, and decommissioning of legacy logging roads.

Watershed Management Activities

- CDI has continued to oversee the timber harvests in the county to ensure robust water quality and habitat protection during timber harvests, and to cover staff time on enforcing violations of the erosion control, riparian and wetland protection, and grading ordinances that may impact water quality and riparian habitat. On those violations that require a notice of violation staff diligently pursues enforcement and restoration of riparian habitat and prevention of sediment from entering our streams. The Planning Department took the lead in cleaning up a homeless encampment on Carbonera Creek, adjacent to the County Emiline Campus, and funded new informational signage for the Planning Department public space regarding resource protection. CDI continues to work towards establishing a multi-department task force to address other homeless encampments that impact habitat and water quality.

- CDI's code compliance section continues to prioritize enforcement of properties that impact water quality via sediment or septic impacts, as well as general waste associated with unmanaged properties, and staff have developed a good working relationship with the CDFW enforcement staff and our district attorney to pursue larger-scale violations that impact water quality and riparian habitat.

- The County Zone 5 Master Plan is being updated, scheduled for completion by December 2025. Zone 5 covers, generally, the urban unincorporated areas of Soquel, Live Oak and the Pleasure point areas as well as the City of Capitola. The Zone 5 Master Plan update's scope of work includes condition and capacity assessment of the large stormwater conveyances, 36" or larger in pipe diameter, within the Zone. Evaluation of the maintenance program and recommendation for improvements on that will also be made as part of the Zone 5 Master Plan update. Aside from assessing the condition and capacity of the larger storm water conveyances within the Zone, an additional goal of this Master Plan update is to generate detailed cost estimates for the current and proposed maintenance and Capital Improvement Program (CIP) upgrade of all the large drainage conveyances. That estimates will be utilized to seek additional sustainable funding sources for the improved maintenance and the CIP implementation from the benefiting property owners in the Zone. The contract was extended through December 2025 in order to identify and pursue permanent funding sources to implement the flood control and pollution prevention needs within Zone 5.

- The City of Santa Cruz Water Department continued ongoing management work including:
    - Identification of karst protection zones relative to the revised County Well Ordinance,

- Maintenance of watershed divide and stream crossing signs,
- Onboarded new forestry and fisheries consulting teams,
- Completed evaluation of Newell Creek watershed lands forest management needs,
- Continued fuel management around Loch Lomond Reservoir, Laguna and Zayante watershed properties,
- Completed the Fern Ridge Road shaded fuel break project,
- Initiated City policy changes that will enable more proactive management of said properties and support regional forest health goals,
- Continued invasive species control at Loch Lomond Reservoir,
- Collaborated with the County on emergency access planning in Lompico,
- Provided regulatory support for operational emergencies,
- Continued implementation of watershed interpretive programs, implementation including addition of additional "Loch Walk" events
- Initiated Non-Flow Conservation Fund restoration work with the Resource Conservation District and other partners,
- Continued assistance with San Lorenzo River lagoon and lower San Lorenzo River management,
- Coordinated federal funding for fish passage improvements in the Branciforte Flood Control Channel,
- Participated in several regional, large-scale restoration grant proposal efforts,
- Pursued enforcement on illegal stream diversions and other unpermitted developments that have potential water resources implications,
- Continued coordination with hazardous materials spill incident responders,
- Continued coordination with Cal Trout on Branciforte Creek P,I,T, antennae installation,
- Provided administrative oversight of County-wide juvenile steelhead and stream habitat monitoring project.
- Identified two additional special status species on City watershed lands including Santa Cruz Mountains beardtongue and the Santa Cruz black salamander.
- Continued implementation of the Low Effect Mount Hermon June beetle Habitat Conservation Plan and Operations and Maintenance Habitat Conservation Plan; including implementation of a mitigation project for California red-legged frogs and western pond turtle in partnership with State Parks.
- Supported USFWS western pond turtle Endangered Species Act listing process.
- Completion of the Drinking Water Sanitary Survey update,

- The City of Santa Cruz has also participated heavily in the regional response to the houseless community and threats to drinking water sources including coordination on flood – related riparian camp evacuations, patrols of key riparian areas along the San Lorenzo River and tributaries and coordination of camp cleanups.

- The City of Santa Cruz also initiated operation of the San Lorenzo River lagoon control structure during the fall of 2024.

- In 2024, PV Water continued to work with regulatory and technical experts such as aquatic ecologists, archeologists, biologists, Indigenous American monitors, and federal resource management agencies to support the operation of existing water supply facilities and guide construction of the College Lake Project. In addition, PV Water leveraged these experts to survey natural resources, guide development of the WSS-MARR project, and refine mitigation measures. The work performed included programs to observe and collect information on environmental and biological resources in and around the Harkins Slough Facility as well as the proposed Struve Slough Project locations with focused interest in cultural resources, waterfowl/nesting birds, South-Central California Coast Steelhead, and California Red Legged Frogs.

Figure 18: College Lake Project Weir. Photo courtesy of PV Water.

- As construction of the College Lake Project continues in its second year (see Figure 18), PV Water continues to implement a robust mitigation and monitoring program that was outlined in the College Lake Project EIR to protect environmental resources during construction. The project itself includes construction of a fish passage structure which

will allow movement of fish into and out of College Lake. In prior conditions, fish did not have safe passage through College Lake including the endangered steelhead.

- PV Water also continues implementation of the College Lake Integrated Resources Management Project Adapted Management Plan 2022 which guides project operations and lake management. The plan provides adaptive management framework, including metrics, triggers, and management actions, to guide operations and maintenance of the project with a focus to mitigate impacts to the College Lake ecosystem.

- As part of PV Water's broader basin management activities and planning under the Sustainable Groundwater Management Act (SGMA), it evaluated and considered groundwater dependent ecosystems (GDEs) when developing the GSU22 and adopting sustainable management criteria for interconnected surface waters. It was determined that at the time, there was minimal connection between surface water and groundwater and that there is no potential for significant and unreasonable depletions of interconnected surface water due to the existing disconnect. However, PV Water, through implementation of projects and programs to achieve sustainable groundwater resources, aims to increase the frequency and duration of hydraulic connectivity between groundwater and surface water where reasonably achievable. Enhanced connectivity would provide greater opportunity for groundwater dependent ecosystems to be restored, developed, expanded, and/or improved. PV Water is also currently planning to construct a series of new wells to expand the available data on interconnected surface and groundwater.

- PV Water has continued to improve, update, and expand the capabilities of the Pajaro Valley Hydrologic Model (PVHM) including the simulation of future scenario planning with climate change. The PVHM is one of the principal planning tools for the agency and in collaboration with the United States Geological Survey, will be used to evaluate future basin conditions that support sustainable water resources for all beneficial uses including instream needs. Previous climate scenario modeling included modeling of future variable climate scenarios as well as an uncertainty analysis to support basin management planning. During 2024, PV Water initiated updates of the PVHM and subsequently will be conducting a calibration and scenario modeling in the coming year.

- In July 2024, PV Water entered into a grant agreement with the California Department of Water Resources as part of the Watershed Resilience Panning Pilot Program. The program underscores the importance of watershed-based solutions, climate resilience, and equity through collaboration of local partners. The program builds on previous regional planning efforts such as the Pajaro River Watershed Integrated Regional Water Management Plan (IRMWP). In September 2024, PV Water contracted a

support team to assist in the effort with major work tasks including: identifying and assessing existing regional networks; developing a watershed network; delineating the watershed area; developing a watershed resilience vision; assessing climate vulnerabilities and the state of the watershed; assessing vulnerabilities and risks; developing adaptation and implementation strategies and preparing a watershed resilience plan. The program will progress quickly and involve a series of meetings with interested parties with the majority of work to occur over water year 2025 and a portion of water year 2026.

- In the summer of 2024, PV Water and regional partners collaborated with the California Department of Water Resources as part of the Basin Characterization Pilot Program to conduct a series of geophysical surveys across the lower Pajaro River Watershed. The surveying consisted of a towed transient electromagnetic (tTEM) instrument being pulled behind an all-terrain vehicle (ATV) to collect data on the geophysical properties (resistivity/conductivity) of the subsurface and improve the understanding of the Basin's hydrogeology in areas of interest. PV Water, along with collaborating partners at the University of California at Santa Cruz, the RCD, the Pajaro Regional Flood Management Agency, and cooperating landowners surveyed future managed aquifer recharge basin sites, the levees and banks of the Pajaro River and Salsipuedes Creeks, existing ReNem sites, as well as potential future ReNeM sites. The survey data will support flood management projects, managed aquifer recharge projects, and improve the understanding of the Basin hydrogeology. Currently the survey data is being processed by the state's contractor and is anticipated to be available in the coming months.

Attachment 1: Water Use in Santa Cruz County, 2024 (Data for smaller systems is from calendar year 2023)

Water Supplier	Connections	Population	Water Use acre-feet/yr	Groundwater	Surface Water	Recycled Water	Imported from Outside the County
Santa Cruz City Water Dept.	24,957	95,017	7,612	1.2%	98.8%	0.0%	
Watsonville City Water Service	14,602	65,231	6,389	99.6%	0.4%		
Soquel Creek Water District	14,548	40,644	2,930	100.0%			
San Lorenzo Valley Water District	7,900	23,700	1827	30.1%	69.9%		
Scotts Valley Water District	3,945	11,147	1,110	85.8%		14.2%	
Central Water District	829	2,706	364	100.0%			
Big Basin Water Company*	540	1,120	160	100.0%			
Mount Hermon Association	491	2,850	152	100.0%			
Forest Lakes Mutual Water Company	326	1,067	36	100.0%			
Smaller Water Systems (5-199 conn.)	2,540	7,958	1,258	85.0%	6.0%		9%
Individual Users*	8,000	21,000	2,350	95.0%	5.0%		
Pajaro Agriculture (SC Co only)**†			19,960	95.3%	0.3%	4.4%	
Mid- & North-County Agriculture*			2,400	90.0%	10.0%		
Totals	**78,589**	**273,132**	**44,845**	**76%**	**20%**	**3.6%**	**0.1%**
Summary by Water Source (acre-feet/year)				**34,057**	**9,111**	**1624**	**62**
Summary of Non-Agricultural Use (acre-feet/year)			**24,045**	**14,858**	**8,834**	**299**	**62**
Summary of Non-Agricultural Use (percent of water use)			**53.6%**	**43.6%**	**97.0%**	**18.4%**	**100.0%**

*Values are Estimates

** Includes a small number of water systems

† Recycled water source is the City of Watsonville

Attachment 2: Common Acronyms

AF	**Acre Foot**
AFY	**Acre Foot per Year**
BMP	**Best Management Practices**
CDI	**Community Development and Infrastructure Department**
CEQA	**California Environmental Quality Act**
CoW	**City of Watsonville**
CWD	**Central Water District**
DMS	**Data Management System**
DWR	**Department of Water Resources**
EIR	**Environmental Impact Report**
GSA	**Groundwater Sustainability Agency**
GSP	**Groundwater Sustainability Plan**
IRWM	**Integrated Regional Water Management**
JPA	**Joint Powers Agreement**
LAFCO	**Local Agency Formation Commission**
LID	**Low Impact Development**
MGA	**Santa Cruz Mid-County Groundwater Agency**
MGD	**Million Gallons per Day**
MGY	**Million Gallons per Year**
O&M	**Operations and Maintenance**
OR3	**Office of Response, Recovery, and Resiliency**
PPB	**Parts Per Billion**
PV Water	**Pajaro Valley Water Management Agency**
RCD	**Resource Conservation District of Santa Cruz County**
RWMF	**Regional Water Management Foundation**
SCWD	**City of Santa Cruz Water Department**
SGMA	**Sustainable Groundwater Management Act**
SLVWD	**San Lorenzo Valley Water District**
SMGWA	**Santa Margarita Groundwater Agency**
SqCWD	**Soquel Creek Water District**
SVWD	**Scotts Valley Water District**
UCSC	**University of California, Santa Cruz**

Attachment 3: Online Resources

County Water Resources Program	http://scceh.com/Home/Programs/WaterResources.aspx
County Water Quality Map	http://scceh.com/waterquality.aspx
County Steelhead Monitoring Program	http://scceh.com/steelhead.aspx
Santa Cruz County Office of Response, Recovery, and Resiliency	https://www.co.santa-cruz.ca.us/OR3.aspx
Central Water District	https://sites.google.com/view/centralwaterdistrict
City of Santa Cruz Water Department	https://www.cityofsantacruz.com/government/city-departments/water
City of Watsonville Public Works and Utilities	https://www.cityofwatsonville.org/590/Public-Works-Utilities
San Lorenzo Valley Water District (SLVWD)	https://www.slvwd.com/
Scotts Valley Water District (SVWD)	https://www.svwd.org/
Soquel Creek Water District (SqCWD)	https://www.soquelcreekwater.org/
Pajaro Valley Water Management Agency (PV Water)	https://www.pvwater.org/
Santa Cruz Mid-County Groundwater Agency (MGA)	https://www.midcountygroundwater.org/
Santa Margarita Groundwater Agency (SMGWA)	https://smgwa.org/
Resource Conservation District of Santa Cruz County (RCD)	http://www.rcdsantacruz.org/
Santa Cruz Integrated Regional Water Management Plan (IRWM)	http://www.santacruzirwmp.org/
Water Conservation Coalition of Santa Cruz County	https://watersavingtips.org/
Santa Cruz Countywide Data Viewer	https://sccwaterdata.us/#/html/home