

COUNTY OF SANTA CRUZ

WATER ADVISORY COMMISSION

701 OCEAN STREET, ROOM 312, SANTA CRUZ, CA 95060
(831) 454-2022 FAX: (831) 454-3128 TDD: (831) 454-2123

AGENDA

SANTA CRUZ COUNTY WATER ADVISORY COMMISSION

Wednesday December 6, 2017, 4:00 p.m.

Fifth Floor Conference Room, Room 510 - County Governmental Center
701 Ocean Street
Santa Cruz, CA 95060

- A. **OPENING**
1. Call to Order
2. Roll Call
- B. **APPROVAL OF MINUTES:** September 6, 2017
September 27, 2017 Joint Meeting with Commission on the Environment and Fish and Wildlife Advisory Commission
- C. **PUBLIC COMMUNICATIONS**
Opportunity for members of the public to address the Commission on matters that are within the Commission's area of responsibility, but not on today's agenda.
- D. **COMMISSIONERS' REPORTS**
Opportunity for Commissioners to report on matters that are not on today's agenda.
- E. **STAFF REPORTS AND ANNOUNCEMENTS**
- F. **UNFINISHED BUSINESS – *indicates items for discussion**
1. Pajaro Valley Groundwater Management Issues
2. Santa Margarita Groundwater Management Issues
3. Water Conservation Efforts, Countywide
4. Update on County Water Resource Management Efforts
5. Mid-County Water Issues
6. County Commission on the Environment
7. Update on Conjunctive Use and Groundwater Recharge Efforts
8. Karst protection zone proposal
9. Environmental Code Compliance
10. Water Supply Planning
11. County-wide Drought Response: County Hazard Mitigation Plan: <http://www.co.santa-cruz.ca.us/Portals/0/Local%20Hazard%20Mitigation%20Plan%202015-2020.pdf>

12. Water Advisory Commission Role and Work Program*

Follow-up from Joint meeting on September 27

13. Commission Comments on the Cannabis Cultivation EIR*

G. NEW BUSINESS

1. **Impact of groundwater pumping on Streamflow**
2. **Water Advisory Commission 2016-17 Bi-Annual Report***
3. **2017 Water Resources Status Report***

H. INFORMATION AGENDA

I. CORRESPONDENCE

Commission Cannabis EIR Letter

J. BOARD OF SUPERVISORS ACTION ON ITEMS AFFECTING WATER:

October 24, 2017 – 17 - Adopt resolution appointing alternate County representatives to the Santa Margarita Groundwater Agency and the Santa Cruz Mid-County Groundwater Agency, as recommended by Supervisor McPherson.

http://santacruzcountyca.iqm2.com/Citizens/Detail_LegiFile.aspx?Frame=&MeetingID=1596&MediaPosition=871.243&ID=4442&CssClass=

November 7, 2017 – 22 - Authorize an expenditure of \$60,000 to the Mid-County Groundwater Agency as the Health Services Agency (HSA)'s annual cost share for fiscal year (FY) 2017- 18; adopt a resolution authorizing HSA to apply for and execute a grant of up to \$49,000 from the State Water Resources Control Board for a pilot project to conduct geophysical mapping; authorize an expenditure of \$30,000 to the Santa Margarita Groundwater Agency as HSA's annual cost share for FY 2017-18; and authorize HSA to execute a Memorandum of Agreement with the City of Santa Cruz, the San Lorenzo Valley Water District, and the Scotts Valley Water District, that provides collaboration for conjunctive use water supply planning for the Santa Margarita Basin and for the San Lorenzo River Watershed, as recommended by the Health Services Agency Director

http://santacruzcountyca.iqm2.com/Citizens/Detail_LegiFile.aspx?Frame=&MeetingID=1597&MediaPosition=442.918&ID=4289&CssClass=

K. AGENDA ITEMS FOR FUTURE MEETINGS

L. ADJOURNMENT:

PLEASE CONTACT JOHN RICKER, (831) 454-2750, IF YOU ARE UNABLE TO ATTEND THIS MEETING

The County of Santa Cruz does not discriminate on the basis of disability, and no person shall, by reason of disability, be denied the benefits of its services, programs or activities. The meeting room is located in an accessible facility. If you wish to attend this meeting and you will require special assistance in order to participate, please contact Teresa Lautenschlager at 454-2022 at least 72 hours in advance of the meeting, to make arrangements. As a courtesy to those persons affected, please attend the meeting smoke and scent free.



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ACTION MINUTES

SANTA CRUZ COUNTY WATER ADVISORY COMMISSION

Wednesday September 6, 2017, 4:00 p.m.

Fifth Floor Conference Room, Room 510 - County Governmental Center
701 Ocean Street
Santa Cruz, CA 95060

A. OPENING:

1. **Call to Order:** Chair Hamilton-Monkerud called the meeting to order at 4:06 PM

2. **Roll Call:**

Present: Hamilton-Monkerud, Wilson, Berry, Spencer

Absent: Edgemon, Gregorio, Sharp

Staff: John Ricker, Environmental Health

B. APPROVAL OF MINUTES: June 7, 2017

Approved

C. PUBLIC COMMUNICATIONS

No Action

Information was provided about a display regarding water for Santa Cruz at the Aptos Library

D. COMMISSIONERS' REPORTS

No Action

E. STAFF REPORTS AND ANNOUNCEMENTS

No Action

F. UNFINISHED BUSINESS – *indicates items for discussion

1. **Pajaro Valley Groundwater Management Issues**

No Action

Santa Margarita Groundwater Management Issues

No Action

3. **Water Conservation Efforts, Countywide**

Not discussed

4. **Update on County Water Resource Management Efforts**

Not discussed

5. **Mid-County Water Issues**

No Action

6. **County Commission on the Environment**

Not discussed

7. **Update on Conjunctive Use**

not discussed

8. **Karst protection zone proposal**

not discussed

9. **Environmental Code Compliance**

Not discussed

10. **Water Supply Planning**

No Action

11. **County-wide Drought Response**

No Action

12. Water Advisory Commission Role and Work Program*

No Action

Including coordination with Other Commissions

And topics for discussion at Joint meeting on September 27

Possible topics suggested: Riparian Corridor Management, Karst, Conjunctive Use

G. NEW BUSINESS

1. **Managing Land to optimize groundwater recharge**

No Action, remove from agenda

2. **Impact of groundwater pumping on Streamflow**

No Action

3. **Consideration of comments on the Cannabis Cultivation EIR***

No Action

<http://sccoplanning.com/PlanningHome/Environmental/CEQAInitialStudiesEIRs/CannabisRegulationsEnvironmentalReview.aspx>

I. INFORMATION AGENDA

None

J. CORRESPONDENCE

None

K. BOARD OF SUPERVISORS ACTION ON ITEMS AFFECTING WATER

June 27, 2017, #42: Approve revenue agreement with the California Wildlife Conservation Board in the amount of \$330,451, for a project to develop a San Lorenzo Watershed Conjunctive Use Plan, and approve expenditure agreements with the San Lorenzo Valley Water District in the amount of \$17,300, and with Balance Hydrologics in the amount of \$45,979, for provision of professional services to support the project, and authorize the HSA Director to execute the agreements, as recommended by the Director of Health Services.

http://santacruzcountyca.ig2.com/Citizens/Detail_Legifile.aspx?Frame=&MeetingID=1588&MediaPosition=966.488&ID=3920&CssClass=

L. AGENDA ITEMS FOR FUTURE MEETINGS:

M. ADJOURNMENT: The meeting was adjourned at 6:02 PM

Minutes Prepared by: John Ricker, EH Staff



County of Santa Cruz

COMMISSION ON THE ENVIRONMENT

701 OCEAN STREET, SUITE 400, SANTA CRUZ, CA 95060-4073
(831) 454-2580 Fax: (831) 454-2131 TDD/TTY – Call 711

Draft Minutes

Bi-Annual Joint Meeting:

Commission on the Environment, Fish and Wildlife Advisory Commission and Water Advisory Commission

5:00 p.m. to 7:00 p.m., September 27, 2017
Board of Supervisors Chambers
Optional meet and greet 4:45-5:00

Coordinating Advice on County Climate Action Strategy and other approaches to address Climate Change Adaptation

Chair: John Hunt

1. Introductions and Modifications to the Agenda

Meeting began at approximately 5:00 pm

Commissioner introductions, no modifications to the agenda

2. Public Comment

Seven members of the public spoke on the following topics:

- *Social justice and vulnerability to climate change*
- *The role of trees in mitigating climate change*
- *The role of land use planning in mitigating and adapting to climate change*
- *Water supply idea - Lochquifer*
- *Personal Rapid Transit (PRT)*
- *Climate change skepticism*
- *Evacuation planning*

3. Climate Issues Affecting Santa Cruz County and Potential Adaptation Strategies

- a. **Presentation: Dr. Gary Griggs, Distinguished Professor of Earth Sciences, UCSC** (30 min. presentation + 15 min for Q/A)
- b. Commission/staff presentations on key topics (15 min + 30 min for Q/A)
 - i. Ross Clark: Sea level rise impacts in Santa Cruz County
 - ii. Sierra Ryan: Water supply modeling and climate change
 - iii. Kristen Kittleson: Coho recovery overview

c. Commission coordination on climate change adaptation (30 minutes)

- i. Determining list of topics and how they fall within the jurisdictions of the three commissions
- ii. Identifying overlaps and gaps in commission foci
- iii. Identifying steps toward coordinated advice on County Climate Action Strategy and other approaches to address Climate Change Adaptation

Commissioner discussion covered the following topics:

- *Prioritize actions because Commissioners are volunteers with limited bandwidth*
- *Severe weather this past winter is a sign of current challenge and things to come*
- *Land use planning is important to prepare for climate change*
- *Need to implement a flood control project on the Pajaro River*
- *Prioritize addressing the biggest risk affecting the largest number of people – Santa Cruz wastewater treatment plant*
- *Collaboration and coordinating our efforts can increase funding availability*
- *Flooding, drought and fire are highest priority risks*
- *Each commission should review table 7-1 in the Climate Action Strategy and prioritize what their commission thinks are the top priorities*
- *Consider priorities that will be easier to implement now and will be much harder to implement in the future*

4. Adjourn

Meeting adjourned at approximately 7:00 pm



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454-2123

October 11, 2017

Cannabis Comments c/o Matt Johnston
Planning Department
701 Ocean Street, 4th floor
Santa Cruz, CA 95060

Re: Comments on the Draft Environmental Impact Report (DEIR) for the Commercial Cannabis Cultivation and Manufacturing Regulations and Licensing Program

Dear Mr. Johnston,

Thank you for the opportunity to comment on this DEIR. It is obvious that staff have taken this complicated policy matter very seriously and considered the impacts of the various projects alternatives very thoroughly. Overall, the document has a high level of sophistication as a planning tool. While there are many aspects of the document that we are supportive of, we will limit our comments to those issues which we feel warrant clarification or further analysis:

- 1. Mapping/GIS analysis.** Many of the figures have inappropriately identified parcels for their respective role in a future licensing program. For example, City of Santa Cruz lands on Newell Creek are identified as being eligible for cultivation in Figure 2-6 and federal land in Bonny Doon is also identified as eligible for cultivation in other figures. Hopefully, the impacts analysis is not GIS-based. However, if the analysis is GIS-based, then it seems prudent to clarify and correct mapping errors and refine the environmental review.
- 2. Land use.** Commercial cannabis cultivation and the related concentrates manufacturing activities would be no different than other industrial agribusiness activities if not for its federally illegal status and the associated culture which has grown around illegal cultivation

since the 1970s. Rather than trying to impose rigorous licensing conditions upon operations that are inherently ill-suited to their current locations, primarily in the mountains, which the County plainly admits in this document that it is likely to be less successful than desired. Limiting this commercial activity to areas already dominated by agribusiness seems more appropriate. The existing infrastructure for cannabis-related activities is located in the mountains not only because the growing conditions are favorable there, but also because the illegal status and subsequently inflated value of cannabis over the decades has required defensible and secure cultivation locations. However, with cannabis now coming out of the legal shadows and the relatively new found ability to openly cultivate in greenhouses, an alternative would be to consciously move this activity into existing agribusiness-dominated areas of the County and out of mountainous areas, which provide other important functions for the County water supply, cold water fisheries, recreation, etc.

3. Alignment with state policies. Several of the standards in the County cultivation regulations are less stringent than policies already in place in other areas of the state. It is unclear to us what requirement the County has for conformance with these standards, but it seems rational that the County regulations ought to be at least as stringent as state standards. For example, mitigations for riparian buffer widths, water diversion forbearance season limits and the need for farm or water resource management plans are not well aligned with state standards.

SWRCB standards can be reviewed in more detail at the following links:

http://www.waterboards.ca.gov/water_issues/programs/cannabis/docs/cannabis_boardworkshop_colorfullscreen.pdf

http://www.waterboards.ca.gov/water_issues/programs/cannabis/docs/cannabis_go.pdf

http://www.waterboards.ca.gov/water_issues/programs/cannabis/docs/staff_report.pdf

http://www.waterboards.ca.gov/centralvalley/water_issues/cannabis/general_order/r5-2015-0113_att_a.pdf

http://www.waterboards.ca.gov/northcoast/board_decisions/adopted_orders/pdf/2015/15_0023_Cannabis_Order.pdf

Assuming the SWRCB will adopt relatively consistent standards statewide, mitigations regarding riparian buffer widths, water diversion and water resource management or farm management plans should be modified to be as protective as their respective state standards.

4. Market branding. Support of a market branding program similar to that used in Humboldt County would be an incentives-based method of protecting both the legacy of small “mom and pop” mountain grows and the natural resources potentially threatened by them in the mountain locations where they have historically farmed. While many of the

standards already proposed in the County's proposed regulations are equal to or superior to certified and branded cannabis from other jurisdictions, Santa Cruz County Certified branded cannabis could be developed as a mitigation and include more rigorous environmental protection standards than more traditional cultivation methods. These standards could include, but not be limited to:

- Organic only pest control methods
- Solventless concentrate manufacturing
- Educational requirements for licensees such as the "Master Gardener" program.
- Enhanced forest preservation, water use, erosion control and related standards
- Third party compliance inspections and certification

Some examples of such programs can be found at the following links:

<https://www.cleangreencert.org/>

<https://www.certified-kind.com/certified-kind-rules>

<http://mbmg.ucanr.edu/Learn To Be A Master Gardener/>

5. Allowance for trucked water. Trucked water should not be allowed for any commercial cultivation activities. Not only does trucked water open up a new acreage to cultivation that might not otherwise be possible, the ability of the County (not to mention water purveyors) to oversee a trucked water program is highly speculative when consideration is given to the nuances of water rights, use tracking and related issues. Furthermore, we are not aware of any water purveyors who have analyzed this issue at a level of complexity that would allow for thoughtful accommodation for this new system demand through their Urban Water Management, drought contingency and other related plans.

6. Resource Conservation District role. Many of the proposed mitigations are not unique to cannabis and could very readily be implemented with the assistance of the Resource Conservation District of Santa Cruz County (RCD). The RCD commonly assists landowners with similar issues and is uniquely qualified to provide technical assistance to this sector of the agribusiness community as well. The RCD may be able to provide a unique role in certifying cultivation operations, given their vast experience with supporting agriculture and the objectivity that would come from their lack of pre-existing connections to the cannabis industry.

7. Impact AT-3. Considering all the environmental services that forestlands provide regarding retention of runoff, wildlife habitat, carbon sequestration and overall watershed functions and the fact that many of our watersheds support special status species and water

supply for the majority of County residents, the impact of forest conversion or rezoning of TPZ lands could be significant. Furthermore, vegetation community shifts due to climate change predicted by Point Reyes Bird Observatory¹ indicate that redwood forests may be severely limited in the County in the future, thereby exacerbating this issue. Including more rigorous mitigation for this impact such as prohibiting rezoning of TPZ parcels for commercial cannabis cultivation, prohibiting expansion of the agricultural use of TPZ zoned parcels for commercial cannabis cultivation or prohibiting all commercial cannabis operations on TPZ zoned parcels seems appropriate.

8. Impact Bio-1 – MM BIO-1.1b. Habitat Compensation. Many permitting authorities use a 3:1 ratio for mitigation rather than a 1:1 ratio. Consideration of a more rigorous mitigation bank concept seems appropriate given the scale of impacts associated with this project. Implementation of any such program will obviously be very challenging and success may be a speculative, remote possibility. That said, leveraging this mitigation to provide improvements on other public lands, which currently have insufficient resources to do so (State Parks, County Parks, etc.) and habitat mitigation banking criteria that have enough flexibility to trade impacts in upland areas for mitigation in riparian areas, for example, may help facilitate the success of this mitigation.

9. MM BIO-1.1h. Water Draw Restrictions. We strongly support this mitigation, however it is not entirely consistent with state standards, nor will it necessarily be entirely protective of instream flows and related aquatic biota. The SWRCB is currently proposing a surface water forbearance period of April 1 – October 31. If it is determined that groundwater diversions have the potential to significantly affect surface water supply, forbearance periods may extend to groundwater diverters as well. In Santa Cruz County there are also instream flow problems during the winter period in some creeks, particularly during drought periods. Aligning this mitigation with state standards and protecting non-forbearance period instream flows during drought would make this mitigation more rigorous. Of course, water rights validated by the SWRCB and Streambed Alteration Agreements for any surface water diversions will also be necessary to make this mitigation meaningful.

10. MM BIO 4.2. No Cannabis Activities allowed within Sandhills Habitat or Salamander Protection Zone. We strongly support this mitigation as well. It is notable that this mitigation may also serve as mitigation for hydrologic impacts by reducing the groundwater pumping associated with the project in overdrafted groundwater basins such as the Santa Margarita groundwater basin.

¹ <http://data.prbo.org/cadc2/index.php?page=154>

11. MM BIO-4.1. Avoidance of Conflict with an Approved HCP. It is likely that the City of Santa Cruz will have an approved Anadromous Salmonid HCP that includes instream flows for the San Lorenzo River, Newell Creek, Laguna Creek, Liddell Creek and Majors Creek within the next two years. Any licenses granted subsequent to that time in these watersheds should not include allowance of activities which affect instream flows or otherwise affect aquatic habitat to the extent that there are conflicts with implementation of this HCP. This may also be true for other water purveyors such as the San Lorenzo Valley Water District or other San Lorenzo River tributaries in the future.

12. Impact HYDRO-1. Commercial cannabis cultivation under the Program could introduce sediment and other pollutants to surface flows and groundwater, which would cause water resource contamination. With mitigation, this impact would be less than significant. The County is already considering karst protection language for several existing regulations and inclusion of karst protection standards in commercial cannabis cultivation regulations and mitigation measures in this EIR seems appropriate as well. Given that several public and private water sources are located adjacent to “M” zoned parcels in karst terrain where commercial cultivation appears to be possible, the impact is currently not sufficiently mitigated. These standards could include but not be limited to:

- Site-specific geologic investigations
- Setback for any structures, roads and manufacturing from sinkholes or other karst features.
- Routing drainage away from karst features

See the following link for more information on this issue:

http://santacruzcountycalocal.gov/Citizens/Detail_LegiFile.aspx?ID=2578&highlightTerms=karst
<https://www.americangeosciences.org/sites/default/files/karst.pdf>

13. Impact HYDRO-2. Commercial cannabis cultivation under the Program could adversely affect groundwater supplies and groundwater recharge. This impact would be less than significant with mitigation. The additional water demand posed by allowance of tankered water, groundwater pumping and diversion of surface water, particularly during drought during both the wet and dry seasons, are not exhaustively analyzed in this document, nor have they been analyzed by local water purveyors. Therefore the impacts cannot be well-understood at this time. Furthermore, new greenhouse construction could potentially increase runoff rates and reduce groundwater recharge, though it is not clear what analysis has been conducted to characterize this issue and provide commensurately appropriate mitigation in the DEIR. This has been a significant issue in other groundwater basins,

particularly the Oxnard Plain, where greenhouse-based cultivation practices have replaced row crops or other agricultural practices that do not result in development of landscape-scale impervious surfaces. Given the existing dire situation with water supply in the County and the mitigations currently proposed, it seems speculative to say that the impact is less than significant with mitigation. Further analysis of the demand posed by the program would facilitate a more rigorous discussion of the true impacts on water utilities.

14. MM-HYDRO-2.1. Water Efficiency for Cannabis Cultivation. While we strongly support this mitigation, implementation success of the mitigation will take an ongoing, long term commitment and significant resources. The success of such a mitigation may be enabled by the involvement of a third party such as the Resource Conservation District. Again, RCDs have a long history of success with such programs. Furthermore, this mitigation measure would be much more successful if it included a requirement for metering groundwater pumping.

15. MM HYDRO-2.3. Water Tank Supply Management. It is not clear if this mitigation applies to water used for irrigation as well as water used for firefighting purposes. However, as previously mentioned, we support the surface water forbearance period for water diversion and tank filling. However, there may be non-forbearance period flow issues to consider and consistency with SWRCB standards that need further consideration in development of this mitigation. Obviously, the standards for the County's program will need to parallel the state standards, if only because state permits are required for water diversions.

16. Impact HYDRO-4. Commercial cannabis manufacturing under the Program would result in a less than significant effect with mitigation on the introduction of sediment and other pollutants to surface flows and groundwater, and on the groundwater supplies and groundwater recharge. This impact would be less than significant with mitigation. The County is already considering karst protection language for several existing regulations and inclusion of karst protection standards in commercial cannabis cultivation regulations and mitigation measures in this EIR seems appropriate as well. Given that several public and private water sources are located adjacent to "M" zoned parcels in karst terrain where commercial manufacturing appears to be possible, the impact is currently not sufficiently mitigated. These standards could include but not be limited to:

- Site-specific geologic investigations
- Setback for any structures, roads and manufacturing from sinkholes or other karst features.
- Routing drainage away from karst features

See the following links for more information on this issue:

http://santacruzcountyca.iqm2.com/Citizens/Detail_LegiFile.aspx?ID=2578&highlightTerms=karst
<https://www.americangeosciences.org/sites/default/files/karst.pdf>

17. Impact UE-1. The Program could increase demand or result in the expansion of facilities for water, wastewater, or solid waste services within the County due to licensing of commercial cannabis cultivation and product manufacturing activities. This impact would be less than significant with mitigation. The additional water demand posed by allowance of tankered water, groundwater pumping and diversion of surface water (particularly during drought during both the wet and dry seasons) are not exhaustively analyzed in this document, nor have they been analyzed by local water purveyors. Therefore the impacts cannot be well-understood at this time. Given the existing dire situation with water supply in the County and the mitigations currently proposed, it seems speculative to say that the impact is less than significant with mitigation. Further analysis of the demand posed by the program would facilitate a more rigorous discussion of the true impacts on the water supply

18. Sustained (and enhanced) enforcement program. The most permissive alternative may be the most expedient way to get operations into the licensing program, but it seems like a logical stretch to say that it is therefore the environmentally superior alternative. The County will have serious challenges with program implementation on licensed grows and especially with enforcement on unlicensed grows with any project alternative. As the DEIR itself states, it is quite likely that, even with the most permissive project, illegal grows will be rampant due to the complexity of the license process, perceptions of excessive taxation, temptation of illegal out of state markets and related issues. These illegal grows operating in the shadows of legal grows will be even more difficult to enforce if they are scattered county-wide and the standards for legal grows are so low that differentiating between legal and illegal grows is challenging. Furthermore, while our recent experience with County Code Compliance has been mostly positive, it has also been our experience over the years that frequently there have been times when there were insufficient resources for Code Compliance to be adequately responsive to enforcement needs. At the very least, dedication of cannabis licensing and sales-related tax revenue should be implemented to help ensure some long-term viability of an enforcement program that is commensurate with the scale of the industry in the County, be it legal or not. Without this assurance, given the history of Code Compliance, the complex nature of the cultivation regulations and the scale of potential illegal cultivation under any project scenario, it seems somewhat speculative to conclude that impacts will be mitigated to a “less than significant with mitigation” level by a sustained and enhanced enforcement program.

Thank you for your consideration of these important issues. Please do not hesitate to contact me if you have any questions or concerns about these comments.

Sincerely,

A handwritten signature in cursive script that reads "Carol Hamilton Monkerud". The signature is written in dark ink and is positioned below the word "Sincerely,".

Carol Hamilton - Monkerud
Chair – Water Advisory Commission

cc: FWAC, COE, John Ricker



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SANTA CRUZ COUNTY WATER ADVISORY COMMISSION DRAFT 2016-2017 BI-ANNUAL REPORT

This report summarizes the activities and accomplishments of the Santa Cruz County Water Advisory Commission (Commission) during 2016 and 2017.

ROLES OF THE WATER ADVISORY COMMISSION

The Commission was established in 1975 to serve as a policy advisory body to the Board of Supervisors (Board) on issues relating to the use and protection of the county's water resources. The roles of the Commission, as outlined in its bylaws, are as follows:

1. Advise the Board on all policy issues impacting water resources in Santa Cruz County, including but not limited to the following categories:

- a. Water quality and conservation.
- b. Water supply development, storage and distribution.
- c. Forestry and watershed management.
- d. Preservation of fish, wildlife, and riparian habitat.
- e. Groundwater extraction.
- f. On-site sewage disposal systems.
- g. Recreation.
- h. Water reclamation.
- i. Public health and safety.
- j. Monterey Bay preservation.
- k. Local agency water management plans.
- l. Water resource development proposals.
- m. Santa Cruz County Water Master Plan/General Plan.
- n. County ordinances, and departmental policies and regulations.

2. Staffing, funding, and other resources available to the Commission necessarily limit the duties and responsibilities outlined above. Therefore, the Commission will utilize discretion in devoting time to those activities that are most important to achieving its overall goal of enhancing and preserving Santa Cruz County water resources. County departments (Planning, HSA-Environmental Health (EH), and Public Works (DPW)) will assist the Commission in its work, by including the Commission in water related correspondence, and by having staff provide timely oral reports on pending issues.

MEETING DATES, TIME AND LOCATION

Starting in fiscal year 2010-2011, commission meetings were reduced from monthly to quarterly (March, June, September and December). In 2016-17 meetings were generally held at 4-6 pm on the first Wednesday of even numbered months, with meetings cancelled or rescheduled depending on special circumstances. Meetings are generally held in the County Governmental Center at 701 Ocean Street in the fifth floor Conference Room. Other rooms are used for special meetings. Agendas are posted at least five days in advance of meetings, and are distributed electronically to local water districts and interested persons. Agendas and attachments are posted on the County website: <http://sceeh.com/Home/Programs/WaterResources/WaterAdvisoryCommission.aspx>

COMMISSION STRUCTURE

The Commission consists of seven members, five of whom are concerned citizens appointed by individual supervisors and two that are appointed at-large. The two at-large positions represent public water purveyors and private or mutual water companies in the county. From the beginning of 2016 Chris Berry as the Chair and Tony Gregorio was the Vice-Chair. On June 1, 2016, Carol Hamilton-Monkerud was elected Chair, with Tony Gregorio as Vice-Chair. On June 7, 2017, meeting Carol Hamilton-Monkerud was elected to serve as the Commission Chair and Chris Berry was elected to serve as the Vice-Chair.

Membership during 2016-2017 was as follows:

- 1st District: Ned Spencer
- 2nd District: Carol Hamilton-Monkerud
- 3rd District: Linda Wilson
- 4th District: Antonio Gregorio
- 5th District: Mark Edgemon
- Public Water: Chris Berry-City of Santa Cruz Water Dept.
- Mutual Water: Gerald (Skip) Fehr (Resigned 11/17/16); then Owen Sharp (appointed 1/24/17), both from San Andreas Mutual Water Company

COMMISSION STAFF

John Ricker, the Water Resources Division Director in the EH division of the Santa Cruz County Health Services Agency, served as administrative secretary to the Commission throughout 2016 and 2017, and attends most meetings.

ATTENDANCE

Attendance by Commission members is shown on the following roster

2016-17 ATTENDANCE ROSTER							
	1ST DISTRICT	2ND DISTRICT	3RD DISTRICT	4TH DISTRICT	5TH DISTRICT	PUBLIC WATER	SMALL SYSTEMS
		HAMILTON-					
	SPENCER	MONKERUD	WILSON	GREGORIO	EDGEMON	BERRY	FEHR
Feb 3, 2016	P	P	P	P	P	P	P
Apr 6, 2016	Meeting Cancelled						
Jun 1, 2016	P	P	P	P	P	P	P
Aug 3, 2016	P	P	P	A	P	P	P
Aug.17,2016 Spec. Mtg	P	P	P	P	P	P	E
Oct 5, 2016	P	P	P	P	P	P	E
Dec 7, 2016	P	P	P	A	A	E	FEHR Resigned 11/17/16

	1ST DISTRICT	2ND DISTRICT	3RD DISTRICT	4TH DISTRICT	5TH DISTRICT	PUBLIC WATER	SMALL SYSTEMS
		HAMILTON-					
	SPENCER	MONKERUD	WILSON	GREGORIO	EDGEMON	BERRY	SHARP
Feb 1, 2017	E	P	P	P	P	P	P
Apr 5, 2017	P	P	P	A	A	E	P
Jun 7, 2017	A	P	P	A	A	P	P
Sep 6, 2017	P	P	P	A	A	P	A
Sep.27,2017 Joint Mtg	P	P	P	A	A	P	A
Dec 7, 2017							

P – Indicates attendance at that meeting, E – Excused from Meeting, A – Absent from meeting

GOALS AND ACCOMPLISHMENTS

All information regarding the Commission activities is available on the internet. The website facilitates data access and makes the Commission’s work more available to the public. The Commission website address is:

<http://scceh.com/Home/Programs/WaterResources/WaterAdvisoryCommission.aspx>

In addition to preparing an agenda and minutes from the previous meeting, staff regularly includes pertinent water related articles in the Commission agenda packets to stimulate discussion on related topics.

Listed below are the principal issues and events that were discussed by the Commission during the past two years:

1. Pajaro Valley Groundwater Management Issues

- The Pajaro River flood control project
- Managed Aquifer Recharge
- Basin Management Plan Update and Implementation
- College Lake Project

2. Santa Margarita Groundwater Issues

- Governance and Basin Boundary Modification for Sustainable Groundwater Management Act
- Formation of Santa Margarita Groundwater Agency

3. Water Conservation Efforts, Countywide

4. Update on County Water Resources Management Efforts

- Annual Water Resources Reports to Board of Supervisors
- Connecting the Drops: community water discussion
- Updated MOA for Integrated Regional Water Management
- Stormwater Resources Plan

5. Mid-County Water Issues

- Formation of Santa Cruz Mid-County Groundwater Agency
- Soquel Creek Water District Review of Water Demand Offset Program
- Presentation on Pure Water Soquel Project

6. Commission on the Environment

- Subcommittee to discuss coordination of effort with COE and Fish and Wildlife Advisory Commission
- Annual Joint meetings with COE and FWAC to discuss priorities for climate change adaptation

7. Update on Conjunctive Use

- Prop 84 work plan for continued evaluation of conjunctive use
- Water sharing proposal with City of Santa Cruz and Soquel Water District

8. Karst Protection Zone Proposal

- Review of results of study of karst areas
- ACTION: Letter to Board supporting adoption of karst protection measures

9. Environmental Code Compliance

- ACTION: Approve the letter to the Board of Supervisors regarding the Draft Cannabis Cultivation Ordinance
- ACTION: Form a subcommittee to prepare and submit comments on the cannabis cultivation EIR

10. Desalination/water supply planning

- City Water Supply Advisory Committee Recommendations

11. County-wide Drought response

12. Water Advisory Commission Role and Work Program

- Periodic reports and discussion form a subcommittee to look at projects and priorities for the Commission and report back to the Commission.

13. Sustainable Groundwater Management

- County to be a member of the Joint Powers Authority for two new Groundwater Sustainability Agencies
- County to become Interim Groundwater Sustainability agency for West Santa Cruz Terrace (3-026) and Purisima Highlands (3-002.02)

Additional Significant Items

In addition to the list of principle issues discussed above, the Commission also discussed or followed the progress of the following issues and ongoing projects:

- Water Rights
- Managing land to optimize groundwater recharge
- Impact of groundwater pumping on streamflow
- Commissioners were regularly updated on actions taken by the Board on items that affect water supply, water quality, fisheries and riparian habitat protection, groundwater recharge, flood control, drainage, reclaimed wastewater and other related issues.

FUTURE GOALS

In the coming year the Commission will be following-up on current endeavors. These endeavors include commenting on and providing recommendations to the Board on County Water Resource efforts and staying abreast of Sustainable Groundwater Management Act implementation and conjunctive use projects. The Commission intends to continue its trend of soliciting information from various individuals and agencies as this information relates to water resources in the county. As always, the Commission will continue to evaluate important issues affecting the County's water resources, respond to requests by the Board and the public, and make timely recommendations on both policy and other appropriate matters.

Prepared by:

John Ricker
Administrative Staff, Water Advisory Commission



County of Santa Cruz

COMMISSION ON THE ENVIRONMENT

701 OCEAN STREET, SUITE 400, SANTA CRUZ, CA 95060-4073
(831) 454-2580 Fax: (831) 454-2131 TDD/TTY – Call 711

Draft Minutes

Bi-Annual Joint Meeting:

Commission on the Environment, Fish and Wildlife Advisory Commission and Water Advisory Commission

5:00 p.m. to 7:00 p.m., September 27, 2017
Board of Supervisors Chambers
Optional meet and greet 4:45-5:00

Coordinating Advice on County Climate Action Strategy and other approaches to address Climate Change Adaptation

Chair: John Hunt

1. Introductions and Modifications to the Agenda

Meeting began at approximately 5:00 pm

Commissioner introductions, no modifications to the agenda

2. Public Comment

Seven members of the public spoke on the following topics:

- *Social justice and vulnerability to climate change*
- *The role of trees in mitigating climate change*
- *The role of land use planning in mitigating and adapting to climate change*
- *Water supply idea - Lochquifer*
- *Personal Rapid Transit (PRT)*
- *Climate change skepticism*
- *Evacuation planning*

3. Climate Issues Affecting Santa Cruz County and Potential Adaptation Strategies

- a. **Presentation: Dr. Gary Griggs, Distinguished Professor of Earth Sciences, UCSC** (30 min. presentation + 15 min for Q/A)
- b. Commission/staff presentations on key topics (15 min + 30 min for Q/A)
 - i. Ross Clark: Sea level rise impacts in Santa Cruz County
 - ii. Sierra Ryan: Water supply modeling and climate change
 - iii. Kristen Kittleson: Coho recovery overview

c. Commission coordination on climate change adaptation (30 minutes)

- i. Determining list of topics and how they fall within the jurisdictions of the three commissions
- ii. Identifying overlaps and gaps in commission foci
- iii. Identifying steps toward coordinated advice on County Climate Action Strategy and other approaches to address Climate Change Adaptation

Commissioner discussion covered the following topics:

- *Prioritize actions because Commissioners are volunteers with limited bandwidth*
- *Severe weather this past winter is a sign of current challenge and things to come*
- *Land use planning is important to prepare for climate change*
- *Need to implement a flood control project on the Pajaro River*
- *Prioritize addressing the biggest risk affecting the largest number of people – Santa Cruz wastewater treatment plant*
- *Collaboration and coordinating our efforts can increase funding availability*
- *Flooding, drought and fire are highest priority risks*
- *Each commission should review table 7-1 in the Climate Action Strategy and prioritize what their commission thinks are the top priorities*
- *Consider priorities that will be easier to implement now and will be much harder to implement in the future*

4. Adjourn

Meeting adjourned at approximately 7:00 pm

12/01/17 DRAFT

Santa Cruz County Water Resources Management Status Report for 2017

Santa Cruz County continues to address major water resource challenges. Most of the County's groundwater basins have historically been pumped in excess of sustainable yield and the major water supply agencies do not have sufficient supplies to meet current and future demand. Historic salmon and steelhead populations have been greatly diminished by reductions in streamflow, increased erosion and sedimentation, barriers to migration, and removal of large woody material from streams. Water quality has been degraded by urban runoff, leaky sewer systems, and failed septic systems. The natural benefits of wetlands, floodplains, riparian corridors, and groundwater recharge areas have been significantly diminished by land development and agricultural use. The effects of climate change is expected to increase the challenges by increasing rainfall intensity and flooding, reducing groundwater recharge, and increasing irrigation water demand.

The four year drought of 2012-15 greatly diminished streamflow and available water supplies, but water agencies and their customers were able to substantially reduce demand in order to accommodate the shortfall. In 2016 normal rainfall occurred, but groundwater basins and summer streamflow continued to be depressed. 2017 had substantially above normal rainfall amounts, leading to recovery of watersheds and stream flows. Major groundwater basins showed some recovery, but still remain depressed. The high rains and runoff of 2016/17 also resulted in significant flooding, storm damage, landsliding, erosion and sediment transport.

The County and its partner agencies continue to conduct a range of efforts for water resource management to address the above challenges. Following is a summary of 2017 water resource management organized under six topic areas:

1. Groundwater Management
2. Water Supply and Conservation
3. Stormwater, Recharge, Flood Management, and Climate Change
4. Watershed Health and Aquatic Habitat
5. Water Quality
6. Small Water Systems

1. Groundwater Management

- a) The Sustainable Groundwater Management Act of 2014 (SGMA) went into effect on January 1, 2015. The County is actively working with local water agencies to pursue sustainability for the three major groundwater basins in the County as follows:
 - i) Management of the Santa Cruz Mid-County Basin (formerly referred to as Soquel-Aptos) is overseen by a Joint Powers Agency (JPA) consisting of the County of Santa Cruz, 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 has been recognized as the Groundwater Sustainability Agency (GSA) for the basin. The MGA governing board includes three private well representatives and two representatives from each partner agency. In 2017, the MGA formed a 13-member Groundwater Sustainability Plan (GSP) Advisory Committee comprising representatives from various interest groups in the Basin. The Committee is tasked with analyzing groundwater sustainability questions and making policy recommendations to

the MGA Board. More information is available at www.midcountygroundwater.org. Staff to the MGA recently submitted a \$1.5 million grant request for Plan development.

- ii) Management of the Santa Margarita Basin is overseen by a Joint Powers Agency (JPA) consisting of the 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 has been recognized as 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. More information is available at www.smgwa.org. Staff to the SMGWA recently submitted a \$1 million grant request for Plan development.
 - iii) The Pajaro Valley Water Management Agency is the designated Groundwater Sustainability Agency for the Pajaro Valley Basin within the current Agency boundaries. They have submitted their Basin Management Plan to the Department of Water Resources as an alternative to the Groundwater Sustainability Plan, and are waiting to hear if it will be accepted. More information is available at www.pvwma.dst.ca.us.
- b) In May 2017, the Santa Cruz Mid-County Groundwater Agency organized a project to map seawater intrusion in the groundwater aquifers offshore of the Mid-County area. In partnership with international companies, the MGA collected and recorded geophysical measurements for scientific research purposes with a low-flying helicopter, using technology originally developed and used in Denmark. The helicopter-borne geophysical system collected measurements needed to identify where the freshwater/saltwater interface is offshore, essential information in understanding the immediate risk to coastal wells from seawater contamination. These surveys entailed flying relatively low to the ground (hundreds of feet above the surface) in a uniform pattern to measure electrical properties of the earth. The results of this work are expected to be available in early 2018.
 - c) The County continues to work on a grant from the Department of Water Resources for \$250,000 to assist with outreach and Groundwater Sustainability Plan Development for the Mid-County Groundwater Basin. Funds will be used for further development of a groundwater model for the basin, update of the database on wells and non-municipal water users, outreach and services targeted to private well owners, and maintenance of the website
 - d) The County continues to coordinate submission of groundwater level data to the State's 'CASGEM' groundwater monitoring program. County staff also implement a cooperative program to monitor private well levels in the inland Mid-County area.
 - e) County staff joined other water managers from the Santa Cruz area and other parts of the state as guests of the Kingdom of Denmark to learn about the successful approaches that Denmark has taken over the last 20 years for sustainable groundwater management.

2. Water Supply and Conservation

- a) 2016-2017 brought the highest rainfall the region has seen in two decades. Despite this, water production rates from the water agencies remained significantly below the pre-drought levels. This is likely due in part at least to permanent water conservation measures such as plumbing fixture retrofits and drought tolerant landscaping that many residents implemented during the drought. All of the large public water systems continued to promote conservation. Soquel Creek Water District in particular has emphasized that due to their dependence on groundwater, one wet year will not solve their water deficit problems. A plot is provided that shows precipitation and water production from 1984-2017 (Appendix A).
- b) The City of Santa Cruz Water Department and Soquel Creek Water District are continuing to work towards an initial effort to provide in lieu recharge during the rainy season to the Mid-County Basin. The two agencies agreed to a 5 year pilot study/water transfer agreement using the existing 8-inch bi-directional 1,000 gallon per minute (gpm) intertie at Soquel's O'Neill Ranch facility to send treated water from Santa Cruz to Soquel Creek customers. The agencies are currently investigating the possible impacts that introducing surface water into the Soquel Creek Water District distribution system could have on the pipes. This agreement does not include provisions for returning water from Soquel to the City in the event of a drought. However, the City Council's approved water supply augmentation strategy provides direction for the two agencies to begin discussions about longer term water exchanges and transfers.
- c) The City of Santa Cruz Water Department is investigating the possibility of developing an Aquifer Storage and Recovery (ASR) program which would inject treated surface water into the Santa Margarita basin, and/or the Mid-County basin to increase storage. The intent would be to withdraw the water during drought years with decreased surface water use. ASR is estimated to take 6-12 years before implementation, though there is a "go, no-go" decision point after the next phase of feasibility testing.
- d) Soquel Creek Water District is pursuing its "PureWater Soquel" project to inject purified recycled water into the Mid-County Basin to address the overdraft. This project would yield 1500 acre-feet per year (af/yr). The timeline to release the EIR is early 2018.
- e) The County received a grant from the Wildlife Conservation Board Streamflow Enhancement Program to develop a San Lorenzo Watershed Conjunctive Use and Baseflow Enhancement Plan in partnership with the San Lorenzo Valley Water District. The Plan will be used to improve water use efficiency and increased stream baseflows in the immediate future, and recommend infrastructure improvements necessary to further increase efficiency in the long run. The County and San Lorenzo Valley Water District have implemented stream flow gaging and accretion studies to better understand surface water and groundwater contributions to flow in the San Lorenzo River.
- f) County staff have participated with all of the countywide water agencies in the Water Conservation Coalition of Santa Cruz County to increase outreach and education to the public. The Coalition participated in numerous tabling events including Earth Day and the County Fair, and maintained the website www.watersavingtips.org.

- g) The Health Services Agency in partnership with Ecology Action, County Parks, and the City of Santa Cruz, implemented a turf replacement project at the County's Emeline Campus. Three thousand square feet of turf was torn out and replaced with drought tolerant plants and mulch.
- h) The County is finalizing the results of a \$99,000 grant from the Department of Conservation for the development of a voluntary Rotational Cover Crop Plan for the Pajaro Valley, in partnership with the Resources Conservation District and the Community Water Dialogue. Economic analysis and greenhouse gas emissions reduction analysis have been completed.
- i) The County, City of Santa Cruz, San Lorenzo Valley Water District, and Scotts Valley Water District recently signed a Memorandum of Agreement to work together on exploring conjunctive water use options in the San Lorenzo Water shed and Santa Margarita Groundwater Basin. These efforts will explore many ways to utilize excess surface water when available to increase groundwater storage and water supply reliability and increase dry season stream flow.
- j) Pasatiempo Golf Club completed recycled water project that will utilize treated wastewater from Scotts Valley for golf course irrigation and significantly reduce their demand for City of Santa Cruz potable water. This project was entirely funded by Pasatiempo.
- k) Soquel Creek Water District has maintained Water Demand Offset (WDO) program which allows new development to proceed without increasing demand on the groundwater basin. The WDO Program allows development in the Soquel Creek water service area while conserving water, by requiring a 200% offset credit based on the estimated new water use. Projects can satisfy their offset credit by paying a WDO fee equivalent to \$55,000 per acre-foot. This fee is broken out:
- 50% of offset fee goes towards long-term water conservation projects (e.g. stormwater recharge, smart metering)
 - 50% of offset fee goes to funding the enhanced toilet rebate program.
- l) Santa Cruz County partner agencies continue to work together on integrated regional water management, with the Regional Water Management Foundation (RWMF) serving as a hub for the 12 partner agencies. The County and all of the cities and public agencies dealing with water are signatories to the Santa Cruz IRWM Memorandum of Agreement, which was updated in 2016. The agencies contribute \$80,000 toward maintenance of the IRWM efforts.
- m) The state has recently made available funds to further evaluate and address the water needs of disadvantaged communities in the Central Coast region, including the Santa Cruz and Pajaro regions.
- n) In July, 2017 the Pajaro Valley Water Management Agency (PV Water) initiated the next steps to implementing its Basin Management Plan by meeting with community members to provide information on the College Lake Project, which will provide 2400 acre-feet per year of new water supply. Following several years of background work, PV Water has applied for water rights and initiated the environmental review process for the project. PV Water is also completing a grant funded project to provide additional storage of recycled water at the Watsonville Treatment Plant, which will facilitate full use of recycled water and provide 750 af/yr of additional supply. The PV Water is also implementing programs

to encourage water conservation, voluntary land fallowing and increased groundwater recharge.

3. Stormwater, Recharge, Flood Management, and Climate Change

- a) In order to be eligible for storm water funding through Proposition 1, the State Water Board required the development of Storm Water Resources Plans (SWRP) with the hope of changing the perception of stormwater from a nuisance, to a resource. Environmental Health led the effort to write a SWRP for the Santa Cruz region. County staff worked closely with representatives from the four cities, the RCD, Ecology Action, and UCSC. The SWRP can be found online at: <http://www.santacruzirwmp.org/resources/swrp>. In spring 2017 the County received the letter of approval from the State Board accepting the SWRP.
- b) Dr. Andrew Fisher from UCSC has completed work with the Resource Conservation District (RCD) on a Managed Aquifer Recharge (MAR) Suitability Study. MAR is a landscape management strategy that can help reduce aquifer overdraft by facilitating stormwater capture and infiltration into the aquifer. The results from the study include recharge suitability maps, and the associated GIS layers that examine suitability of recharge over a number of different factors.
- c) The County of Santa Cruz Environmental Health, County Parks, and Soquel Creek Water District are partnering with the State Water Board to pilot a project to use DualEM geophysical survey equipment to assess potential recharge locations initially identified through the MAR suitability maps. The device measures the electrical resistivity of the soil to provide a detailed evaluation of subsurface conditions. In November 2017, nine locations in and around the Mid-County Basin were surveyed with the DualEM equipment. With the results, we will be able to prioritize the most promising sites and rule out sites with lower recharge potential without having to conduct more costly testing (i.e. soil borings and percolation tests).
- d) The Resource Conservation District, UCSC, and the Pajaro Valley Water Management Agency (PV Water) have started the Recharge Net Metering program. This is a unique 5-year pilot program that provides a financial incentive to landowners in the form of a rebate issued by PV Water for building a managed aquifer recharge (MAR) system on their property. The program will be tested for five years to assess the benefits to the Pajaro Valley Groundwater Basin and its residents. The primary focus of the ReNeM program is on stormwater collection from hillslopes linked to infiltration facilities, using a variety of techniques, to improve groundwater supplies.
- e) County Public Works Department (DPW) staff continue to maintain operation of the Automated Local Evaluation in Real Time (ALERT) flood warning system
- f) The County, City of Watsonville, and other entities continue to pursue implementation of a project with the Army Corps of Engineers to significantly upgrade the flood conveyance system to provide an adequate level of flood protection for the Pajaro River, Salsipuedes Creek, and Corralitos Creek. The draft General Reevaluation Report and Environmental Assessment were completed by the Corps of Engineers and released in November 2017 for public review and comment.

- g) County staff continue to implement the County's stormwater management program and update the program to address evolving State and Federal requirements. In 2017, County staff completed the stormwater Enforcement Response Plan to provide internal guidance for managing stormwater complaints.

4. Watershed Health and Aquatic Habitat

- a) 2017 was a big year for high runoff, landsliding and flooding, with substantial damage to public roads and private property. County Planning staff worked to inventory and assess the damage and provide technical assistance. The County provided a grant to the Resource Conservation District to also work directly with property owners to provide outreach and technical assistance on repairing and preventing storm damage.
- b) County staff continue to implement programs to benefit steelhead and coho salmon, which are two anadromous salmonid species that have historically occurred in County watersheds but have experienced a severe drop in numbers as a result of habitat and watershed degradation. Coho are designated as endangered and steelhead are designated as threatened under the federal Endangered Species Act.
- c) Environmental Health is partnering with the County Information Services Department to complete a database and an interactive website to manage and display the results of fish monitoring efforts that were started by the County in 1981.
- d) The Resource Conservation District received a grant to investigate the possibility of offstream storage and other methods for property owners along Soquel Creek to reduce dry season stream diversions. Several new stream gages have been installed along the creek to monitor flows.
- e) County staff continued to work with water agencies to maintain annual sampling of stream habitat and juvenile salmonids in four watersheds: San Lorenzo, Soquel, Aptos and Pajaro. In 2017, steelhead numbers increased significantly as a result of good stream flow, after four years of drought.
- f) The City of Santa Cruz and San Lorenzo Valley Water District continued efforts to monitor streamflow and habitat conditions downstream of their diversions in an effort to establish objectives for habitat improvement.
- g) County staff continued to implement the Large Woody Material Management Program to maintain large wood for habitat value in County streams without increasing flood risks or jeopardizing public safety. There was significantly increased activity in 2017 with the high flows and landslides bringing more wood into the creeks.
- h) Staff from the County Planning Department and the HSA Environmental Health Division continued to meet with other regulatory agencies to coordinate effective approaches to environmental code compliance. During 2017 there were significant state and local efforts to develop regulations for cannabis cultivation to minimize the adverse environmental effects of those operations.
- i) The Resource Conservation District of Santa Cruz County continued to work with landowners and agency partners to complete habitat improvement projects through the

Integrated Watershed Restoration Program (IWRP). These projects include wetland restoration, fish barrier removal, rural road upgrades, stream habitat improvement, managed aquifer recharge projects, stormwater management and community education.

- j) In 2015, 2016, and 2017, the City of Santa Cruz released significantly more flow for fish than in previous droughts in Laguna Creek, the lower San Lorenzo River, and other streams as a part of an interim agreement with the fishery agencies.
- k) The City of Santa Cruz conducted a number of efforts, including ongoing lagoon monitoring, hosting the third annual State of the San Lorenzo River Symposium, and pursuing illegal stream diversions on critical streams.
- l) County staff are participating with the City of Santa Cruz, Resource Conservation District, and other entities in efforts to implement "San Lorenzo 2025", which is a targeted lobbying effort to secure substantial funding to restore fish habitat in the San Lorenzo River Watershed.

5. Water Quality

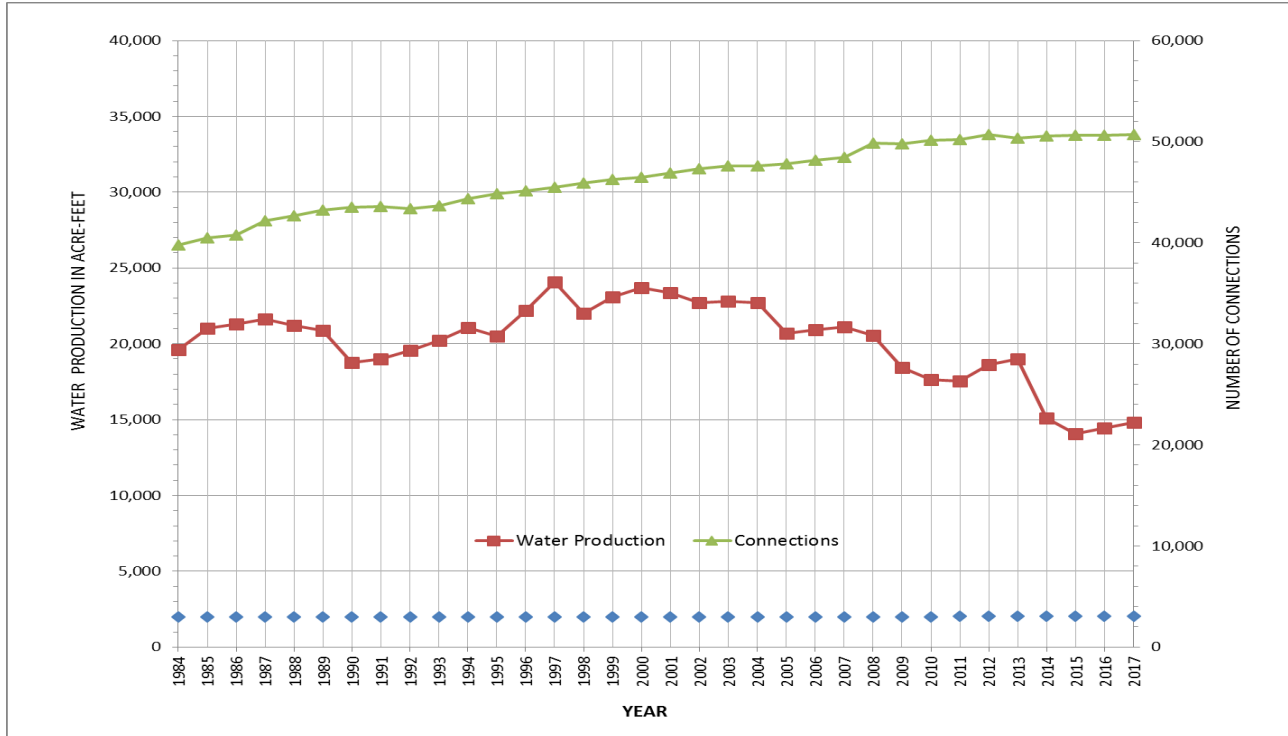
- a) County staff continue to work with the State, City of Santa Cruz, City of Capitola, and the County Sanitation District to implement projects and conduct monitoring to assess public health threats, reduce bacterial contamination, and improve beach water quality. Following completion of a sewer line upgrade in Capitola, Capitola lagoon and beach met standards for safe swimming all summer for the first time since monitoring has begun.
- b) County staff continued to participate with the City of Santa Cruz, Save the Waves Coalition, Surfrider Foundation, and the Sierra Club in the Cowell Beach Working Group, which has been meeting monthly to better understand and control the elevated bacteria levels at Cowell Beach, which have resulted in it being named as one of the most polluted beaches in the State. Previous City improvements had eliminated any significant sources of human contamination. In 2016, the City installed pigeon exclusion fencing under the wharf. Since the completion of the fencing, bacteria counts were far less than in previous years, and the number of days of posting was significantly reduced.
- c) County staff continue to work with the City of Watsonville and the Resource Conservation District (RCD) to monitor harmful algae blooms in Pinto Lake. The RCD completed work on a sediment basin on one of the tributaries to the Lake, while the City implemented an alum treatment to reduce internal nutrient loadings that drive cyanobacteria blooms. The bloom Pinto Lake in 2017 occurred much later in the year and was of shorter duration than previous years. The County continues to monitor and maintain warning signs as needed at both Pinto and Kelly Lakes.
- d) County staff maintain ongoing efforts for water quality protection through septic system management, monitoring, and investigation, funded by County Service Area (CSA) 12. Properly functioning onsite sewage systems are a good method of groundwater recharge and contribute to approximately 14% of the San Lorenzo River's summer baseflow. County staff are working on updating the sewage disposal ordinance to comply with State standards for onsite sewage systems.

6. Small Water Systems

- a) County staff continue to effectively assist and direct over 120 water systems to maintain compliance and meet the ongoing needs of the people and communities, which rely upon them regarding water quality, quantity, treatment, distribution, water system organization, and evolving compliance requirements. The Drinking Water program met and exceeded its annual evaluation goals and objectives for water system permitting and inspections established with the State Water Resources Control Board. Some examples include implementing the Revised Total Coliform Rule, assisting six small water systems with treatment options for elevated Hexavalent Chromium VI, integration of the new Safe Drinking Water Information System (SDWIS) water quality database, assisting surface water treatment system with construction and State Revolving Fund requirements, and assisting numerous groundwater systems to meet updated water quality standards.
- b) The County is tracking water use information based on the 2015 requirements for metering and reporting of water use by all small water systems. This provides additional information for assessment of rural water use and provide the County and the water systems with tools to minimize excessive water use.
- c) County staff continues to hold the Small Water Systems Forum to help build technical, managerial, and financial capacity among the small water systems within the community. Four quarterly meetings were held on various subjects, including: water conservation, drought status, current themes in drinking water, hexavalent chromium standards and compliance, recycled/greywater, water quality database inquiry, new treatment technologies, Electronic Annual Reporting, legislative updates, metering/water use data and ordinance changes, loan sources, rate setting, insurance/liability for water systems, and small water system involvement in the Sustainable Groundwater Management Act.
- d) For the second year in a row, County staff provided hands-on training and assistance for systems to complete data entry into the state electronic annual reporting system.
- e) Beginning in 2017, small water systems that use surface water are directly overseen by state staff.

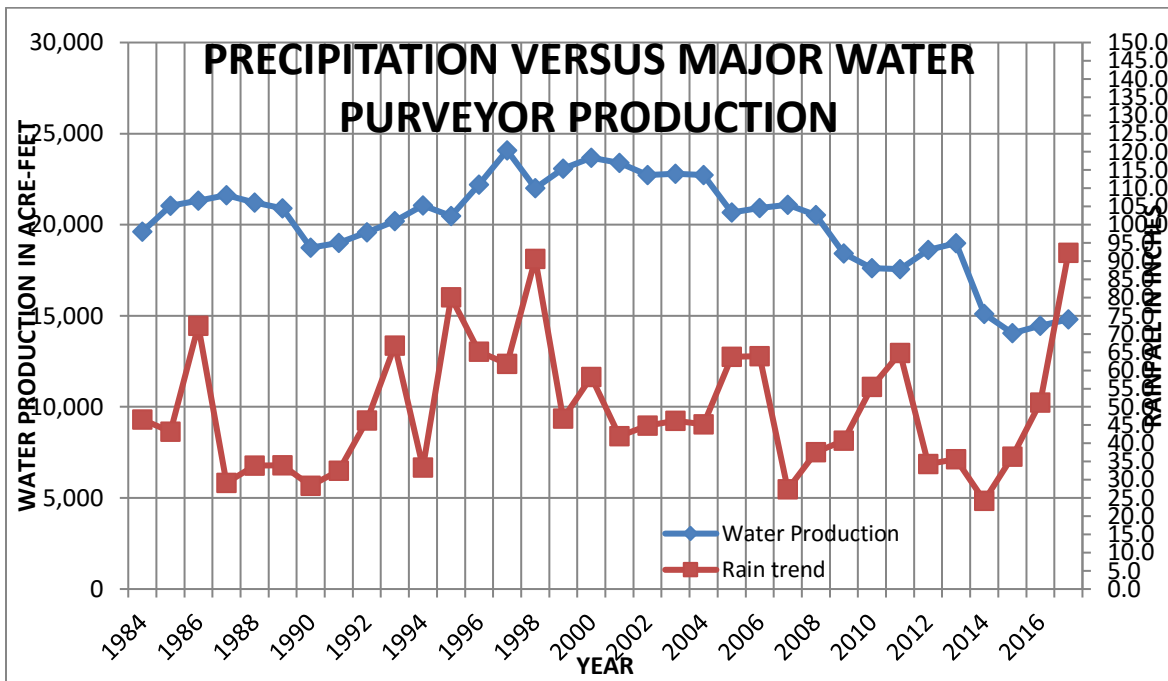
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Water Production for Northern Santa Cruz County Large Water Purveyors* 1984 to 2017



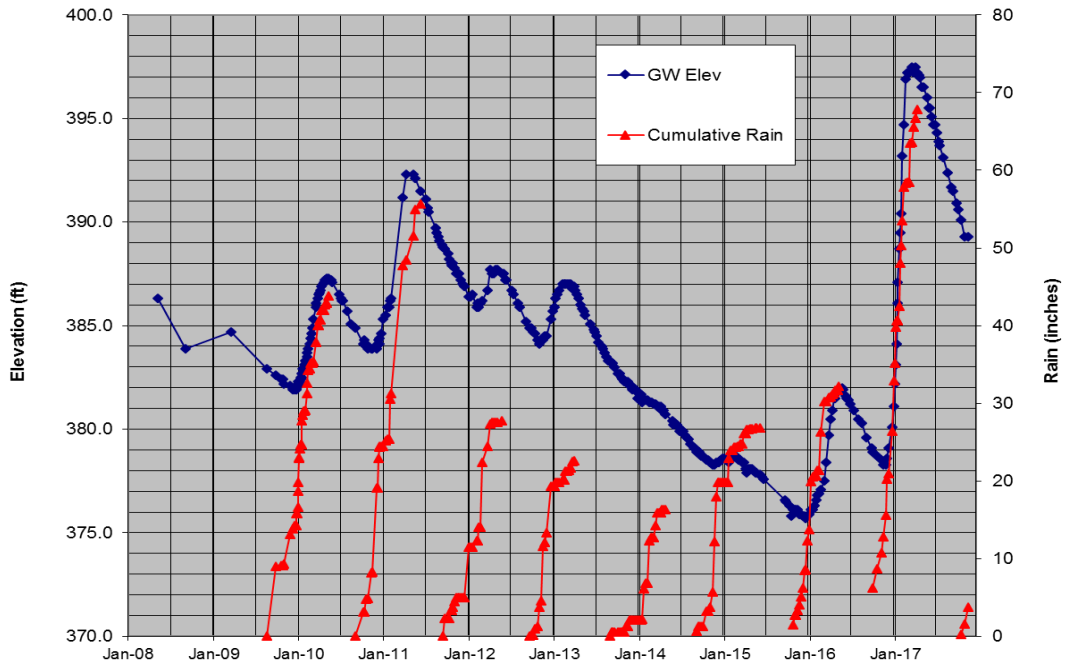
* Water Suppliers include: City of Santa Cruz, Scotts Valley Water District, San Lorenzo Valley Water District, Soquel Creek Water District, and Central Water District

2017 total annual use is water use reported October 2016 through September 2017.



Inland Groundwater Levels, Mid-County Basin, Soquel Hills

Groundwater Levels, Soquel Hills



Coastal Groundwater Levels, Mid-County Basin, Capitola, Monitoring Well SC-5A

