SANTA CRUZ COUNTY
ENVIRONMENTAL HEALTH

Well Ordinance Update

TAC Meeting #4, May 21, 2024

Agenda:

1) Welcome
2) Review Ordinance Update Process
3) Resource Protection Policy
   a) Stream Depletion Calculations
   b) Critical Streams
   c) Map of Groundwater Extraction Concern Areas
4) Updates to Chapter 7.70
5) Updates to Chapter 7.73
6) Well Permit Procedures
7) Next Steps

TAC Update Meetings	Meeting Topics (Subject to Change)
Meeting 1; November 6, 2023	1) Introductions, ground rules, goal, expectations 2) Intro to well ordinance, reasons for update 3) Code update process 4) Topics for future in-depth discussion
Meeting 2; December 8, 2023	Focused meeting on groundwater: 1) Sustainable Groundwater Management Act, GSAs, GSPs 2) Groundwater emergencies 3) Metering of non-de minimis new and replacement wells 5) Areas of declining GW levels/quality and new wells 6) How to include Karst
Resource Impact Subgroup January 8, 2024	Review and discussion of resource impacts, considerations and tiered approach to well permit evaluation and requirements
Meeting 3; January 29, 2024	Evaluating surrounding impacts of wells: 1) Consider impacts to surrounding wells 2) Discuss where/how wells may impact Public Trust values 3) Discuss tiered approach to determine when additional evaluation and/or protections are needed
Meeting 4; May 21, 2024	TAC reviews draft language changes, policy and procedures.
Public Workshop	TBD
Optional Meeting 5	Review Final language
Optional Meeting 6	Final review after changes from Planning Commission, Coastal Commission, BOS

Resource Protection Policy:

To be adopted by Board resolution but can be modified by Board as needed. Provides detailed requirements for code implementation:

1. Minimizing Impacts on Stream, Public Trust Resources, Groundwater Dependent Ecosystems, and Groundwater Sustainability Plans
    a. Tiers
    b. Critical Streams: allowed depletion related to resource value and current impairment.
2. Minimizing Influence on groundwater levels and production of nearby wells: calculated setbacks required
3. Evaluation of wells that encounter karst;
4. Applicability of environmental review requirements;
5. Metering and reporting for non-de minimis wells;
6. Water use efficiency measures to prevent waste and minimize overdraft;
7. Additional requirements in groundwater extraction concern areas.
    a. Limited Yield Areas: more stringent yield testing
    b. Elevated Water Quality Concern Areas: water quality testing
    c. Tier 4 Seawater Intrusion Areas: Tier 4 evaluation

Stream Depletion Calculations:

Various models were used to assess relative impacts of wells on streamflow and nearby wells based on pumped amounts, setback, seal depth, and geologic conditions. Assumed all annual pumping was in 180 day dry season. Also looked at same rate of pumping over 2 years and 10 years.

- Wells pumping 10 af/y had minimal impact (0.01-0.02 cfs)
- Increasing seal depth to 100 ft reduced depletion by 31-82%. Significant further reductions occurred with a seal depth of 200 ft. The effect was more pronounced at distance less than 1000 ft from the creek.
- Pumping from below an aquitard reduced depletion by 95-97%
- Increasing stream setback had only moderate effect on depletion: increasing setback from 50 ft to 1000 ft reduced the amount of depletion by 25-30%. However, going from 800 to 2000 ft reduced the depletion by 50%.
- Modified Theis Non-Equilibrium Equation was used to determine amount of setback needed to prevent more than 5 feet of drawdown in nearby well: 25-1400 ft for a 100 gpm well, depending on aquifer properties.

Critical Streams and Depletion Limits

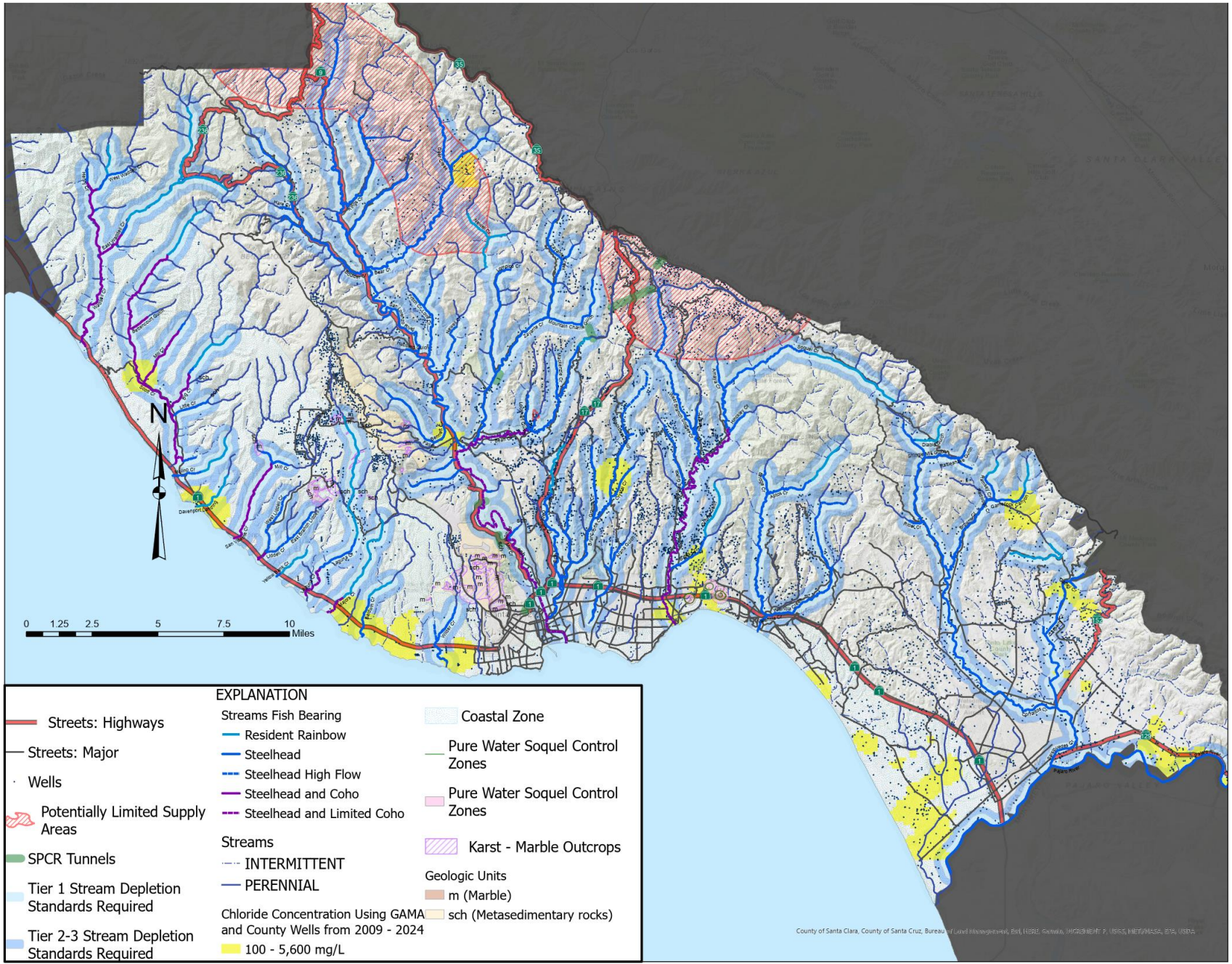
Allowable Additional Cumulative Flow Depletion			
Current Depletion	**>10%**	**5-10%**	**<=5%**
Resource Value			
Coho Core-1	1%	5%	10%
Coho Recovery-2	5%	5%	10%
Steelhead high intrinsic=3	5%	5%	10%
Steelhead/Other Fish-4	5%	10%	20%

Stream	Resource Value	10% Dry Unimpaired Flow (A)	10% Dry Observed Flow	Current Depletion	Allowed Additional Depletion	Allowed Depletion cfs
E. Branch Soquel	1	1.23	0.3	>10%	1%	0.003
Lower Mainstem Soquel	2	2.44	0.84	75%	5%	0.042
West Branch Soquel	2	0.63	0.81	15%	5%	0.032
Other Soquel Tribs	2			15%	5%	
Bean	1	2.4	1.9	21%	1%	0.019
Zayente ab Bean	1	1.19		5-10%	10%	0.119
Bear	3	1.12	0.59	<=5%	10%	0.059
Kings	3	0.58		<=5%	10%	0.058
Branciforte	2	0.34	0.46	>10%	5%	0.017
SLR Mainstem	2	15.6	12	30%	5%	0.600
SLR Other Tribs	4			5-10%	10%	
Laguna	1	0.5		>10%	1%	0.005
Majors	2	0.22		>10%	5%	0.011
San Vicente	1	0.85		>10%	1%	0.009
Scott	1	1.99		>10%	1%	0.020
Aptos ab Valencia	4	0.46		<=5%	20%	0.092
Valencia	4	0.11		<=5%	20%	0.022
Upper Corraltios/Browns	4	0.21		>10%	5%	0.011
Other County Streams	4			5-10%	10%	

Well Tier Criteria

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 5-199 connections	1			
Tier 3	New Non-De minimis wells that are consistent with GSPs, meet Tier 3 calculated setbacks, and will pump less than 100 afy/200gpm	2	Ministerial	If within 2000 ft of stream, Using depletion model (Reeves, 2008), 10th percentile dry season flow shall not be reduced by more than allowed % after 700 days 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
	Public Water System Serves > 199 connections	1			

Groundwater Extraction Concern Areas



Key Updates to Chapter 7.70, Wells and Boreholes

7.70.020 (F), (I) Added definitions of control zones for PWS, and groundwater extraction concern areas

7.70.030(I): Double fee for work commenced without permit

7.70.110(D): Water efficiency measures and metering required for all non de minimis wells, with ability for Health Officer to verify ongoing efficiency

7.70.110(E,H,J) Tier 3 limited to new wells that produce less than 100 af/y; Tier 4 includes control zones and seawater intrusion concern areas. Wells will be prohibited in control zones.

7.70.110: Resource Protection Policy developed to be adopted by Board resolution

7.70.180, 190 Ability to levy violation reinspection fee and record notice of violations

Key Updates to Chapter 7.73, Individual Water Systems

7.73.030, 050(C): Language added to require IWS permit and yield testing for non de minimis uses

7.73.050(D): More extensive yield testing required in limited yield areas

7.73.050(F): Streams will no longer be permitted as an IWS water source

7.73.070(B): Water quality testing expanded to include all Title 22 parameters

7.73.070(D): A Notice of Nonstandard water quality will be recorded on the deed where water quality does not meet drinking water standards and/or treatment is required.

7.73.075: Requirement for Water Quality Testing prior to property transfer.

Implementation Procedures

Applicant:

- Completes application, water use form, water efficiency form
- Request lot legality determination from CDI if needed
- Request Coastal Exclusion from CDI if applicable
- Apply for Coastal Development Permit from CDI, if applicable
- Hire qualified professional to complete Tier 4 impact analysis, if applicable

EH Land Use Staff

- Completes initial application review, field visit, and Tier determination
- Transmit application to water agency and GSA for review
- Approve Tier 1 and 2 applications
- Consult with Water Resources staff as needed
- Conduct installation inspections
- Oversee yield test and water quality sampling

EH Water Resources Staff

- Process and approve Tier 3 and 4 applications
- Calculate stream and well impacts for Tier 3 wells
- Review Tier 4 Evaluations, complete CEQA process with CDI
- Assist Land Use staff as needed

Next Steps:

1. TAC members to review current updates and submits comments
2. Updated documents prepared.
3. Public Workshop held (possibly in August WAC meeting)
4. Documents updated as needed in response to public comments. Optional TAC meeting if needed.
5. EH staff works with CDI staff to complete CEQA review, tribal review, and review by Planning Commission.
6. Package considered by Board of Supervisors.
7. Package submitted to Coastal Commission

Discussion

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