

Regional Water Quality Control Board  
North Coast Region

Executive Officer's Summary Report  
Thursday, October 20, 2016  
Regional Water Board Office  
Santa Rosa, California

**ITEM:** 3

**SUBJECT:** Update on the Groundwater Protection Strategy (*Jeremiah Puget*)

**BOARD ACTION:** This is an informational item only. No action will be taken by the Regional Water Board.

**BACKGROUND:** The North Coast Regional Water Quality Control Board (Regional Water Board) is developing a strategy to protect groundwater quality in the North Coast Region. The strategy includes coordinating with local groundwater management planning efforts, requiring groundwater monitoring in permits and general order enrollments, developing and refining groundwater analytical tools, updating permit language and conditions to better protect our high quality groundwater, advancing our knowledge and protections with respect to groundwater-surface water interactions, and partnering with local, state and federal entities to share data and prioritize our programmatic efforts.

There are many issues of concern with both consumptive and ecological uses of groundwater within the North Coast Region. With respect to human consumption, there is widespread use of shallow and deep groundwater throughout the region for domestic, municipal, commercial, and industrial uses (i.e., potable water supplies and commercial/industrial process water). According to the Department of Water Resources (DWR), groundwater accounts for at least 30 percent of the regional water supply. In fact, there are some North Coast communities entirely dependent on groundwater. With respect to ecological use, some of the watersheds within the North Coast Region rely on groundwater to sustain surface water instream flows and moderate instream temperature. These subsurface flows are critical in supporting such beneficial uses as cold freshwater habitat (COLD), rare, threatened, or endangered species (RARE), migration of aquatic organisms (MIGR), spawning, reproduction, and/or early development (SPWN), wildlife habitat (WILD), wetland habitat (WET), freshwater replenishment (FRSH), and controlling harmful algal blooms during dry summers, particularly during current drought.

Throughout the entire region there is a need for better understanding of basin-wide water quality conditions and trends, the fate and transport of salts and nutrients, and the hydrology of groundwater. As a result of the drought, the number of water recycling projects for agricultural land irrigation has increased. With the exception of the Santa Rosa Plain, there are no salt and nutrient management planning (SNMP) efforts in the North Coast Region. Without SNMPS or an Irrigated Lands Regulatory Program (ILRP), groundwater could be at risk of salt and nutrient build-up. Pollution prevention practices often depend on the application of fertilizers from irrigated agriculture, manure spreading from dairies, and irrigation with recycled water at agronomic rates based on attenuation estimates. Because salts accumulate and do not attenuate in groundwater, there are no real agronomic rates for salts. Therefore, irrigation practices over time should be joined with groundwater monitoring

to ensure salt concentrations do not pose a threat to beneficial uses such as agricultural irrigation (AGR) and municipal and domestic water supplies (MUN). If undesirable trends or risks to beneficial uses are identified early enough problems can be corrected or effectively managed to prevent plant growth problems or impacts to drinking and agricultural water supplies.

On March 12, 2015, the Regional Water Board adopted Resolution R1-2015-0012, "Adoption of the 2014 Triennial Review for the *Water Quality Control Plan for the North Coast Region* (Basin Plan), Proposed Basin Planning Project Priorities." In adopting Resolution R1-2015-0012 the Regional Water Board prioritized: 1) updating groundwater water quality objectives (WQO); and 2) developing and implementing a regional groundwater protection strategy. The first phase of this effort (Phase I Water Quality Objective Update Amendment) is complete. On June 18, 2015, the Regional Water Board adopted Resolution No. R1-2015-0018 a Basin Plan amendment to Chapter 3 (Water Quality Objectives) including the following:

- Revision to the water quality objectives for chemical constituents in surface waters and groundwaters; clarifying revisions to the water quality objectives for pesticide, radioactivity, taste and odor, and toxicity in surface waters; clarifying revisions to the toxicity objective for surface waters;
- Addition of a narrative water quality objective for toxicity in groundwater; and
- Revisions to improve clarity on the implementation of water quality objectives, readability and organization through non-substantive editorial changes.

The Phase I WQO Update Amendment was subsequently approved by the State Water Resources Control Board (State Water Board) on February 16, 2016 and the Office of Administrative Law (OAL) on June 18, 2016. The second phase of this effort (Phase II Groundwater Protection Strategy Amendment) is currently underway and is the subject of this staff presentation. This project is intended to protect high quality groundwater, prevent impacts to the beneficial uses of groundwater from the discharge of waste, and further refine our agencies approach to assessment and characterization of the region's groundwater basins.

**DISCUSSION:** The Regional Water Board is faced with the unique challenge of protecting and preserving an abundant supply of high quality groundwater and its beneficial uses while permitting a wide array of land use practices. Both shallow and deep groundwater supplies support a multitude of human and ecological beneficial uses. As currently scoped the Groundwater Protection Strategy is designed as a comprehensive approach including actions by the Regional Water Board, by its staff and partnerships outside the agency. The purpose of Groundwater Protection Strategy is to better understand and manage the impacts of land use practices on groundwater quality in the North Coast Region. The objective is to carry our mission and continue fostering strong partnerships in our efforts towards effective regulation and safeguarding healthy watersheds, including high quality groundwater to build resilience in the face of a changing climate.

Potential actions by the Regional Water Board through the Phase II Groundwater Protection Strategy Amendment include consideration of a Basin Plan amendment adding:

1. A new implementation plan for discharges of waste to land;
2. A new beneficial use of *groundwater recharge*, recognizing deeper aquifers are often recharged by shallow aquifers;
3. A new beneficial use of *surface water replenishment* to recognize groundwater dependent ecosystems; and
4. A policy statement on the importance of maintaining high quality groundwater.

Actions by the Regional Water Board staff include:

1. Developing groundwater monitoring requirements, updating permit language and conditions to better protect high quality groundwater;
2. Evaluating water quality conditions within the 62 groundwater basins identified and prioritized by DWR on a basin-scale by reviewing and analyzing salt, nutrient, and other types of groundwater analytical data and hydrogeologic conditions;
3. Assessment and control of the risk of salt and nutrient contamination and contamination by chemicals of emerging concern (CECs). Specifically, review management plans, groundwater data, best management practices (BMPs), and sources of pollution to evaluate the effectiveness of existing regulatory and non-regulatory actions at protecting and maintaining groundwater quality;
4. Continue supporting the implementation of the statewide Groundwater Ambient Monitoring (GAMA) program; and
5. Providing technical assistance to local entities seeking funding for planning and construction of improvement projects for underperforming facilities that discharge to land.

Actions by outside entities include:

1. Coordinating with local groundwater sustainability agencies (GSAs) tasked with implementing the Sustainable Groundwater Management Act (SGMA);
2. Evaluating the content and effectiveness of local groundwater sustainability plans (GSPs); and
3. Managing probationary basins where no local agency has formed.

Subsequent to this presentation staff will develop a stakeholder participation plan and continue scoping and outreach efforts through early 2017. As currently estimated staff will produce a Groundwater Protection Strategy Implementation Workplan, Staff Report and Basin Plan Amendment for the consideration of the Regional Water Board by the end of 2018.

**SIGNIFICANT  
CHANGES:**

NA

**SUPPORTING  
MATERIALS:**

NA