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Mr. Benjamin D. Kor  
California Regional Water Quality Control Board  
North Coast Region  
1440 Guerneville Road  
Santa Rosa, CA 95403

Re: comments in response to Item # 2, Public Workshop to Discuss History, Development, and Progress Toward Implementation of the Interim and Long-Range Action Plans for the Russian River Basin, Sonoma and Mendocino Counties at the April 28 Board Meeting

Dear Mr. Kor,

I appreciate the opportunity to comment on action plans which decide the fate of our water quality and terrestrial ecology for a future environment which will hopefully be better than our present one. My main emphasis will focus on the land application of wastewater, since your staff has strived to improve the "in-channel" aquatic environment. I have become increasingly aware of the negative impacts associated with wastewater irrigation, or land disposal, a term which depends on the care and efficacy of the user applying this treatment.

As a natural resource planner and ecologist (B.S., Humboldt State, Arcata; M.S. Utah State, Logan) I have noticed pronounced changes in the terrestrial ecology of plant and animal populations subjected to summer land application of wastewater. I have four points which are briefly described in the following summary:

1. \* Users of wastewater effluent are violating the CEQA review process by doing cursory analysis which does not include rare plant surveys in areas where plants protected by the State Endangered Species Act are known to occur.
2. \* Users of wastewater effluent are violating Section 404 of the Clean Water Act by placing fill in wetlands to control runoff, or improve irrigation efficiency.
3. There has been no analysis of cumulative impacts assessing the effects that summer irrigation has on an ecosystem in which plant and animal communities have evolved in a Mediterranean climate (i.e. summer drought).
4. The importance of the Laguna de Santa Rosa for its

biological, recreational and flood retention benefits make it a critical resource worthy of County, State and Federal preservation and management programs. The history of land use and wastewater plans in progress do not recognize these inherent values of the Laguna.

The relevancy of these issues is highlighted by the fact that Santa Rosa irrigates four thousand acres in the Laguna de Santa Rosa area. Windsor, the Airport and Santa Rosa are seeking several thousand more acres in this watershed for irrigation in the future. Factor in lands converted to vineyards and urbanization and it is plain to see that only isolated remnants of the original native ecosystem are left as fragments between areas that have been permanently altered. This is the process which leads to plants and animals being listed as endangered by federal and state resource agencies.

For instance, the the CEQA review process has recently been rendered ineffective by Windsor Water District when it certified a negative declaration stating "no impact" to endangered plants. This decision was made without any field surveys in an area known to harbor the State listed Burke's goldfields (Lasthenia burkei) and other rare plants. In addition, Santa Rosa's irrigation practices have eliminated hundreds, if not thousands of acres of habitat for this species, and Sebastopol meadowfoam (Limnanthes vinculans). These plants and several others are candidates for listing under the federal endangered species act. Whereas they may have been "threatened" with extinction in the past, plans in progress make them ever more "endangered" and may allow extinction unless a comprehensive approach to their preservation is adopted.

The elimination of native plants, rare or otherwise, follows the simple laws of competition in a drought environment where summer water is a limiting resource. Whereas annual plants, such as those mentioned above, existed in a competitive equilibrium where summer drought limited the potential for luxuriant growth of neighboring plants, the application of summer water has allowed for the aggressive, rapid growth of weeds (mustards, thistles) and introduced grasses (ryegrass, Harding grass, Dallis grass). The presence of high levels of limiting nutrients in the wastewater, such as available phosphorous, which is a nutrient more limiting than nitrogen (also increased), make a growth environment allowing for the crowding out and elimination of native species. A short walk through any wastewater irrigated pasture reveals the same repetition of fast growing pasture grasses and noxious weeds carpeting an area that was once a diverse, rich mosaic of native communities responding to local changes in topography, soil type and moisture gradients.

In essence, wastewater irrigation is eliminating the ecosystem function of vernal pools and swales, which are seasonal wetlands

unique to Mediterranean climates. Essentially all of the rare plants in the Laguna watershed are restricted to these pools. A host of amphibians, shorebirds, waterfowl and other wildlife depend on these pools for reproduction and water as the landscape dries out. These wetlands are protected and regulated under Section 404 of the Clean Water Act. This federal law is administered by the Army Corps of Engineers (COE). Any placement of fill into these wetlands without a permit from the COE is a violation of federal law, subject to cease and desist, and can also be assessed for damages and fill removal.

YET, THE CITY OF SANTA ROSA PROMOTES THE FILLING OF THESE WETLANDS IN LETTERS SENT TO CONTRACTORS AS A MEANS OF IMPROVING IRRIGATION EFFICIENCY. I HAVE WITNESSED THESE LANDS BEING FILLED IN FLOODPLAINS WHERE NO NET FILL IS A POLICY OF THE SONOMA COUNTY WATER AGENCY. DIKES AND BERMS ARE PLACED IN WETLANDS TO CONTROL RUNOFF. THESE ARE ALSO FORMS OF FILL. ALL THIS FILLING IS IN ESSENCE A DESPERATE ATTEMPT TO APPLY MORE EFFLUENT ABOVE AND BEYOND THE CAPACITY OF THE SOIL TO ABSORB IT AND PLANTS TO TRANSPIRE IT.


All this poor land management and illegal activity is a result of water quality control plans which are not detailed enough to control the actions of those being regulated. Before any action plan is adopted for future irrigation I stress the need of the Water Quality Control Board to develop standards and guidelines for wastewater land application (re: irrigation) which encompass federal and state laws protecting rare plants, endangered species and critical habitats such as wetlands. A thorough review process which includes public input, as well as review by the Department of Fish and Game (DFG) and the Army Corps of Engineers must be instituted. To summarize, I ask the Board to answer these following questions:

1. Will the Board include policies in its action plans aimed at the preservation of State and Federally protected rare and endangered species subject to impacts from irrigation authorized by the Board?
2. Will the Board include policies aimed at the protection of seasonal wetlands, such as vernal pools, in accordance with Section 404 of the Clean Water Act, when they are subjected to fill for increasing irrigation efficiency and controlling runoff?
3. Will the Board direct its staff, or those that it regulates, to assess the cumulative impacts to the ecosystem (including the Oak Savanna of the Laguna) that result from converting vast acreages from a summer drought environment to that of perennial soil moisture?

There are solutions available. I am currently part of a team

conducting the Santa Rosa Plains Endangered Plant Protection Program funded by the Department of Fish and Game and administered by the County of Sonoma. The study will inventory all known rare plant sites, rank them as to quality and make recommendations for preservation of the best sites to avoid further endangerment. Lands being considered for future irrigation have these plants on them and there are populations not yet discovered. Any decision to expand wastewater irrigation in the Laguna should include the results of this study in its analysis. Nothing is being asked for in this letter which is not presently protected or regulated under current state and federal laws. Your reply is anticipated.

Sincerely yours,

  
Marco Waaland, M.S.

cc: Ken Blackman, City of Santa Rosa  
Ernie Carpenter, Nick Esposti; Board of Supervisors  
Susan Cochran, Endangered Plant Protection Program, DFG  
Bill Cox, Allan Buckman; DFG  
Hal Wood, Windsor Water District  
Vicki Reynolds, Army Corps of Engineers  
Bob Beach, Sonoma County Water Agency  
Betty Guggolz, California Native Plant Society