

November 20, 2002

Robert Schneider, Chair  
Regional Water Quality Control Board  
Central Valley Region  
3443 Routier Road  
Suite A  
Sacramento, California 95827 –3098

**RE: Adoption of Waiver of Waste Discharge Requirements for Discharges From Irrigated Lands**

Dear Mr. Schneider,

I have been asked by the Natural Resources Defense Council to review your staff's proposed Waiver of Waste Discharge Requirement for Discharges From Irrigated Lands. As explained below, I believe that the proposal as it stands will not protect California's surface and groundwater resources from continued agricultural discharges which are now widely associated with serious water quality degradation in the Central Valley.

I am currently the owner and President of Benbrook Consulting Services and have extensive experience in evaluating and developing policy related to agricultural pollution. I have enclosed a brief biography which describes some of my relevant work.

Over the last few years, the Central Valley Regional Water Quality Control Board (RWQCB) has helped coordinate a long overdue, detailed assessment of the ways agricultural management systems can and do lead to discharges impairing water quality in much of the State. A great wealth of monitoring data has been compiled and analyzed, at great expense to taxpayers and the farm community. Generally accurate conclusions have been reached regarding the sources and magnitude of discharges and solid steps have been made toward documenting necessary steps and cost-effective options to reduce the degree of impairment in various water bodies. Still, translating new understanding and detailed action plans into concrete and meaningful changes in the field remains remarkably elusive given the importance placed on environmental quality by the citizens of the State.

While the RWQCB deserves praise for setting the stage for progress in reducing agricultural non-point source pollution, the proposed decision to continue the waiver, and the conditions placed on the future waiver, sends a clear message to agriculture that the status quo is good enough. As currently structured the proposed waiver will result in little or no changes on the ground. In many parts of the State, water quality will continue to be degraded over the lifetime of this proposal. In some watersheds, loadings of long-recognized pollutants will increase and the severity of impacts will surely grow. In other areas, new pollutants will emerge as problems, often working in combination with existing pollutants to further erode the integrity of aquatic ecosystems.

This sober prediction is regrettably easy to defend given the details of the proposed waiver. Great confidence is placed in the proposal on the role of unidentified watershed groups, many of which are not even yet formed, to develop and implement plans to mitigate non-point pollution.

The list of minor to major miracles that the proposed waiver asks of watershed groups is a long one. They are asked to carry out information gathering and analytical tasks for which they lack the expertise and data, with no way to compel cooperation from landowners or farm operators who fail to recognize the need for cooperative action or just are too busy trying to make a living.

Watershed groups are asked to develop plans "...designed to assist in achieving water quality objectives..." (Attachment A, Section I). Virtually any action, and hence an endless variety of plans, will at least "assist" in achieving the objective of protecting water quality. The performance goals governing plans, against which success will be measured, are never defined, leaving it up to watershed groups to state their own goals and then define how "progress" will be measured.

At one point, the plan even invites watershed groups to focus on the benefits of water quality measures already implemented by farmers: "Projects need not involve new practices, but can involve quantification of benefits of existing practices." (Attachment A, "Deliverables," "Management Practices). No doubt this invitation will be taken full advantage of. As a result, the RWQCB should expect reams of paper documenting things already done to meet or succeed water quality goals. The burden will then fall on the RWQCB to challenge each watershed group's statement of problems, progress, and unmet needs. Lacking the ability to do this, the RWQCB will only be able to tinker on the margins of submitted plans and the status quo will remain largely unchallenged.

Watershed groups are held responsible for identifying and promoting adoption of management practices deemed necessary to meet water quality objectives, yet they lack the tools to do. They have no regulatory authority to restrict the uses of pesticides known to impair water quality nor any practical means to petition the Department of Pesticide Regulation to take on this task. They lack a way to work with federal and state cost-share programs set up to help defer the cost of soil and water conservation practices. Conflicts are bound to emerge between the eligibility criteria, design specifications, and performance parameters of practices supported through government cost-share programs, in contrast to those practices needed to meet watershed needs or favored by farmers within a watershed. Sorting through and harmonizing program requirements and system-design specifications will be a Herculean task.

### **Recommended Improvements**

The most serious deficiency in the proposed plan is the absence of any concrete discussion of the performance standards that plans must be designed to achieve in terms of reducing discharges. The plan only requires growers to develop individual or group plans which are "designed to assist in achieving water quality objectives."

Goals and performance standards must be defined using concepts that make sense to farmers. Performance standards need to be attainable in the context of farming system outcomes over which farmers can and do exercise management control. Farmers and watershed groups will need practical, affordable methods to monitor compliance and the impacts of changes in management systems, as well as mechanisms to gauge whether the pollution-prevention impacts of actions across many individual fields are collectively sufficient to meet watershed group goals. And last, to the extent monitoring shows that further steps are required to meet stated goals, there needs to be an agreed upon process and trajectory for incrementally tightening down performance standards, in an equitable way across all farms.

Performance standards that make sense to farmers, and which are subject to management control one field at a time, are essential since no single farmer will have a clue what they need to do to assure a watershed group will collectively limit discharges of a given pollutant to a defined level, measured at some point in a watershed at a given, prescribed time. Nor will watershed groups have the resources to settle disputes, as one community within a watershed group (say cotton farmers) claims that the real problem is coming off land producing stone-fruits, and vice versa. Lacking the ability to resolve disputes, the only thing bound to happen within watershed groups is lots of finger-pointing and wheel spinning.

What farmers can do, and should be required to do, is achieve a given level of efficiency in the use of irrigation water and agricultural inputs on their cropland. They should be required to adopt proven, safe practices to the extent they are available and cost-effective. Likewise, well-documented high-risk practices and inputs should be avoided, and prohibited in uniquely sensitive places in the landscape.

The greater the need for the watershed group to reduce pollutant loadings, the stricter the performance standards must be on each field. If practically attainable levels of efficiency are not enough to meet water quality goals, then practices designed to achieve efficient input use must be coupled with in-field and edge-of-the-field practices able to restrict the off-farm movement of pollutants. For example, deep-rooted fall cover crops can be planted following summer crops to tie up nitrogen left in the soil, reducing over-winter runoff and leaching to groundwater. Herbicide and nutrient runoff from orchards can be markedly reduced by planting and managing grass between rows of trees and through installation of edge-of-the-field filter strips.

When and where both sorts of measures prove ineffective, farmers will need to alter cropping patterns and/or invest in new irrigation or pest management systems that make possible a substantial improvement in the efficiency of resource use and control over the movement of pollutants in surface water runoff and tailwater.

In the discussion of “Management Practices” in Attachment 1, watershed groups are held “...responsible for monitoring the success of identified management practices through the program’s water quality monitoring program, as well as through the evaluation of the

management practices.” Yet the proposed plan does not state how “success” is to be determined, other than the generic statement “...assist in achieving water quality objectives.”

In several instances, Attachment A directs watershed groups to collect and provide information, including pesticide use and water quality monitoring data. Such data are essential to determine where problems are most acute, to monitor the effectiveness of remedial measures, make mid-course corrections, and ultimately to prove to the public that adequate measures are in fact in place and performing as hoped. To support needed analytical exercises and credibly document progress, however, these data must be collected in specific ways, using well-defined, proven protocols. The RWQCB must soon augment Attachment A with additional detail on when and how water quality samples are to be taken, what analytical methods are to be used, and how results are to be reported.

Pesticide and fertilizer use data must also be reported in ways that allow rigorous assessment of linkages between changes in management practices and water quality outcomes. Data collected and reported must include not just how much of a given fertilizer or pesticide was applied, but how it was applied and when it was applied. In many cases it will also be necessary to collect data on how farmers set application rates, as well as why they chose specific products and technologies.

University researchers and a variety of farmer-led projects have carefully documented the impacts of various practices, systems and inputs in terms of agronomic performance, economics, and environmental impacts. Two conclusions are unmistakable.

First, some practices and inputs are not compatible with California’s water quality goals. Put differently, there will inevitably be further degradation in water quality and aquatic ecosystem integrity if certain practices and inputs continue to be used, especially in sensitive areas.

Second, several practices, strategies, and inputs have been shown to deliver unequivocal environmental benefits without sacrificing agronomic performance and often at little or no added cost to farmers. Such benefits are greatest and most reliable when implemented on croplands that are now contributing disproportionately to pollutant loadings by virtue of their topography and soil type, position on the landscape, or the crops grown upon them.

The identification of practices unequivocally supportive of, and others incompatible with water quality goals provides the RWQCB two promising ways to jump-start progress. The Board should issue a list of such practices, perhaps gleaned from the extensive public input received during the hearing process and in a variety of meetings the last few years. Watershed groups would then be obligated to make full use of the beneficial practices, at least where applicable within sensitive parts of the landscape, while phasing out damaging inputs and practices.

Individual growers within watershed groups should be provided flexibility to meet or exceed the performance standards inherent in required practices via some other combination

of practices or methods. In the case of reducing pesticide loadings, for example, growers who chose to rely on the release of beneficial insects should be credited for adoption of an environmentally friendly alternative that precludes routine use of high-risk, broad-spectrum insecticides. For the same reason, farmers certified as in compliance with California organic farming requirements should be regarded as fully compliment as long as certification status is retained.

Reducing pesticide, nutrient, sediment and salt discharges into California waterways is a management challenge and in many respects, a rather simple one. Today, a host of other management challenges are driving the decisions made by California farmers facing the need to change. Beginning in 2003, the State's water quality control boards have an opportunity to raise the profile of water quality objectives as agricultural innovation unfolds across the Central Valley. The current proposal for the most part passes this opportunity by and will, in the end, increase the costs of dealing with long-recognized problems, while raising the political and public health stakes.

Your consideration of these concerns is greatly appreciated.

Respectfully,

Charles Benbrook, Ph.D.

enclosure



Dr. Charles Benbrook

*Biography*

Dr. Charles Benbrook runs Benbrook Consultant Services, a small consulting firm based in Sandpoint, Idaho. He worked in Washington, D.C. on agricultural policy, science and regulatory issues from 1979 through 1997. He served for 1.5 years as the agricultural staff expert on the Council for Environmental Quality/The White House at the end of the Carter Administration, during a period of intense focus on soil conservation, farmland preservation, and pest management policy.

With the election of Ronald Reagan, he moved to Capitol Hill and was the Executive Director of the Subcommittee of the House Committee on Agriculture with jurisdiction over pesticide regulation, research, trade and foreign agricultural issues, and oversight of the USDA. He worked for the late Congressman George E. Brown, a great champion of agricultural research and progress toward more environmentally friendly technology and farming systems.

Benbrook was recruited to the job of Executive Director, Board on Agriculture of the National Academy of Sciences, in early 1984. During seven-years as ED, he helped establish the Board as a major voice on agricultural science and regulatory policy. In late 1990, he formed Benbrook Consulting Services.

Several Board on Agriculture projects in the 1980s addressed the promise of agricultural biotechnology. As a long-time expert in pesticide regulatory law, Benbrook's work extended to agricultural biotechnology issues in the early 1990s.

In 1998, he developed Ag BioTech InfoNet, ([www.biotech-info.net](http://www.biotech-info.net)) one of the Internet's most extensive independent sources of technical, policy, and economic information on biotechnology. Benbrook's technical reports, comments to regulatory agencies, speeches and analyses are posted on the page.

For a variety of clients, he has commented extensively on Bt-transgenic plants, resistance management issues, impacts of herbicide tolerant plants on weed management and herbicide use, and the economic impacts of agricultural biotechnologies.

Other long-term activities include work on the implementation of the Food Quality Protection Act, as a consultant to Consumers Union (see the CU FQPA website [www.ecologic-ipm.com](http://www.ecologic-ipm.com)) and participation in the University of Wisconsin-WWF-Wisconsin Potato and Vegetable Association potato IPM project.

Benbrook has a PhD in agricultural economics from the University of Wisconsin-Madison and an undergraduate degree from Harvard University. He can be reached at [benbrook@hillnet.com](mailto:benbrook@hillnet.com) or by phone at 208-263-5236.