cdfa CALIFORNIA DEPARTMENT OF FOOD & AGRICULTURE

May 13, 2011

Mary Wagner or Daniel Sussman
Environmental Scientists
California Regional Water Quality Control Board, Lahontan Region
2501 Lake Tahoe Blvd.
South Lake Tahoe, CA 96150

Dear Ms. Wagner and Mr. Sussman:

The California Department of Food and Agriculture thanks the Board for the opportunity to comment on the document, "Proposed amendments to the water quality control plan for the Lahontan Region: Pesticide prohibition with exemption criteria." The Department has read the Proposed Amendments and associated documents with interest and offers the attached comments for your consideration.

Thank you for your time.

Sincerely,

Duane Schnabel
Branch Chief, Integrated Pest Control Branch

Enclosure

cc: Patrick Akers

Comments on "STAFF REPORT AND SUBSTITUTE ENVIRONMENTAL DOCUMENTATION FOR PROPOSED AMENDMENTS TO THE WATER QUALITY CONTROL PLAN FOR THE LAHONTAN REGION REVISING THE REGIONWIDE PESTICIDE WATER QUALITY OBJECTIVE TO A REGIONWIDE WASTE DISCHARGE PROHIBITION" and the "Draft Basin Plan Language – · Draft Waste Discharge Prohibition and Exemption Criteria" and Chapters 3, 4, and 5

Patrick Akers, PhD
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Major comments are only on the "Draft Waste Discharge Prohibition and Exemption Criteria". Comments on the Substitute Environmental Documentation were only minor and will not be included.

Draft Waste Discharge Prohibition and Exemption Criteria

Pg 3, Exemption Criteria: "The treatment event shall not exceed one week..." and Pg 4, "Within one week of the application event compliance with water quality objectives..." and similar references

The Board should be aware that the one-week criterion will preclude the use of most of the safest aquatic herbicides and force dependence on herbicides that, when used at effective legal rates, have much narrower safety margins for non-plant taxa, including fish and invertebrates. They can sometimes cause direct injury to these taxa even when used in compliance with the label.

Most of the aquatic herbicides that could be used in compliance with the one-week criterion are older, faster-acting contact herbicides such as acrolein, endothal, diquat, and copper. These herbicides usually require relatively high concentrations in the range of 0.8 to 3 or 4 ppm to be effective, and often their application rates approach the LC50's for various animal taxa. However, they usually kill their targets and degrade or are inactivated within a few days, so they can stay within the criterion period. Contrasted to these herbicides are newer herbicides such as fluridone, penoxsulam, imazapyr, imazamox, and several others that are in the process of being registered. These herbicides are slow-acting systemics. They generally take 2 to 5 weeks or more to exert their effects, and they break down or are inactivated more slowly than the contact herbicides, so they remain at effective concentrations for the required time or even longer, unless diluted. This means their use could not comply with the criterion period. However, they also are generally applied at much lower rates (0.01 to 0.3 ppm) and have similar to much better toxicity profiles for non-plant taxa than the contact herbicides, so in practice they have much higher safety margins for taxa other than plants. Some of these new herbicides are among the lowest-risk pesticides ever registered by EPA. They

also often have a range of effectiveness on different plant species, such that it is often possible to control a pest plant while favoring more beneficial species.

The Board would do well to consider rewording this criterion so that it does not exclude effective alternative compounds that provide lower risk.

Pg 5, para. 1: "...and (d) prevent damage...species."

Consider adding something similar to: "(e) manage waterways for safe navigation and effective water delivery."

Pg 5: (a) The project is an eligible circumstance.

Consider adding "as described below."

Pg 5: (b):

Change "project criteria" to "exemption criteria"?

Pg 6, para 6: "Emergency Projects."

CEQA Guidelines 15269 requires declaration by the Governor, but Resource Code 21060.3 does not specify the authority that declares the emergency. What will be the Board's stance on this question? Will declaration by a resources agency suffice?

Pg 6, para 7, 2nd sentence

Consider changing "not already infested by that species" to "where that species is not already established."

Pg 6, para 7, 3rd sentence:

Consider adding State and Federal noxious weeds to the list of species.

Pg 6, para 8 et seq, General Comments

The "Circumstances" and "Exemption Criteria" sections give the sense that the Board anticipates that projects will be put forward in reaction to a single current problem in a specific area with tightly limited geographic extents and in a tightly defined time frame. However, some problems, especially concerning facility or waterways maintenance, are often anticipated, but perhaps in a general way. For example, a canal company might know that some parts of its system are prone to developing weed problems, but the specific problem sites and weeds vary from year to year. The management people at Tahoe Keys know they're likely to have milfoil and curlyleaf pond weed problems in any given year, but the timing and extent might vary according to the year's weather. The Vector Control people probably have a good idea of the areas that are most likely to

develop mosquitoes in general, but the specific problem areas in any given year probably depend on factors at a microclimate scale and can't be accurately predicted. Water delivery companies may know that a particular reservoir has a history of cyanobacteria problems, but perhaps not always in the same location or in every year. The quagga mussel response team probably anticipates that the mussels will first be found in Tahoe at a boat ramp or marina, but not which one.

Managers in such conditions likely have general plans on a response, but all the important details of where, when, extent, and probably even the precise treatment method and protocol will depend on the specific situation. However, when the situation arises, in many cases the response needs to be swift if it is to be useful.

If the Board could give some direction as to whether they wish to consider projects with more generalized project descriptions, it would be appreciated. Such projects would appear to fall under the classification of "Projects that Are Neither Emergency Nor Time Sensitive", but, as noted above, when a specific circumstance arises, often time is pressing. If the Board would consider more generalized, proactive projects, some guidance as to how the Board envisions such projects fitting into the "Exemption Criteria" scheme would be helpful.

Pg 7, para 3, 2nd sentence (NPDES requirements): "Project proponents...must obtain coverage under an applicable permit..."

The timing between obtaining the Prohibition Exemption and a General NPDES permit is confusing. In paragraph 11, "2. Notice of intent for coverage..." implies that the two processes occur in parallel. Please clarify.

Pg 7, para 11, 1st sentence:

Should "...State Board or Regional Board permit..." be "...State Board or Regional Board NPDES permit..."?

Pg 7, para 12, CEQA Documentation:

1. In a declared emergency that is exempt from CEQA, no documentation is required?
2. Preparing CEQA documentation can be very expensive in time and money. To take on such an investment without good indication as to whether the Board is likely to grant the exemption places the applicant in a highly risky position. Will the Board be able to provide some guidance to the applicant prior to initiating the CEQA document process?

Pg 9, para 4: "2. ... The Plan should include measures to remove..."

Removal of biomass is likely not feasible for weeds treated with herbicides. The contact herbicides usually kill and break down the plants rapidly. Attempts to harvest the dying plants would only cause extensive shattering, greatly increasing the release rate of organic matter, thereby encouraging even more rapid bacterial blooms and the chance of

deleterious effects on dissolved oxygen. For contact herbicides that work rapidly, the more common mitigation (usually on the label) is to not treat when the DO is low (near 5 ppm) or to treat only a section (usually 1/3) of an infested water body at a time (usually with 1 to 2 weeks between treating sections), if it is infested over most of its area.

Another mitigation is to use one of the slower-working systemic herbicides. In these cases, a single plant does not die all at once: parts of it are decaying while other parts are still dying. The plant stand as a whole dies gradually over a prolonged period, so bacterial growth is not as intense and the effects on DO are usually less pronounced.

If the Board were to insist that only fast-acting contact herbicides were acceptable to control the spread of AIS weeds, a more logical approach to using harvesting to mitigate biomass decay in using such herbicides would be to harvest first and then immediately treat with a contact herbicide to kill the many plant fragments that harvesting generates. Plant fragments generated by harvesting or boating are a major means of spreading an invading weed within a water body.

Pg 9, para 4 et seq, "4. Monitoring and reporting program..."

The Board should consider requiring that the monitoring plans be structured along the lines of the statewide NPDES pesticide plans, where a representative fraction of treatments are monitored. The Board might perhaps also require that a project proponent takes care to include a treatment that represents a "worst case" scenario, if one can reasonably be anticipated.

As stated earlier, the current draft gives the impression that the Board largely envisions each project as a single treatment event, discrete in both time and space. The monitoring plan laid out in Time Sensitive Projects, section 4, is extremely extensive and will be very expensive. It would perhaps be reasonable if it were a one-time expense, but maintenance-type situations will probably entail multiple treatments in time or space. If each treatment event requires such extensive monitoring, the cost will be prohibitive. It would also help to know that the data is being incorporated into a scheme that will allow the Board at some future time to understand the effects of pesticides in the watershed and make judgments as to circumstances where a particular use was or was not especially deleterious. However, it seems a waste to require recurring large costs simply for data that will not lead to better understanding.

Pg 10, para 2: Peer review

The mechanism of peer review needs better definition, because there may be problems if the Board intends to follow the model of review for scientific journals.

Anonymous peer review is the cornerstone for scientific work being submitted for publication in a scientific journal. Publications form the basis for the advance of a publishing scientist, so having one's papers peer reviewed is of paramount importance. Publishing scientists review each other's work for free, with the understanding that each

is providing the favor in return for similar consideration. Project monitoring plans and reports generally provide no such incentive to a publishing scientist. Some scientists may provide limited review services out of a sense of public duty or to earn the right to list the activity on a resume, but scientists with appropriate backgrounds are few, and their good offices could easily be overwhelmed.

This means that project proponents will probably soon run into difficulty finding reviewers, unless the reviewers are compensated. However, if the project proponent compensates the reviewer directly, then the review is open to the criticism that it is no longer disinterested. To overcome this, the Board may have to set up a panel of reviewers that is has on retainer, and the project proponents will need to contribute to a general fund to pay for reviews.

Alternatively, monitoring plans could be anonymously reviewed by other potential project proponents. Project proponents would share incentive to review in the same way that scientists share an incentive to review. The Board would have to determine whether proponents in general have the technical ability to undertake the reviews, and whether such a scheme would provide an adequate perception of disinterestedness.

Pg 10 para 3:

The Board focuses its interest in population recovery on macroinvertebrates. This focus probably reflects its experience with rotenone, which is an insecticide as well as a piscicide. It would be helpful if the Board could give guidance on how it perceives dealing with other pesticide groups besides rotenone. For example, many aquatic herbicides have little to no direct toxicity for most invertebrates, although the fast-acting contact herbicides can be marginally toxic at normal use rates. On the other hand, it is conceivable that herbicides that are not directly toxic could alter the habitat enough by the removal of certain plant species that it could indirectly alter the invertebrate community. Carried further, if removal of AIS weeds allows the recovery of native plants, the invertebrate community might also move to a more "native" structure.

With herbicides, will the recovery target be a reference native plant community, a recovery of invertebrate populations to pre-treatment community, or a "native" invertebrate community based on a native plant community?

Pg 10, para 4

Paragraph 4 epitomizes the impression created by the BPA language that the Board perceives control projects as single treatment events discrete in both time and space. For rotenone-based eradication projects, this is sensible. However, for maintenance situations, the conditions in Paragraph 4 might be inherently unattainable. For example, if a water company may finds it needs to treat a section of a canal for weeds every two years or so, can it still operate under the BPA? The Board would serve the water infrastructure community if the Board could state whether it envisions maintenance-type

projects having any place under the proposed BPA amendment, and outline how they might fit in.