

Response to Comments – September 30, 2011

Basin Plan Amendment - Pesticide Prohibition & Exemption Criteria

(Comment deadline 5 p.m., May 13, 2011)

California Department of Food and Agriculture

http://www.waterboards.ca.gov/laontan/water_issues/programs/basin_plan/comments051311/cdfa.pdf

Comments	Response
<p style="text-align: center;">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</p> <p style="text-align: center;">Patrick Akers, PhD Sr. Environmental Scientist Calif Dept of Food and Agric Hydrilla Eradication Program</p> <p>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.</p> <p>Draft Waste Discharge Prohibition and Exemption Criteria</p> <p>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</p> <p>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.</p> <p>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 LC50s 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</p>	<p>CDFA R1: Water Board staff acknowledges that the one week period assigned to the treatment event may preclude the use of some pesticides including slow-acting systemic herbicides. In recognition of the variability of the duration of a treatment event, the duration of a treatment event will not be discretely defined to one week as previously proposed. Instead the duration of the treatment event will be limited to the shortest duration possible while still achieving project success and will be defined on a project-by-project basis. The duration of the treatment event will be determined by whether the pesticide in use is a fast-acting chemical or a slow-release systemic compound and by considering site-specific conditions (flow, target species, water chemistry). assigned to the treatment event. Project proponents, however, will be required to begin water quality monitoring one week post-application event (i.e., when pesticides are first applied to surface water) to track the ambient concentration and degradation of the aquatic pesticide.</p> <p>For further clarification on how this amendment provides for the potential use of systemic pesticides that require a time-release mode that often extends beyond one week for effectiveness see Chapter 4 of the Basin Plan under the section titled "Purpose and Need for Exemption."</p>

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<p>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.</p> <p>The Board would do well to consider rewording this criterion so that it does not exclude effective alternative compounds that provide lower risk.</p> <p>Pg 5, para. 1: "...and (d) prevent damage...species."</p> <p>Consider adding something similar to: "(e) manage waterways for safe navigation and effective water delivery."</p> <p>Pg 5: (a) The project is an eligible circumstance.</p> <p>Consider adding "as described below."</p> <p>Pg 5: (b):</p> <p>Change "project criteria" to "exemption criteria"?</p> <p>Pg 6, para 6: "Emergency Projects."</p> <p>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?</p> <p>Pg 6, para 7, 2nd sentence</p> <p>Consider changing "not already infested by that species" to "where that species is not already established."</p> <p>Pg 6, para 7, 3rd sentence:</p> <p>Consider adding State and Federal noxious weeds to the list of species.</p> <p>Pg 6, para 8 et seq, General Comments</p> <p>The "Circumstances" and "Exemption Criteria" sections give the sense that the Board anticipates that projects will be put forward in <u>reaction</u> 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 <u>anticipated</u>, 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</p>	<p>Refer to CDFA R1 on the previous page.</p> <p>CDFA R2: The Water Board will consider projects for an exemption on a project-by-project basis. Though projects proposed for purposes of providing safe navigation and effective water delivery are not explicitly identified in the Basin Plan the Water Board may provide a prohibition exemption for these types of projects where there is a nexus to public health and safety.</p> <p>CDFA R3: Water Board staff concurs with the minor language revisions and have made the changes in the appropriate locations throughout Chapter 4 of the Basin Plan under the section titled "Findings Necessary for Granting an Exemption."</p> <p>CDFA R4: PRC 21060.3 and CEQA Guidelines 15359 provide a definition of an action that may be considered an emergency that may be exempt from CEQA; it does not specify what authority declares the project an emergency. CEQA section 15269 provides which types of projects are statutorily exempt from the requirements of CEQA because they fit the definition of emergency. CEQA subsection 15269(a) does specify that the Governor is the authority that declares a situation an emergency, but CEQA sections 15269 (b) and (c) do not specify which entity needs to declare the project as an emergency. If the CDFA or a resources agency is the CEQA lead on a project, it may declare an activity is an emergency project, according to the definition, and the project is statutorily exempt from CEQA. When the exemption request is filed with the Water Board, the Water Board would need to concur with the lead agency's determination or otherwise file a separate CEQA finding.</p>

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<p>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.</p> <p>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.</p> <p>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 <u>first</u> 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.</p> <p>Pg 9, para 4 et seq, "4. Monitoring and reporting program..."</p> <p>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.</p> <p>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.</p> <p>Pg 10, para 2: Peer review</p> <p>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.</p> <p>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</p>	<p>CDFA R13: It is not the intent of the proposed language that every project need a unique peer reviewed monitoring plan. The use of standardized peer reviewed monitoring protocols will suffice. Additionally, the proposed language includes the ability for the Water Board to waive peer review.</p>

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<p>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.</p> <p>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.</p> <p>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.</p> <p>Pg 10 para 3:</p> <p>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.</p> <p>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?</p> <p>Pg 10, para 4</p> <p>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</p>	<p>Refer to CDFA R13 on previous page.</p> <p>CDFA R14: The biological monitoring program must be based on an appropriate study design, metrics, and performance criteria to evaluate restoration of non-target biological life potentially affected by the pesticide application. In projects with the goal of removing an invasive plant community, the recovery target will be based on an appropriate reference site identified in the study design. The recovery target will be measured using appropriate indicators (e.g., macroinvertebrates, aquatic plants) that demonstrate restoration of non-target species to levels equal to or better than pre-treatment conditions (a reference site may be used to represent pre-project conditions). We acknowledge that the same species may not exist at the treatment location after treatment as before treatment, or that the species may not exist with the same abundance. Rather, the community as defined by quantifiable metrics (e.g., functional feeding groups, abundance, etc.) will be comparable. For further guidance on biological monitoring of non-target species, see additional language in Chapter 4 of the Basin Plan under the section titled "Exemption Criteria for Controlling Aquatic Invasive Species (AIS) and Other Harmful Species", No. 7.</p> <p>CDFA R15: Staff concurs that every project will not need monitoring as described in the proposed Waste Discharge Exemption Language in the section titled "Exemption Criteria for Controlling Aquatic Invasive Species (AIS) and Other Harmful Species", No. 7.</p> <p>If the project is permitted under a statewide general permit, the monitoring requirements will meet those of the permit. If the exemption request packet indicates the potential for direct impacts to non-target organisms, staff may recommend that the Water Board require additional monitoring to that required in the permit to evaluate full restoration of non-target species. If HR 872 passes, exempting pesticide projects from NPDES permits, State Board or the Regional Board may still regulate these discharges by permit under authority of the Porter-Cologne Act. See CDFA R8.</p>

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

See **CDFA R15** previous page.