Response to December 16, 2010 Comments

Draft Statewide General National Pollutant Discharge Elimination System (NPDES) Permit for Biological and Residual Pesticide Discharges to Waters of the United States from Pesticide Spray Applications Permit

State Water Resources Control Board

March 1, 2011

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2	National Marine Fisheries Service	Joseph Dillon
3	San Francisco Baykeeper	Naomi Melver
4	National Environmental Law Center Pesticide Watch Education Fund Pesticide Action Network of North America Health and Habitat Stop the Spray East Bay Stop West Nile Spraying Now Better Urban Green Strategies Butte Environmental Council Environment California Californians for Pesticide Reform Pesticide-Free Sacramento Mothers of Marin Against Spray Center for Environmental Health Play Not Spray	Joseph J. Mann Paul Towers Katherine Gilje Sandy Ross Nan Wishner Don Mooney Samantha McCarthy Maggi Barry Dan Jacobsen David Chatfield Amy Barden Debbie Friedman Caroline Cox Lynn Murphy
5	United State Department of Agriculture (USDA) Forest Service	David Bakke
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7	Northern California River Watch •Larry Hanson (email and letter) •Bob rawson •Laurie-Ann Barbour	Larry Hanson
8	California Farm Bureau Federation	Kari Fisher
9	•Forest and Wildlife Advocate •EPIC-Environmental Protection Information Center •Kalmath Riverkeeper	Kimberly Baker, Scott Greacen, and Erica Terrence
10	Heal The Bay	Kirsten James
11	Yurok Tribe	Suzanne Fluharty
12	Sonoma County Water Coalition	Janus Mattes
13	Anne and Paul Greenblatt	Anne Greenblatt

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B. Responses to Comments

In the comments and responses below, Draft Permit refers to the public notice version of the permit which was posted on October 1, 2010; and Permit refers to the current version of the permit that the State Water Board is considering for adoption and the permit that will have been adopted by the State Water Board at its March 1, 2011 meeting. Receiving water has the same meaning as water of the US.

At the November 2010 public hearing, Chair Hoppin of the State Water Board directed staff to provide options for the toxicity requirements. In response, staff revised Section III of the Monitoring and Reporting Program to provide the options that State Water Board can choose from. Staff recommends Option D, which is described below:

For the first application, the coalition or discharger shall collect one Background sample and Event sample in the application area for toxicity testing. If the Background sample result shows no toxicity, the discharger shall continue taking only Event samples until a total of six consecutive Event sample results show no toxicity in the receiving water. Thereafter, no further testing for toxicity will be required for the active ingredient used at that representative site. However, the presence of toxicity in the Event sample at anytime indicates that: (1) there is pre-existing toxicity in the receiving water, but the application is not adding to the pre-existing toxicity; (2) there is pre-existing toxicity in the receiving water and the application is adding toxicity to the pre-existing toxicity; or (3) there is no pre-existing toxicity in the receiving water, but the application itself is responsible for the toxicity. To determine whether the discharger is causing or adding toxicity to the Background receiving water, the discharger shall collect paired Background and Event samples. When a total of six consecutive paired Background and Event sample results show that the discharger is not causing or adding toxicity to the receiving water, no further testing for toxicity will be required for the active ingredient used at that representative site. However, if any paired Background and Event sample result shows that the discharger is causing or adding toxicity to the receiving water, the discharger shall evaluate its application methods, BMPs, or the use of alternative products.

1. Comment Letter 1 - California Department of Food and Agriculture

Comment 1.1

Table 1. Discharger Information: Because the California Department of Food and Agriculture's (CDFA) activities are so different than USDA Forest Service's, CDFA recommends the permit be issued solely for CDFA. If the State Water Board agrees, need to remove USDA Forest Service's chemicals and treatment sections.

Response 1.1

The Permit retains USDA Forest Service as a discharger as requested by USDA Forest Service.

Comment 1.2

Section II.A. General Permit Coverage: Delete products with piperonyl butoxide (PBO).

Response 1.2

Staff deleted Evergreen Crop Protection EC60-6, which is the only product with PBO.

Comment 1.3

Section II.B. Discharger: Per meeting with State Water Board, they will be the authority for reviewing the Permit.

Response 1.3

Regional Water Board staff will also need to review the application for region specific requirements and provide State Water Board staff with their comments.

Comment 1.4

Section II.C. Fee: Would like to see confirmation that fees will only be collected by the State Water Board.

Response 1.4

Added the suggested language of "…and payable to the State Water Board."

Comment 1.5

Section II.D. Terminating Coverage: Please note, numbering should be adjusted.

Response 1.5

Staff corrected the numbering.

Comment 1.6

Section III.E.3. County Agricultural Commissioners: We feel these terms [Section III.E.3. County Agriculture Commissioners, replacing regulate with implement and enforce] better represent the CAC role in the use of pesticides.

Response 1.6

Staff replaced "regulate" with "implement and enforce".

Comment 1.7

Section III.H. Receiving Water Monitoring Triggers: CDFA prefers the use of insecticide, rather than adulticide and larvicide.

Response 1.7

Staff changed "adulticide" and "larvicide" to insecticides.

Comment 1.8

Section VIII.C.14.c. Examination of the Possible Alternatives: This [Public education efforts to reduce potential insect breeding habitat, Section VIII.D.14.c on pg 16] reference applies to mosquito control.

Response 1.8

Staff deleted this requirement.

Comment 1.9

Section IX.A. Standard Provision, Item 9: Does not apply to CDFA work. [CDFA refers to statement under Section IX.A.9.d :"*To demonstrate compliance with Title 16, CCR, sections 415 and 3065, all technical reports must contain a statement of the qualifications of the responsible registered professional(s). As required by these laws, completed technical reports must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work*."]

Response 1.9

Staff deleted the language.

Comment 1.10

Section IX.C.6. Other Special Provisions: Not applicable to government agencies. [CDFA refers to Section IX,C.6 of the Draft Permit: "*In the event of any change in control or responsibility in performing pesticide spray applications, and to ensure compliance of this General Permit, the current Discharger shall notify the succeeding Discharger of the existence of this General Permit by letter, a copy of which shall be immediately forwarded to the State and the appropriate Regional Water Board.*

To assume pesticide spray application under this General Permit, the succeeding Discharger must apply in writing to the State Water Board's Deputy Director of the Division of Water Quality requesting transfer of coverage of the General Permit. The request must contain the requesting entity's full legal name, the State of incorporation if a corporation, address and telephone number of the persons responsible for contacting with the State Water Board and a statement. The statement shall comply with the signatory and certification requirements in the federal Standard Provisions (Attachment B) and state that the new Discharger assumes full responsibility for compliance with this General Permit. Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code."]

Response 1.10

Staff deleted the language.

Comment 1.11

Aduticide (Attachment A) Replace adulticide definition with definition for insecticide.

Response 1.11

Staff replaced the definition.

Comment 1.12

Larvicide (Attachment A) Replaced lavicide definition with definition for insecticides.

Response 1.12

Staff replaced the definition.

Comment 1.13

Attachment A: Add point source definition from the USEPA NPDES in Attachment A.

Response 1.13

Staff added the definition.

Comment 1.14

Residual Pesticide (Attachment A): The new language reflects EPA Final Rule @ 71 FR 68483, 68487 citing Fairhurst v. Hagener, 422 F.3d 1146. Definitions should be consistent. If not, please provide explanation why not. [CDFA refers to definition for residual pesticide in Attachment A.]

Response 1.14

Staff has amended the definition to be consistent with the Sixth Circuit Court's definition.

Comment 1.15

Section V.C. Monitoring Report, item 2 (Attachment B): This will allow CDFA to prepare a report more suited to its activities; CDFA does not participate in sludge use or disposal. [CDFA refers to Section V.C.2 of Attachment B].

Response 1.15

Staff deleted the original language of "*or forms provided or specified by the Regional Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices. (40 C.F.R. §122.41(k)(4)(i)*." and added CDFA suggested language of "*Monitoring results must be reported on a Self Monitoring Report (SMR) form as agreed to by the Deputy Director and the Discharger*." in item V.C.2 of the Attachment B.

Comment 1.16

Add words "annual" and "state" as indicated underlined below in the Permit. [CDFA refers to the first paragraph under Attachment C.]

"*California Water Code sections 13267 and 13383 also authorize the State Water Quality Control Board (the State Water Board) and the Regional Water Quality Control Board (Regional Water Board) to require* annual *technical and monitoring reports. This Monitoring and Reporting Program establishes monitoring and*

reporting requirements which implement federal and California state *laws and regulations.*"

Response 1.16

The paragraph is a direct quote from the Water Code and should not be changed.

Comment 1.17

Table of Content (Attachment C): CDFA is a state agency and is not part of a coalition, please note all references to coalition have been struck.

Response 1.17

Staff removed coalition-monitoring option.

Comment 1.18

Section I. General Monitoring (Attachment C): Should be described to differentiate between toxicity testing a little further down in this section. [CDFA suggests to replace Section I title in Attachment C "GENERAL MONITORING PROVISIONS" with "PHYSICAL AND CHEMICAL ANALYSIS".]

Response 1.18

Staff did not make the change because the all the requirements in the section apply to monitoring in general including toxicity testing.

Comment 1.19

Section I. General Monitoring (Attachment C) item A: We need flexibility [in monitoring locations] as conditions can change without notice. [Section I.A of Attachment C].

Response 1.19

Staff revised the language to read: "The Discharger may change monitoring locations; however, the Discharger must clearly indicate the revised monitoring locations and the corresponding monitoring results in its annual report."

Comment 1.20

Section I. General Monitoring (Attachment C) item B: CDFA will contract with a certified lab. [CDFA suggests deleting the language "All analyses shall be conducted at a laboratory certified for such analyses by the California Department of Public Health (CDPH), formerly Department of Health Services)."]

Response 1.20

Section 13176 of the Water Code requires that analyses be conducted by certified laboratory. **Laboratory** was inadvertently left out in the sentence and will be added as shown in the Change Sheet. Thus, the sentence will now read: "All **laboratory** analyses shall be conducted at a laboratory certified for such analyses by the California Department of Public Health (CDPH), formerly Department of Health Services)."

Comment 1.21

Section IV.A. Receiving Water Monitoring Requirements – Surface Water (Attachment C): [Coalition monitoring] does not apply to CDFA.

Response 1.21

Staff deleted coalition monitoring option.

Comment 1.22

CDFA suggests deleting "within coalition or individual Discharger boundaries." under the Section IV. A. Receiving Water Monitoring Requirements: "Selection of monitoring areas must be scientifically based and sufficiently representative to characterize water quality for all surface waters of the US that may be affected by applications ~~within coalition or individual Discharger boundaries~~."

Response 1.22

Staff deleted the language.

Comment 1.23

Section IV.B. Monitoring Requirements, Item 4 (Attachment C): We are not intentionally discharging to water. [CDFA refers to Section IV.B.4 of Attachment C: "Description of the manner in which a residual pesticide may reach the water ~~designated uses in each water body."]~~

Response 1.23

The requirement is for the discharger to provide the beneficial uses of the receiving water where residual pesticides could be discharged. The beneficial uses can be obtained from the each Regional Water Board's Water Quality Control Plans or Basin Plans, which are available on the web.

Comment 1.24

Section IV.B. Monitoring Requirements Monitoring area is a better fit for what CDFA does.

Response 1.24

Staff deleted the entire paragraph since it only appropriate for coalition monitoring.

Comment 1.25

Section IV.B. Monitoring Requirements (Attachment C): Our treatments are generally localized. [CDFA suggests to remove "throughout the reach bounded by" "In conducting the receiving water sampling, a log shall be kept of the receiving water conditions ~~throughout the reach bounded by~~ the treatment area." in Receiving Water Monitoring Requirements.]

Response 1.25

Staff deleted this phrase.

Comment 1.26

Table C-1 Coalition or Individual Monitoring Requirements, Footnote 4 (Attachment C): Per Phil [6 samples per active ingredient per Permit life time] I. at the 11/24 meeting with State Water Board and CDFA.

Response 1.26

The objective of the Monitoring and Reporting Program (MRP) is to provide data to ensure that water quality is protected and maintained. To demonstrate that this objective is being achieved, the MRP must address two questions as stated in the Draft Permit:

1. Does the pesticide residue from pesticide applications cause an exceedance of receiving water triggers?
2. Does the pesticide residue (active ingredients, inert ingredients, and breakdown by-products) in any combination with its own ingredients or with constituents in the receiving water cause or add toxicity to the receiving water?

The intent of the sampling frequency is to select a number that will address the two questions above without requiring needless or burdensome monitoring. We selected six samples based on Table 3-1 of the USEPA Region 9 and 10 Toxicity Training Tool, which provides guidance on the selection of the appropriate sample number. Table 3-1 shows that six is the minimum number of samples where there is about a 50 percent chance of detecting at least one toxic event for the three probabilities of occurrence shown on the table. We also used USEPA's Technical Support Document for Water Quality-Based Toxics Control (TSD) as a basis for the sample number selection. Page 53 of the TSD recommends using a coefficient of variation (CV) 0.6 when the data set contains less than 10 samples. The TSD's Table 3-1 shows that with a CV of 0.6, the multiplying factors used to determine whether a discharge causes, has the reasonable potential to cause, or contributes to an excursion above a state water quality standard begin to stabilize when the sample number is six. Stabilize means the difference in the multiplying factors between two sampling numbers becomes minimal. For example, using a CV of 0.6, the difference in the multiplying factors between 5 and 6 samples is 0.4 while between 6 and 7 samples is 0.2.

Staff recommends keeping the chemical sampling requirement to six per active ingredient per year instead of six per the life of the permit. The main reason is to get enough data that would support reduction in the monitoring frequency if appropriate. The second reason is that chemical testing is relatively inexpensive compared to toxicity testing. Finally, applications may occur only once a year or less. In this case, a maximum of only five samples will have to be collected during the life of the Permit.

Comment 1.27

CDFA suggested deleting Bifenthrin, Esfenvalerate, Lambada Cyhalothrin and PBO monitoring from Table C-1.

Response 1.27

Staff deleted Bifenthrin, Esfenvalerate, Lambada Cyhalothrin because these are active ingredients for products used by USDA Forest Service. Staff also deleted PBO because CDFA no longer uses Evergreen Crop Protection EC60-6.

Comment 1.28

Section V.A. General Monitoring and Reporting Requirements, **I**tem 1 (Attachment C): Notified [24-hr notification of pesticide application] as part of the PEP [Pest Eradication Program] or in conjunction with a restricted material application notification requirement.

Response 1.28

Staff added "minimum" before 24-hour.

Comment 1.29

Section V.B. Annual Reports, Item 1 (Attachment C): Add "*Self certification of no monitoring completed or required, if application activities did not result in a discharge to a waterbody*." This will allow programs that do not have any waterbody discharges to comply with Permit.

Response 1.28

Staff added an additional item under Annual Report requirement: "*If there is no discharge of residual pesticide, or the discharge is to dry riverbeds, the Discharger shall provide the Deputy Director and the appropriate Regional Water Board Executive Officer a certification that pesticide application activities did not result in a discharge to any water body*."

Comment 1.30

Section V.B. Annual Reports, Item 1 (Attachment C): Delete "target area" since it is not applicable to most CDFA treatment programs.

Response 1.30

Staff deleted the reference to target area.

Comment 1.31

Section I.A.3. Pesticide Program Descriptions, California Department of Food and Agriculture (CDFA) Programs (Attachment D): CDFA provided language changes on the descriptions of its programs.

Response 1.31

Staff accepted all comments.

Comment 1.32

Section III.A. Discharge Description (Attachment D): CDFA treatment programs do not distinguish themselves between adulticide and insecticide. CDFA recommends using only insecticide.

Response 1.32

Staff replaced “adulticide and larvicide” with “insecticide.”

Comment 1.33

Section III.B. Pesticide Applications (Attachment D): CDFA does not conduct any “larviciding” programs. Programs may include the use of a pesticide that targets immature stages of development as a portion of a control program. Can this section be removed?

Response 1.33

Concur. Staff removed the section.

Comment 1.34

Insert “CDFA General Best Management Practices for Spray Applications” in item V. Rationale for Effluent Limitations and discharge Specification, sub-item C. BMP on page D-22.

Response 1.34

Staff inserted the suggested language.

Comment 1.35

CDFA suggests adding the underlined in Attachment D Fact Sheet under Section V. Rationale for Effluent Limitations and Discharge Specifications D.4. Antidegradation Policy:

“*If, however, the appropriate Regional Water Board, subsequent to review of any application, finds that the impact of a discharge will be significant, then authorization for coverage under this General Permit will be denied and coverage under an individual permit will be required (including preparation of an antidegradation analysis).”*

Response 1.35

Staff recommends not adding the recommended language because

(1) The paragraph is not a rationale, but a permit action. Therefore, it should be in the Limitations and Discharge Requirements part of the permit, which it is, and not in the Fact Sheet.

(2) This requirement or permit action is already stated in:

Section IX.A.9.a of the Permit:

“*After notice and opportunity for a hearing, this General Permit may be terminated or modified for cause, including, but not limited to:*

i. *violation of any term or condition contained in this General Permit;*

ii. *obtaining this General Permit by misrepresentation or by failing to disclose fully all relevant facts;*

iii. *a change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge; and a material change in the character, location, or volume of discharge (if applicable).”*

Comment 1.36

Section III.B. Pesticide Applications (Attachment D): CDFA staff deleted several pesticide application descriptions related to mosquito.

Response 1.36

Staff accepted CDFA recommended changes.

Comment 1.37

Section VI.B.2.b.i Malathion (Attachment D): CDFA does use ULV for malathion application.

Response 1.37

Staff deleted reference to ULV.

Comment 1.38

Section VI.B.2.b.i Malathion (Attachment D): CDFA does not treat mosquito. CDFA suggests deleting the description on Center for Disease Control investigation regarding mosquito population.

Response 1.38

Staff deleted this paragraph.

Comment 1.39

Section VI.B.2.b.ii Naled (Attachment D): CDFA does not do any treatment in greenhouses.

Response 1.39

Staff deleted the sentence referencing greenhouses.

Comment 1.40

Section VI.B.2.b.ii Naled (Attachment D): Delete the description regarding ULV spray mode for naled.

Response 1.40

Staff deleted the language.

Comment 1.41-1.45

Section VI.B (Attachment D): Delete references to mosquito control, bifenthrin, lambda cyhalothrin, cyhalothrin, esfenvalerate, and PBO.

Responses 1.41-1.45

Staff deleted the references.

Comment 1.46

Section VI.B.3.b. Chlorsulfuron (Attachment D): Due to chlorsulfuron's extreme low level of toxicity, only active ingredient monitoring should be included since toxicity testing would be moot.

Response 1.46

The purpose of toxicity testing is not for testing the toxic level of the active ingredient alone, but to find out the combined effects of all the pesticide ingredients and other chemicals in the receiving water. Thus, toxicity testing is required.

Comment 1.47

Section VI.B.3.e. Imazapyr (Attachment D): Imazapyr is not toxic, therefore, it should not be tested for toxicity.

Response 1.47

See Response to Comment 1.46.

2. Comment Letter 2 – National Marine Fisheries Service

Comment 2.1

National Marine Fisheries Service (NMFS) disagrees with the general statement that the pesticide discharges covered therein pose no significant threat to water quality, especially for the organophosphate (OP), carbamate, and pyrethoid classes of insecticide, for pyrethrin and for the synergist PBO.

Response 2.1

NMFS does not provide specific references on which sections of the Draft Permit stating that the pesticide discharges covered therein pose no significant threat to water quality. Section I (Discharge Information) of the Draft Permit clearly states that: “The discharge of residual pesticides to waters of the US from larvicide and adulticide applications for vector control throughout the State of California may pose a threat to existing and potential beneficial uses of waters of the US if not properly controlled and regulated.” Also, the Fact Sheet, which is a part of the Draft Permit includes discussions on the active ingredients and their impacts on beneficial uses of the receiving water. Recognizing the discharge of residual pesticides may pose a threat to beneficial uses of the receiving water, the Permit contains narrative effluent and receiving water limitations, a numeric Receiving Water Limitation for malathion, numeric Receiving Water Monitoring Triggers for the other active ingredients, and toxicity testing requirements.

Comment 2.2

The Draft Permit’s conclusion of “no harm or adverse impact to non-target organisms” incorrectly based on USEPA’s evaluation of information submitted for pesticide registration, which is based on the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA). USEPA evaluates data to determine if a pesticide has

"unreasonable adverse effects on the environment". FIFRA defines this phrase as "any unreasonable risk to man or the environment, taking into account the economic, social and environmental costs and benefits of the use of any pesticide." This standard leaves significant room for harm to non-target organisms as has been shown in the Endangered Species Act (ESA).

Response 2.2

NMFS is incorrect in stating that the fundamental premise behind the Draft Permit is that USEPA's registration process is fully protective. If that were the case, the only requirement in the Draft Permit would be to follow label instructions. The fundamental premise of the Draft Permit is water quality protection. That is why the Permit contains narrative Effluent and Receiving Water Limitations, numeric Receiving Water Limitation for malathion (new addition), numeric Receiving Water Monitoring Triggers for the other active ingredients of concern, toxicity testing requirements, and other permit requirements. Staff believes that the Receiving Water limitation and Monitoring Triggers, toxicity testing requirements, and BMP requirements will be protective of the beneficial uses of receiving water.

Comment 2.3

If the State Water Board ignores the recommendation to exclude the OPs in the Draft Permit, there are other actions that can be taken to lower the risk.

a. For malathion:
    i. NMFS (2008) recommended buffer zones of 1,000 ft for aerial application and 500 ft for ground application between where pesticides are applied and salmonid habitats.
    ii. Require restrictions on applying pesticides in windy conditions that could carry pesticides into nearby habitats.
    iii. Prohibit applying pesticides when a storm is predicted that could cause pesticide run off into nearby habitat (NMFS 2008).
b. For naled:
    i. Maximum concentration limit for salmonids in water is 0.2 µg/L.
    ii. Require restrictions on applying pesticides in windy conditions that could carry pesticides into nearby habitats
    iii. Prohibit applying pesticides when a storm is predicted that could cause pesticide run off into nearby habitat (NMFS 2008)

Response 2.3

Staff is aware that NMFS' BiOp is a process mandated by ESA and the recommendations, which may include the ones stated above, are undergoing a review process for label changes. Staff believes that implementing the recommendations before USEPA approval is premature and may or may not reflect eventual label modifications. The following are specific reasons that the recommendations are not incorporated:

a. Malathion

   i. Imposing 500- to 1000-foot buffers would make it impossible for aerial applications for adult mosquito control and severely limit the area and effectiveness of ground applications since the affected areas include estuarine habitats and virtually all freshwater habitats.

   ii. Comment noted. Staff believes the requirement for correct use of pesticides (Section VIII.D.3) has captured this recommendation.

   iii. See a.ii above.

b. Naled

   i. The receiving water monitoring trigger for naled is 0.014 µg/L, which is lower than the cited maximum concentration limit for salmonids.

   ii. See a.ii above.

c. See a.ii above.

Comment 2.4

MNFS requests removing permit coverage for piperonyl butoxide (PBO) due to its synergistic effects with all OP and carbamate pesticides already in the receiving water. Addition of PBO increases the toxicity of OP and carbamate pesticides.

Response 2.4

Staff has removed PBO and its related insecticide products from the Permit.

Comment 2.5

Most of the pyrethroids proposed for permitting under the Draft Permit do not have sufficient data available to calculate water quality criteria. This is why the State Water is using the monitoring trigger method set at one-tenth of the lowest known LC50 from the USEPA Ecotoxicity Database. However, this does not ensure that the trigger level is actually protective from sub-lethal (e.g., endocrine system effects) or indirect (e.g., prey base) effects.

Response 2.5

Staff has removed pyrethroid-based products in the Permit.

Comment 2.6

While NMFS strongly supports receiving water toxicity testing, the monitoring scheme for adulticides in the permit only calls for a surface water sample. Requiring only surface water samples does not align with the literature cited in the Draft Permit that shows the route of toxicity exposure for pyrethroids and pyrethrin mainly comes from contamination of the sediments (Weston et al. 2006. NMFS recommends that toxicity testing of both the water column and sediments be required as part of the spray applications permit.

Additionally, the permit needs to explicitly require that the water monitoring for pyrethroids and pyrethrin take place within a few hours of application in order to catch any potential impacts to water column resources.

Response 2.6

Staff does not believe that toxicity testing of the sediments is necessary for this Permit. Although Weston's study (*Aquatic Effects of Aerial Spraying for Mosquito Control over an Urban Area*, Weston, et al., Environ. Sci. Technol. 2006, 40, 5817-5822) indicated that adsorption to bed sediments accounted for loss of pyrethrins in the water column, it does not show that increased pyrethrins in the sediment increased sediment toxicity since some of the sites with higher pyrethrin concentrations had no toxicity. The sites that indicated toxicity of sediments after application already had historical data that showed pre-existing toxicity. To account for release of pyrethins from the sediment to the receiving water, toxicity testing in the water column is required as part of the monitoring and reporting program.

Although the study indicated that sediment toxicity may be enhanced by pyrethroid synergy with PBO from spray applications, the study used a testing method that was not reflective of the actual situation. Replacing approximately 80 percent of the overlying water with fresh PBO solution daily for 10 days to maintain the PBO nominal concentration does not account for the natural losses such as photo degradation. Sediment toxicity conclusions from the literature are not enough to require sediment toxicity testing in the Permit. In any case, Receiving Water Monitoring Triggers are expected to be low enough to prevent pyrethrins to contaminate the sediments. In addition, the Permit no longer includes PBO in the list of products list.

Comment 2.7

NMFS recommends that the State Water Board require the dischargers to delineate endangered species habitat as well as mitigating factors *(e.g.,* seasonal stream is dry at the time of application) for their project. The dischargers can go to the NMFS Southwest Region website to download the GIS layers for salmonids (http://swr.nmfs.noaa.gov/ salmon/layers/finalgis.htm) and for green sturgeon (http://swr.nmfs.noaa.gov/gs/gis.htm). Calfish.org has much of this information available as well if a discharger is not GIS capable, but these databases may not be complete.

Response 2.7

Staff's cursory viewing of the web sites cited above revealed that they appear to be not useful in delineating the endangered species habitat sites. Staff will work with NMFS, FWS, and dischargers on the best way to glean information from the cited websites and other websites that may provide similar information. The Permit states that the discharger is responsible for meeting all ESA requirements and provides the websites to NMFS and FWS for dischargers to consult with these agencies regarding compliance with ESA requirements.

Comment 2.8

The general permit should instruct Dischargers to notify NMFS Santa Rosa office at 707-575-6050 in case of adverse incident related to a federally-designed ESA species.

Response 2.8

Staff added the suggested phone number to Section IX.C.5 of the Permit.

Comment 2.9

NMFS suggests not using general permit to permit the use of problematic chemicals, but to require individual permitting if a Discharger insists on using one of these chemicals. In that case, the Discharger should be able to objectively demonstrate and document a need.

Response 2.9

Staff recommends keeping CDFA and USDA Forest Service as Dischargers in the Draft Permit, but limiting discharges from the USDA Forest Service to biological pesticides only.

3. Comment Letter 3 – San Francisco Baykeeper

Comment 3.1

a. The general permit should require a separate Notice of Intent (NOI) and Pesticide Action Plan (PAP) for each separate pest control program operated by the Discharger in each different area covered.

b. The general permit should cover all Dischargers, or provide a rationale on why only two governmental agencies are subject to this permit.

c. The NOI instructions should explicitly state in the Notice of Intent Status section that the submission of a new NOI or "Change of Information" will be required whenever a different pesticide is used or a different organism is targeted.

Response 3.1

a. Staff recommends keeping one NOI per Discharger. This is because the NOI provides only general information. To address Baykeeper's concern, staff added the following language to the Section VIII.C, Pesticides Application Plan (PAP) of the Permit:

VIII.C: "Each Discharger shall develop a project- and/or program-specific PAP, which is tailored to each pest control project or program and contains the following elements …"

Staff also added the following language under Section VIII.C.12 of the Permit to set the minimum contents for BMPs in the PAP:

VIII.C.12: Description of site-specific BMPs to be implemented. The BMPs shall include, at the minimum:

i. measures to prevent pesticide spill;

ii. measures to ensure that only a minimum and consistent amount of pesticide is used in all applications;

iii. the Discharger's plan in educating its staff and pesticide applicator on any potential adverse effects from the aquatic pesticide application;

iv. descriptions of specific BMPs for each spray mode, e.g. aerial spray, truck spray, hand spray, etc.;

v. descriptions of specific BMPs for each pesticide products to be used;

vi. description of specific BMPs for each types of environmental setting, e.g. urban, agricultural, and wetland.

b. Due to region-specific requirements in each Basin Plan and differences in discharge activities in each region, it is more appropriate for other entities to seek individual permit coverage from the appropriate Regional Water Board.

c. Staff added the following language in Section V of the NOI instruction (Attachment F) to address Baykeeper's comment on adding additional pesticide product for permit coverage:

"*Dischargers must submit a new NOI if any information stated in this section will be changed. If the Discharger plans to use a pesticide product not currently covered under its Notice of Applicability (NOA), and the pesticide product may discharge residuals to water of the US from spray applications, the Discharger must receive a revised NOA from the Deputy Director before using that product."*

Comment 3.2

The Draft Permit should enumerate additional provisions to enable full public comment and agency review. The public has a right to know about pesticide discharges before and after they occur.

a. Before any discharge, an applicant's NOI and PAP should be made available online for public notice and comment for 30 days before the Board decides to issue a Notice of Applicability (NOA), allowing sufficient time for public input before approval may be granted. The PAP contains the specific technology-based effluent limitations, or BMPs for pesticide applications, and the PAP therefore must be included as part of the permit for public review and comment[1].

b. Once issued, the NOA should also be made available online to inform the public about what specific pesticides may be used and any specific limitations.

[1] *See Waterkeeper Alliance, Inc. v. EPA,* 399 F.3d 486 (2nd Cir. 2005).

c. All monitoring reports and data generated under the Draft Permit should be made available to the public for review, just as DMRs are required to be.

d. SMRs should be submitted monthly for periods in which any pesticide discharge occurs, as with most other DMRs and NPDES permits, and not merely on an annual basis as proposed in the Draft Permit.

e. The State Water Board should implement random testing for pesticide residue and BMP implementation.

f. In order to reflect the statute of limitations codified at 28 U.S.C. § 2462, Dischargers should be required to retain records for a period of five years. Any documents that Dischargers are required to produce and retain should be available for public review pursuant to 33 U.S.C. § 1318(b).

Response 3.2

a. Staff has added the following underline phrase in Section II.C.2 of the Draft Permit to address this comment:

II.C.2. "*The PAP has been posted on the State Water Board website for a minimum 30-day period for public comment, and accepted by the Deputy Director*."

b. Comment noted. Staff will create a website to post NOAs upon their issuance.

c. The Permit requires dischargers to enter all data on SMRs which will be available to the public.

d. Due to the nature of pest control, pesticide applications are conducted on an as-needed basis. Thus, biological and residual pesticide discharges from these applications are not on a set schedule, unlike a typical wastewater treatment plant which discharges regularly and oftentimes constantly. Therefore, annual reporting is appropriate.

e. Comment noted. Inspections, which may include collecting samples and evaluation of control measures such as BMPs, are an integral part of the Water Boards' compliance program.

f. The Permit implements Section 122.41(j)(2) of Title 40 of the Code of Federal Regulations (40 C.F.R.) which requires the Discharger to retain records of all monitoring information for a minimum of three years

Comment 3.3

The Draft Permit should contain a more complete antidegradation analysis.

a. This analysis assumes that the conditions of the Permit fulfill and meet all applicable water quality objectives, when, for instance, the Draft Permit does not provide a complete explanation of all applicable water quality standards and objectives and what they specifically require.

b. The excerpt assumes degradation to exceptional quality waters would only be temporary, when the Draft Permit allows multiple-applications at indefinite intervals at the discretion of the Discharger.

c. The excerpt assumes that waters of exceptional quality degraded by the application of pesticides is "in the best interest of the people of the State" without providing specific findings used to justify such a conclusion[2].

d. The excerpt assumes water quality standards and objectives will not be exceeded when the permit does not cover all Dischargers of the pesticide products covered and the receiving water may be subject to a barrage of chemicals not included in the "Receiving Water Monitoring Triggers" table. Table 3 in the Permit lists only 16 ingredients of concern, when there are potentially thousands of active and inert ingredients used in pesticides.

e. Just because receiving water limitations are included [narrative limitations] does not mean *all* applicable water quality standards and objectives will be met. For example, the Fact Sheet explains that the Draft Permit does not include Receiving Water Monitor Triggers and does not require monitoring for several ingredients like NPV, Spinosad, tryclopyr TEA, etc. Yet the presence of un-monitored ingredients in a given water body can act synergistically, resulting in an exceedance of an applicable water quality standard or objective.

f. Pesticide discharges can have additive or synergistic toxicological effects with other pesticides. Therefore, the State Water Board should also exclude from coverage under the Draft Permit all pesticide discharges to waters that: 1) are impaired for pesticides generally, 2) are impaired for substances known to exacerbate the harmful effects of pesticides, and/or 3) impaired by any constituent of the pesticide being discharged.

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[2] E.g. A given application of pesticides may not be in the best interest of the people of California when, for example, the Draft Permit gives no guidance as to how to calculate actionable threshold populations of pests. This determination is left to the Discharger, and not necessarily knowing the threshold populations where a public health risk exists, a Discharger could set the threshold too low and apply pesticides where it is not needed or where it is actually contrary to the best interests of the public at large. For instance, several risks from the USDA FOREST SERVICE□ area-wide aerial tree insect control program exist. The Factsheet describes that "Area-wide control using a fixed wing aircraft covers an entire infested area and the acreage is very large; therefore, it is difficult to avoid most streams within the control area, although larger lakes and rivers can be avoided." At D-12. Deleterious effects can result from aerial spraying that are difficult to control and not necessarily in the public□s best interest. Meanwhile, it is impossible to weigh what truly is in the best public interest when the Draft Permit is also silent on the relative risk versus harm, or threat from respective pests as well. For instance, the Factsheet does not describe the threat from beetles, fruit flies, or moths under the CDFA pest control programs, at D-8-11, and a given application could be overzealous and easily not in the best interest of the public.

Response 3.3

a. The Spray Applications Permit is a general permit. As such, it cannot include a complete explanation of all applicable water quality standards and objectives that are provided in each Regional Water Board's Basin Plan. However, the Draft or Permit requires that the discharge of residual pesticides from spray applications comply with permit requirements and the Regional Water Boards' requirements in their Basin Plans.

b. The Permit contains narrative effluent and receiving water limitations, a numeric Receiving Water Limitation for malathion, numeric Receiving Water Monitoring Triggers for the other active ingredients, and toxicity testing requirements. With all these requirements, it is expected that all the beneficial uses of the receiving waters will be protected.

c. The nature of pesticides is to be toxic in order to protect beneficial uses such as human health or long-term viability of native aquatic life. Lake Davis and Silver King Creek are examples of water bodies where the Department of Fish and Game has used chemical pesticides to eradicate the Northern Pike and non-native trout, respectively. Waters of exceptional quality may be degraded due during and immediately after the pesticide application of pesticides; however, it would only be temporary and for the best interest of the people of the State. While surface waters may be temporarily degraded, water quality standards and objectives will not be exceeded after project completion.

d. See Response to Comment 3.1.b.

e. The Permit does not require chemical or toxicity testing for biological pesticides because USEPA has deemed these pesticides to be non-toxic or less toxic. The Permit also regulates residuals of pesticides that are registered by DPR.

f. The Permit does not authorize discharges into any impaired water body as stated in Section IX.A.2 of the Draft Permit: "*This General Permit does not authorize the discharge of biological and residual pesticides or their degradation by-products to waters of the US that are impaired by the pesticides used. Impaired waters are those waters not meeting water quality standards pursuant to section 303(d) of the CWA.*"

Comment 3.4

The Draft Permit should explicitly require the use of the least toxic alternative or require that non-toxic methods of pest control be tried first, and set objective standards for BMPs.

a. The Permit should explicitly require the least toxic alternative.

The Draft Permit should not merely suggest that selection of less toxic alternatives is an example of an effective BMP. Rather, in order to truly "minimize" discharges of pesticides the Draft Permit should contain an

explicit presumptive preference for non-toxic alternatives to pesticide use in every case.

b. The Draft Permit should set objective standards for BMPs.

The Draft Permit fails to specify or designate which practices are considered BMPs, favoring "flexibility" instead. The State Water Board could provide more demonstrative examples of applicable BMPs, pinpointing where approved BMPs can be found in the pesticide spray application and off-target drift management context, and giving additional guidance as to what methodologies are least intrusive. The State Water Board could also revise the Draft Permit or promulgate a guidance document to include prescribed categories of BAT/BCT for each similar use pattern: urban, agricultural, and wetlands,18 give lists of non-toxic alternatives that exist for each use pattern, and provide specific ways of reducing environmental impacts when pesticides must be used.

The Draft Permit needs to enumerate objective criteria for Dischargers to evaluate and choose between BMPs, and needs additional guidance as to what some specific criteria require.

The Draft Permit should also further discuss various methods of pesticide application and attempt to categorize these generally according to the least intrusive method.

Response 3.4

a. The Permit Section VIII.C.14 now requires evaluation of alternatives to pesticide use and the use of least toxic pesticides if there are no alternatives to their use.

b. Staff added the following language under Section VIII.C.12 to set minimum contents of BMPs in PAP:

"VIII.C.12. *Description of site-specific BMPs to be implemented; The BMPs shall include, at the minimum:*

i. *measures to prevent pesticide spill;*

ii. *measures to ensure that only a minimum and consistent amount of pesticide is used in all applications;*

iii. *a plan to educate Discharger's staff and pesticide applicator on any potential adverse effects from the pesticide application;*

iv. *descriptions of specific BMPs for each spray mode, e.g. aerial spray, truck spray, hand spray, etc.;*

v. *descriptions of specific BMPs for each pesticide products to be used;*

vi. *descriptions of specific BMPs for each type of environmental settings, i.e., agricultural, urban, and wetland."*

Comment 3.5

The Draft Permit should require clear and enforceable standards for individual monitoring.

a. The permit should not substitute group monitoring for individual monitoring because it is unclear how or whether individual liability could result from Coalition monitoring that uncovers an exceedance of water quality standards.

b. Ideally, the Draft Permit should require water quality monitoring before and after each pesticide application, and require submission of monitoring reports on a monthly basis.

c. The Draft Permit undercuts its own monitoring requirements, stating that the Deputy Director may "approve reductions in monitoring frequencies if the Discharger makes a request and the request is backed by statistical trends of monitoring data submitted." This provision does not enumerate the criteria with which the Deputy Director will approve or deny a request, while historically, the absence and lack of pesticide monitoring data supports the need for more, not less, monitoring requirements.

Response 3.5

a. Staff deleted the reference to group monitoring in the Permit.

b. Section IV.A of the Monitoring and Report Program requires background monitoring (before application) and event monitoring (within 24 hours after the application). See Response to Comment 3.2.d regarding monthly monitoring reports.

c. Although monitoring is a necessary requirement of an NPDES permit, monitoring should effectively address specific monitoring questions. When a monitoring question is answered, additional monitoring will not be necessary.

Comment 3.6

The Draft Permit should require an actual deadline for corrective action.

The "Corrective Action Deadlines" provision should be changed to include an actual deadline for changes to be made to BMPs before the next pesticide application event that results in a discharge. The Permit should omit the language currently allowing a corrective action "as soon as possible thereafter" if it is not "practicable" for the Discharger to change application measures before the next pesticide application. This language could allow an exceedance of a water quality standard or objective for an indefinite amount of time. The Corrective Action Deadlines provision needs an actually-enforceable deadline, such as the Discharger is prohibited from any further applications and has 30 days to undertake the corrective action.

Response 3.6

Staff concurs and has specified 60 days for the discharger to take corrective actions under Section IX.C.4.b of the Permit.

Comment 3.7

The Draft Permit should be updated regularly as better information on active and inert ingredients is gathered.

The State Water Board must continue to update the monitoring triggers and add additional pesticide ingredients as soon as possible to protect navigable waters as required under the Clean Water Act (CWA).

Response 3.7

Section IX.C.1.a of the Permit states that "*this General Permit may also be re-opened if additional pesticide products for spray applications are registered by DPR*." When the Permit is re-opened to add newly registered products or for some other reason, staff will assess the need to add receiving water limitations or monitoring triggers.

Comment 3.8

The Draft Permit should provide greater guidance and protections for endangered species.

a. The Draft Permit provides hyperlinks to NMFS, NOAA, and the U.S. Fish & Wildlife Service for the federal list of endangered species. These hyperlinks should be included in the NOI Instructions to give Dischargers more guidance where pesticide discharges could adversely affect listed species, and in regard to requirements to obtain an ESA Section 10 "take permit," at 16 U.S.C. § 1539. The State Water Board should identify any pesticides known to be hazardous to a protected species in consultation with the EPA and Fish & Wildlife Service.

b. In the case of the San Francisco Bay Region, the Permit should reference provisions and a hyperlink[3] of the recent pesticide use Injunction issued by the U.S. District Court, N.D., in May 2010, 28.

Response 3.8

a. Staff has added the websites to the NOI. Also, see Response to Comment 2.3 for addressing NMFS' concerns on potential OP pesticide impact on listed salmonids.

b. The injunctions states, "EPA shall make effects determinations and initiate consultation, as appropriate, with the United States Fish and Wildlife Service, pursuant to applicable regulations in effect at the time when the determination is made, regarding the potential effects of the Pesticides on the tidewater goby, delta smelt, California clapper rail, salt marsh harvest mouse, California tiger salamander, San Francisco garter snake, California

[3] U.S. District Court Injunction: *CBD v. EPA* (Case No.: 07-2794-JCS); http://www.epa.gov/oppfead1/endanger/litstatus/stipulated-injuc.html

freshwater shrimp, San Joaquin kit fox, Alameda whipsnake, valley elderberry longhorn beetle, and Bay checkerspot butterfly in the greater San Francisco Bay Area, including the Bay Delta, specifically covering the following California counties — Marin, Sonoma, Napa, Solano, Contra Costa, Alameda, Santa Clara, and San Mateo." Thus, it only requires USEPA to make effects determinations and consult with the US Fish and Wildlife Service regarding the potential effects of the pesticides on endangered species. There is no specific requirement in the injunction that needs to be added to the Permit.

4. Comment Letter 4 – National Environmental Law Center

Comment 4.1

Strengthen requirements for alternatives analysis: We commend the Board for requiring an analysis of alternatives to pesticides in permit applications, but urge the agency to strengthen those requirements.

The permit should require applicators to use the least toxic alternative in *all* cases, or require that these applicators attempt non-toxic methods of pest control *first* (and prove that these methods were ineffective) before pesticides may be used. We want to see applicators actually considering and using alternatives instead of just "going through the motions" with respect to this requirement. Also, the Board – *not* the applicators – should set objective standards for when pesticide use is allowed, and work with EPA to develop guidelines as to what management practices are truly the "best" at reducing environmental impacts.

Response 4.1

See Response to Comment 3.4.a above.

Comment 4.2

Strengthen protections for water bodies that are already degraded, that may serve as supplies of drinking water, or that provide habitat for sensitive species.

The permit forbids the discharge of pesticide residues and degradates to impaired waters, but only where those waters are impaired by the specific active ingredient of the pesticide being discharged.

a. The Board should exclude from coverage under the general permit all discharges to waters that are impaired generally for "pesticides," or for substances or conditions known to exacerbate the harmful effects of pesticides.

   Further, the Board should specify a presumption that *all* chemical pesticide applications will leave a residue, and reject any argument that the permit's terms should be made less strict for applications of biological pesticides.

b. The permit contains no special considerations for pesticide applications directly into drinking water sources or indirectly into aquifers that feed drinking wells.

When pesticide discharges have the potential to impact drinking water sources, the board should be allowed only pursuant to an individual NPDES permit.

c. The draft general permit allows discharges into areas containing endangered and threatened species with no additional restrictions whatsoever. Applicators must merely notify federal agencies after the fact when such discharges occur.

   The permit should afford proactive protection to endangered or threatened species. Applicators should avoid discharges into areas containing such species, or at least be made to minimize the amount and frequency of such discharges.

Response 4.2

a. The Permit does not authorize the discharge of residual pesticides or their degradation byproducts to waters of the US that are impaired by the pesticide active ingredients listed in the permit. It is the discharger's responsibility to ensure that its discharge does not cause or add toxicity to the receiving water. The Permit provides a website to California impaired waters for the discharger's reference.

b. The receiving water limitation and triggers have been set to be protective of all the beneficial uses of the receiving water including drinking water supply. The toxicity testing and related requirements will ensure that the residual pesticide discharges do not cause or add toxicity in the receiving water.

c. Section IX.C.5 of the Permit requires dischargers to inform NMFS when they become aware of an adverse incident to a federally-listed threatened or endangered species or its federally-designated critical habitat that may have resulted from the Discharger's pesticide application. See Response to Comment 4.2.b.

Comment 4.3

Strengthen site-monitoring requirements—although we applaud the Board for requiring in-stream monitoring and providing for toxicity triggers, we urge that this program be expanded. The Board should require water quality monitoring before and after *each and every* pesticide application.

Response 4.3

Although it is a necessary requirement of an NPDES permit, monitoring should effectively address specific monitoring questions. If the data are not being used to answer a specific question, the need for the monitoring should be scrutinized. Alternatively, when a monitoring question is answered, there is an expectation that some management action will occur. Finally, monitoring should be adaptive and that more monitoring should be allocated to discharges that result in greater environmental impact. In contrast, when little to no impact is observed, adaptive triggers should be in place for reducing the level of effort.

The permit's monitoring program is built on a risk-based monitoring approach. Basically, it uses the data to determine whether more or less monitoring is warranted. Since the location that receives the most applications will likely show the highest concentrations of residuals, it makes sense to include that location in the monitoring program. If testing at this location shows no exceedance of receiving water limitations, we can conclude that areas that receive fewer applications would also show no exceedance of receiving water limitations. If the most-heavily applied locations shows exceedances, the process is repeated until it can be determined which locations can be excluded from monitoring. For locations that show exceedance and, therefore, should not be excluded from monitoring, the discharger shall evaluate its application methods and BMPs and consider alternatives to the pesticide. Similarly in toxicity testing, after a discharger has shown six consecutive samples of no toxicity, monitoring for toxicity will be discontinued. If toxicity is detected, the discharger shall evaluate its application methods and BMPs and consider alternatives to the pesticide. The discharger will continue to monitor for toxicity each time new application method is used, a BMP is changed, or an alternative product is used.

Comment 4.4

Strengthen right-to-know and public engagement opportunities—Pesticide applications to water bodies impact public health and the environment, and the public has a right to know about pesticide discharges before and after they occur. The Board requires potential applicants to submit notices of intent (NOIs) and pesticide action plans (PAPs) prior to obtaining coverage, but does not require any of this information to be made available for public notice and comment. Before any discharges of pesticides are permitted, the Board should make available on its website all NOIs and PAPs submitted for approval, and allow sufficient time for public input before approval may be granted.

Response 4.4

See Response to Comment 3.2.a and 3.2.b.

5. Comment Letter 5 – USDA Forest Service

Comment 5.1

a. Do not restrict the dischargers to be only CDFA and USDA Forest Service. The large area-wide projects are done as cooperative projects with other large forest landowners, which would not be allowed under this Draft Permit. Restricting the permit to only the USDA Forest Service would require us to be the permit holder for any landowner needing to be covered by it, introducing questions of liability.

b. Do not restrict the Forest Service to only biological pesticides as listed in Table 1 of the Draft Permit; our potential uses could involve all of the herbicides and insecticides currently listed in the permit.

Response 5.1

a. Adding more dischargers to the Permit would require reissuing a revised draft permit for another 30-day public comment period. Due to time constraints to get the Permit adopted, staff recommends keeping CDFA and USDA Forest Service as the only dischargers covered by the Permit. After Permit adoption, staff will consider revising it to add other dischargers.

b. Due time constrains as stated in Response to Comment 5.1.a and the need for staff to consult with Regional Water Board staff to ensure that the Permit complies with their Basin Plans' pesticide discharge prohibitions and other Basin Plan requirements, the Permit will only cover discharges of biological pesticides from USDA Forest Service's applications.

Comment 5.2

The permit should be written so as to allow for emergency insect eradication programs, perhaps with a limited list of insecticides. The current expectation is that this permitting process, once the formidable amount of required paperwork is submitted, would take 1-2 months for state approval. It is apparent that the ability to rapidly respond to a fast-spreading insect population would not be possible under this permit.

Response 5.2

The NPDES regulations do not have provisions for emergency situations.

CDFA and USDA Forest Service only have to apply once to get coverage under the Permit.

Comment 5.3

The monitoring requirements are not well justified.

a. The expense of these monitoring requirements could easily exceed the cost of project implementation, especially for smaller scale projects.

b. The language of the permit, including the appendices, does not clearly justify the level of data collection required in Attachment C.

   i. Why does the Water Quality Control Board need the amount of information?

   ii. What purpose will it serve, and how will the permitting process be changed in response to the collection of this data?

   iii. Will future monitoring requirements be reduced?

   iv. There has been an existing aquatic plant NPDES permit in place for several years that has not required this level of monitoring and has not resulted in litigation. What has changed so that water chemistry and acute/chronic aquatic invertebrate toxicity testing is now required?

   v. At most, it would seem prudent to require the testing of water for levels of the active ingredient. There appears to be sufficient existing toxicity data

through US EPA and others to make conclusions about the expected risk from any resultant detected levels of pesticide active ingredient.

Response 5.3

a. TM Biocontrol is the only permitted product for USDA Forest Service. The Permit does not require chemical or toxicity testing for this product. USDA Forest Service needs to conduct only physical and visual, thus, the monitoring cost is expected to be minimal.

b. Responses to Comment 5.3.b are presented below:

   i. As stated in the Monitoring and Reporting Program (MRP), the State Water Board needs the information to answer the following questions:

      Question No. 1: Does the biological and residual pesticide residue from spray applications cause an exceedance of receiving water limitations or monitoring triggers?

      Question No. 2: Does the biological and residual pesticide, including active ingredients, inert ingredients, and degradates, in any combination cause or contribute to an exceedance of the "no toxics in toxic amount" narrative toxicity objective?

   ii. The purpose of the monitoring is to answer the two questions above. The monitoring results will be used to determine compliance with the Permit and inform staff during development of requirements in the next permit cycle.

   iii. If adequate data are available to inform staff that reduction in monitoring is appropriate, the monitoring frequency may be reduced accordingly. Conversely, if the data show that an increased frequency is appropriate, the monitoring requirement would be revised as well.

   iv. The current Aquatic Weed Control Permit requires similar amounts of chemical testing. However, it does not require toxicity testing. Toxicity testing is being in the Permit to determine the combined effects of the residual pesticide, its degradation byproducts, and the pesticides already in the receiving water.

   v. The purpose of toxicity testing in the Permit is not for testing toxic levels of the active ingredient alone; rather it is for determining the combined effects of all pesticide ingredients and other chemicals in the receiving water. The existing toxicity data from USEPA and others are for toxicity of the active ingredient in laboratory water, which does not give the toxicity level resulting from combined effects of the pesticide active and inert ingredients, their degradation byproducts, and any pesticides in the receiving water.

Comment 5.4

Please modify Section IX.B.3 on page 19 of the Draft Permit, allowing the Discharger to propose <u>any</u> modification to the monitoring program.

Response 5.4

Any proposed modification must be provided with justification. The language has been revised to read: “The Deputy Director may approve reductions in monitoring frequencies if the Discharger makes a request and the request is backed by statistical trends of monitoring data submitted.”

Comment 5.5

The existing wording in the permit is not clear on exempting larvicides from monitoring. Please state in Section IX.B on page 19 that the larvicides are exempt from any monitoring requirements.

Response 5.5

Staff replaced references to “larvicides” and “adulticides” with “insecticide.” A monitoring exemption for larvicides is inappropriate because physical and visual monitoring is still required for TM Biocontrol.

Comment 5.6

There are Regional Water Quality Control Boards which have standards in their Basin Plans that restrict pesticide levels in water in conflict with the recognition that pesticide residues would be ‘allowed’ under this permit. Yet there is no language in this permit that would allow overriding the Regional Board’s requirements. In order to be able to plan work under this permit, clarification is needed as to the procedure to follow in such an instance.

Response 5.6

Section IX.A.8 contains the following language to incorporate Basin Plan prohibitions:

“*All Dischargers authorized to discharge under this General Permit shall comply with discharge prohibitions and other requirements contained in water quality control plans, as implemented by the State and the nine Regional Water Boards.”*

Section IX.A.3 also provides additional requirements for discharges to impaired water or classified as Outstanding National Resource Waters:

“*The State Water Board may use this General Permit to regulate the discharge of biological and residual pesticides to a surface water classified as Outstanding National Resource Waters or as a water body impaired by unknown toxicity only after the following conditions are satisfied: (1) the proposed project will comply with the limitations and discharge requirements specified in the General Permit; and (2) if required, the proposed pesticide application qualifies for and has been granted a Basin Plan prohibition exception prior to discharge. The two bodies of water that are classified as Outstanding National Resource Waters in California are Lake Tahoe and Mono Lake*.”

Comments 5.7 through 5.29 are from the attachment to USDA Forest Service's comment letter.

Comment 5.7

Please refer to this agency as the USDA Forest Service throughout the permit.

Response 5.7

Staff has replaced USFS with USDA Forest Service.

Comment 5.8

Page 4 and elsewhere – referring to an insect pheromone as an adulticide is incorrect as it is not intended to kill adult insects. In the permit it is used as a mating disruption agent for the light brown apple moth.

Response 5.8

Staff removed all references to adulticide from the Permit.

Comment 5.8

Page 7, Section B, second paragraph, third line – include the phrase "but is not restricted to" after the word "includes".

Response 5.8

Staff made the addition as suggested.

Comment 5.9

Page 8, Section 1: Delete the last sentence [that the CWA is more protective than FIFRA] in this section as it is obviously a value judgment.

Response 5.9

The Permit retains the original language.

Comment 5.10

Page 8, Section 2, second paragraph, third line – add the phrase "or License" after "Certificate" – both are valid applicator licenses for restricted-use pesticides.

Response 5.10

Staff added "or License."

Comment 5.11

Page 13, Table 3: It makes sense to use aquatic animal species to set the monitoring trigger values for insecticides, but not for herbicides, which are more likely to impact aquatic plants or algae. It is unclear how the pesticides were chosen to be included in this table out of the list of pesticides covered under this permit. There are more specific comments on the values in this table in our comments to Appendix D, below.

Response 5.11

When water quality criteria or objectives are absent, the Receiving Water Monitoring Triggers are based on one-tenth of the lowest 50 percent Lethal Concentration (LC50) from USEPA's Ecotoxicity Database. Using one-tenth of the lowest LC50 as the receiving water monitoring trigger is consistent with the Central Valley Regional Water Board's Basin Plan approach when developing the daily maximum limitation for pesticides that do not have water quality criteria. Since ambient water quality criteria are available for malathion, the Receiving Water Monitoring Trigger for malathion has been changed to a Receiving Water Limitation in the Permit.

Comment 5.12

Page 17, Section D, item 4 – it appears that the last four items are not correctly placed. These would appear to be water monitoring parameters and would not necessarily be a part of a daily log.

Response 5.12

Staff disagrees. Section VIII.D specifies the information that CDFA and USDA Forest Service must record for each pesticide application.

Comment 5.13

Page 21, Section 4.iii.a. – substitute the word "product" for "produce".

Response 5.13

Staff replaced the word "produce" with "product."

Comment 5.14

Page C-4, Section III.A:

a. State in the introductory paragraph that the use of the insect larvicides and the herbicide triclopyr amine do not require toxicity testing.

b. The existing language is not clear on that point and would lead one to believe toxicity testing is required with the use of any of these pesticides. It would also be helpful to clearly state what level of monitoring is required for all applications and for applications when water monitoring triggers are met.

c. Is the chronic/acute testing required of all treatments? Or only those that exceed the monitoring triggers?

d. With several of the herbicides (for example, imazapyr) language in Attachment D states that there are no monitoring triggers because of low toxicity, but then goes on to say that monitoring would still be required. Why? The language throughout this attachment is not at all clear in its justifications, explanations on process, explanations on minimum requirements, nor is the intent clear.

Response 5.14

a. Toxicity testing is required in conjunction with the chemical testing for active ingredients. Bacillus thuringiensis kurstaki, nuclear polyhedrosis virus, spinosad, and Triclopyr TEA do not need chemical testing. Therefore, toxicity testing is not required for these active ingredients.

b. Toxicity testing requirement has been revised to clarify monitoring frequency. See Section III of Attachment C.

c. Section III of Attachment.

d. The Permit does not have receiving water monitoring triggers for imazapyr, aminopyralid, and chlorsulfuron, but requires monitoring for these active ingredients. As explained in Fact Sheet (Attachment D) Section VI.B, although these active ingredients have relatively high LC50 values, they may be slightly toxic to aquatic life. Thus, the Permit requires monitoring. The monitoring results will be used to determine if a receiving water limitation or trigger will be necessary.

Comment 5.15

Page C-4, Section III.A.4. – It is not clear anywhere in Attachments C or D why malathion/piperonyl butoxide or the pyrethrins/pyrethroids require specific acute/chronic tests. Please explain and justify the need. In addition, the use of the amphipod Hyalella *azteca* (note the incorrect species spelling on this page) is not one of the species used in the US EPA document (821-R-02-012) as a standard acute toxicity test species, yet the EPA document is supposedly the reference for the test specifications.

Response 5.15

The test species is recommended by USEPA. Staff has corrected the misspelling of azteca.

Comment 5.16

Page C-4, Section III.A.4. – The last paragraph states that the chronic toxicity tests should use species specified in the USEPA referenced document 821-R-02-013, however, this reference document lists three species. Is it the Board's intent that each species should be tested? If so, please justify this extensive level of testing. If this is not the intent, please clarify the language in this section.

Response 5.16

The Discharge must conduct screening tests to select the most sensitive species when a new product is used initially; then, use the selected sensitive species thereafter for that pesticide product. The intent is for CDFA to use *Ceriodaphnia dubia* for chronic toxicity tests when using malathion and *Hyalella azteca* for acute toxicity tests when using pyrethroid products.

If CDFA already knows the most sensitive species for the other products, it would not be necessary to conduct the toxicity tests for screening.

Comment 5.17

Page C-4, Section III.A.5: The referenced USEPA documents are available on the internet. Please include the website address for these documents: http://water.epa.gov/scitech/swguidance/methods/wet/. It appears that the acute toxicity testing reference (821-R-02-012) is only applicable to the use of pyrethrins/pyrethroids. If this is not the case, then this entire section III.A is confusing and poorly written.

Response 5.17

USEPA method 821-R-02-012 is for acute toxicity test, which is for pyrethrin and pyrethroid products, and USEPA method 821-R-02-013 is for short term chronic toxicity test for products other than OP and pyrethrin/pyrethroid products as specified in Item III.A. 4.

Comment 5.18

Page C-5, Section III.B, First paragraph: What is meant by a "pass/fail" for toxicity testing? This is also repeated in item 1.a. on the same page, and in Table C-1. Please explain this in the lead paragraph in this section.

Response 5.18

Section 11.1.2 of USEPA/821-R-02-012 explains pass and fail as: "*Control survival must be 90% or greater for an acceptable test. The test **"passes"** if survival in the control and effluent concentration equals or exceeds 90%. The test "**fails**" if survival in the effluent is less than 90%, and is significantly different from control survival (which must be 90% or greater), as determined by hypothesis testing.*"

Comment 5.19

Page C-8, Table C-1: It is unclear why there are requirements to monitor for water temperature, pH, turbidity, electrical connectivity, or dissolved oxygen. None of these would likely be affected by a pesticide application of these active ingredients. Please explain and justify these requirements.

Response 5.19

Electric conductivity, pH, temperature, and turbidity are parameters that provide general information on receiving water conditions. They can be easily obtained without much effort and expense.

Comment 5.20

Page C-9, Table C-1, Footnote 5: It would seem that if analytical capability does not exist for detecting a particular pesticide, the permit should not require it to be monitored. Yet this footnote states that it is up to the Discharger to develop an alternative testing method to satisfy the requirements for monitoring for an active ingredient even though no such test exists. Please explain the logic behind this requirement and how a Discharger could be expected to meet it.

Response 5.20

The verbiage after Part 136 was inadvertently kept in the current draft of the Permit. The Change Sheet (to be provided at least 24 hours before the February 15, 2011 Board meeting) will reflect this change.

Comment 5.21

Table C-1, Footnote 6 – please note the incorrect spellings of several of the pesticide active ingredients: “larvicide”, “imidacloprid”, and “chlorsulfuron”.

Response 5.21

Staff has corrected miss spelling of “imidacloprid”, and “chlorsulfuron” and removed the reference to larvicide.

Comment 5.22

Page D-6, Item 2: It appears this section has the wrong title, as the narrative does not concern itself with “Related Aquatic Pesticide Regulation.”

Response 5.22

Staff changed the title to “*Related ~~Aquatic~~ Pesticide Regulation Information”.*

Comment 5.23

Page D-34, Table D-1 (and elsewhere in Attachment D): It seems surprising that there are no results for toxicity testing of Daphnia spp. (water fleas), as these tests are basic for pesticide registration. Please explain why most values are shown as “N/A”.

Response 5.23

USEPA Ecotoxicity Database has data for water flea NOEL (No Observed Effect Level/Limit), but no data for LC50. Staff has deleted the lines with N/A for LC50.

Comment 5.24

Page D-47, Table D-10 (and elsewhere in Attachment D): Several of the values in this table should be shown as “greater than (>)” the values listed (e.g., 96 hour LC50 for bluegill, rainbow trout).

Response 5.24

The guidance document in USEPA’s Ecotoxicity Database states that “Greater than” or “less than” field for toxicity entries was added to remove the < and > characters from the numerical toxicity field and allow mathematical manipulation of multiple entries. It states further that if studies produced no lethal toxicity endpoint then Dose Type will be expressed as > the highest dose tested. If the LD50, LC50, EC50, or LOEC is below the lowest dose tested then the value will be entered as < than the lowest concentration in water or diet tested.

The greater than or less than symbols are not shown in the tables in the Fact Sheet because none of LC50 values used to establish the monitoring triggers has a symbol associated with them. Staff will add the appropriate symbol in the adopted version of the Permit.

Comment 5.25

Page D-48, Table D-11: The highlighted 'lowest' LC50 of 100,000 is not actually an LC50 and should not be characterized as such. The LC50 was not determined, and should be shown as >100,000.

Response 5.25

See Response to Comment 5.24.

Comment 5.26

Page D-49, Table D-12: With chronic NOEC values available for mysids, trout, and water fleas, why use the LC50/10 value? The LC50/10 is supposed to be an approximation of the NOEC, but in this case sufficient experimental NOEC values are available to support a value of at least 20,000 micrograms/liter.

Response 5.26

As stated in Section VI.B of the Fact Sheet (Attachment D), "*Using one-tenth of the lowest LC50 as the receiving water monitoring trigger is consistent with the Central Valley Regional Water Board's Basin Plan approach when developing the Daily Maximum limitation for pesticides that do not have water quality criteria."*

Comment 5.27

Page D-49, paragraph after Table D-12 (Attachment D) is where an explanation is expected to justify why monitoring is required for chlorsulfuron even though toxicity is considered low and no monitoring trigger is developed. This explanation is lacking.

Response 5.27

As stated in the Fact Sheet below the table for chlorsulfuron, chlorsulfuron's monitoring requirement is due to its slight toxicity to estuarine/marine invertebrates.

Comment 5.28

Page D-50, Table D-13: The monitoring trigger value for clopyralid appears to be based on the consideration of an inert ingredient, but there is no specific information or calculations shown to support this value of 2,784 micrograms/liter. What inert is the issue? Is it polyglycol 26-2? If so, what toxicity value was used to develop the monitoring trigger? In order to support the permit values, the process should be more transparent than it is.

Response 5.28

Inert ingredients are trade secret, thus, staff cannot disclose what the offending inert ingredient is and its percentage in the product. Staff used the lowest one tenth of LC50 value from USEPA Ecotoxicity Database and percentages of the inert and the active ingredients in the pesticide formulation to calculate the equivalent criteria for clopyralid: Monitoring trigger of the active ingredient =

(Lowest LC50 of the active ingredient/10)x(percent of inert/percent of active ingredient).

Comment 5.29

Page D-52, two paragraphs after Table D-14: There are numerous references to aminopyralid in these two paragraphs, when the section is supposed to be discussing imazapyr. This requires correction. Also, Attachment D is where an explanation is expected to justify why monitoring is required for imazapyr even though toxicity is considered low and no monitoring trigger is developed. This explanation is lacking. Is the Water Board aware that there are aquatic imazapyr formulations?

Response 5.29

Staff has revised these two paragraphs and deleted discussions on aminopyralid. Although imazapyr has low toxicity, monitoring is still required to ascertain that its interaction with pesticides in the receiving water does not result in increased toxicity.

6. Comment Letter 6 – East Bay Municipal Utility District

Comment 6.1

In addition to monitoring triggers, the State Water Board should further establish watershed water quality benchmarks. And the monitoring programs should be optimized to capture potentially measurable and detectable events, e.g. the rising arm, peak, and falling arm and the first flush.

Response 6.1

Staff has removed the watershed-monitoring option because the Permit covers only two dischargers. Additionally, the Permit does not regulate pesticide in storm water runoff, which is regulated under storm water permits. The Permit regulates residual pesticide discharges from spray applications by CDFA and USDA Forest Service.

Comment 6.2

Because the law does not allow the public to fully access all pesticide components, State Water Board and CA Department of Public Health must work together to ensure monitoring programs collect and process samples for the correct pesticide and adjuvant.

Response 6.2

Comment noted. Staff works closely with DPR staff.

Comment 6.3

It is the Discharger's responsibility to bear the financial burden of developing and executing a monitoring program, not to ask water utility rate payers to bear the financial burden.

Response 6.3

Comment noted.

Comment 6.4

The regulatory agencies overseeing the monitoring should notify stakeholders, in a timely manner, should any contaminant be detected.

Response 6.4

Section VIII.B of the Permit requires dischargers to post their pesticide application schedules on their website. All monitoring results will be entered to self-monitoring reports and reported in the dischargers' annual report. All monitoring results are available for public review upon request.

Comment 6.5

The PAP should be signed off by the primary stakeholders in the watershed indicating their review and concurrence with the monitoring element of the PAP.

Response 6.5

The PAP will be posted for a 30-day public comment period.

7. Comment Letter 7 – Northern California River Watch

Comment 7.1 (Larry Hanson)

The Draft Permit appears to cover a whole range of toxic chemicals--pesticides, herbicides, fungicides, etc.; and a wide range of applications from localized treatment to aerial spraying. Some of these pesticides are applied in a very localized way, say with a small paintbrush, and could be of lesser concern. However, the larger projects, especially spraying and aerial spraying are very worrisome and I object to the "kitchen sink" approach.

Response 7.1

The Permit allows only the use of TM-Biocontrol for USDA Forest Service applications. According to USEPA's Reregistration Eligibility Decision document for the Douglas Fir Tussock moth, the past 20 years of using Nuclear Polyhedrosis Viruses as an active ingredient in bio-pesticides for controlling the Douglas Fir Tussock moth indicate no adverse effects on non-target wildlife, including endangered species.

Comment 7.2 (Larry Hanson)

There is a range of potential problems with not only how it is applied but also with the adverse impacts of the formulations. Some of the listed pesticides are carcinogenic and cause birth abnormalities. The active ingredients in the formulation are not the only chemicals in the formulation that are toxic to the target species and also on unintended targets. In the formulation, there are "inert" chemicals that can be as toxic as the active ingredient or more. … Without this information how does an agency like yours assess the consequences? How about come clean or don't play?

Response 7.2

The Permit contains: (1) a numeric receiving water limitation for malathion; (2) receiving water monitoring triggers for the other active ingredients; (3) narrative effluent and receiving water limitations; and (4) other requirements to ensure that all the beneficial uses of receiving waters are protected. The Permit also requires toxicity monitoring to determine the combined effects of the active and inert ingredients of the pesticide, their degradation byproducts, and pesticides already in the receiving water.

Comment 7.3 (Larry Hanson)

Your agency, of course, is mainly concerned with waters of the state and preventing pesticides from polluting such waters as a point or non-point source. As a concerned citizen, an informed advocate for clean water, a camper, boater and a swimmer, I see no way to regulate a permit of such breadth of pesticide applications and be any way assured that our waters are not being polluted. In my view, this permit should be denied. The various projects should be parsed out into sub-projects and come back for review. Some have varying levels of pollution implications while others, such as aerial spraying, have much greater ones. These projects should have greater scrutiny, and if appropriate, denied on the grounds they are infeasible due to containment problems.

Response 7.3

Staff believes that the Permit complies with the requirements of all applicable State and federal law, including Porter-Cologne and the Clean Water Act.

Comment 7.4 (Larry Hanson)

There is a phrase used in the document, "The BMPs required herein constitute Best Available economically feasible." I object to having BMP, Best Management Practice, construed or interpreted as economically feasible. "Economically feasible" is subjective and cannot be determined without bias to the detriment of adverse impacts to the environment.

Response 7.4

Staff deleted the language "*The BMPs required herein constitute Best Available Technology Economically Achievable (BAT) and Best Conventional Pollutant Control Technology (BCT)…*" from Section II, Finding G of the Draft Permit. This is because BAT and BCT are bases for technology based effluent limitations. Finding G's discussion is about water quality based limitations.

Section 122.44(k)(3) of 40 C.F.R. allows the use of other requirements such as BMPs in lieu of numeric effluent limits if the latter are infeasible. Thus, the BMPs required in the Permit are specifically for water quality protection. They need to be specified in the Permit so that when a residual pesticide exceeds a receiving water monitoring trigger or when a residual pesticide causes or adds toxicity in the receiving water, the discharger can evaluate the BMPs related to the application.

Comment 7.5 (Larry Hanson)

The following statement was made in the Draft Permit: "*The conditions of this General Permit require residual pesticide discharges to meet applicable water quality objectives. Waters of exceptional quality may be degraded due to the application of pesticides; however, it would only be temporary and in the best interest of the people of the State.*" What best interest of the people of the State are intended here? This is not necessarily in my interest I assure you.

Response 7.5 (Larry Hanson)

The nature of pesticides is to be toxic. However, they are also used to protect beneficial uses such as human health or long-term viability of native aquatic life. Vector control districts control larvae and adult mosquitoes to protect humans from diseases such as West Nile Virus. The California Department of Fish and Game uses rotenone to eradicate invasive species such as the Northern Pike and other non-native species. CDFA uses pesticides to control pests that could otherwise decimate California's agriculture industry. Similarly, the USDA Forest Service uses pesticides that control pests that could wipe out forest lands in California. These programs benefit the people of the State.

Comment 7.6 (Bob Rawson)

The Government has no legitimate need for or use for pesticides on the public lands that it is supposed to be protecting…. EIR's and the kinds of studies you rely upon for the most part completely ignore (4) of the (6) entire Kingdoms of living organisms, including: all of the Fungi, protozoa, bacteria and archaebacteria, and most of the beneficial worms, insects, and food chains they support. Are you blind to the impacts being directed upon most of the biomass of the earth. The studies you rely upon pay only lip service to a few of the most obvious vertebrates and economically important plants when they have to…

Response 7.6

Comment noted.

Comment 7.7 (Laurie-Ann Barbour)

Ms. Barbour has the same comments as those from Larry Hanson. See Response to Comment 7.1 through 7.6 above.

Response 7.7 (Bob Rawson)

Mr. Rawson has the same comments as Comments 7.1 and 7.2. See Response to Comment 7.1 and 7.2 above.

8. Comment Letter 8 – California Farm Bureau Federation

Comment 8.1

Future NPDES pesticide permits should not attempt to extend coverage and regulatory requirements to pesticide application made to other water "conveyances with a hydrologic surface connection to waters of the U.S. at the time of pesticide application."

Response 8.1

Section 122.2(e) of 40 C.F.R. states that tributaries of waters of the US are also US waters. If a conveyance system is a surface water body and is connected to a water of the US, biological and residual pesticide discharges to the conveyance system must be covered under an NPDES permit.

Comment 8.2

Any subsequent State permit must exclude agricultural pesticide use since it is not subject to CWA regulation.

a. An future permit should preclude the regulation of agricultural storm water and irrigation return flow even if those discharges contain pesticide or pesticide residues since the CWA explicitly exempts such activity from regulation.

b. All future permits should not contradict or circumvent current pesticide regulation under the FIFRA.

Response 8.2

a. Staff concurs.

b. Staff concurs.

Comment 8.3

Future State permits should not create duplicative regulation in California. Given the state of California's current regulatory scheme for pesticide applications, any future permits must not be duplicative or contravene with existing and long-established state and federal law.

Response 8.3

Staff concurs.

9. Comment Letter 9 – Klamath Forest Alliance, Environmental Protection Information Center, and Klamath Riverkeeper

Comment 9.1

The broad scale of the general permit is not appropriate and will lead to more toxic chemical use and to uses that are not examined or closely scrutinized for potential impacts, especially when the Board should be reducing and removing the dangers of chemicals.

Response 9.1

See Response to Comment 7.1 and 7.2.

Comment 9.2

BMP requirements are not strong enough to protect our water. The Draft Permit contains no mandate to reduce or eliminate toxic chemical use nor does it requires use of the least harmful alternative.

Response 9.2

Staff added the following language under Section VIII.C.12 to set the minimum BMP requirements in the PAP:

VIII.D.13. *Description of site-specific BMPs to be implemented. The BMPs shall include, at a minimum:*

i. *measures to prevent pesticide spill;*

ii. *measures to ensure that only a minimum and consistent amount of pesticide is used in all applications;*

iii. *a plan to educate Discharger's staff and pesticide applicator on any potential adverse effects from the pesticide application;*

iv. *descriptions of specific BMPs for each spray mode, e.g. aerial spray, truck spray, hand spray, etc.;*

v. *descriptions of specific BMPs for each pesticide products to be used; and*

vi. *descriptions of specific BMPs for each type of environmental settings, i.e., agricultural, urban, and wetland.*

Staff also revised Section VIII.D.15 and added the following language:

"If there are no alternatives to pesticides, Dischargers shall use the least toxic pesticide."

Comment 9.3

The Board should exclude all discharges to waters that are already impaired from pesticides and for conditions known to worsen the effects for pesticides such as low dissolved oxygen and the presence of mercury.

Response 9.3

The commenter did not provide information that correlates residual pesticide discharges with dissolved oxygen depletion or the presence of mercury. Section IX.A.2 of the Permit contains the following language, which prohibits the discharge of residual pesticides to state waters impaired by those pesticides:

"*This General Permit does not authorize the discharge of biological and residual pesticides or their breakdown byproducts to waters of the US that are impaired by the pesticides used. Impaired waters are those waters not meeting water quality standards pursuant to section 303(d) of the CWA. California impaired waters are listed on http://www.waterboards.ca.gov/water_issues/programs/tmdl/2010state_ir_reports/2010_combo303d.xls (to be reviewed and adopted by USEPA).*"

Comment 9.4

All threatened and endangered species need to be protected. No permits should be given that are located over or near waterways sheltering salmon or areas that harbor the threatened and/or endangered species where drift is possible, especially National Forests.

Response 9.4

See Response to Comment 2.1 through 2.8 and 4.2.c.

Comment 9.5

The Board should absolutely not allow applicators to spray over domestic water supplies. Many of these chemicals are known carcinogens and reproductive and developmental inhibitors.

Response 9.5

The receiving water limitation and triggers have been set to be protective of all the beneficial uses of the receiving water including drinking water supply. The toxicity testing and related requirements will ensure that the residual pesticide discharges do not cause or add toxicity in the receiving water.

Comment 9.6

a. The public has a right to know and have adequate advanced notice when toxic chemicals are sprayed anywhere. The public should be actively informed when an applicant submits a Notice of Intent or a Pesticide Application Plan.

b. Discharge monitoring reports should be available and submitted monthly so as to inform the public. Concerned and affected citizens should not have to wait for a year to see monitoring data.

Response 9.6

a. Per Section II.C, the Pesticide Application Plan will be posted on the State Water Board's website for a 30-day public comment period.

b. Due to the nature of pest control, pesticide applications are conducted on an as-needed basis. Thus, biological and residual pesticide discharges from these applications are not on a set schedule, unlike a typical wastewater treatment plant which discharges regularly and oftentimes constantly. Therefore, annual reporting is appropriate.

Comment 9.7

Multiple municipalities in California have passed Integrated Pest Management Policies (IPMs). The Board should collaborate with these municipalities to ensure IPM's are followed.

Response 9.7

Comment noted.

Comment 9.8

Pesticides may become airborne on droplets of water, as a gas adhered to dust or some combination of the three. Once airborne, the toxic chemicals can travel great distances, providing a potentially important source of exposure for millions of Californians.

The chemicals within the Draft Spray Application Permit harm human health, threaten traditional foods and culture, are dangerous to water quality and salmon. We believe that streamlining the process for contaminators would be contrary to the CWA, the endangered Species Act, the Clean Air Act, the Klamath Basin Plan and the Northwest Forest Plan and that proposed applications should become routine.

Response 9.8

As stated in Response to Comment 9.6, the Pesticide Application Plan (PAP) will be posted on the State Water Board's website for a 30-day public comment period. Thus, the public will have the opportunity to comment on the discharger's application (Notice of Intent) and PAP .

Comment 9.9

The Water Resources Board should stay true to their mission. The spray application of toxic chemicals does nothing to preserve, enhance or restore the quality of California's water resources. It does not ensure their proper allocation and efficient use of the benefit of present and future generations. Rather than permitting large-scale distribution of what is know to be poison we urge the Board to work toward eliminating the use of toxins, promote healthy alternatives and meaningfully regulate and limit chemical use.

Response 9.9

See Response to Comment 7.5.

10. Comment Letter 10 – Heal the Bay

Comment 10.1

The Draft Permit should include a Numeric Toxicity Limit.

The Draft Permit states that the numeric effluent limits for pollutant discharges associated with the application of pesticides are infeasible. Instead the Permit includes "receiving water monitoring triggers." Part of the reasoning is that the Draft Permit is covering the breakdown products and the exact effluent is unknown. However, this reasoning does not hold for a numeric toxicity limit. In fact, a toxicity limit is the ideal alternative. Toxicity testing is the safety net for NPDES permits because permits do not require monitoring or have limits for all constituents that can cause receiving water toxicity. The State Board staff developing this Draft Permit should coordinate with the team working on the Toxicity Policy in order to develop an appropriate numeric target. Alternatively, an effluent limit of 1 TUc would protect beneficial uses and meet the narrative toxicity objective of "no toxics in toxic amounts." This limit has been used in POTW NPDES permits and TMDLs, particularly in the Los Angeles Region.

Response 10.1:

Currently, the State Water Board does not have a policy on how to set numeric toxicity limits in permits. Toxicity monitoring is appropriate until such toxicity policy is adopted. The Permit will be reopened as necessary.

Staff has been coordinating with the Toxicity Policy team which is aware of the toxicity requirements in the Permit.

Comment 10.2

Receiving Water Monitoring Triggers Should Require Action.

The propose permit states that water monitoring triggers will be used to assess compliance and trigger additional investigations for the toxicity caused. Despite this description, the Draft Permit does not outwardly provide the Discharger a clear a path forward if the instantaneous maximum monitoring triggers are exceeded. Instead the Permit only states that the Permit ***may*** be reopened. If a trigger is exceeded, the Pesticides Application Plan ("PAP") is obviously insufficient and should be updated with appropriate BMPs. Also accelerated monitoring should be required. Most importantly it should be required that the Permit be reopened to include a receiving water limitation, if a trigger is exceeded

Response 10.2:

Staff has revised Section IX.C.2 of the Draft Permit to require additional investigations as shown below:

"*Each Discharger shall conduct additional investigations when toxicity testing shows toxicity or increased toxicity in the receiving water, or when the chemical monitoring shows exceedance of a receiving water limitation or a receiving water monitoring trigger. The additional investigations shall identify corrective actions to eliminate toxicity and/or exceedance of monitoring trigger caused by the pesticide application. The investigation shall include, but not be limited to, revising and improving existing BMPs, revising the mode of application, using less toxic pesticide products, or selecting alternative methods for pest control."*

In addition, Section IX.C.1.d states that the Permit may be reopened to add receiving water limitations if the monitoring result for residual pesticides specified in Table 4 (Receiving Water Monitoring Triggers) exceeded the associated monitoring trigger.

Comment 10.3

Discharges should not be permitted to Biologically Sensitive Areas.

The State Board should specify that a Permit shall not be granted for pesticide application in biologically sensitive areas. For instance, no pesticide application should be allowed in sensitive areas such as aquatic Environmentally Sensitive Habitat Areas (ESHA) (i.e. wetlands, riparian habitats). The potential consequences are severe, and biological beneficial uses would be impaired.

Response 10.3:

The Permit contains: (1) a numeric receiving water limitation for malathion; (2) receiving water monitoring triggers for the other active ingredients; (3) narrative effluent and receiving water limitations; and (4) other requirements to ensure that all the beneficial uses of receiving waters are protected. The Permit also requires toxicity monitoring to determine the combined effects of the active and inert ingredients of the pesticide, their degradation byproducts, and pesticides already in the receiving water.

Staff believes that the Permit complies with the requirements of all applicable State and federal law, including Porter-Cologne and the Clean Water Act. Thus, the Permit will be protective of the beneficial uses of receiving waters including those in biologically sensitive areas.

Comment 10.4

Several of the PAP Requirements should be clarified.

a. The Draft Permit states that the Pesticides Application Plan ("PAP") must include "representative monitoring locations" and a brief definition is included. However, it is unclear how many sites would be satisfactory. Ideally there would be a site at the application location and also sites upstream and downstream.

b. Also, the requirements state that the PAP must be updated "periodically." This frequency should be defined in the Permit. At a minimum, the PAP must be updated whenever a receiving water trigger is exceeded and when new pesticides are used.

Response 10.4:

a. Staff concurs that sampling should coincide with application events. The language has been changed to read: If applying six or more times a year, collect six samples for each environmental setting (agricultural, urban, or wetlands). If applying less than six times a year, collect a sample during each application for each environmental setting (agricultural, urban, or wetlands). The Permit requires background and event sampling.

b. The Permit requires the Discharger to conduct additional investigations whenever there is an exceedance of monitoring trigger or causing toxicity (Section IX.C.2 of the Draft Permit). The investigation results will be used to identify corrective actions, improve BMPs, or select alternatives to the products causing exceedance, etc. Thus, the PAP will be updated accordingly.

11. Comment Letter 11 – Yurok Tribe

General statement before the comments:

Yurok Tribe objects to the Spray Applications General Permit. The objections to this general permit are two-fold; (1) disregard for Native American sovereignty and rights; and (2) incomplete 'beneficial uses' listing. A third objection is more

specific to any Restricted Use Pesticides to be discharged into surface waters; both the analysis of effects and monitoring fail to adequately address downstream effects.

Comment 11.1

a. Change the language under section III. FINDINGS/ B. Legal Authorities that would reflect and exclude Indian Country. An example might be something similar to the inclusion of the italicized portion below.

   This General Permit is issued pursuant to section 402 of the federal CWA and implementing regulations adopted by the USEPA and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). Section 122.28(a)(1) of Title 40 of the Code of Federal Regulations [40 C.F.R. §122.28(a)(1)] allows NPDES permits to be written to cover a category of discharges within the State political boundaries *except as provided by Federal law for recognized Indian Reservations* as a general NPDES permit.

b. Reflect Tribal sovereignty in the first sentence of section III. FINDINGS/ E. Related Pesticide Regulations/ 3. County Agricultural Commissioners, as excerpted below.

   County Commissioners regulate the sale and use of pesticides in California, *as provided by Federal law for tribal lands and reservations.*

c. Furthermore, it should also be specified that Native American Tribes be included in notification and reporting throughout the permit, such as section ATTACHMENT D – FACT SHEET/ V. REPORTING REQUIREMENTS/ A. General Monitoring and Reporting Requirements.

   1. The Discharger shall inform the State Water Board, the appropriate Regional Water Board, *and any Tribal Governments with contiguous borders to the proposed spray area,* at least 24 hours before the start of the application.

Response 11.1

a. Staff added the suggested language of *except as provided by Federal law for recognized Indian Reservations* to Section III.B of the Permit.

b. Staff added the underlined language in Section III. Findings E:

   "*County Agricultural Commissioners implement and enforce the sale and use of pesticides in California except on tribal land and reservations as provided by federal law for tribal lands and reservation*."

c. The Permit Section VIII.B now contains the public notification language as stated below, which addresses Yurok Tribe's concern:

   VIII.B. Public Notice Requirements

   "The Discharger shall notify potentially affected governmental agencies and pubic as soon as a pesticide application is scheduled by posting a

notification on its website. The notification shall include the following information:

- *A statement of the Discharger's intent to apply pesticide(s);*
- *Name of pesticide(s);*
- *Purpose of use;*
- *General time period and locations of expected use;*
- *Any water use restrictions or precautions during treatment; and*
- *A phone number that interested persons may call to obtain additional information from the Discharger."*

Comment 11.2

Beneficial Uses listed in the Draft Permit is incomplete in all instances in the Permit. Although it appears to follow Section 13050(f) of California's Porter-Cologne Water Quality Control Act, and the 1972 State Water Board adopted a uniform list to be applied throughout all basins of the State, it fails to include the1996 update and does not incorporate the listings below. These uses have been adopted by the North Coast Regional Water Quality Board and subsequently approved by both the SWRCB and USEPA in Region One.

Native American Culture (CUL) Uses of water that support the cultural and/or traditional rights of indigenous people such as subsistence fishing and shellfish gathering, basket weaving and jewelry material collection, navigation to traditional ceremonial locations, and ceremonial uses.

Subsistence Fishing (FISH) Uses of water that support subsistence fishing.

Response 11.2

Staff did not add these two beneficial uses into the Permit because only typical beneficial uses are identified in the Permit. FISH and CUL uses are only in the North Coast Regional Water Board's Basin Plan; therefore, they are not typical.

Comment 11.3

The Tribe expressly reserves all legal and jurisdiction rights

Response 11.3

Staff agrees.

12. Comment Letter 12 – Sonoma County Water Coalition

Comment 12

Same as Comments 7.1 to 7.7.

Response 12

See Response to Comment 7.1 to 7.7

13. Comment Letter 13 – General Public (Anne and Paul Greenblatt)

Comment 13

How can such a comprehensive and on-going permit for use of pesticides highly toxic to wildlife, the watershed, and the environment be monitored and enforced? I request MUCH more careful study and stricter limitations on pesticide spraying as well as assessment of its impact on the environment.

Response 13

See Response to Comment 10.3.

14. Comment Letter 14 – General Public (Anne Hernday)

Comment 14

These projects need greater scrutiny. Where appropriate, the permits must be denied as not feasible due to contamination problems. We must take care of our commons. The health of our water, soil, air, plant and animal life – and our health is one.

Response 14

See Response to Comment 10.3.

15. Comment Letter 15 – General Public (Anneliese Agren)

Comment 15

The use of toxic herbicides and pesticides is a matter of significant public interest, concern and controversy. I am strongly opposed to weakening the CWA by permitting the US Forest Service and the CDFA the widespread use of toxic chemical spray applications.

The State Board's mission is to preserve, enhance and restore the quality of California's water resources, and ensure their proper allocation and efficient use for the benefit of present and future generations. Allowance of large scale herbicide/pesticide spraying is contrary to the mission of the Board and would instead harm human and environmental health now and for future generations.

The mission of the USDA Forest Service is to sustain the health, diversity, and productivity of the Nation’s forests and grasslands to meet the needs of present and future generations.

Motto: Caring for the Land and Serving People. To sustain the health, care for the land and serve people, please do not permit spraying of herbicides and pesticides.

I ask the Water Board to stop this Spray Application permit process.

Response 15

See Response to Comment 10.3.

16. Comment Letter 16 – General Public (Barbara and Rob Goodell)

Comment 16

Any use of toxic herbicides and pesticides is a matter of significant public interest, concern, and controversy. I am very strongly opposed to weakening the CWA by permitting the US Forest Service and the CDFA the widespread use of toxic chemical spray applications.

The State Board's mission is to preserve, enhance and restore the quality of California's water resources, and ensure their proper allocation and efficient use for the benefit of present and future generations. Allowance of large scale herbicide/pesticide spraying is contrary to the mission of the Board and would instead harm human and environmental health now and for future generations.

I very strongly urge the Water Board to stop this lethal Spray Application permit process in its tracks

Response 16

See Response to Comment 10.3.

17. Comment Letter 17 – General Public (Diane Beck)

Comment 17

I am strongly against weakening the CWA by permitting the US Forest Service and the CDFA to use widespread toxic chemical spray applications.

The State Water Board's mission is to preserve, enhance, and restore the quality of California's water resources, and ensure their proper allocation and efficient use for the benefit of present and future generations. Permiting large-scale herbicide/pesticide spraying is contrary to the mission of the Board and would be harmful to humans and the environment.

Please stop this Spray Application permit process.

Response 17.1

See Response to Comment 10.3.

18. Comment Letter 18 – General Public (Mary E. Langley)

Comment 18

I am extremely concerned about the "broad spray applications permit" requested by the U.S. Forest Service. Our State has been polluted for decades because we didn't supervise what was going into our land and our water supply. Water is such a precious commodity in California. We cannot afford to risk additional pollution and the eventual cost of clean-up by sanctioning such an indiscriminate use of chemicals.

Please protect our water and deny this application.

Response 18

See Response to Comment 10.3.

19. Comment Letter 19 – General Public (Ronald Ward)

Comment 19.1

Garlon 4, roundup, and others kill foliage which then can wind up in watercourses. Some of the foliage are edible to aquatic organisms, which will cause secondary ingestion or contact to these chemicals causing declines in populations, health condition, or bioaccumulation of these poisons. These organisms are then subject to predation of fish species that also accumulate the toxins. The food web is disrupted and bioaccumulation of toxic materials is initialized. Loss of available plant matter (leaves) is an important cornerstone of some macro invertebrates food demands and populations are known to be higher as leaf litter increases.

Response 19.1

Staff removed Garlon 4 from the Draft Permit because CDFA no longer uses this product.

Comment 19.2

Other chemicals include larvicides/adulticides such as cyfluthrin and imidacloprid, glyphosate, chlorosulfuron, clopyralid, imazapyr, triclopyr, and butoxyethyl ester, triclopyr triethylamine, acetamiprid, bifenthrin, carbaryl, esfenalerate, lamba cyhalothrin, malethion, and pyrethrins. Larvicides such a BTK and NPV and spinosa A&D should also demand special consideration and as refined and direct applications as possible. These chemicals are not natural in the environment and should be severely limited when applied. Toxins tend to be at least temporarily persistent and known to enter secondary food chains, waterways, and can affect macroinvertebrates and other living organisms including humans. Water quality is affected and can be alterred in various ways due to accumulation of poisons. These chemicals can have a wide assortment of affects and lead to toxic cancers and other unhealthy problems. These are serious chemicals and their use should be strictly regulated and the schedule of application dates should be posted publicly. Implicit in their suffix is the -ide or death to pests. We deserve our water quality to remain pure and vital to produce healthy and vibrant water quality.

Response 19.2

See Response to Comment 10.3.

20. Comment Letter 20 – General Public (118 Form Letters)

Comment 20.1

The use of toxic herbicides and pesticides is a matter of significant public interest, concern and controversy. I am strongly opposed to weakening the CWA by permitting the US Forest Service and the Department of Food and Agriculture the widespread use of toxic chemical spray applications.

The State Board's mission is to preserve, enhance and restore the quality of California's water resources, and ensure their proper allocation and efficient use for the benefit of present and future generations. Allowance of large scale herbicide/pesticide spraying is contrary to the mission of the Board and would instead harm human and environmental health now and for future generations.

I urge the Water Board to stop this Spray Application permit process.

Response 20.1

See Response to Comment 10.3.