Response to Comments

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

State Water Resources Control Board
March 1, 2011

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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 September 17, 2010; and Permit refers to the current version of the permit that the State Water Board is considering for adoption or 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 for the Aquatic Animal Invasive Species Permit and Spray Applications Permit, Chair Hoppin of the State Water Board directed staff to provide options for the toxicity requirements in the pesticide permits including the Vector Control Permit. 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 one Post-Event (larvicide containing temephos) or one Event (adulticides) sample in the application area for toxicity testing. If the Background sample result shows no toxicity, the coalition or discharger shall continue taking only Post-Event or Event samples until a total of six consecutive Post-Event or 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 Post-Event or 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 coalition or discharger is causing or adding toxicity to the Background receiving water, the coalition or discharger shall collect paired Background and Post-Event or Event samples. When a total of six consecutive paired Background and Post-Event or 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 Post-Event or Event sample result shows that the coalition or discharger is causing or adding toxicity to the receiving water, the coalition or discharger shall evaluate its application methods, BMPs, or the use of alternative products.

1. Comment Letter 1 - California Sportfishing Protection Alliance

Comment 1.01:

The Draft Permit fails to include numeric Effluent Limitations as required by federal regulation 40 CFR 122.44 (d). The Draft Permit states that Effluent Limitations are infeasible because the pesticide ingredients and breakdown products are unknown; yet then list numerous such products throughout the Order and in Table 3. Certainly, Effluent Limitations can be established for those identified constituents. Effluent Limitations are therefore feasible for the listed pesticides.

Response:
Section 122.44(k)(3) of 40 C.F.R. allows the use of other requirements such as best management practices (BMPs) in lieu of numeric effluent limits if the latter are infeasible. In pesticide applications, there is no effluent per se.

The Draft Permit proposes to regulate residual pesticides as a result of vector control applications. Residual pesticides consist of the active ingredients, inert ingredients, and the degradation byproducts of these ingredients. Since there is no effluent per se, the Draft Permit contained numeric Receiving Water Monitoring Triggers for all the active ingredients of concern. However, it did not contain Receiving Water Monitoring Triggers for the inert ingredients because they cannot be disclosed due to confidentiality conditions in Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). It also did not contain Receiving Water Monitoring Triggers for the degradation byproducts because they are unknown. It set numeric Receiving Water Monitoring Triggers instead of numeric receiving water limits for all the active ingredients of concern because the active ingredients do not have water quality criteria/objectives, except for malathion. In addition setting to Receiving Water Monitoring Triggers for all the other active ingredients of concern, the Draft Permit also contained narrative receiving water limitations.

Since U.S. Environmental Protection Agency (USEPA) ambient water quality criteria are available for malathion, the numeric receiving water monitoring trigger for malathion has been revised to numeric receiving water limit in the Permit.

Comment 1.02
The Draft Permit states that Effluent Limitations are infeasible because "it would be impractical to provide effective treatment." The Draft Permit discusses the means of compliance by the discharger. The discharger can limit their applications as opposed to providing treatment; however this is not at issue. The feasibility of developing Effluent Limitations is not dependent on the discharger's means of compliance. Treatment technologies do not impact whether it is feasible to develop Effluent Limitations.

The Draft Permit states that Effluent Limitations are infeasible because pesticides are discharged for short durations. Acute toxicity impacts occur during short durations; generally based on a 1-hour average (US EPA's ambient criteria documents). Higher dose rates could impact receiving waters for longer periods of time and the pesticides may remain resident in the aquatic environment.

Response:
See Response to Comment 1.01.

Comment 1.03:
The Draft Permit cites that: "It shall not be a defense for a discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this General Permit (40 C.F.R. §122.41(c))" confirming it is the discharger's responsibility to achieve compliance and the State Water Board's responsibility to develop a protective permit by including numeric Effluent Limitations. Compliance does not equate to the feasibility to develop numeric limitations.

Response:
See Response to Comment 1.01.

Comment 1.04:
The Draft Permit fails to include an Effluent Limitation for Malathion based on the recommended water quality criteria (US EPA National Recommended Water Quality Criteria for Fresh Water Aquatic Life Protection) of 0.1 ug/l.

Response:
The Permit now includes a numeric receiving water limit of 0.01 ug/l as an instantaneous maximum for malathion.

Comment 1.05:
The Draft Permit fails to include an Effluent Limitation for Glyphosate based on US EPA's primary drinking water standard (maximum contaminant level (MCL) of 700 ug/l.

Response:
Glyphosate is not covered under Draft or Permit.

Comment 1.06
The Draft Permit fails to include an Effluent Limitation for chronic toxicity. On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Taxies Standards for Inland Receiving waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000 with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on May 18, 2000 with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24,2005 that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP. The SIP, Section 4, Toxicity Control Provisions, Water Quality-Based Toxicity Control, states that: "A chronic toxicity effluent limitation is required in permits for all dischargers that will cause, have a reasonable potential to cause, or contribute to chronic toxicity in receiving waters." The SIP is a state *Policy* and CWC Sections 13146 and 13247 require that the Board in carrying out activities which affect water quality shall comply with state policy for water quality control unless otherwise directed by statute, in which case they shall indicate to the State Board in writing their authority for not complying with such policy.

Response:
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. Nevertheless, dischargers are required to perform toxicity testing for pesticide residuals of concern in the receiving water.

Comment 1.07:
The Draft Permit fails to include an Effluent Limitation for 1) larvicides' containing Bacillus thuringiensis kurstaki (Btk), nuc1eopolyhedrovims, and Spinosad A and D; 2) adulticides' containing acetamiprid, bifenthrin, carbaryl, esfenvalerate, lambda cyhalothrin, naled, pheromone, piperonyl butoxide (PBO), and pyrethrins; 3) larvicide/adulticide products containing cyfluthrin and imidac1oprid; and 4) herbicides' containing aminopyralid, chlorsulfuron, clopyralid, imazapyr, and triclopyr butoxyethyl ester all of which have exhibited toxicity to aquatic life according to US EPA's Office of Pesticides *Ecotoxicity Database.*

Federal regulations, at 40 CFR 122.44 (d)(l)(i), require that limitations must control all pollutants or pollutant parameters which the Director determines are or may be discharged at a level which will cause, or contribute to an excursion above any State water quality standard, including state narrative criteria for water quality. The Draft Permit cites that Basin Plans contain narrative toxicity objectives; for example the Water Quality Control Plan for the Sacramento San Joaquin River Basins (Basin Plan), Water Quality Objectives (page III-8.00) for Toxicity is a narrative criteria which states that all waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. The Draft Permit Fact Sheet contains sufficient information to verify that the use of these pesticides presents a reasonable potential to exceed toxic levels and degrade the beneficial uses of receiving waters.

Response:
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. This Permit contains a numeric receiving water limit for malathion, numeric Receiving Water Monitoring Triggers for all the other active ingredients of concern, and narrative Receiving Water Limitations. See also Response to Comment 1.01. Toxicity testing is required to fulfill the narrative toxicity requirement. See Response to Comment 1.06.

Comment 1.08:

USEPA's Office of Pesticides *Ecotoxicity Database* shows the application of 1) larvicides' containing Bacillus thuringiensis kurstaki (Btk), nucleopolyhedrovims, and Spinosad A and D; 2) adulticides containing acetamiprid, bifenthrin, carbaryl, esfenvalerate, lambda cyhalothrin, naled, pheromone, piperonyl butoxide (PBO), and pyrethrins; 3) larvicide/adulticide products containing cyfluthrin and imidacloprid; and 4) herbicides' containing aminopyralid, chlorsulfuron, clopyralid, imazapyr, and triclopyr butoxyethyl ester presents a reasonable potential to cause toxicity within the receiving stream causing degradation to the aquatic life beneficial use.

Response:
Larvicides containing Bacillus thuringiensis kurstaki (Btk) and nucleopolyhedrovims are not covered under the Draft or Permit. Adulticides containing acetamiprid, bifenthrin, carbaryl, esfenvalerate, lambda cyhalothrin, and pheromone are also not covered under the Draft or Permit.

Larvicide/adulticide products containing cyfluthrin and imidacloprid and herbicides are also not covered under the Draft or Permit. Toxicity testing is required for residual pesticides of concern, which include naled, PBO, and pyrethrins. See Response to Comment 1.06. For the reasons outlined in Attachment D, Section VI.b.1.f, spinosad residuals are not a concern.

Comment 1.09:
The application of malathion and glyphosate threatens to exceed the recommended ambient water quality criteria and the drinking water MCL, respectively.

Response:
Glyphosate is not covered in the Draft or Permit. Under the Permit, exceedance of the numeric Receiving Water Limitation for malathion will require the discharger to evaluate its application methods and BMPs and consider alternatives to the use of malathion..

Comment 1.10:
The State Board has not proven the case that Effluent Limitations are infeasible and in accordance with Federal regulation 40 CFR 122.44 (d) Effluent Limitations for (1) larvicides' containing Bacillus thuringiensis kurstaki (Btk), nucleopolyhedrovims, and Spinosad A and D; (2) adulticides' containing acetamiprid, bifenthrin, carbaryl, esfenvalerate, lambda cyhalothrin, malathion, naled, pheromone, piperonyl butoxide (PBO), and pyrethrins; (3) larvicide/adulticide products containing cyfluthrin and imidacloprid; and (4) herbicides' containing aminopyralid, chlorsulfuron, clopyralid, glyphosate, imazapyr, and triclopyr butoxyethyl ester must be included in the Draft Permit.

Response:
See Responses to Comments 1.01 and 1.07.

Comment 1.11:
The Draft Permit contains an inadequate antidegradation analysis that does not comply with the requirements of Section 101(a) of the Clean Water Act (CWA), Federal Regulations 40 CFR § 131.12, the State Board's Antidegradation Policy (Resolution 68-16) and California Water Code (CWC) Sections 13146 and 13247.

Response:
The Draft or Permit requirements are protective of the broad range of beneficial uses set forth in Basin Plans throughout the State, constituting best control available consistent with the purposes of the pesticide application in order to ensure that pollution or nuisance will not occur. The conditions also ensure maintenance of the highest water quality consistent with maximum benefit to the people of State. 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. Given the nature of a general permit and the broad range of beneficial uses and objectives to be protected across the State, data analysis of specific water bodies is infeasible.

The discharge of pollutants is expected to be temporary and must meet Receiving Water Monitoring Triggers and limitations, which are protective of beneficial uses of the receiving water. In addition, the Draft or Permit also requires toxicity monitoring to determine if residues, including active ingredients, inert ingredients, and degradation byproducts, in any combination, from pesticide applications cause or add toxicity to the receiving water . If the residues cause or add toxicity, the discharger will be required to perform an iterative process of evaluating its application methods, BMPs, or alternatives to the pesticide until the pesticide residues no longer cause or add toxicity to the receiving water. Compliance with receiving water limitations and other permit requirements will ensure that degradation of the State's waters will be temporary and that the waters will be returned to pre-application conditions after project completion. The degradation to water quality would only be temporary and for the best interest of the people of the State.

Comment 1.12:
A new or expanded wastewater discharge may not be allowed into an Impaired waterway unless all existing discharges have been identified and are subject to compliance schedules.

Under the Clean Water Act and the NPDES permit regulations (40 CFR 122.4(i)), when a new source seeks to obtain a permit for a discharge of pollutants to a stream segment already exceeding its water quality standards for that pollutant, no permit may be issued. An exception to this prohibition is where the new source demonstrates, before the close of the public comment period for the Draft Permit, that: (1) there are sufficient remaining pollutant load allocations for the discharge, and (2) existing dischargers in the stream segment are subject to compliance schedules designed to bring the stream segment into compliance with applicable water quality standards. The Ninth Circuit Court of Appeals has ruled in *Friends of Pinto Creek* v. *United States Environmental Protection Agency* that a new or expanded wastewater discharge may not be allowed into an impaired waterway unless all existing discharges have been identified and are subject to compliance schedules.

The Draft Permit does not identify impaired waterbodies. The State Board has recently adopted a new 303d list of impaired water bodies. Many of those water bodies are impaired for pesticides and/or unknown toxicity. The pesticides listed in the Draft Permit present a reasonable potential to be discharged at levels that cause toxicity within receiving waters. All existing discharges of pesticides and/or unknown toxicity have not been identified and are not subject to compliance schedules.

The State Board must, in accordance with 40 CFR 122.4(i), demonstrate that (1) there are sufficient remaining pollutant load allocations for the discharge; and (2) existing dischargers in the stream segment are subject to compliance schedules designed to bring the stream segment into compliance with applicable water quality standards for this new discharge prior to adopting the Draft Permit.

Response:
Section IX.A.2 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 included in permitted larvicides and adulticides. The Draft or Permit provides a website to California impaired waters. It is the discharger's responsibility to ensure that its discharge does not cause or add toxicity to the receiving water. This is a General Permit, thus, it cannot include site-specific information on each impaired water body. Staff is not aware of any waste load allocations for the active ingredients that are included in the Draft or Permit. When they become available, the Permit may be reopened to allocate waste loads to dischargers and specify compliance schedules.

Comment 1.13:
The Draft Permit utilizes instream mixing rather than developing Effluent Limitations pollutants absent a mixing zone analysis as required by the SIP.

The State's Policy for Implementation of Toxics Standards for Inland Receiving waters, Enclosed *Bays and Estuaries of California* (SIP), Section 1.4.2.2, contains requirements for a mixing zone study which must be analyzed before a mixing zone is allowed for a wastewater discharge. Properly adopted state Policy requirements are not optional. The Draft Permit, in requiring compliance with Receiving Water Limitations rather than Effluent Limitations in effect grants a de facto mixing zone. Failure to develop Effluent Limitations and allowing instream mixing is not supported by the scientific investigation that is required by the SIP.

SIP Section 1.4.2.2 requires that a mixing zone shall not:

1. Compromise the integrity of the entire waterbody.
2. Cause acutely toxic conditions to aquatic life.
3. Restrict the passage of aquatic life.
4. Adversely impact biologically sensitive habitats.
5. Produce undesirable aquatic life.
6. Result in floating debris.
7. Produce objectionable color, odor, taste or turbidity.
8. Cause objectionable bottom deposits.
9. Cause Nuisance.
10. Dominate the receiving water body or overlap a different mixing zone.
11. Be allowed at or near any drinking water intake.

The Draft Permit's de facto mixing zones have not addressed a single required item of the SIP. A very clear unaddressed requirement (SIP Section 1.4.2.2) for mixing zones is that the point(s) in the receiving stream where the applicable criteria must be met shall be specified in the Draft Permit. The "edge of the mixing zone" or any other parameter of the mixing zone has been defined.

Response:
See Response to Comment 1.01 regarding effluent limits.

The SIP procedures apply to the discharge of priority pollutants. The active ingredients in the pesticides contained in the Draft or Permit are not priority pollutants. Since there are no priority pollutants in the Draft or Permit, the SIP procedures do not necessarily apply.

The Draft or Permit proposes to regulate residual pesticides as a result of vector control applications. In these applications, the substance that comes out of nozzles or that is applied directly to receiving waters is a product, not a waste or pollutant. The pesticide product becomes a pollutant only after its intended use or after project completion. In adulticide applications, the target species will be airborne or on foliage; thus, any pesticide that falls on a receiving water is a residue and, therefore, a pollutant. In this case, no "mixing zone" is created. However, in larvicide applications, the pesticide is applied directly to water. Although it might be toxic at that point, it is still not a pollutant. It becomes a pollutant only after its intended use or after project completion. Since the Sixth Circuit Court decision on EPA v. National Cotton Council only requires a permit when there could be a discharge of pollutants from pesticide applications to a water of the US, the Draft or Permit does not regulate the application of pesticides while they are doing their intended purpose. Thus, in larvicide applications, creation of a mixing zone is inevitable while the pesticide is doing its intended purpose.

2. Comment Letter 2 - City of Los Angeles Department of Water and Power

Comment 2.01:
The Draft Permit requires toxicity testing, without any means at linking toxicity test results to specific dischargers and/or operations.

Response:
The purpose of the toxicity testing is to determine if the vector control applications result in the discharge of a pesticide residue, including active ingredients, inert ingredients, and degradation byproducts, in any combination that causes or contributes to toxicity in the receiving water. Thus, the toxicity testing is linked to vector control operations and pesticide applications.

Comment 2.02:
The monitoring program represents a significant allocation of discharger resources, but without a definable environmental benefit. Since toxicity testing cannot necessarily pinpoint sources or application events that might have caused exceedances or that are sufficient to reach receiving water trigger levels, the purpose is not clear. Multiple dischargers, historic, and non-point sources have all contributed pesticides/pesticide residue. Therefore, a positive toxicity test does not necessarily indicate that the toxicity is due to pesticide applications of the discharger. LADWP recommends the elimination of the toxicity testing program as written and to substitute it with a Best Management Practices (BMP) strategy, coupled with establishment of a five year stakeholder work group.

Response:
As stated in Response to Comment 2.01, the purpose of toxicity testing is to determine if receiving water toxicity is caused or added by the combined effects of pesticide residues (active and inert ingredients and their degradation byproducts) and other chemicals in the receiving water. The Draft or Permit requires the dischargers to perform toxicity testing in conjunction with the background (pre-application) and event sampling for adulticide applications and background and post-event sampling for larvicide applications. Comparison of the background, event, and post-event sampling results with a laboratory control will identify whether the application is causing or adding toxicity in the receiving water.

Since early 2009, a technical committee, which includes the Mosquito and Vector Control Association of California (MVCAC), representatives of the Department of Pesticide Regulation (DPR), California Department of Public Health (CDPH), USEPA Headquarters, and USEPA Headquarters and Region 9, has been in place to address permitting issues.

Comment 2.03:
Per the second bullet point after "Question No.2" in Attachment C, Page C-2, Pesticide Application Plans (PAPs) are designed to assist with: "identification of critical gaps in knowledge (e.g., inability to document impacts, lack of knowledge about *potential* (emphasis added) sources, absence of trend monitoring components) relevant to the coalition's or discharger's circumstances." Per Section VIII.C. of the Permit (Page 15), PAPs are expected to serve as an outline of the dischargers' pesticide application plans. The requirements to identify knowledge gaps, etc. fall outside the scope of a PAP, and better describe a study.

Response:
Staff has deleted all verbiage following the second question.

Comment 2.04:
Section IV.B, Attachment C (Receiving Water Monitoring Requirements-Surface Water) stipulates that the "monitoring area information shall include a description of the *study area…*" Water monitoring samples must be taken from the pesticide application or target area. One could assume that "study area" and "application and target areas" are one and the same, but this is not stipulated. Nor does the Draft Permit clearly define "receiving waters." It is unclear whether monitoring is to take place in man-made canals, ditches, or other similar conveyances. LADWP recommends consistent language throughout the Draft Permit and that the toxicity testing in man-made structures be eliminated.

Response:
The Permit has been changed to replace the term “study area” with “treatment area.” Staff also has added the definition for Receiving Waters which refers to the definition of Waters of the US.

Comment 2.05:
Section III.G, Water Quality-Based Effluent Limitations, Pages 9-10. The purpose of Receiving Water Monitoring Triggers is unclear. Per the testimony of Board

staff during the October 19, 2010, hearing, there is a paucity of data pertaining to toxicity limits and health impacts, yet the data were used to establish trigger limits. Also, the use of triggers does not account for the fact that, in any body of water (receiving water), multiple dischargers and non-point sources (residences, agricultural concerns) may contribute trigger ingredients via runoff. In addition, some water bodies are already listed as impaired for toxicity due to past pesticide uses by unidentified sources. Without mechanisms for addressing all sources of toxicity, including agricultural and nonpoint runoff, numeric triggers exceedances would not necessarily indicate a failure by dischargers to comply with narrative toxicity objectives. The use of numeric triggers is not a guarantee of a reduction in ambient toxicity. LADWP recommends that the State Board elimination the triggers and establish a working group to undertake a small-scale pilot study that examines the relative contributions of toxics from sources other than permitted dischargers.

Response:
Due to the paucity of data for the pesticide active ingredients, the State Water Board or USEPA has not established water quality objectives or criteria for the active ingredients (except for malathion) listed in the Draft or Permit. However, the beneficial uses of the receiving waters still need to be protected. Since there are no water quality objectives or criteria to base the Receiving Water Limitations on except for malathion, staff used professional judgment to establish the triggers to protect the beneficial uses of the receiving waters. Staff based the Receiving Water Monitoring Trigger 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.

The Receiving Water Limitation and Monitoring Triggers will be used to assess whether the discharge of residual pesticides has the reasonable potential to cause or contribute to an excursion of a water quality standard, including numeric and narrative objectives within a standard. If monitoring data for residual pesticides show exceedance of the Receiving Water Limitation and Monitoring Triggers, the discharger shall conduct additional investigations to determine the cause of exceedance. At a minimum, the discharger shall evaluate its application methods, BMPs, and the appropriateness of using alternative products. After adoption, the Permit may be re-opened and numeric Receiving Water Limitations for the pesticide active ingredients that do not have limits could be added as a result of the evaluation.

The Draft or Permit requires background and event monitoring (for adulticide applications) and background and post-event monitoring (for larvicide applications). The background monitoring will determine the receiving water condition before application; the event and post-event monitoring will determine the receiving water condition after application. Comparison of the background

data with the event and post-event data would show whether the application has resulted in a discharge of residuals that exceed the Receiving Water Monitoring Triggers.

See Response to Comment 2.02 regarding formation of a stakeholder group.

Comment 2.06:
Section IV.B, Items 1-3, stipulate that "Selection of monitoring areas must be scientifically based and sufficiently representative to characterize water quality for all waters of the US that may be affected by applications within the coalition's or individual discharger's boundaries." "Scientifically based" is not defined. The meaning of "sufficiently representative to characterize water quality" is very broad, so would be difficult for a discharger to know what would be considered "representative." This appears to mean that dischargers would have a general knowledge of, or could characterize, all receiving water conditions in their regions. "All receiving waters" is presumably much broader than a discharger's "receiving waters," so the purpose of characterizing receiving waters is unclear. LADWP recommends that this section be revised to provide more precise guidelines, and that the references to characterization of water quality be quantified or better defined.

Response:
That language has been deleted. Monitoring locations described in Section II have been expanded to clarify how they should be selected.

Comment 2.07:
Attachment C. Section III.A. 2., Page C-4. This section stipulates that "grab samples" can be taken outside the application *area of influence.* It is unclear whether "grab samples" are the same as the "background" samples referenced in Section IV.B.1, and in Tables C-1 and C-2, Pages C-8 &C-9. "Area of influence" is also unclear; it appears that this phrase may be as a synonym for the pesticide application and/or target areas. LADWP recommends supplementing the phrase "area of influence" with this text: "(outside or beyond the application and target areas.)" In addition, "background samples" should be used in lieu of "grab samples."

Response:
All samples to be taken under the Permit are receiving water samples. Background, event (for adulticide applications), and post-event (for larvicide applications) samples relate to the timing of the sample collection. Background samples are collected within 24 hours before application to determine the conditions of the receiving water prior to pesticide applications. Event samples are collected within 24 hours after application to determine the conditions of the receiving water immediately after pesticide applications. Event sampling applies only to adulticide applications. Since the target species are air-borne or on foliage, any pesticide that falls into the receiving water is a residue, thus, the requirement for sampling within 24 hours after application. Post-event samples are taken within a week of project completion to determine the impacts of the larvicide application on the receiving water. In this case, the larvicides are applied directly into the receiving water; thus, the pesticide becomes a residue

only after its intended use or after project completion. Background, event, and post-event samples are all grab samples. A grab sample refers to the type of sample. A grab sample is a single sample or measurement taken at a specific time or over a short period. As such, a grab sample reflects the characteristics of the material (receiving water in this case) being sampled only at the point in time that the sample was collected assuming the sample was properly collected. The other type of sample is a composite sample which consists of a collection of numerous individual discrete samples taken at regular intervals over a period of time, usually 24 hours. The material being sampled is collected in a common container over the sampling period. The analysis of this material, collected over a period of time will, therefore, represent the average characteristic of the material being sampled during the collection period. Composite sampling in receiving water is not appropriate due to the receiving water's transitory nature. Thus, the Permit specifies collection of grab samples only, which shall be collected at three feet below the surface or mid-depth if water body is less than six feet deep (Table C-1 and C-2).

The sentence has been revised to read: “The receiving water control shall be a grab sample taken within the application area or target area 24 hours before application.”

Comment 2.08:
Footnote 1, Tables C-1 and C2, stipulates six physical, chemical, and toxicity samples per year. This appears to be an arbitrary number; there is no benefit to requiring a greater number of samples than applications events. LADWP recommends that sampling schedules coincide with dischargers' application events, which are inherently variable.

Response:
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).

Regarding the six-sample requirement, all testing for both toxicity and individual chemicals have some degree of uncertainty associated with them. The more limited the amount of test data available, the larger the uncertainty. The intent of the sampling program is to select a number that will detect most events of noncompliance without requiring needless or burdensome monitoring. Table 3-1 of the EPA Region 9 and 10 Toxicity Training Tool provides guidance on the selection of the appropriate sample number. It 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.

Staff also used EPA's Technical Support Document for Water Quality-Based Toxics Control (TSD) to determine the appropriate number of samples that would be needed to characterize the impacts of the pesticide applications. Page 53 of the TSD recommends using a coefficient of variation (CV) 0.6 when the data set contains less than 10 samples. Table 3-1 of the TSD 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 contribute to an excursion above a State water quality standard begin to stabilize when the sample number is six. Thus, staff retains the requirement for six samples to characterize the effects of pesticide applications.

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.

Comment 2.09:
Attachment C, Page C-2. This section states: "All samples shall be taken at the anticipated monitoring locations specified in the discharger's or coalition's PAP, unless otherwise specified. The discharger shall modify the PAP to include specific monitoring locations, recognizing that with vector control efforts, the precise locations may not be determined until after surveillance. The revised PAP, including the updated monitoring locations, shall be submitted to the State Water Board for approval." Section II.C.3. on Page 5 requires submittal of a PAP to the Board. Upon approval of the PAP, the Board will issue a Notice of Applicability (NOA) that allows the discharger to apply pesticides.

a. The Permit includes no time limit for the Board review of original or updated PAPs and the issuance of NOAs. Without NOAs, dischargers could be precluded from responding to infestations in a timely manner, which could imperil public health.

b. Infestations may occur at different locations during different seasons and years, due to variations in precipitation and weather.

c. The Permit seems to imply that dischargers may have to continuously update PAPs as new areas of infestation are discovered through surveillance. The PAP is intended to provide a general overview, while the Pesticide Application Log is the document that provides detailed application data.

d. LADWP recommends that the State Board approve the original PAP within 10 business days. Once the original PAP is approved and an NOA issued, dischargers who use pesticides for public health purposes should have the authority to apply pesticides to areas not described in the original PAP.

e. Such dischargers could then provide written, after-the-fact notice to the Board (within five business days).

Response:
a. In Waterkeeper Alliance, Inc. v. EPA, 399 F.3d 486, the Second Circuit Court found that by not making the nutrient management plans of confined animal feeding operations (CAFOs) part of the permit and available to the public, the EPA's CAFO rule violated public participation requirements in sections 101(e) and 402 of the Clean Water Act. Staff has added language to the Draft or Permit to clarify that PAPs need to be posted for a 30-day public comment period. NOAs will be issued immediately thereafter if no comments are received.

b. Staff has added language to clarify how the PAP, including modifications to it, will be processed and approved.

c. Only major changes to the PAP such as using a different product other than what is specified in the PAP, changing an application method that may result in different amounts of pesticides being applied, or adding or deleting BMPs will require approval by the State Water Board Deputy Director of the Division of Water Quality. Since the PAP shall include: 1) ALL the water bodies or water body systems in which pesticides are being planned to be applied or may be applied to control vectors; and 2) ALL the application areas and the target areas in the system that are being planned to be applied or may be applied, changes in monitoring locations are not considered major changes. However, these changes need to be reported in the annual report.

d. See response to Item a.

e. See response to Item c.

Comment 2.10:
Section VIII.B., Page 15. This section specifies: "Every calendar year, prior to the first application of pesticides, the discharger shall notify potentially affected government agencies." Due to the possible extensive notice required, this could be challenging or impractical to implement.

In lieu of this, LADWP recommends implementation of a statewide notification system, such as that used for hazardous material spills. Otherwise, notification to the Board should be sufficient. Item 5 of the same Section states notification should also include "General time period and locations of expected uses." Vector control applications are scheduled when presence and density of the species merits this. This item implies that applications occur at regular intervals. Mosquitoes/larvae are more prevalent during certain seasons, but that may be the as "precise" as the notice (or PAP) can be.

LADWP recommends that notification be provided when needed: when infestations occur and applications are required, and that only the State Board be notified.

Response:
The permit only requires dischargers to notify agencies and not to wait for a response. See also Response to Comment 2.09.

Comment 2.11:
Section IX. Standard Provisions, A, 10.d, Page 18. This Section states: "... all technical reports must contain a statement..." It is unclear if a "Technical Report" is the same receiving water monitoring data," which is referenced in Section V.B.1.b of Attachment C (Annual Reports, Page C-11). LADWP recommends substituting the following language: "...all technical reports containing receiving water monitoring data..."

Response:
Technical reports may or may not contain receiving water monitoring data or monitoring sampling results. For example, the PAP will not contain monitoring

data but the annual report may contain monitoring data. Therefore, staff did not include the suggested language.

Comment 2.12:
Section IX. C.3.b.vii, Page 19. This section requests "any available ambient water data for pesticides applied." It is unclear if "ambient water data" is the same as "background" water samples, which are referenced in Table C-1, Page C-8, and Table C-2, Page C-9. For purposes of uniformity, LADWP recommends that the terminology "ambient water data" be substituted for "background" and ':control" throughout the Permit.

Response:
Staff defined ambient water as *water in the immediate surrounding area*. It may be collected during Background, Event monitoring, or Post-event monitoring. Background monitoring is performed before the application of the pesticide. Therefore, staff did not make the recommended change.

3. Comment Letter 3 - Friends of Ballona Wetlands

Comment 3.01:
Activities authorized under this Permit should be restricted to situations where there is a significant and demonstrable (not speculative) threat to public health.

By the phrase "significant and demonstrable" we mean a threat that is not based on speculation or extremely low risk of mortality. For example, the West Nile virus is here to stay and will never be eradicated. While many birds have died from this virus, many more have survived and are immune. This is the way of evolution. And for humans, the chance of severe disease or mortality once infected is less than one percent. These facts do not justify widespread applications of pesticides to eradicate mosquitoes. Moreover, the history of pesticides tells us that insects become resistant, with the result that there can be an endless evolution of more powerful pesticides that are more harmful to the environment than existing ones. Fear-based application of pesticides, regardless of actual mortality risk, supports the pesticide industry but does not constitute good policy.

Response:
The intent of the Vector Control NPDES General Permit is to protect existing and potential beneficial uses of waters of the US by regulating discharge of pesticide residuals due to larvicide and adulticide applications for vector control. Staff believes that restricting applications to only situations with significant and demonstrable threat to public health is outside of the scope of the Draft or Permit. Section VIII.C requires dischargers to develop BMPs that help identify the problem and examine possible alternatives that will reduce the need for applying larvicides and spraying adulticides.

Comment 3.02:
Paragraph "M" on page 12, addressing activities that are not authorized, should extend beyond the Endangered Species Act. Paragraph M states that the Permit "...does not authorize any act that results in the taking of a threatened or

endangered species" or any act that is now prohibited, or becomes prohibited in future, under the California or Federal endangered species acts. We concur with this requirement but ask that the language be expanded to prohibit acts that would violate ANY environmental law or regulation, not just laws and regulations pertaining to endangered species. It may seem self-evident that the Permit does not authorize pesticide application in a manner that violates State or Federal environmental laws or regulations. Such actions could cause the applicator to lose his or her license. However, we feel this restriction needs to be explicitly stated to the Permit conditions so that it is clear that the Permit does not exempt the discharger from complying with all other Federal, State, and local environmental laws and regulations, including Total Maximum Daily Load (TMDL) requirements for toxics.

Response:
Section III and Attachment D, Section IV describe the applicable laws, regulations, plans, policies, and court cases that the Permit must comply with.

Comment 3.03:
The list of Receiving Water Monitoring Triggers and "pesticides of concern" should be broadened to include methoprene and Bt. Table 3 of the Draft Permit does not list Receiving Water monitoring triggers for methoprene or Bt *(Bacillus thuringiensis israelensis* and *B.t. sphaericus).* As we understand it, this means that under this Permit, dischargers would not be required to monitor concentrations of these pesticides or their breakdown products in Receiving Waters. We believe this is a mistake. These chemicals are applied extensively at the Ballona Wetlands and to Ballona Creek for abatement of mosquitoes and midges. Methoprene and Bt are assumed to be "safe" for the environment because they have not been shown to be toxic to non-target organisms when applied in compliance with label restrictions. This assumption is questionable on two points as explained below:

a. There have been few studies of environmental impacts of methoprene and various formulations of Bt in ecological settings, especially in consideration of the quantities applied in practice.

b. Quantities of pesticides used by government agencies appear to have been under reported, and have not been adequately monitored in Receiving Waters.

Response:
Staff's review of pesticide products for vector control determined that methoprene and Bt are non-toxic or have little toxicity to humans and non-target species obviating the need for chemical and toxicity testing monitoring. However, since narrative Receiving Water Limitations still apply, visual, physical, and chemical testing for dissolved oxygen are still required per Table C-1. Section IX.C.1.b allows for the Permit to be reopened to add Receiving Water Limitations if necessary.

Comment 3.04:
Public notice requirements must extend to the public, not just affected government agencies. Public notice requirements stated under section VIII(B)

specify that the discharger must notify only government agencies. As the Permit is currently worded, these government agencies appear to be under no obligation to actually notify the public. We believe that notices submitted by dischargers should be posted where readily accessible by the public, such as at the Water Board and Department of Pesticide Regulation web sites, and/or at the web site of the discharger.

Response:
Staff has added the requirement to post the notification on their website.

Comment 3.05:
Pesticides must only be applied in situations where there is a significant, demonstrable threat to public health, not in "nuisance" situations. Section VIII (D.2) of the Draft permit allows pesticides to be applied when a "vector" is present at a level that constitutes a "nuisance". For reasons discussed previously, we believe the phrase "public health threat" must replace the word "nuisance."

Response:
See Response to Comment 3.01.

4. Comment Letter 4 - General Public (Cameron Colson)

Comment 4.01:
Regarding comments, please reference the following web site www.californiacompliant.com. The use of pesticides as determined to control vegetation and disrupt habitat can be accomplished with selective and controlled management of open channel vegetation, but also control on storm outlets and inlets to reduce available habitat for breeding. A combined effort of managing urban creeks and the storm inlet will reduce costs and insure proper timing on vegetation control coincides with vector breeding cycle. Disrupt the cycle and manage aquatic growth with H-M-O. Install inlets and install outfall flappers to prevent critter and vector access from urban creeks. Address sewer gap as required.

Response:
Staff appreciates the comment. The Permit requires dischargers to develop and implement BMPs to determine if there are feasible alternatives to the selected pesticide application project that could reduce potential water quality impacts. However, it is not appropriate for the State Water Board to reference specific consultant groups or treatment methods in the Permit.

5. Comment Letter 5 - General Public (Jonathan Olson)

Comment 5.01:
Please do not adopt the new Vector Control General Permit. Additional regulation is unnecessary.

Response:
The Vector Control Permit for larviciding operations has been in place since May 2004. It is being revised to add adulticiding operations per the request of the Mosquito Vector Control Association of California.

6. Comment Letter 6 - Heal the Bay

Comment 6.01:
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:
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 toxicity requirements in the Permit.

Comment 6.02:
Receiving Water Monitoring Triggers Should Require Action. The Draft 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:
The language in Finding H and Special Provision IX.C.1.d has been revised to state in part: “If monitoring data for residual pesticides show exceedance of the monitoring triggers, the discharger shall conduct additional investigations to determine the cause of exceedance. At minimum, the discharger shall evaluate its application methods, BMPs, and the appropriateness of using alternative products. As a result of the evaluation, this General Permit may be re-opened to

add numeric Receiving Water Limitations for the residual pesticides exceeding the triggers."

Comment 6.03:
Discharges to Biologically Sensitive Areas should not be permitted. 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:
Staff believes that the low numeric Receiving Water Limitation for malathion and low Receiving Water Monitoring Triggers for the other active ingredients in conjunction with BMP requirements and narrative Receiving Water Limitations are adequate to be protective of ESHA. In addition, applications of pesticides for vector control use ultra low volume methods.

Comment 6.04:
Several of the PAP Requirements should be clarified. 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.

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:
See Response to Comment2.09 and11.05.

7. Comment Letter 7 - Lahontan Regional Water Board

Comment 7.01:
Regional Water Board staff should be involved in the review of NOIs and in issuing NOAs. The proposed changes will allow Regional Water Board staff to track use of pesticides in their region and will enable Regional Water Boards to impose additional permit conditions as warranted by regional policy or specific water body conditions.

Response:
State Water Board staff will coordinate review of NOIs and issuance of NOAs with Regional Water Board staff.

Comment 7.02:
Referenced to Section II.C (Permit Coverage and Application Requirements - General Permit Application), which states: "The State Water Board Deputy Director of the Division of Water Quality has issued a Notice of Applicability (NOA). The NOA will specify the type(s) of pesticides that may be used and any

specific conditions and requirements not stated in this General Permit. Any such specific conditions and requirements shall be enforceable. The discharger is authorized to discharge starting on the date of the NOA."

We request that the words "Region-specific" be returned to sentences two and three of this section. Adding this language makes it clear to the discharger that additional requirements beyond those specified in the Vector Control Permit may be added to the NOA to further protect the water quality from the proposed aquatic' pesticide discharge. Adding this language may also prompt more direct consultation with the Regional Water Board prior to submitting the Notice of Intent.

Response:
Staff has returned the words to the section.

Comment 7.03:
Similar to our previous comment provided on August 19, 2010, we request the following language be inserted directly after the third sentence in requirement no. 3 of Section II.C.

In addition to issuing an NOA, some Regional Water Boards may have to grant a prohibition exemption to allow discharges of aquatic pesticides to receiving waters for purposes of vector control. The discharger will need to apply for the exemption and the prohibition exemption will be included in the NOA.

Response:
The suggested language is not necessary because the second and third sentences already describe handling of region-specific conditions and, therefore, was not added.

8. Comment Letter 8 - Mosquito Vector Control Association of California (MVCAC)

Since February 2009, staff has met with MVCAC representatives on numerous occasions to explain the rationale for the permit requirements. Staff has answered many of the questions shown below during these meetings. For the questions that were not raised during these meetings, it is curious that MVCAC did not raise them during meetings with staff especially those that occurred between the posting of the first draft in November 2009 and the release of the Draft Permit in September 2010. Nevertheless, all of MVCAC's comments on the Draft Permit are presented here for completeness.

Comment 8.A:
California should follow the USEPA permit for the first five years.

Response:
USEPA's permit, which requires only visual monitoring, will not be protective of the beneficial uses of California's receiving waters**.**

Comment 8.B.1:
The description and use of Receiving Water Monitoring Triggers in the Draft Permit is confusing and not consistent with previous working group discussions.

Monitoring triggers are very conservative indicators of toxic concentrations (10 times less than the lowest concentration that affects the most sensitive species) and exceedance of a trigger concentration is not necessarily indicative of toxicity or a cause for corrective action. Exceedance of triggers was understood to initiate additional, specific toxicity tests. This was the original understanding during discussions with SWRCB.

Response:
As stated in the introductory paragraph, State Water Board staff has explained to the technical committee whose membership included MVCAC the rationale for all permit requirements, including staff's approach for setting Receiving Water Monitoring Triggers, all throughout the permitting process. As discussed in numerous meetings with the technical committee, the proposed numeric Receiving Water Monitoring Triggers are based on the Central Valley Water Board's Basin Plan approach which is used to develop Daily Maximum Limitation for pesticides that do not have water quality objectives.

Comment 8.B.2:
If the chemistry and toxicity tests are done simultaneously, then there would be no need for monitoring triggers, and any additional control measures or limitations should be based on the toxicity findings.

Response:
Receiving Water Monitoring Triggers are established to protect the beneficial uses of the receiving water from specific residual chemicals such as the active ingredients. Toxicity testing is required to determine the combined effects of the residual pesticide, its degradation byproducts, and the pesticides already in the receiving water.

Comment 8.B.3:
Linking exceedance of Receiving Water Monitoring Triggers to corrective actions is unjustifiable, not previously discussed, and creates the appearance of non-compliance to the permit for any public health program using these pesticides.

Response:
As stated in Response to Comment 8.B.2, the triggers are established to protect the beneficial uses of the receiving water from the active ingredients. Thus, if they are exceeded, the discharger is expected to take corrective actions to correct the problem.

Comment 8.B.4:
If monitoring triggers remain in the Permit, there should be specific language that states exceedance does not mean or imply non-compliance with permit conditions. Monitoring triggers only indicate a need for additional investigations to determine if toxicity is associated with vector control applications.

Response:
Staff does not believe that it is appropriate to include language in the Permit to state that exceedance of monitoring triggers does not mean or imply non-compliance with Permit conditions. The Permit specifies that additional investigations are required if monitoring results indicate that Receiving Water

Monitoring Triggers are exceeded. Therefore, if the discharger fails to conduct additional investigations, it would be subject to an enforcement action for not complying with the permit requirement.

Comment 8.C:
Remove the requirement of Background Toxicity Monitoring as the results of this information would be extraneous. If Post Event Monitoring toxicity test results suggest vector control applications may have caused or contributed to toxicity, then additional investigations could be warranted and there is no need to evaluate the Background toxicity results.

Response:
For larvicide applications, toxicity testing will be required only if temephos is used. Post-Event Monitoring applies only to larvicide applications since larvicides are applied directly to water and become residues only after their intended use or after project completion. For adulticide applications, the equivalent of Post-Event Monitoring is Event monitoring. Since the target species will be airborne or on foliage, any pesticide that falls on the receiving water is a residue. Thus, there is no uncertainty as to when the pesticide becomes a residue in this case.

The purpose of Background toxicity monitoring is to determine the condition of the water quality of the receiving water before conducting vector control application. Therefore, it would help to determine if there is existing toxicity from other sources in the receiving water. Without the Background monitoring, it would be difficult to determine the true condition of the receiving water after pesticide applications. Therefore, staff does not recommend removing Background toxicity monitoring.

Comment 8.01:
MVCAC should be subject to the USEPA Permit criteria and that what California has come up with is overreaching and burdensome, especially with respect to water quality monitoring requirements.

Response:
See Response to Comment 8.A.

Comment 8.02:
The State Water Board has limited the amount of products available to Mosquito Control Districts.

Response:
Staff is aware that all adulticide and larvicide products should be included in the Permit to make them available in the vector control districts' tool box. However, as stated in numerous times in meetings with MVCAC, staff simply did not have the time and resources to review all of them to be included in the Draft or Permit. Thus, we asked MVCAC and CDPH to provide us a list of priority adulticides and larvicides that they wanted included in the initial list of products in the Permit. MVCAC and the CDPH provided staff with the list of these products which are now included in the Draft or Permit. When time permits, staff will continue to review the remaining products, add these products to the Permit, and present a Permit for the State Water Board's consideration.

Comment 8.03:
Justification for the use of LC50/10 to set Receiving Water Monitoring Triggers.

Response:
This issue was discussed with MVCAC innumerous times. As previously explained to MVCAC and as stated on Page D-29 of the Fact Sheet, the proposed numeric Receiving Water Monitoring Triggers are based on the Central Valley Water Board's Basin Plan approach in developing Daily Maximum limitation for pesticides that do not have water quality objectives. The Central Valley Water Board's Basin Plan has gone through the rule-making process and has been approved by the Office of Administrative Law. In addition, USEPA has approved relevant sections of the Basin Plan. Thus, the approach has the force of regulation. As such, its use as a basis for Receiving Water Monitoring Triggers is appropriate.

Comment 8.04:
It is still not clear if coalition members will need to submit a PAP for sites treated with adulticide within their jurisdiction?

Response:
Each coalition member must submit a PAP to provide elements which are specific to each discharger's vector control activities. However, since chemical testing for active ingredients and toxicity testing will be conducted at the coalition's representative sites, each coalition member's PAP may simply refer to the coalition's PAP for these constituents or parameters.

Comment 8.05:
Will every discharger need to submit an annual report? Or for the next five years are annual reports only to contain data from the coalition sites?

Response:
Each discharger must submit an annual report since the annual report should include all elements specific to each discharger's vector control activities. However, each coalition member's annual report may simply refer to the Coalition's annual report for information on chemical testing for active ingredients and toxicity testing conducted at the Coalition's representative sites.

Comment 8.06:
Why did the State Board decide to prioritize malathion and naled for monitoring? Although these are the most toxic materials, they are not frequently used by vector control in SoCal.

Response:
Malathion and naled have been identified as one of the most toxic pesticides. The National Marine Fisheries Service has determined that they jeopardize the continued existence and recovery of all Evolutionary Significant Units (ESUs) or Distinct Population Segments (DPSs) of anadromous salmonids currently under the ESA in California. Malathion was determined to jeopardize all 10 ESUs or DPSs (NMFS 2008) while naled was determined to jeopardize nine of the 10 ESUs or DPSs (NMFS 2010). The ESA consultations that came to these conclusions did consider their use as vector control agents in their examinations.

Comment 8.07:
Residual pesticides and pesticide residues are two different things and should not be confused. Are adulticides defined as residual pesticides? Residual pesticides are applied for long-lasting control – up to several months in certain cases. Pesticide residues indicate the mass of pesticide present after it has performed its intended function. How, then, would adulticides differentiate applications of residual barriers from ULV? The verbiage as it now appears is too inclusory and unfairly characterizes adulticides as residuals. There may, indeed, be some ephemeral remaining chemical properties to ULV applications, but they hardly qualify for the term "residual" in comparison with barriers.

Response:
As stated in Response to Comment 8.C, in adulticide applications, the target species will be airborne or on foliage; thus, any pesticide that falls on the receiving water is a residue. There is no uncertainty as to when the pesticide becomes a residue. In larvicide applications, the pesticide becomes a residue only after its intended use or after project completion. The discharger defines the latter. Thus, in either case, there should be no confusion as to when a pesticide becomes a residue.

Comment 8.08:
In several areas of the permit this statement is made in whole or in part, "This General Permit regulates residual pesticides which are breakdown products or other pesticide ingredients that are present after the use of the pesticide for vector control. In larvicide applications, pesticides are applied directly to the water body and/or to vector larvae in the water or on the water surface and are not considered pollutants until some time after actual discharge. In adulticide applications, any pesticide product or its breakdown by-product that is deposited in waters of the US is a pollutant. However, at what point the pesticide becomes a residue is not precisely known and varies depending on the type of spray system, wind speed and direction, temperature, droplet size distribution, droplet drift, water chemistry, etc. Therefore, in the application of pesticides, the exact effluent is unknown."

Who bears the burden of proving any operation by a vector control district requires this permit? How would anyone provide such proof?

Response:
The Sixth Circuit Court of Appeals decision requires that pesticide applications at, near, or over water that could discharge pollutants to a receiving water must be covered by an NPDES permit. It is the discharger's responsibility to determine whether its applications will result in the discharge of residual pesticides and to obtain coverage under an NPDES permit if it deems coverage is necessary.

Comment 8.09:
Specific comments including suggested language for the change from “residual pesticides” to “pesticide residues”.

Response:
See Response to Comment 8.07.

Comment 8.10:
Why will both the State Board and the Regional Boards be reviewing an application package for completeness and applicability permit application? Does it need to be sent to both? This was only to be under this General Permit reviewed by the Regional Boards in the last version of the permit. It will prolong and complicate the turn around time for issuance of the permit, potentially. It is also noted that the language for a separate annual fee for each region has been pulled out. Looks like State Board, instead of Regional Boards, will administrate much of the permit issuance which has changed since last version. If a statewide coalition is to be implemented, it would make most sense for the SWRCB to oversee permit compliance rather than the Regional Boards.

Response:
The application will only be sent to the State Water Board. However, both the State and the Regional Water Board staff will review the application package for completeness and applicability under the Permit. It is important that the Regional Water Board staff be involved in reviewing the application to ensure that Region-specific requirements are included in the Notice of Applicability.

Comment 8.11:
How will the statewide coalition work if every local water board can make their own requests regarding the Notice of Applicability?

Response:
The coalition would work because its PAP would be implemented in specific regions where the representative sites are, not in all regions.

Comment 8.12:
The description and use of Receiving Water Monitoring Triggers in this draft is confusing and not consistent with previous working group discussions. It was widely understood during working group meetings with SWRCB that triggers were not to be indicative of non-compliance or result in corrective actions. Furthermore, SWRCB was apprised early in the process that various data (published and non-published) suggest vector control applications will likely exceed these conservative monitoring triggers.

Linking exceedance of monitoring triggers to corrective actions is unjustifiable, not previously discussed and creates the appearance of non-compliance to the permit for any public health program using these pesticides.

Response:
See Responses to Comments 8.B.1 and 8.B.3.

Comment 8.13:
Sections of Porter-Cologne Water Quality Control Act seem to suggest that the intent of the California Legislature to exempt certain pesticides from NPDES requirements in California. For example, “Hazardous substance” does not include any pesticide which is applied for agricultural purposes or is applied in accordance with a cooperative agreement authorized by Section 116180 of Health and Safety Code, and is not discharged accidently or for purposes of

disposal, the application of which is in compliance with all applicable state and federal laws and regulations. (Section 13050, ital. added).

This suggests the State legislature recognized the importance if allowing public health agencies to do their job without the burden of being identified as releasing "hazardous substances" into the environment.

Further, we believe the State Water Board should seek clarification from the Administrator as to whether the release of public health pesticides are hazardous substances as defined, pursuant to Section 311 (a) (I) of the CWA. It is our contention that the use of public health pesticides do not present an "imminent and substantial danger to the public health or welfare, including, but not limited to, fish, shellfish, wildlife, shorelines, and beaches" and in fact, any encumbrance of the use of public health pesticides to control mosquitoes may present an imminent and substantial danger to public health and wildlife potentially exposed to mosquito-borne zoonoses. We believe the USEPA General permit fully and effectively addresses these issues and is consistent with the practice of protecting public health. We recommend the State Board consider adopting the USEPA proposed General Permit.

Response:
The Sixth Circuit Court's decisions and decisions by other courts have settled all these issues.

Comment 8.14:
Does this permit address discharges of biological pesticides, which were defined as pollutants pursuant to the 6th Circuit Court of Appeals?

Response:
The Permit has been changed to add "biological pesticides" in addition to residual pesticides.

Comment 8.15:
Refer to the statement in the draft permit "*However, FIFRA is not necessarily as protective of water quality as the CWA".* We could say the same in reverse "CWA is not necessarily as protective of human health as FIFRA (putting Mysid mortality above risks to human health)". Neither statement is applicable in an NPDES Permit.

Response:
Comment noted.

Comment 8.16:
Identify the breakdown products for the insecticides listed in Table 3, Receiving Water monitoring Triggers.

Response:
Besides 2,2-dichlorovinyl dimethyl phosphate (DDVP) which is identified as a degradation byproduct from naled, one of the well-known degradation byproducts that is formed from malathion is malaoxon. However, information on degradation byproducts from remaining pesticides is limited. Therefore, the Draft or Permit, in particular the Pesticide Application Plan and the Notice of Intent, will be revised

to add the requirement that the discharger provide this information as a part of the information on pesticide uses.

Comment 8.17:
Refer to the following statements in the draft permit:

"2. It would be impracticable to provide effective treatment, given the numerous short duration intermittent pesticide releases to waters of the US from many different locations; and

3. Treatment may render the pesticides useless for pest control."

Need to make clear that "treatment" refers to treatment of effluent to reduce concentrations. Language is confusing, as the term "treatment can be interpreted as a mosquito control application.

Response:
Statement 2 has been revised to read: "2. It would be impracticable to provide effective treatment of biological and residual pesticides from vector control applications, given that typically, pesticide applications consist of numerous short duration intermittent pesticide releases to waters of the US from many different locations; and"

"Treatment" in the Statement 3 can be referred to the actual pesticide before or during application.

Comment 8.18:
Section III.G and Section V.B: The use of appropriate BMPs has been performed for years by mosquito control districts in California. Restating them is a duplication of already existing practices endorsed through training and adoption of a cooperative agreement with DPR and the reference of these BMPs should satisfy the requirement of the narrative water quality standards.

Response:
Finding G on Page 9 states, "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 8.19:
Refer to the following statement in the draft permit: "Regional Water Boards in their Water Quality Control Plans (Basin Plans) include a narrative toxicity objective ("no toxics in toxic amounts), which specifically prevents the presence of toxic substances, individually or in combination, in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life."

It is suggested that the statement should be changed as follows: "…in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life *except for mosquitoes and other target species*."

Response:
The statement from the Draft Permit is quoted directly from Regional Water Boards' Basin Plans; therefore, it is not appropriate to add the suggested language to that statement.

Comment 8.20:
Monitoring Triggers were understood to be used to initiate additional investigations in order to determine if the narrative toxicity objective is met. Exceedance of triggers was understood to initiate additional, specific toxicity tests. This was the original understanding during discussions with SWRCB. Subsequent to this understanding, the USEPA regional rep strongly advocated for concomitant chemistry and toxicity tests. If these tests are done simultaneously, then there would be no need for monitoring triggers, and any additional control measures or limitations should be based on the toxicity findings. If these toxicity tests indicated vector control applications caused or significantly contributed to toxicity, then additional control measures could be added.

Response:
See Responses to Comments 8.B.1 and 8.B.2.

Comment 8.21.a:
Referenced to the Receiving Water Monitoring Triggers section, pg. 10, 7th paragraph, Section III.H, which states: "The monitoring triggers will be used to assess compliance with the narrative toxicity receiving water limitation and initiate additional investigations for the toxicity caused by the larvicides and adulticides used and their additive or synergistic effects."

How do the triggers "assess compliance", when exceeding them does not violate the conditions of the permit, but rather "initiate additional investigation"?

Response:
This paragraph has been revised as follows: "The monitoring triggers will be used to assess whether the discharge of residual pesticides has the reasonable potential to cause or contribute to an excursion of a water quality standard, including numeric and narrative objectives within a standard. If monitoring data for residual pesticides show exceedance of the monitoring triggers, the discharger shall, at a minimum, evaluate its application methods, BMPs, and the appropriateness of using alternative products. As a result of the evaluation, this General Permit may be re-opened to add numeric Receiving Water Limitations for the residual pesticides exceeding the triggers."

Comment 8.21.b:
What happens if the pre-treatment sample already shows concentrations of a particular active ingredient just below monitoring trigger level and material deposition during treatment is just enough to push the total active ingredient concentrations past the trigger level? Will we be held accountable for the entire amount or only for our contribution? What if the pre-treatment sample active ingredient levels are already above trigger level?

Response:
The Draft or Permit does not authorize a discharger to cause exceedance of criteria or water quality objectives. As stated in Response to Comment 8.21.a, if monitoring data for residual pesticides show exceedance of the monitoring triggers, the discharger shall, at a minimum, evaluate its application methods, BMPs, and the appropriateness of using alternative products. The Permit also does not authorize the discharge of residual pesticides or their degradation byproducts to impaired water bodies listed in http://www.waterboards.ca.gov/water_issues/programs/tmdl/2010state_ir_reports/2010_combo303d.xls. In addition, the discharge of biological and residual pesticides to waters of the U.S. classified as Outstanding National Resource Waters (Lake Tahoe and Mono Lake) or as a water impaired by unknown toxicity will only be allowed if 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.

Comment 8.22.a:
Referenced to the Receiving Water Monitoring Triggers section, pg.10, 7th paragraph, Section III.H, which states: "The monitoring triggers will be used to assess compliance with the narrative toxicity receiving water limitation and initiate additional investigations for the toxicity caused by the larvicides and adulticides used and their additive or synergistic effects. If monitoring data for residual pesticides of concern indicate that concentrations of these residual pesticides exceed the monitoring trigger, this General Permit may be re-opened and Receiving Water Limitations for these pesticide ingredients could be added." The commenter suggested to delete the sentence: "The monitoring triggers will be used to assess compliance … synergistic effects" and change the last sentence to read: "If monitoring data for residual pesticides of concern indicate that concentrations of these residual pesticides exceed the monitoring trigger, *additional investigations may be required to assess compliance with the narrative toxicity receiving water limitations. If pesticide residuals associated with vector control are found not to be in compliance with the narrative toxicity standard*, this General Permit may be re-opened and Receiving Water Limitations for these pesticide ingredients could be added"

Response:
See Response to Comment 8.21.a.

Comment 8.22.b:
Residual pesticides will likely exceed the monitoring triggers given the very low values (LC50/10) presented and the operational requirements of public health agencies. What receiving water limitations could be devised that would remain consistent with the SWRCB's findings that suggest "numeric effluent limits for pollutant discharges associated with the applications of pesticides are infeasible"?

Response:
As stated in the Permit, in pesticide applications, there is no effluent per se. The substance that comes out of nozzles or that is applied directly to receiving waters is a product, not a waste or pollutant. The pesticide product becomes a pollutant after its intended use or project completion.

Comment 8.22.c:
This draft incorrectly suggests that monitoring triggers equate to toxic concentrations of pesticide residues and evidence of non-compliance with permit conditions. There should be specific language that states exceedance does not mean or imply non-compliance with permit conditions. Monitoring triggers only indicate a need for additional investigations to determine if toxicity is associated with vector control applications.

Response:
See the Response to Comment 8.21.a.

Comment 8.23:
Referenced to the Receiving Water Monitoring Triggers section, pg.10, 7th paragraph, Section III.H, which states: "If monitoring data for residual pesticides of concern indicate that concentrations of these residual pesticides exceed the monitoring trigger, this General Permit may be re-opened and Receiving Water Limitations for these pesticide ingredients could be added."

The Federal Permit produced by EPA state specifically that numeric limitations are infeasible. EPA continues to study the efficacy of various types of pollution prevention measures and BMPs; however, for this permit numeric limitations are not feasible.

Response:
The Draft or Permit also does not include numeric Effluent Limitations. Also, see Response to Comment 1.01.

Comment 8.24:
Referenced to Section IV.B (Discharge Prohibition) of the permit, which states: "The discharge of residual pesticides shall not create a nuisance as defined in section 13050 of the California Water Code."

"Nuisance" means anything which meets all of the following requirements: (1) Is injurious to health, or is incident or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property; (2) Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal; and (3) Occurs during, or as a result of, the treatment or disposal of wastes.

How would vector control pesticide applications qualify under this third condition? There is a concern that the term "nuisance" will be used by anyone with issues about pesticide "spraying" and could potentially claim offense, objection, etc.

Response:
Condition 3 would not apply unless a discharger intentionally over applies to get rid of excess pesticides.

Comment 8.25:
Referenced to the Section VI.G, Receiving Water Limitations, which states: "The discharge shall not result in any of the following… Esthetically undesirable discoloration."

Application of GB 1111 and similar products is likely to result in aesthetic changes. Who makes the call? What criteria will be used to determine whether this standard is met?

Response:
Section IV.B (Monitoring Requirements) of the Draft or Permit states that a log be kept of the receiving water conditions throughout the reach of the treatment area and attention given to the presence or absence of floating or suspended matter; discoloration; bottom deposits; aquatic life; visible films, sheens, or coatings; etc. In addition, the Draft or Permit requires that notes on receiving water conditions be summarized in the monitoring report.

The larvicide product GB 1111 contains white mineral oil as an active ingredient. For larvicide applications, the discharger shall comply with Receiving Water Limitations after project completion. If the application of GB 1111 would result in the presence of discoloration of the receiving water after project completion, it would be considered a violation of the Permit.

Comment 8.26:
Referenced to the Section VI.H- Receiving Water Limitations, which states: "The discharge shall not result in any of the following…Aquatic communities and populations, including vertebrates, invertebrates, and plant species to be degraded, except for target species."

What does "degraded" mean? MVCAC knows we may have an ephemeral impact on non-target species within the chironomid genera…by definition, does this mean the aquatic community has been "degraded"?

Response:
For the purpose of the Permit, "degraded" can be defined as reduced in quality, value or reduced in amount, strength, intensity.

Comment 8.27:
Referenced to the Table 3-Section VII (Receiving Water Monitoring Triggers), which states: "The Receiving Water Monitoring Triggers shown in Table 3 below will be used to assess compliance with the narrative toxicity receiving water limitation and trigger additional investigations for the toxicity caused by the larvicides and adulticides used and their additive or synergistic effects." The commenter suggested the following change: "The Receiving Water Monitoring Triggers shown in Table 3 below ~~will~~ *may* be used to ~~assess compliance with the narrative toxicity receiving water limitation and~~ trigger additional investigations for the toxicity caused by the larvicides and adulticides used and their additive or synergistic effects."

Response:

See the Response to Comment 8.21.a.

Comment 8.28:

Referenced to the Table 3-Section VII (Receiving Water Monitoring Triggers). How do you differentiate beneficial/intentional applications of ingredients with unknown residual from the point where there is no longer a mosquito control effect?

Response:
The Monitoring and Reporting Program of the Draft or Permit requires that Background, Event (for adulticide applications), and Post-event (for larvicide applications) monitoring be conducted for all active ingredients. The purpose of the Background sampling is to determine if there is existing active ingredient detected in the receiving water recognizing that without the Background monitoring, it would be difficult to determine if the active ingredients of concern found in the receiving water were actually from the vector control applications or from other sources. The Background sampling results will be compared with the Event sampling results (for adulticide applications) or with the Post-Event sampling results (for larvicide applications) to determine any potential impacts caused by the vector control applications.

Comment 8.29:
Reference to the Table 3-Section VII (Receiving Water Monitoring Triggers). Data presented in 2005 from SYMVCD suggest that the triggers established may be exceeded when responding to a public health emergency. What will the response be from the SWRCB in these instances? The District has twice received awards for IPM innovation and is recognized as fully implementing BMPs. In addition, work done by Weston suggested the increased load by the District was very small and ephemeral. Based on this evidence, what is the expected response by the SWRCB when the triggers listed in Table 3 are "routinely" exceeded when conducting a public health response?

Response:
See Response to Comment 8.21.a.

Comment 8.30:
The trigger listed for Temephos at 8 parts per billion will be reached in virtually all applications. This product is a larvicide and applied to water. For example, if Abate 2-BG were applied to a wildlife refuge pond at the lowest listed application rate of .05 Lbs. a.i./acre the trigger would be exceeded by more than 100%. This calculation assumes a flood depth.

Response:
The trigger does not apply during treatment. It applies only after project completion.

Comment 8.31:
The requirement to notify affected governmental agencies "every calendar year" prior to the first application of pesticides is excessive. This notification should only be required upon initial issuance of the permit and at each renewal. Additionally, since most vector programs make treatments with larvicides year

round, for clarification, when should this notification be done, every January 1 after the initial notice upon issuance of the permit?

Response:
Staff does not believe that the requirement to notify affected governmental agencies "every calendar year" prior to the first application of pesticides is excessive. Since with vector control, the precise monitoring locations may not be available until after surveillance, information on the discharger's vector control activities will be outdated if it would only be required to notify affected governmental agencies upon initial issuance of the Permit and at each renewal.

As stated in the Draft or Permit, the discharger shall notify potentially affected governmental agencies every calendar year, prior to the first application. For example, if the first application would occur in May 1, the discharger shall notify potentially affected governmental agencies anytime before May 1.

Comment 8.32:
Section VIII.B.5 (Pesticide Use Requirements - Public Notice Requirements) states in part discharger that the notification shall include the any water use restrictions or precautions during treatment. The water use restrictions listed on the FIFRA label should be sufficient to meet this requirement. If not, what other restrictions will be required?

Response:
Staff agrees that the water use restrictions listed on the FIFRA label should be sufficient to meet this requirement.

Comment 8.33.a:
Section VIII.C.1 (Pesticide Use Requirements- Pesticide Application Plan). It is unclear whether the PAP is to address the sites being tested as part of the study that the Statewide Monitoring Coalition is testing or if it is to detail every site that that each vector program treats. If the latter is the intent, does this include both larvicide and adulticide treatment sites or only adulticide sites?

Response:
The section clearly states that: "The discharger shall develop a PAP that contains the following elements:" Therefore, the elements that are specified in the section are required for every site, including both larvicide and adulticide treatment sites, that each vector control district treats.

Comment 8.33.b:
Section VIII.C.1 (Pesticide Use Requirements- Pesticide Application Plan). Items 1.a, 1.d, and 1.f require the most site specific treatment details and some clarification on what is expected is needed.

Response:
The expectations are clearly specified on these items. Dischargers should respond as best they can. Staff will inform them if additional information is needed.

Comment 8.33.c:
Referenced to Section VIII.C.1 (Pesticide Use Requirements- Pesticide Application Plan) of the permit. Is it appropriate to generalize, offer general information with assumptions?

Response:
Staff recognizes that with vector control, the precise monitoring locations may not be known until after surveillance. Therefore, the discharger shall provide a description of the ALL target areas to which pesticides are being planned to be applied or may be applied to control vectors at the time it submits the application package. However, the actual sampling locations shall be provided in the annual report to be submitted in March following the following year.

Comment 8.34:
Referenced to Section VIII.C.1.B (Pesticide Use Requirements-Pesticide Application Plan), which states: **"**Discussion of the factors influencing the decision to select pesticide applications for mosquito control." This statement is unclear.

Response:
The Permit requires the discharger to develop BMPs that contain elements, such as "Identification of the Problem" and "Examination of Alternatives." As clearly stated in this section, the discharger shall examine the possibility of using alternatives to chemical pesticides to reduce the need for applying them. If the use of chemical pesticides would be unavoidable to protect public health, the discharger is required to provide a discussion of the factors influencing the decision to select pesticide application for vector control.

Comment 8.35:
Referenced to Section VIII.C.2 (Pesticide Use Requirements – Pesticide Application Plan), which states: "The discharger shall update the PAP periodically and submit the revised PAP to the State Water Board for approval if there are any changes to the original PAP."

Add the following language: "The PAP also shall include a discharger-prepared individual monitoring and reporting plan or an election to participate in a coalition plan. The monitoring and reporting plan shall be considered part of the PAP."

Response:
The statement has been deleted. Section VIII.D has been added to clarify PAP processing, approval, and modifications. The proposed language was not added since the PAP already outlines monitoring and reporting requirements.

Comment 8.36.a:
Section VIII.D.1 (Pesticide Use Requirements-Best Management Practices-Identify the Problem) states: **"**Prior to first pesticide application covered under this General Permit that will result in a discharge of residual pesticides to waters of the US, and at least once each calendar year thereafter prior to the first pesticide application for that calendar year, the discharger must do the following for each vector management area:

a. Establish densities for larval and adult vector populations to serve as action threshold(s) for implementing pest management strategies;

b. Identify target vector species to develop species-specific pest management strategies based on developmental and behavioral considerations for each species;

c. Identify known breeding areas for source reduction, larval control program, and habitat management; and

d. Analyze existing surveillance data to identify new or unidentified sources of vector problems as well as areas that have recurring vector problems."

In this section for items a-d, it is not clear if or how this information is to be documented for or reported to the Water Board.

Response:
See Response to Comment 8.33b.

Comment 8.36.b:
Define "vector management area."

Response:
For the purpose of this Permit, the "vector management area" is defined as the area of land, including any water, for which the discharger is conducting vector management activities covered by this permit. This term and its definition have been added to Appendix A.

Comment 8.37:
Section VIII.D.1.a (Pesticide Use Requirements- Best Management Practices – Identify the Problem) states: "Establish densities for larval and adult vector populations to serve as action threshold(s) for implementing pest management strategies."Larval densities and adult densities are to be established. Historically they have been different throughout California based on proximity to populations and responses to control the various life stages of the mosquito. For example, larval population is a wetland near an urban area may be ignored until they emerge based on the lack of resources of the local vector control agency to use larvicides. It is unclear at what level of resolution these thresholds (larval and adult vector populations) are to be established for each BMP: treatment area, vector management area, individual district, watershed, or state-wide.

Response:
This is a statewide general permit and not tailored to individual vector programs. The Permit is intended to address regulatory issues. Technical details of how each discharger will manage its vector control program and activities are the discharger's responsibility. Therefore, it is not appropriate for the State Water Board to establish a specific level of resolution for the larval and adult vector population thresholds for each BMP.

Comment 8.38:
What does "species-specific pest management strategies" mean in Section VIII.D.1.b, which states "Identify target vector species to develop species-specific

pest management strategies based on developmental and behavioral considerations for each species?"

Response:
It requires the discharger to develop specific management strategies for each target species. Therefore, it is not necessary to clarify this phrase in the Permit.

Comment 8.39:
Section VIII.D.1.b (Pesticide Use Requirements- Best Management Practices – Identify the Problem) states: "Identify target vector species to develop species-specific pest management strategies based on developmental and behavioral considerations for each species." In the OCVCD IVM Plan we only list the species of mosquitoes that are of public health significance and summarize the nuisance vectors by genera. (Culiseta spp/ Aedes spp.) Is this sufficient? Should we go back and include vector/nuisance mosquitoes by species?

Response:
If all nuisance species included in the genera have similar developmental and behavioral characteristics the same pest-management strategies can be developed for a whole genera, then it would be sufficient to summarize the nuisance vectors by genera.

Comment 8.40:
Section VIII, D.1.c. In many cases the larval sources are already known, but resources or other regulations make them impossible to comply with "source "habitat management". For example, rice fields require water to be on the field when mosquito populations tend to thrive. Draining a rice field or reducing vegetation (rice) within the field is not practical. Similarly, wetlands have historically produced significant mosquito populations. Draining a wetland or requiring resource agencies to implement vegetation control is either prohibited or simply not done by the resource agency due to a lack of financial resources. How is "source reduction" or "habitat management" applicable to these areas in light of permit section D.2. Examine the Possibility of Alternatives (which includes consideration of feasibility and cost effectiveness)?

Response:
Based on the examples, the discharger may conclude that source reduction and habitat management are not feasible or cost effective for implementation to control vectors and application of pesticides is the best alternative.

Comment 8.41:
The level of vectors present that will constitute nuisance is a very arbitrary number and could be a very different number for different regions of California. The CA. H&S code defines a nuisance as the "presence" of vectors. How will this be harmonious with the setting of thresholds for treatments? If the intent is to minimize adulticide applications, then the setting of thresholds for larval control should simply be "presence of larvae". Does a nuisance require the presence of "vectors" or do large numbers of biting mosquitoes fulfill the definition?

Response:
Dischargers may use any guideline appropriate with their area of control for setting nuisance thresholds.

Comment 8.42:
What is considered an "intrusive method of pesticide application"? In addition to defining "least intrusive method" it seems this requirement would be beyond the scope of NPDES, and authority of SWRCB to either determine or regulate - unless there is a demonstrable negative impact to water.

Response:
An “intrusive method of pesticide application” has adverse impacts on non-target organisms or the environment. The “least intrusive method” will result in the least adverse impacts. An example is spot treatment that applies the smallest amount of pesticide necessary to control the targeted pests instead of a widespread application. Since smaller vector control agencies may not have the resources, the “least instrusive method” requirement has been removed from the permit. However, dischargers shall follow all FIFRA pesticide label instructions. Dischargers are still encouraged to use least intrusive methods, if available.

Comment 8.43:
What is the definition of "most appropriate formulation"? This also seems to be beyond the scope and authority of NPDES to make this requirement. We don't currently have a decision matrix format for choosing the best formulation of larvicide/adulticide that are applied in the field. Do we need one? Or is it only in reference to using something other than temephos?

Response:
The “most appropriate formulation” would require the least amount of pesticide to be applied for vector control. Recognizing that labels may already contain dosage information, the provision has been deleted.

Comment 8.44:
The requirements in Section VIII.D.3 are covered via Cooperative Agreements with California Department of Public Health. Since this is already performed by all agencies signatory to a Cooperative Agreement with the California Department of Public Health, it should be deleted.

Response:
This requirement is important and worth restating in the PAP.

Comment 8.45:
Is it required to keep separate log of this specific data or is it enough to collect this data and have it in general? Will this Pesticide Application Log need to be submitted to the Water Board. If so how frequently? Most of these application log requirements are covered via Cooperative Agreements with California Department of Public Health. This is an unnecessary duplication and should be deleted. All Agencies signatory to a Cooperative Agreement are required to maintain pesticide application records for at least two years.

Response:
As stated in the comment, since most of the application log requirements are covered via Cooperative Agreements with California Department of Public Health, dischargers can simply provide the information in the annual report. Staff has added requirement to submit the Pesticide Application Log as part of Annual Report in Attachment C, Section V.B.1.j.

Comment 8.46:
In the Pesticide Application Log (Section VIII.E), volume of water treated is unnecessary. Mosquito larvae agents target mosquitoes on the surface on the water. As defined, residual adulticide pesticides that make their way into water bodies are not a part of the target area and would not be included in this pesticide application log.

We don't record details of adulticide application that include receiving water area & volume of water treated. We also don't list concentration/application rate.

"Application details" is overly onerous and not practical for technicians to collect all of this data with each application specifically; flow rate of target area, receiving water area, and volume of water treated. This staff is not equipped to give this information and much of it would be a gross estimation if that was even possible due to the variation in the types of sources treated like gutters, underground storm drains etc.

Response:
Most of the information required can be observed and estimated. Information on flow rates of receiving water is readily available on web from such sources as the California Department of Water Resources and the US Geological Survey.

Comment 8.47:
Section VIII, E.5. "... mass of each component discharged; and" Missing text.

Response:
Staff has added Section VIII, E.6 Visual monitoring assessment; and E.7 Certification that applicators followed the PAP.

Comment 8.48a:
Since this General Permit does not authorize the discharge of residual pesticides or their breakdown by-products to waters of the US that are impaired by the pesticide active ingredients, does this mean such waters would not be treated even in the event of a public health emergency? What is the protocol for a permit if an agency treats a 303(d) listed water?

Response:
Section IX.A.3 allows for discharge of residual pesticides to waterbodies impaired by unknown toxicity if the conditions listed are satisfied.

Comment 8.48b:
When it is listed for pesticide, which pesticide are they referring to or does that mean anything that is classified and a pesticide?

Response:
Unless specified otherwise, it means anything classified as a pesticide. The discharger may collect a background sample to determine if the pesticide active ingredient is present in the receiving water. If not present or present at concentrations below the Receiving Water Limitation or Monitoring Trigger, the discharger may apply the pesticide for vector control. If present at concentrations above the Receiving Water Limitation or Monitoring Trigger, the discharger may not apply the pesticide.

Comment 8.48c:
What about if the water is listed for general toxicity?

Response:
Unless specified otherwise, the source of toxicity is unknown. The discharger may still apply pesticides to control vectors but the discharge of the residual pesticides shall not add to the existing toxicity. To determine whether a pesticide application results in increased toxicity, background monitoring for toxicity shall be conducted and compared with the event (adulticide applications) or post-event (larvicide applications) monitoring for toxicity. See Response to Comment 2.02.

Comment 8.49:
Based on the California impaired waters website, all of the major waterways in Santa Clara County appear to be 303(d)-listed impaired based on pesticides, metals/Metalloids/etc. Is this an error?

Response:
The information provided on the California impaired waters website is accurate to the best of our knowledge. Before a waterbody is listed as impaired many lines of evidence have to be acceptable. The administrative record for listing of impaired waters may be viewed at http://www.waterboards.ca.gov/water_issues/programs/tmdl/2010state_ir_reports/statewide_ref_index.shtml.

Comment 8.50:
Do additional restrictions on discharges to Lake Tahoe and Mono Lake apply to discharges anywhere in their basin drainages (i.e., potentially affecting any tributary or adjacent waters)? Additional restrictions in Tahoe basin could impact vector programs in Placer and El Dorado counties.

Response:
Yes.

Comment 8.51:
Dischargers should be in compliance with the "Cooperative Agreement" issued by CDPH. The Memorandum of Understanding is an agreement between CDPH, CDPR and County Agricultural Commissioners to share oversight responsibilities for vector control applications.

Response:
The "Memorandum of Understanding" has been replaced with "Cooperative Agreement."

Comment 8.52:
Section IX, A.5. The Draft Permit explains earlier how vector control agencies are not regulated through DPR, so this should be removed.

Response:
Pest control businesses, structural pest control businesses, and other private entities that perform vector control work must be licensed by DPR. Therefore, the statement was not removed.

Comment 8.53:
See inserts and deletions for Section IX, A.8.

In accordance with the PAP, Section VIII.1.h-i~~.j~~, the discharger shall implement *feasible* ~~any~~ BMPs that could reduce potential water quality impacts.

Response:
Suggested revisions have been made.

Comment 8.54:
Section IX, A.10.a.iii. This provision does not make any sense. It may not apply to discharges associated with vector control. Why would we be terminated or need modification if there is a reduction or temporary elimination of discharge? This may be remnant language from wastewater discharge template.

Response:
It is the State Water Board's prerogative to terminate a permit as it sees fit.

Comment 8.55:
Section IX, A.10.a.iv. This is sort of vague, what constitutes a "material change?" This may be remnant language from wastewater discharge template.

Response:
A material change is a change in discharge that is different from what is proposed in the PAP. For example, using a different active ingredient from the ones listed in the PAP would be a material change in the character of discharge.

Comment 8.56:
Section IX, A.10.e says monitoring reports must go to both the State Board and Regional Board. Section IX, A.10.g says that technical reports on the self monitoring performed go only to the State Board. This confusing to figure out what goes to the State and what goes to the Region. For monitoring conducted by Statewide Coalition, it would make sense for the State Board to conduct all oversight.

Response:
Section IX, A.10.e has been modified to require reports submitted only to the State Water Board.

Comment 8.57:
See insert and deletion for Section IX, B.1. The discharger shall comply with *its individual or a coalition monitoring and reporting plan prepared in accordance with* ~~the MRP, and future revisions thereto, in~~ Attachment C of this General Permit.

Response:
The suggested revision is not necessary.

Comment 8.58:
Since not all of the pesticides currently registered in California are included in this permit due to time constraints for review by board staff, there should be an explicit opportunity to reopen for the addition of additional, currently registered products.

Response:
See Response to Comment 8.02. Staff will re-open the Permit when it is appropriate to do so.

Comment 8.59:
See insert and deletion for Section IX, C.1.d. This General Permit may be re-opened to add receiving water limitations if the monitoring result for residual pesticides ~~specified in Table 3 (Receiving Water Monitoring Trigger) exceed the associated monitoring trigger~~ *indicates non-compliance with the narrative toxicity receiving water limitation.*

Response:
The language has been revised to read: If monitoring data for residual pesticides show exceedance of monitoring triggers, the discharger shall conduct additional investigations to determine the cause of exceedance. At a minimum, the discharger shall evaluate its application methods, BMPs, and the appropriateness of using alternative products. As a result of the evaluation, this General Permit may be re-opened to add numeric Receiving Water Limitations for the residual pesticides exceeding the triggers.

Comment 8.60:
Section IX, C.2. It is clear the residual pesticides listed in Table 3 will exceed their monitoring triggers, although it is just as clear that the doses listed will not significantly impact aquatic life (based on Weston studies), except that it may add to an already toxic environment. To this end the State Water Board should evaluate the purpose of this permit as it relates to minimizing residues from adulticide treatments to control adult mosquitoes as opposed to the constituents found in the waterways from some other sources that are not being regulated. We would propose following the lead of the USEPA Nationwide General Permit to ensure public health is not compromised by performing unnecessary tests.

Response:
See Response to Comment 8.A. Additional investigations will provide information on what changes need to be made to best fit the activities covered by the Permit that will also protect water quality.

Comment 8.61:
Section IX, C.3.a. Here's our general reporting problem; pesticide applications must not exceed label.

Response:
Comment noted.

Comment 8.62:
Section IX, C.3 to C.4. This is an unnecessary duplication of a process currently being administered by the California Department of Public Health. DPH requires an "Adverse Incident" report be filed consistent with the language in this section of the permit.

In addition, any requirements in the referenced sections should be specifically limited to water. Otherwise these seem well beyond authority of SWRCB.

Response:
Reports filed with CDPH are not sent to the State Water Board.

Comment 8.63:
The application of pesticides by vector control districts for the protection of public health done under all applicable labels and regulations will likely exceed the Receiving Water Monitoring Triggers in the permit.

This draft also incorrectly suggests that monitoring triggers equate to toxic concentrations of pesticide residues and evidence of noncompliance with permit conditions.

We suggest that the language regarding Receiving Water Monitoring Triggers be changed in the permit as it gives the impression that any application made to protect public health will violate the NPDES permit and pollute our waterways. There should be specific language that states exceedance does not mean or imply non-compliance with permit conditions. Monitoring triggers only indicate a need for additional investigations to determine if toxicity is associated with vector control applications. See also Response to Comment 8.03, 8.29, 8.30, 8.60, and 8.61.

Response:
See Response to Comment 21.a.

Comment 8.64:
Attachment A, 2nd paragraph. This provision may result in an onerous reporting and investigation process. There needs to be some type of screening of reports of adverse or toxic effects. There are myriad groups or organizations whose agenda is to end public health pesticide use. This provision as written has the potential to inundate the District fictitious reports and overwhelm the District's already stretched resources.

Response:
Comment noted.

Comment 8.65:
The Definition for "Representative Monitoring Location" states that the representative monitoring location is a location within or near the application area. This is misleading to say within or near the application area when in fact most districts who will be referring to the representative monitoring locations will be across the state. I think it should say a representative monitoring location is "characteristic" of the application area(s).

Response:
The definition has been revised. To be considered "representative," at a minimum, a location must be similar in hydrology, pesticide use, and other factors that affect the biological and residual pesticide discharge to the areas being represented in that environmental setting.

Comment 8.66:
What are residual pesticides and how are they identified? See also Comment 7 and 9.

Response:
Attachment A contains a definition for residual pesticides. Also, see Response to Comment 8.07.

Comment 8.67:
Waters of the US definition in Attachment A.

a. The Yolo By-Pass is proposed to flood during certain times of the year for salmonid and/or smelt fish habitat. Will flood bypass channels be defined as a "Water of the US" while it has water, and then not be defined as such when it is dry?

b. Where would rice fields and agricultural drains fall within this definition? These sites comprise a large portion of the District. If they are in fact "Waters of the US" there will likely be severe financial ramifications. If the District were forced into using only larvicides in these areas the associated increased costs may be assessed to the growers at $10 to $50 per acre.

Response:
a. Yes.

b. Per number five of the Waters of the US definition, rice fields and agricultural drains discharges that will flow to a water of the US is also considered a water of the US.

Comment 8.68:
Attachment B, Section I.C. Putting water over human health? Reverse statement is in order. This permit more likely than chemicals we use to adversely affect human health!

Response:
Staff disagrees. If the concern is regarding Receiving Water Monitoring Triggers, see Response to Comment 8.21a.

Comment 8.69:
Attachment B, Section I, D seems remnant from the wastewater permit especially, "operate and maintain all facilities." This language does not apply to vector control activities.

Response:
The provision has been deleted.

Comment 8.70:
Attachment B, Section V, B.2.b. The examples like "plant manager and well field superintendent" do not apply to vector control. Perhaps positions relevant to vector control should be listed as examples.

Response:
The position examples have been deleted.

Comment 8.71:
Attachment B, Section V, C.2. Is this correct? This does not appear to be appropriate for Vector Control.

Response:
The provision has been revised to "monitoring results must be reported on a Self Monitoring Report (SMR) or form as agreed by the Deputy Director and the discharger."

Comment 8.72:
Section V, C.3 4th paragraph. The term "sludge reporting form" should be removed.

Response:
The terms "DMR" and "sludge" were removed.

Comment 8.73:
Page C-2, 2nd paragraph.

a. Add that the Program is designed to "examine or study" (choose one) and address the two key questions shown below.

b. Also in the same paragraph it is good to see the clarification that "the Coalition will act on behalf of the discharger with respect to the monitoring and reporting."

c. Recommend that a matrix be developed to make clear what the individual agency will need to report directly and to who (State, Region, or both) and what the Monitoring Coalition will report.

Response:
a. Unnecessary.

b. Agrees.

c. MVCAC shall coordinate with the coalition to develop such a matrix.

Comment 8.74:
Page C-2, 2nd paragraph. If the discharger elects in its PAP to undertake monitoring and reporting through a coalition, then the coalition will act on behalf of the discharger with respect to monitoring and reporting.

Is this referring to only reporting regarding the 6 adulticide monitoring sites? We are assuming the coalition won't be reporting each District's larviciding activities.

Response:
The minimum number of samples for each active ingredient in each environmental setting, not monitoring sites, is six. The discharger or coalition may use any number of representative monitoring sites for each environmental setting, as they see fit. Coalition reporting is available for adulticide and larvicide applications.

Comment 8.75:
See inserts to the second paragraph in Attachment C. If the discharger elects in its PAP to undertake monitoring and reporting through a coalition, then the coalition will *prepare and implement a monitoring and reporting plan (pursuant to this Attachment C*) *and* act on behalf of the discharger with respect to monitoring and reporting. *Otherwise the discharger will prepare and implement an individual plan.*

Response:
Suggested revision has been made.

Comment 8.76:
"Each Coalition's or individual discharger's PAP must demonstrate how this will be accomplished by including the following information..." This indicates a single PAP will be adopted by the Coalition, correct?

Response:
No, the coalition and each discharger must have a PAP. However, a discharger that is part of a coalition may reference the monitoring plan in the coalition's PAP. That sentence has been deleted.

Comment 8.77:
See inserts to the fifth paragraph in Attachment C. Each Coalition's or individual discharger's *monitoring and reporting plan, which is part of the* PAP, must demonstrate how this will be accomplished by including the following information...

Response:
See Response to Comment 8.76.

Comment 8.78:
See insert to Attachment C. *Except as provided in Section II below,* Monitoring locations shall not be changed without notification to and approval by the State Water Board Deputy Director of the Division of Water Quality.

Response:
The provision has been modified. See Response to Comment 2.09.

Comment 8.79:
Is temephos the only larvicide that qualifies for this section (i.e. monitoring, sampling test species, etc.?) See recommended revisions to text.

a. In Attachment C, Section III.A.1, For dischargers that use the larvicide temephos ~~larvicides~~, each Coalition or discharger shall perform the toxicity testing in conjunction with…

b. In Attacment C, Section IV.C.1, *If a discharger applies the larvicide temephos. then the discharger or Coalition plan* ~~Monitoring locations for larvicides (temephos)~~ must include frequent and routine monitoring *at locations and* on a pre-determined schedule, as summarized in the Table Col below. *For other larvicides, monitoring shall be limited to the first row of Table C-] (Visual)…*

Response:

a. Clarification has been added that specifies only application of active ingredient temephos requires toxicity testing of larvicides.

b. Clarification regarding larvicide chemical and toxicity testing has been added.

Comment 8.80:

Pre-application toxicity testing would be redundant as the Event Monitoring toxicity results trigger additional investigations that may be required.

Response:

Staff has changed toxicity testing monitoring frequency to Background and Post-Event for larvicides. Background monitoring is required to determine if pre-existing toxicity is in the receiving waters. See Response to Comment 1.06.

Comment 8.81:

For toxicity testing sample types, use same language as pg C-7 for background monitoring (up to 24-hours in advance of application). [See also comment #90]

Response:

Staff made recommended revisions.

Comment 8.82:

Watershed Monitoring and Monitoring Requirements. Based on the current permit language and monitoring requirements, this could be generally avoided with an aggressive larviciding program that transfers the cost of control to the landowner through implementation of the Ca Health and Safety Code. This will result in an increase of agricultural costs of more than $50 million dollars statewide and costs to resource agencies (such as Department of Fish and Game) of similar amounts.

Response:

References to watershed monitoring have been deleted.

Comment 8.83:

The permit references "watersheds" and not the statewide coalition. This verbiage can be interpreted to indicate that sampling must be undertaken on a specific watershed basis and not statewide as indicated by the SWRCB staff during all meetings leading up to the creation of the draft permit.

The collaboration on the development of the permit has been with the understanding on both sides that a statewide coalition could be formed to gather the data and test for the products used in mosquito control. It was stated on numerous occasions and understood that applications and sampling could be done in one part of the state that would fulfill the requirement for all members of the coalition. Never was it mentioned that sampling would need to be done based on a "watershed". The reference to "watersheds" is confusing and has the

potential to open the door for civil liability. It seems that this language was taken from the existing aquatic weed permit and does not apply to this current statewide coalition for Vector Control applications. We would recommend that this reference be removed and replaced with a more consistent terminology.

Response:
References to watershed monitoring have been deleted. Language has also been added to the second paragraph of Attachment C to reflect understandings from the collaborations on the development of the Draft Permit.

Comment 8.84:
Regarding the two key questions. Will the 6 Coalition monitoring sites and PAP completely satisfy this requirement?

Response:
See Response to Comment 8.74 regarding six monitoring sites. The completed visual, physical, and chemical monitoring of active ingredients, as specified in Tables C-1 and C-2, will satisfy Question No. 1. Toxicity testing will satisfy Question No. 2.

Comment 8.85:
The PAP states “watershed specific requirements will include follow-up sampling and analyses on exceedances that may be unique for specific pesticides.” This needs to be expanded on. What does it mean? Is it referring to 303(d) listed waters.

Response:
The statement has been deleted.

Comment 8.86:
In Section IV, B, it states "the numbers and locations of the monitoring areas must be sufficient to characterize water quality, based on specific watershed characteristics." I think this should be more generalized because it implies that there may be numerous monitoring areas to capture an adequate 'characterization" of each watershed. It should not be about a unique/specific watershed but rather watershed type or watershed within habitat type.

Response:
See Response to Comment 2.06.Comment 8.87:

As discussed in multiple meetings with State Water Board staff, the monitoring approach agreed upon is to select representative sites where relatively high use occurs, not to conduct monitoring throughout the entire state.

Response:
See Response to Comment 8.83.

Comment 8.88:
Why is language on MVCAC’s Draft Conceptual Monitoring Plan for Mosquito Larvicides and Adulticides written and included? Seems more like a scolding than an official document.

Response:
Language was deleted.

Comment 8.89:
It should be made clear that monitoring requirements in Table C-1 pertain only to temephos, not all larvicides. Suggest changing the title to: “Coalition or Individual Monitoring Requirement for Larvicides Containing Temephos.”

Remove Background Monitoring for Toxicity. Pre application toxicity testing would be redundant as the Event Monitoring toxicity results trigger additional investigations that may be required.

Response:
See Responses to Comments 8.79 and 8.80

Comment 8.90:
In Table C-2 Footnote 6, identifying pesticides to be sampled beforehand should be replaced with “adulticides that are used in any given year shall have appropriate sampling occurrences that meet the objective of this permit”

Remove Background Monitoring for Toxicity. Pre application toxicity testing would be redundant as the Event Monitoring toxicity results trigger additional investigations that may be required.

Response:
The Permit now contains a separate table each for larvicides and adulticides to clarify the schedule of sampling of the active ingredients.

Background Toxicity was not removed. See Response to Comment 1.06.

Comment 8.91:
Many adulticide applications occur based on real-time data (in other words, traps collected and counted at 3:00pm may result in a treatment that evening). A 24 hour reporting requirement before the application is not feasible.

Attachment C, Section V.A.1. The phrase "before the start of the application" is vague. It should be start of the application" is vague. It should be stricken or clarified.

Response:
The requirement has been revised to “…before the start of each application or the earliest feasible time.”

Comment 8.92:
Information required in Annual reports appears to indicate that the six Coalition monitoring sites will need to be repeated annually? Will the annual reports be primarily based on those coalition sites and not the local district?

Response:
The Permit now contains the following language to clarify the sampling requirements for each active ingredient:

“If applying six or more times a year, collect six samples for each environmental setting (agricultural, urban or wetland). If applying less than six times a year, collect a sample during each application for each environmental setting

(agricultural, urban, or wetland). The remaining samples required to meet the minimum of six shall be collected subsequently the following year(s)."

Monitoring data in the Annual report will be based on data collected by the discharger or coalition. Other provisions such as BMPs shall be from individual dischargers.

Comment 8.93:
The Self Monitoring Reports need better explanation. How does this differ from a monthly report or what is reported in the annual report? What would trigger having to do this?

Response:
Monthly reports are submitted on a monthly basis. Self Monitoring Reports are submitted as part of the Annual Report. Attachment C, Section V.B.4 specifies "the Discharger or Coalition shall report the results for all monitoring specified in this Monitoring and Reporting program in the SMR."

Comment 8.94:
"Dischargers or Coalition shall submit the Annual Report in accordance with the following requirements…" This appears to indicate the Coalition sends in a single Annual Report for all of its members.

Response:
The provision has been revised to "Dischargers **and** Coalition…"

Comment 8.95:
Attachment D. In general, for all pesticides listed in Section D, please standardize the USEPA toxicity class. It is not mentioned for all materials.

Response:
Only readily available USEPA toxicity classes on pesticides were included in the Draft or Permit. At this time, staff does not have time to search for the USEPA toxicity class for the remaining pesticides.

Comment 8.96:
"After a brief period of rest, adult females seek of blood meals and the cycle continues" The word "of" should be deleted. There are some formatting issues around the mosquito life cycle picture.

Response:
The second "of" in the sentence has been deleted. Formatting around the picture has been fixed.

Comment 8.97:
"Of those female mosquitoes capable of blood feeding, human blood meals are seldom first or second choices. Horses, cattle, smaller mammals and/or bird are preferred." This sentence could evoke the impression that mosquitoes rarely bite humans and that therefore mosquito control could be reduced in the interest of water quality protection, when in fact most mosquito species will readily bite humans and mosquito borne illness presents a considerable threat to the health and wellbeing of California residents. This should be stated more clearly!

Response:
The sentence has been revised to read “Female mosquitoes, capable of blood feeding, prefer horses, cattle, smaller mammals and/or birds over human blood meals.”

Comment 8.98:
“Due to the potential for toxicity resulting from the synergistic effect of PBO on pyrethroids and the additive effects of larvicide and adulticide products on pesticides that are already in creek sediments or in the water column, this General Permit requires toxicity monitoring of pesticide applications.” This statement seems to be ignoring the real issue, i.e. pesticides already in the waterway.

Response:
See Response to Comment 1.06.

Comment 8.99:
See insert and deletion on page D-18. A few agencies make applications with their own aircraft. The number and extent of *aerial* ~~serial~~ application of larvicides differ among agencies, from only a few times each year, covering a few hundred acres, to more frequent or extensive operations in the Central Valley districts.

Response:
The word “serial” has been replaced with “aerial”

Comment 8.100:
Page D-23. “Treatment, in many cases, may render the pesticide useless for pest control.” Need to make clear that “treatment” refers to treatment of effluent to reduce concentrations. Language is confusing, “treatment” can be interpreted as a mosquito control application.

Response:
See Response to Comment 8.17.

Comment 8.101:
See deletion on Page D-28, 2nd paragraph. The monitoring triggers will be used to ~~assess compliance with the narrative toxicity receiving water limitation and~~ trigger additional investigations for …

Response:
See Response to Comment 8.21.a.

Comment 8.102:
The discussion of pesticides in Section D leads the reader to believe that the information presented is an exhaustive review of the subject; however the information is not complete. For example, studies were presented for only some of the pesticides, a few of these studies were not associated with vector control applications, and additional uses for the pesticides have been reported to DPR that are not discussed in these sections. Information provided by MVCAC on studies specific to ULV applications in CA are not discussed in those sections.

Response:
Comment noted.

Comment 8.103:
See insert on page D-31. 1st and 3rd paragraphs. Temephos is applied *to water* most commonly by helicopter…

Response:
The suggested revision has been added.

Comment 8.104:
See insert to Section VI, B.1.e. Therefore, any possible adverse effects on the critical components of the aquatic ecosystem would be much lower within the water column *than on the surface layer.*

Response:
The suggested revision has been added.

Comment 8.105:
Were all of the cases mentioned in Attachment D, Sections VI, B.2.a.i and ii from exposure from non-applicators/mixers?

Note: Of 36 persons who were exposed at their workplaces, 14 (38.9%) were insecticide applicators, and 22 (61.1%) were performing tasks that did not involve pesticide application (Table I).

Also note: Of the 133 cases of acute insecticide-related illness associated with mosquito control that were identified, two (1.5%) were classified as definite, 25 (18.8%) as probable, and 106 (79.7%) as possible. Of the 49 cases identified in 2001, a total of29 (59.2%) were related to a single event at a softball game in which workers operating a mosquito-control truck inadvertently sprayed 29 persons (16 spectators, 12 players, and one coach) with Fyfanon ULV ® , which contains malathion. This study is available at:
http://www.cdc.gov/mmwr/PDF/wklmm5227.pdf

Response:
Upon review, the cases mentioned are irrelevant to the setting of Receiving Water Monitoring Triggers. Therefore, the cases have been deleted from the Permit.

Comment 8.106:
Naled rapidly breaks down into DDVP, which is the active ingredient for Vapona, a commonly used insecticide in agriculture. The Sutter County Agriculture Department has stated that Vapona is used in almost all fruit, grain and nut processing plants in the County. Last year 550 gallons of Vapona was sold in Sutter County of which only 25 gallons was reported to the Agriculture Department. Vapona and glyphosate are the two most under reported pesticides in the State. Vapona is used in timed misting equipment in these plants on a continuous basis. The large usage of this product, which overlaps our usage pattern, will likely corrupt any water monitoring. This is especially true considering that the trigger for Naled is 14 parts per trillion.

Response:
As a BMP, the discharger may coordinate with the Agriculture Department to use Naled for vector control at times they are not using it. If it is not feasible, Background monitoring can be used to show that added toxicity is not a result of vector control applications.

Comment 8.107:
Table D-3. Summary of Toxicity Data for Pyrethrin. Should not there be references for each of these values? How can we verify/track where these values were derived? Hopefully they were from peer-reviewed, scientific publications or EPA submitted data based on GLP research facilities.

Response:
The paragraph preceding Table D-4 explains the data were obtained from the Ecotoxicity Database, shortened for USEPA's Office of Pesticides' Ecotoxicity Database.

Comment 8.108:
Only resmethrin of the pyrethroid vector products is restricted to public health officials and vector control districts.

Response:
Attachment D, Section VI, B.2.c and B.2.c.ii has been revised to reflect this.

Comment 8.109:
The full references in Tables D-13 and D-14 are not provided.

Response:
Full references have been provided for Table D-13.

Comment 8.110:
Was not it determined that larvicides are not effluents until they have completed their intended function? Residual activity is needed to continue suppression of mosquitoes that will continue to lay eggs in treated waters - as long as there is continued oviposition- the material has not completed its intended function and thus is not considered an effluent.

Response:
Yes, Attachment D, Section VII.A further explains that the exact effluent is unknown, thus, effluent monitoring requirement is not applicable for applications of pesticides for vector control.

Comment 8.111:
See insert and deletion in Attachment D, Section VIII.B.4. This General Permit may be re-opened to add receiving water limitations if the monitoring result for residual pesticides ~~specified in the Table 3 (Receiving Water Monitoring Triggers exceed the associated monitoring trigger~~ *indicates non-compliance with the narrative toxicity receiving water limitation.*

Response:
See Response to Comment 8.59.

Comment 8.112.a:
What mechanism is in place to ensure the timely review and use of public health pesticides that become available?

Response:
See Response to Comment 8.02.

Comment 8.112.b:
Is there any concern from the State Water Board regarding the lack of available tools for public health? Has there been consultation with CDPH regarding the potential lack of public health tools through administration of these regulations?

Response:
Since early 2009, CDPH has been part of the technical committee that addresses permitting issues. Staff will continue to work with CDPH on these issues.

Comment 8.112.c:
It is our understanding that temephos has been voluntarily withdrawn by the registrant, but that existing supplies may be used for the next five years. Does voluntary cancellation of a public health pesticide have an impact on the use within the structure of this permit?

Response:
No, existing supplies of withdrawn pesticides may still be used and are appropriately covered under this General Permit.

9. Comment Letter 9 - National Marine Fisheries Service (NMFS)

Comment 9.01:
NMFS has several concerns with the Draft Permit related to its responsibility to conserve anadromous salmonids and other species listed as threatened or endangered under the Endangered Species Act of 1973 (ESA). In particular, two of the insecticides proposed to be covered by the Draft Permit, malathion and naled, have been determined to jeopardize the continued existence and recovery of all Evolutionary Significant Units (ESUs) or Distinct Population Segments (DPSs) of anadromous salmonids currently under the ESA in California. Malathion was determined to jeopardize all 10 ESUs or DPSs (NMFS 2008) while naled was determined to jeopardize nine of the 10 ESUs or DPSs (NMFS 2010). The ESA consultations that came to these conclusions did consider their use as vector control agents in their examinations.

Response:
This permit does not authorize violation of the Endangered Species Act (Section III.M). Also, see Response to Comment 8.06.

There appear to be areas where the data presented in the Biological Opinions (BiOps) are not applicable to vector control pesticide applications. Water temperatures in shallow, slowly moving, off-channel locations (i.e., worst case exposure scenarios used in the BiOps models) in central California during late May through early October, when adulticide applications may occur, are typically more than 10°C above the lethal temperature limits for salmonids. In addition,

stream beds in these slow water areas typically contain a coating of silt, rendering them largely unsuitable for spawning/rearing of pre-migratory immature salmonids. During summer, salmonids must stay in areas of highly oxygenated cool water – main channels of larger waterways in the Central Valley, where any deposition of pesticide would likely result in short duration exposure to highly diluted pesticides.

Furthermore, the 2008 BiOp (p. 278) lists several combinations of pesticides that are not used for vector control, including combinations of organophosphate (OP) insecticides with pyrethroids, synergists, and organochlorine insecticides. While these combinations may occur in waterways after applications, none of these pesticide combinations is registered for vector control use in California.

Finally, the Receiving Water Monitoring Triggers for malathion and naled are protective of salmonids. For malathion, the 2008 BiOp's lowest NOEC of 21 µg/L that affects fish and LC50 of 0.5 µg/L that affects salmonid prey are higher than the receiving water monitoring trigger of 0.1 µg/L. For naled, the 2010 BiOp listed 0.2 µg/L as the maximum concentration limit for salmonid habitat is also higher than the receiving water monitoring trigger.

Comment 9.02:
NMFS disagrees with the general statement that the pesticide discharges covered therein pose no significant threat to water quality, especially for the OP and pyrethroid classes of insecticides, for pyrethrin and for the two synergists, PBO and MGK-264. The two jeopardy biological opinions for malathion (NMFS 2008) and naled (NMFS 2010) show a significant threat to the RARE and COLD designated beneficial uses where anadromous salmonids are present. CWA Section 303(d) listings of impaired waterbodies for OPs, pyrethroids, and general "pesticides" listings show another significant threat. It is important for the State Water Board to remember that these pesticides are likely to be at least additive to each other in their effects, especially within their own families. Therefore the addition of any OP to a waterbody recognized as impaired by another OP *(e.g.,* diazinon or chlorpyrifos) is adding to the toxicity already present. The addition of a synergist such as PBO or MGK-264 will make the pyrethroids or pyrethrin already present in the water column or sediments more toxic to aquatic life protected under the COLD beneficial use as mention in the draft permit.

Response:
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 9.03:
The premise expressed in the NPDES permit that EPA evaluates data submitted during the registration process to ensure that a product used in accordance with label instructions will cause *no harm or adverse impact to non-target organisms* is incorrect. Under FIFRA, EPA 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 accounts 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 ESA consultations (NMFS 2010, 2009, 2008) that have been completed for pesticide registrations and by numerous other studies and monitoring data readily available for review by the State Water Board.

NMFS acknowledges that the draft vector control permit states that the discharges shall not be permitted that result in toxic pollutants being present in the water column, sediments or biota in toxic concentrations; that any pesticide residues or contaminants are not permitted to cause or contribute to detrimental responses to aquatic life; and that aquatic communities and populations are not permitted to be degraded, except for the target species. However, because the fundamental premise behind the Draft Permit is that the USEPA's registration process is fully protective, NMFS is very concerned that the actions authorized by the Draft Permit will result in take of listed species under NMFS' jurisdiction.

In order to eliminate the potential for take of listed salmonids that the Draft Permit currently presents, NMFS suggests that the OP insecticides be removed from coverage under the permit in any watershed where ESA listed fish may be present. The third OP, temephos, is used as a larvicide that may be applied in areas containing ESA listed anadromous species as well as green sturgeon and Pacific eulachon. The Draft Permit itself recognizes on page D-31 that current mosquito larviciding techniques for temephos pose some risk to non-target aquatic species and the aquatic ecosystem. When the at-risk, non-target species may be ESA listed fish species, this risk is unacceptable and impacts could constitute a violation of the ESA. Therefore, this pesticide cannot be covered with a general permit.

Response:
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 permit would be to follow label instructions. The fundamental premise of the Draft or Permit is water quality protection. That is why it includes narrative effluent and receiving water limitations, a numeric Receiving Water Limitation for malathion (Permit), numeric Receiving Water Monitoring Triggers for the other active ingredients, toxicity testing requirements, and other permit requirements. Staff believes that all these requirements will be protective of the beneficial uses of receiving waters including those described in the BiOps.

Comment 9.04:
The State Water Board should also be aware that there appears to be more data available for temephos than is presented in the draft permit to calculate the receiving water monitoring trigger. The data in the draft permit only considers fish mortality data while data for pink shrimp and the eastern oyster are referenced in the Extension Toxicology Networks Pesticide Information Profiles for temephos (Extoxnet 1996). Additional data point for these two species as well as some nontarget insects are available from a World Health Organization (WHO 2008) report on temephos as well. Given that the Draft Permit states on page D-22 that relevant information and recommendations from other agencies and scientific literature will be utilized, NMFS recommends that the State Water Board procure these references and utilize them to recalculate the receiving water monitoring trigger for temephos. If the pink shrimp data are used as a surrogate species to protect shrimp species found in California, then the lowest LC_{50} is 5.3 µg/L which would become a trigger concentration of 0.53 µg/L using the Draft Permit's methodology.

Response:
Staff will try to get the references cited above and re-open the Permit if appropriate.

Comment 9.05:
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. 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. 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:
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.

   iii. See a.ii above.

Comment 9.06:
The three OP insecticides (malathion, naled, and temephos) proposed for coverage by the Draft Permit will have additive and possibly synergistic effects with all OP and carbamate pesticides already present in the receiving water due to the common mode of action of these chemicals *(i.e.,* acetylcholinesterase inhibition) (NMFS 20 I0). NMFS recommends that these chemicals not be covered by the general permit, but undergo individual permitting evaluations, in waters used by ESA listed fish species managed by NMFS due to its expectation of negative impacts at the USEPA registered application levels. At a minimum, no applications should be permitted that may impact a receiving water body designated as impaired by an OP pesticide.

Response:
Comment noted. Staff agrees with the commenter that no applications should be permitted that may impact a receiving water body designated as impaired by an OP pesticide. The Permit provision which states that it 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 has been revised to include the water bodies impaired by the "class of pesticides" of the active ingredients to account for additive effects of pesticides in the same class such as OPs.

See the Response to Comment 9.03 regarding the comment that malathion, naled, and temephos chemicals should not be covered by the Permit, but undergo individual permitting evaluations, in waters used by ESA listed fish species managed by NMFS.

Comment 9.07:
Pyrethrin and pyrethroids have been shown to have deleterious impacts to fish, their prey species *(i.e.,* aquatic invertebrates), and their habitat quality in various locations and studies around the State, as detailed in the draft order and summarized in the State's CWA 303(d) list (SWRCB 2010) among other sources. The addition of synergists (PBO and/or MGK-264) increases the toxicity of the

pesticides by blocking the enzyme processes in the target and non-target organisms which typically detoxify contaminants. This also increases the toxicity of many compounds found in the receiving water, particularly pyrethroid insecticides which are readily available to the general public for lawn and garden care and are known contaminants throughout the State. NMFS recommends that the use of synergists not be covered in the general permit where waters that support listed salmonids and salmonids. Essential Fish Habitat may be impacted. At a minimum, the use of synergists should not be permitted where they may affect waters that are CWA 303(d) listed for pesticide or unknown toxicity impacts.

Response:
Staff agrees with the commenter that no applications should be permitted that may impact a receiving water body designated as impaired by pyrethrins and pyrethroids. See Response to Comment 9.03 and 9.06.

Comment 9.08:
Most of the pyrethroids permitted under the draft vector permit do not have sufficient data available to calculate water quality criteria. This is why the State Water Board is using the monitoring trigger method set at one-tenth of the lowest known LC50 from the Ecotoxicity Database. However, this does not ensure that the trigger level is actually protective from sublethal *(e.g.,* acetylcholinesterase inhibition) or indirect *(e.g.,* prey base) effects. This means that the allowable concentrations may affect listed species. NMFS recommends that the State Water Board compel dischargers to generate, or cause to be generated, sufficient information for the State (through California Department of Fish and Game presumably) to establish water quality criteria for the active ingredients, both alone and in combination with permitted synergists. The State Water Board should then adopt the water quality criteria so that they appear in the Regional Boards' basin plans.

Response:
Comment noted. The Draft or Permit does require dischargers to conduct monitoring for the active ingredients and synergists. Monitoring results will be used to determine if receiving water limitations are needed; the Permit may be reopened to add receiving water limitations. The State Water Board would develop water quality objectives for these constituents when sufficient data become available.

Comment 9.09:
While NMFS strongly supports receiving water toxicity testing requirements as part of the vector control permit, the monitoring scheme for adulticides in the permit only calls for a receiving water sample. Requiring only a receiving water sample 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 in a waterbody where pyrethroids may remain for longer periods of time. The organisms in the sediment are also protected by the COLD beneficial use, and are a critical part of designated critical habitat for ESA listed fish as well as the EFH designations. Significant impacts to the benthic prey base will lead to indirect impacts to ESA listed fish, as detailed in NMFS

biological opinions (NMFS 2010, 2008). NMFS recommends that toxicity testing of both the water column and sediments be required as part of the vector control permit. This will give the State confidence that the permitted actions are protective of beneficial uses. Otherwise, the State is putting a system in place that is likely to generate false negative pesticide impact reports.

Response:
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 and pyrethroids to contaminate the sediments.

Comment 9.10:
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. The literature cited in the draft vector control permit makes it clear that the insecticides are likely to rapidly partition into the sediments (no detections in the water column as soon as ten hours following application) making detection of the chemicals in the water column unlikely even after they may have impacted beneficial uses.

Response:
The study did not collect samples within 10 hours after application. Therefore, staff cannot conclude that any detection of pyrethrin would have been made. Monitoring for pyrethroids and pyrethrin are expected to be conducted immediately but no more than 24 hours following the application. Staff believes that the current timing requirement is sufficient for monitoring.

Comment 9.11:
NMFS strongly supports the requirement for dischargers to use BMPs including the selection of non-toxic and less toxic alternatives. NMFS recommends that the State Water Board explicitly state that buffer zones are a potential BMP while existing stockpiles of chemicals cannot be considered as an over-riding factor in

material selection. NMFS suggests clarifying the term "cost-effective" in much more detail. Otherwise this is an open door for a discharger to claim that it is not cost-effective or feasible to purchase or use the lowest impact chemicals.

Response:
See Response to Comment 9.05 regarding buffer zones. Revision of the paragraph containing “cost-effective” resulted in removal of the term. Thus, clarification is no longer needed.

Comment 9.12:
NMFS also supports the preparation of a pesticide application plan as a useful tool in preventing unnecessary impacts from vector control. NMFS recommends that the State Water Board require 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:
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 9.13:
NMFS thank the State Water Board for its efforts to protect water quality in the State of California. We acknowledge that this, and other similar, general NPDES permits for pesticide use are being developed on an accelerated timeline in response to legal actions. However, there is sufficient time left in this process to eliminate many of the problems of the draft vector control permit, particularly in regards to protecting ESA listed anadromous fish. The simplest option is to not permit the use of the most problematic chemicals through this general permit, 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. In the meantime, actions to protect ESA listed species for the problematic chemicals can be worked out in a cooperative manner.

Please note that this letter does not grant coverage for take under the ESA or alleviate the need for the federal oversight agency (i. *e.,* EPA) to conduct ESA and EFH consultations to seek incidental take coverage. It does serve as notice that NMFS is concerned that the permit may have detrimental effects on Federally listed species or critical habitat that are more than minor, including circumstances where the discharge fails to ensure the protection and propagation of fish, shellfish and wildlife.

Response:
Staff appreciates the support for our effort to protect water quality. Staff has responded to the concerns specifically identified in further detail in the commenter's submission.

10. Comment Letter 10 - Orange County Water District

Comment 10.01:
Portions of the Draft Permit as written are confusing and ambiguous. It is difficult to understand, for example:

a. which of the permit requirements apply to all the pesticides listed in Section II.A and which apply only to 'residual pesticides of control',

b. what elements constitute a complete Pesticide Application Plan, and

c. who is responsible for satisfying the requirements set forth in the Monitoring and Reporting Program.

Response:

a. Staff is assuming that the Commenter means 'residual pesticide of concern' instead of 'residual pesticide of control.' For residual pesticides of concern listed in Table 3, all permit requirements and provisions apply. For covered residual pesticides not listed in Table 3, all permit requirements and provisions apply, except for Receiving Water Monitoring Triggers (Section II.H and Table 3), Special Studies, Technical Reports, and Additional Monitoring Requirements (Section IX.C.2), and chemical testing of active ingredient and toxicity testing (detailed in Tables C-1 and C-2). Clarification regarding chemical and toxicity testing has been added to Attachment C, Section IV.C.1 and 2.

b. A complete PAP should include all of the elements listed in Section VIII.C.

c. The discharger is responsible for satisfying the requirements set forth in the Monitoring and Reporting Program.

Comment 10.02:
The Draft Permit applies both to entities that apply vector control chemicals individually and also to vector control districts acting as a coalition. In some cases, the permit language appears to direct and/or require actions of a coalition of vector control districts rather than individual entities but the permit language does not state this directly. Please clarify if certain of the monitoring programs or other permit provisions are intended to be carried out by a coalition and not by individual entities that are not part of a coalition.

Response:
Unless stated otherwise, coalition and individual dischargers have the same permit requirements and monitoring provisions. For example, Attachment C states that dischargers who elect to undertake monitoring and reporting through a coalition should reference and attach the coalition's monitoring plan to their PAP.

Comment 10.03:
Implementing the monitoring program as described in Attachment C for an occasional pesticide application would be resource intensive and costly to implement, especially to conduct toxicity testing. Collection of a minimum of six samples per year for a once a year pesticide application as required by the monitoring protocols in Table C-1 and C-2 would be neither reasonable nor effective.

Response:
Staff agrees that collection of six samples per year for a once a year pesticide application should not be warranted. Staff has changed the language in Tables C-1 and C-2 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). ” See Response to Comment 2.08.

Comment 10.04:
The General Permit regulates the point source discharge of pesticide residues from direct and spray applications for vector control. Section II.A lists the vector control larvicides and adulticides that are regulated under this General Permit. However, Section II. H. sets Receiving Water Monitoring Triggers and Instantaneous Maximum Receiving Water Monitoring Triggers only for "residual pesticides of concern." Although the term "residual pesticides of concern" is not defined in the permit, it seems that these pesticides are limited to those listed in Table 3 on page 14 (adulticides and one larvicide- temephos). Please clarify in the permit language that this is a correct interpretation of the intent of the General Permit. Please state definitively which sections of the permit apply to all pesticide applications and which are limited to applications of "residual pesticides of concern".

Response:
The interpretation of ‘residual pesticides of concern’ is correct. Staff believes that Section III.H of the Permit has clarified the interpretation. See Response to Comment 10.01.

Comment 10.05:
Section VIII.C lists the elements that must be included in a Pesticide Application Plan (PAP). This appears to be a complete list of elements. However, the Monitoring and Reporting Program (MRP) in Attachment C seems to require additional elements that would be required in order to answer the two questions listed in Attachment C. For an individual pesticide applicator to determine whether a pesticide residue including inert ingredients and breakdown byproducts causes or contributes to an exceedance of the "no toxics in toxic amount" narrative toxicity objective is onerous and perhaps impossible to determine. Is the intent of the MRP to set the long-term monitoring objectives of a vector control coalition rather than for each individual discharger? If this is the case, please clarify the language in this section.

Response:
Question 2 of the Draft Permit applies to coalitions and individual dischargers and is expected to be answered through toxicity testing. See Response to Comment 2.01.

Comment 10.06:
Section VIII.D. Describes BMPs that "the discharger shall develop." This appears to apply to all dischargers; however, the language in this section seems to be directed at vector control agencies acting as a coalition. Subsection 0.1. lists requirements for "each vector management unit" although this term is not defined in the permit. One of the requirements, to establish densities for larval and adult vector populations, would be reasonable for a vector control district but not for an individual, occasional applicator.

Response:
The BMPs described in Section VIII.D apply to both coalition and individual dischargers. Staff believes that an individual, occasional applicator can still establish the density of larval and adult vector populations in the area. For example, an observation of 50 adult mosquitoes and 2 larval concentrations populate an area of two acres would constitute a density. See Response to Comment 8.37.

Comment 10.07:
It is not clear if the MRP is required for all pesticide applications covered by the General Permit or only for those "residual pesticides of concern." It appears from the language in the General Permit that the intention is for the MRP to apply only to the "residual pesticides of concern" and, therefore, applications of larvicides, with the exception of temephos, are not required to satisfy the provisions in the MRP. If only temephos and adulticides have specified monitoring requirements in Attachment C, Section IV.C., please explicitly state so in the permit language.

Response:
The MRP applies to all pesticide applications covered by the General Permit. However, chemical testing of active ingredient and toxicity testing (Tables C-1 and C-2) in conjunction with the active ingredient chemical testing are required only for “residual pesticides of concern.” See Response to Comment 10.01.

Comment 10.08:
Attachment C Section IV.C.1. states that "monitoring locations for larvicides (temephos) must include ... " The meaning of this sentence is not clear. Does this requirement apply to all larvicides or just to temephos? In Table C-1, footnote 6 states that the active ingredient required to be tested is temephos. If the intent of the permit as directed in Table C-1 is to apply only to those products containing temephos, the language should clearly state this to be the case.

Response:
The sentence is intended for all larvicides. Staff removed “temephos” from the sentence. However, chemical testing of the active ingredient and toxicity testing is required only for temephos for larvicide applications. The remaining parts of Table C-1, which are visual, physical, and chemical testing for dissolved oxygen,

apply to all applications of pesticides covered under the General Permit. See Response to Comment 10.01.

Comment 10.09:
The General Permit contains a list of pesticides covered under this permit. How will a chemical that is not listed in Attachment E be regulated?

Response:
A chemical not listed in Attachment E is not covered under this General Permit. See Response to Comment 8.02. The discharger is responsible for uses of products not covered under this General Permit.

11. Comment Letter 11 - Environmental Groups

Comment 11.01:
We commend the State Water Board for requiring an analysis of alternatives to pesticides applications, but urge the agency to strengthen those requirements. These requirements do not go far enough in protecting our state's waterways. As the Board concedes; traditional "end-of-pipe" treatment is not a practicable option for controlling the well-documented impacts of pesticide use. And yet, the Draft Permit contains *no* strict mandate to *reduce or eliminate* pesticide use, to choose the *least harmful alternative, or,* where pesticide use is unavoidable, to use *lowest effective amount.* We would like to see the permit strengthened in all of these regards. 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 USEPA to develop guidelines as to what management practices are truly the "best" at reducing environmental impacts.

Response:
Staff has revised Section IX.A.8 of the Permit to require evaluation of alternatives to pesticide use and the use of least toxic pesticides if there are no alternatives to their use.

Comment 11.02:
Strengthen protections for water bodies that are already degraded, that may serve as supplies for 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.

This requirement is too narrowly drawn. As the Board has noted elsewhere, over one-quarter of the state's waters are already impaired - that is, are *not* meeting applicable water quality standards - for "pesticide-related" constituents. But the Board rarely (if ever) specifies the *active ingredient* causing such impairment, and some waters may be even *more* severely impaired by so-called "inert"

ingredients. To close this loophole, 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 (such as mercury or low dissolved oxygen). 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.

Response:
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 will not cause or add toxicity in the receiving water.

Comment 11.03:
The Draft Permit contains no special considerations for pesticide applications directly into drinking water sources or indirectly into aquifers that feed drinking wells.

Many California residents do not draw drinking water from a municipal water system, but drink water from wells and springs. When pesticide discharges have the potential to impact sources of drinking water, the Board should impose further limitations on pesticide use, if not an outright ban. At the very least, such discharges should be allowed only pursuant to an individual NPDES permit, which can better account for the specific risks presented. Attachment p. 10 (Comment 5).

Response:
See Response to 11.02.

Comment 11.04:
The Draft 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 Draft 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:
See Response to Comment 11.02.

Comment 11.05:
Strengthen site monitoring requirements. Although we applaud the State Water Board for requiring in-stream monitoring and providing for toxicity triggers, we urge that this program be expanded.

The Draft Permit requires in-stream monitoring for active pesticide ingredients and toxicity indicators, both before and after the application occurs. This monitoring need be done only six times per year, however, at intervals to be determined by the discharger.

The State Water Board should require water quality monitoring before and after *each and every* pesticide application. Especially since the State Water Board is establishing *no* numeric effluent limits for pesticide discharges, post-application monitoring will be crucial in guaranteeing that pesticide use does not contribute to environmental degradation.

Response:
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 Draft or 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, it can be concluded that areas that receive fewer applications would also show no exceedance of receiving water limitations. If the most-heavily applied locations show 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, BMPs, 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, BMPs, or consider alternatives to the pesticide. The discharger will continue to monitor for toxicity each time a new application method is used, a BMP is changed, or an alternative product is used.

Comment 11.06:
Strengthen the right-to-know and public engagement opportunities in the Draft Permit. 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 State Water 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. Discharge monitoring reports need only be submitted on an annual basis.

A well-informed public is an indispensable ally in the fight against water pollution. 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. Likewise, after a

discharge occurs, the Board should make available on its website all data submitted pursuant to the permit's monitoring provisions. Concerned residents shouldn't have to wait an entire year to see monitoring data relating to potentially toxic discharges in their neighborhoods - as with most other NPDES permits, these data should be submitted monthly for periods in which any pesticide discharge occurs.

Response:
See Responses to Comments 2.09 and 3.04.

12. Comment Letter 12 – San Francisco Bay Keeper

Comment 12.01:
The Draft Permit should enumerate additional provisions enabling full public review and enforcement of least toxic alternatives. Monitoring reports generated under the draft Permit should be made available to the public for review, just as DMRs are required to be. See 33 U.S.C. § 13l8(b).

Response:
Except for confidential statements of formulations which are submitted to DPR during pesticide product registrations, all information on the permit is public information.

Comment 12.02:
Because private choices made by local decision-makers through the PAP will primarily dictate the resulting discharge of pesticides into California's waters, it is essential that they are at least informed by public comment and agency review.

Response:
See Response to Comment 2.09.

Comment 12.03:
Discharger contact information, including phone number, should be required to be posted and available to the public especially if there is no prior notice or public knowledge about a given pesticide event for the public to know to ask for a specific discharger's information.

Response:
See Response to Comment 3.04.

Comment 12.04:
BMPs should be constantly monitored, and where possible, the SWRCB should implement random testing for pesticide residue, and BMP implementation.

Response:
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.

Comment 12.05:
The PAP should be included with the NOI and made available for public review prior to pesticide application to help enable citizen oversight and enforcement of

the PAP's requirements. These reports should be submitted electronically along with a NOI, and made electronically available for public review and oversight.

Only the PAP contains the specific technology-based effluent limitations for pesticide applications, and the PAP therefore must be included as part of the permit for public review and comment. See Waterkeeper Alliance, Inc. v. EPA, 399 F.3d 486 (2nd Cir. 2005).

Response:
See Response to Comment 2.09.

Comment 12.06:
If dischargers are required to use the CIWQS system, the State Water Board should make it public so that citizens can check and see when and where pesticide spraying is happening.

Response:
See Response to Comment 12.01

Comment 12.07:
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. Furthermore, any documents that dischargers are required to produce and retain should be available for public review pursuant to 33 U.S.C. § l318(b).

Response:
The Draft or Permit proposes to implement Section 122.41(j)(2) of 40 CFR which requires discharger to retain records of all monitoring information for a minimum of three years.

Comment 12.08:
The Draft Permit should require a spill of 10 pounds or more to be immediately reported.

Response:
More support is needed for why 10 pounds would require immediate reporting. Section VIII.D.3 requires spills to be reported to the proper authority and staff to be trained in handing of spills.

Comment 12.09:
The Draft Permit should provide better guidance and oversight for implementing minimization and avoidance measures. The SWRCB should provide a sample or template PAP that includes a general checklist of discharge limitations and enumerates the specific standards the SWRCB will employ to review the PAP analysis. As it currently stands, the open-ended format of the PAP invites confusion for the discharger, the public, and the State Board. When exercising their considerable discretion in drafting a PAP, dischargers need to know the requirements for minimizing discharges foremost, and then need additional guidance as to how to best reduce discharges. Without clear guidance, consistency in minimizing discharges is less likely to occur, and the ability for public and governmental oversight is lost.

Response:
Comment noted. A complete PAP will contain all elements outlined in Section VIII.C. The BMPs outlined in Section VIII.D offer some guidance on reducing the use of pesticides.

Comment 12.10:
The Draft Permit requires, "The discharger shall update the PAP periodically and submit the revised PAP to the State Water Board for approval if there are any changes to the original PAP." However a requirement to update the PAP "periodically" gives no guidance or incentive to the discharger when to update the PAP, if ever. Rather, the SWRCB should require updates to the PAP annually, or specify a regular time interval when PAPs must be updated in addition to the Annual reports requirement. Given the information already required to be in an annual report, PAPs should also be reviewed using the annual report information, for example, to analyze specific monitoring locations, application factors, evolving water quality standards, and changing protections under the ESA.

Response:
See Response to Comment 2.09.

Comment 12.11:
It is imperative to know which exact pesticide name and ingredients are applied, as their chemical composition, persistence (see e.g., draft Permit, Tables D-13 and D-14, Persistence of Vector Adulticides and Larvicides Active Ingredients), and potential for synergistic mixing varies substantially and raises the risk for receiving waters. Therefore, it is insufficient for dischargers to list the "types" of pesticides used in their PAP. Rather, as complete and accurate a list of pesticides used and expected to be used is required to ensure that a receiving water limitation is not violated. For example, in the context of reporting non-compliance in a Five-Day Written Report, the Draft Permit requires, among other things, (vi) "Pesticide application rate, intended use site (e.g., banks, above, or direct to water), method of application, and name of pesticide product, description of pesticide ingredients, and USEPA registration number." Specific information such as this should be required for the PAP as well. Also note that the five day written report should still be required regardless whether an oral report was received within 24 hours. The Draft Permit suggests that the "State Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours." Yet no criteria for determining a waiver is provided in the draft Permit, leaving room for abuse of discretion, lack of reviewability, and in the case of adverse incidents written documentation is desirable and necessary for the public to determine whether the discharger is in compliance.

Response:
Staff has revised the requirement in Section VIII.C.3 to “pesticide products or types expected to be used.” The approximate amount of the product is also required in the PAP (Section VIII.C.6). Specific information cannot be included in the PAP since infestations are unpredictable and precise monitoring locations may not be available until after surveillance. The Permit no longer contains the waiver language.

Comment 12.12
The Draft Permit leaves too much uncertainty as to what specific technologies will be required. The Draft Permit fails to specify or designate which practices are considered BMPs/ favoring "flexibility" instead in the development of BMPs that will allow "dischargers to implement appropriate BMPs for different types of applications and different types of waters." Thus, neither the Permit nor the Fact Sheet actually describes the particular management technologies that will control each applicator's discharges. While "flexibility" is desirable in order to tailor BMPs to individual circumstances, it does not preclude the SWRCB from providing demonstrative examples of applicable BMPs, pinpointing where approved BMPs can be found in the vector control context, and giving additional guidance as to what methodologies are least intrusive. In the alternative, the State Water Board could revise the Draft Permit to include prescribed categories of BAT/BCT for each similar use pattern: urban, agricultural, and wetlands. While the Draft Permit does specifically enumerate a few criteria for dischargers to evaluate and choose between BMPs, the draft Permit needs additional guidance as to what some specific criteria require, such as guidelines to help the discharger establish densities for larval and adult vector populations to serve as action threshold(s) for implementing pest management strategies. The draft Permit should also further discuss various methods of pesticide application, e.g., Draft Permit at D-16-19, and attempt to categorize these generally according to the least intrusive method.

The development and implementation of site-specific control measures or BMPs in the PAP is the only place where the best available and practicable technologies will be selected and required to reduce or eliminate pesticide discharge, and thus, its requirements must also be enforceable as a limitation in the Permit. See Waterkeeper Alliance, Inc. v. EPA, 399 F3d 486 (2nd Cir. 2005).

Response:
Comment noted. Staff barely had time to draft the permit, but will attempt to develop BMP guidelines during permit implementation.

Comment 12.13:
The Draft Permit should require clear and enforceable standards for individual monitoring**.** The Draft Permit should require individual monitoring by dischargers, in order to provide meaningful data with which to review each individual discharger's compliance with permit requirements and water quality standards. Federal law requires that all NPDES permits specify "[r]equired monitoring including type, intervals, and frequency sufficient to yield data which are representative of the monitored activity." 40 C.F.R. § 122.48(b). However, the draft Monitoring and Reporting Program "encourages dischargers to form monitoring coalitions with others doing similar applications within a given watershed or doing applications of similar use patterns (urban, agricultural, and wetlands). If the discharger elects in its PAP to undertake monitoring and reporting through a Coalition, then the Coalition will act on behalf of the discharger with respect to monitoring and reporting." At 36. The permit should not substitute group monitoring for individual monitoring, because if an individual discharger elects monitoring through somebody else in a Coalition, that

discharger is removed from the active practice of monitoring the effects of its own pesticide applications and has no incentive to update or evaluate least toxic alternatives. It is unclear how or whether individual liability could result from Coalition monitoring that uncovers an exceedance of water quality standards.

Response:
The Draft or Permit's MRP is written to gather data on pesticide products, applications methods, and BMPs to determine compliance with narrative effluent and receiving water limitations, a numeric receiving water limitation and Receiving Water Monitoring Triggers, and other permit requirements. Although they are doing similar applications in a given watershed or use pattern, coalitions are encouraged to select monitoring locations with the worst-case scenario (e.g. most heavily applied) in each representative area to determine pesticide applications effects. If the worst case scenario exceeds Receiving Water Monitoring Triggers, the coalition shall submit more information (Section IX.C.2), which may require the discharger of the monitoring location and other dischargers to evaluate their BMPs and pesticide application procedures.

At minimum, the discharger shall evaluate its application methods, BMPs, and the appropriateness of using alternative products. As a result of the evaluation, this General Permit may be re-opened to add numeric Receiving Water Limitations for the residual pesticides exceeding the triggers.

Comment 12.14:
The draft Permit's requirement for Post-Event Monitoring should be required in all instances by the individual discharger. Post-application monitoring needs to be required in order to evaluate the efficacy of the control measure, and to ascertain whether the application resulted in an "adverse incident." Operators are rightfully required to conduct monitoring before, during and after the pesticide application to ensure that non-target aquatic organisms are not adversely affected by the pesticide. The Permit should further define the "within one week" post-event monitoring requirement. For example, the Permit could require monitoring within 24 hours of an application, monitoring the area for adverse affects, including death of any non-target organisms. In addition, within 2 to 5 days of the application, the Permit could require dischargers to return to the application area in order to evaluate the efficacy of the application and again visually inspect for non-target organisms adversely affected as a result of the pesticide application. The Permit should further articulate applicable requirements wherever possible.

The draft Permit undercuts its own monitoring requirements, stating that the "State Water Board Deputy Director of the Division of Water Quality [may] approve reductions in monitoring frequencies if the discharger makes a request and the request is backed by statistical trends of monitoring data submitted." Draft Permit at 19. 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:
See Response to Comment 11.05.

Comment 12.15:
The Permit should be updated regularly as better information on active and inert ingredients is gathered. While true that the Permit can be re-opened and additional ingredients of concern can be added, the receiving water may be subject to a barrage of chemicals not listed on Table 3, and therefore an applicable water quality standard could be violated yet escape detection merely because a relevant ingredient was not informally deemed "of concern" by the CDPH and MVCAC, which has an interest in limiting the scope of pesticide regulations. Therefore, it is imperative that the SWRCB continue to update the monitoring triggers and add additional ingredients as soon as practical to protect navigable waters as required under the CWA. Pursuant to 40 C.F.R. § l22.44(d)(1)(i), NPDES permits must contain limits that control all pollutants that "are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard, including state narrative criteria for water quality."

The draft Permit's monitoring requirements should be re-written to provide for the gathering of the maximum water quality data possible, requiring both Coalition and Individual monitoring, sufficient to determine whether applicable water quality standards are met, and whether adverse impacts are occurring from the maximum number of pesticide ingredients that the SWRCB can incorporate.

Response:
Comment noted. Staff will continue to update the Receiving Water Monitoring Triggers and Limitations and add additional ingredients as soon as practical. See Response to Comment 12.14 in regards to the monitoring program.

Comment 12.16:
The draft Permit should provide more information on water quality standards. The draft instructions for filling out the NOI, Attachment G, should disclose the water quality standard of affected water bodies and whether any of the waters are impaired by pesticides by including an internet hyperlink to the SWRCB's Section 303(d) list webpage. The draft Permit already provides this website link at several places in the Permit. Also, the draft NOI Instructions already include a hyperlink to a map on the State Board's website illustrating regional boundaries, at G-5, and therefore, the NOI could easily include additional informative hyperlinks to applicable water quality standards, such as any relevant ESA restrictions, as discussed below.

Response:
Staff has added the hyperlinks to NMFS, NOAA, and the U.S. Fish & Wildlife Service for the federal list of endangered species to the NOI. Staff has also added a hyperlink to the Section 303(d) List.

Comment 12.17:
Under Section IV, "Discharge Prohibitions," the draft Permit states that, "[t]he discharge of residual pesticides from larvicide and adulticide applications for vector control shall not cause, have a reasonable potential to cause, or contribute to an in-stream excursion above any applicable standard or criterion promulgated by USEPA pursuant to Section 303 of the CWA, or water quality objective

adopted by the State or Regional Water Boards." At 13.9 Unfortunately, the draft Permit does not specifically enumerate all "applicable water quality objectives" adopted by the State or Regional Water Boards and what they each require in a matrix format.[10]

Response:
The Vector Control Permit is a general permit that applies to waters statewide; thus, it is impracticable to list all of the water quality objectives (WQOs) that are provided in the Water Boards' Water Quality Control Boards in their Water Quality Control Plans (Basin Plans) into the permit.

Comment 12.18:
Under 40 C.F.R. 13 I. 12(a)(2), when a discharger proposes to discharge a pesticide into a Tier 2 or higher water body, or state equivalent, the discharger should conduct an anti-degradation review to ensure compliance with the use designation. However, the draft Permit attempts to meet this requirement with the circular argument that,

> The Regional Water Board's Basin Plans implement, and incorporate by reference, both the state and federal antidegradation policies. 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. While receiving waters may be temporarily degraded; water quality standards and objectives will not be exceeded. The nature of pesticides is to be toxic in order to protect human health. However, compliance with receiving water limitations is required. Therefore, this General Permit is consistent with State and federal antidegradation policies. Draft Permit at 12.

Here, the draft Permit makes the unfounded assumption that water quality standards and objectives will not be exceeded, when the Permit does not provide a complete list of all applicable water quality standards and objectives and what they specifically require the discharger to do in the first place. Instead, the draft Permit should conduct a review of existing areas and existing practices where the potential exists for this permit to result in a degradation of water quality standards.

Response:
See Response to Comment 12.17. Due to time constraints and available resources, a review of existing areas and existing practices where potential exists to result in degradation of water quality standards is not possible. This cycle of the MRP is designed to collect data on vector control applications' impacts on water quality.

Comment 12.19:
The draft Permit should provide greater guidance and protections for endangered species. The NOI should provide a hyperlink that allows dischargers to access applicable updates under the ESA.

a. The Permit should explicitly prohibit discharges of pesticides in areas where it could adversely affect listed species, as it similarly prohibits discharges into Section 303(d) impaired water bodies.

b. The NOI instructions could include a hyperlink to a web map showing areas where pesticide discharges could adversely affect listed species.

c. The NOI could provide additional hyperlinks showing which species are listed, and requirements to obtain an ESA Section 10 "take permit," 16 U.S.C.§ 1539.

d. SWRCB should identify any pesticides known to be hazardous to a protected species in consultation with the EPA and Fish & Wildlife Services.

e. In the case of the San Francisco Bay, the permit should reference provisions of the recent pesticide use Injunction issued by the U.S. District Court, N.D., in May 2010,14 under which the EPA must develop and distribute a brochure detailing new interim pesticide use restrictions. The brochure lists all pesticide use restrictions required, mostly buffers, in the 8 counties covered by the Injunction. The Injunction requires interim restrictions on use of the pesticides until EPA completes its required analysis under two separate deadlines in 2012 and 2014. The CBD lawsuit was based on scientific evidence demonstrating potential harm to specific Bay Area wildlife from the specific pesticides evaluated, and demonstrates how the ESA may impose additional requirements. The draft Permit or NOI form should include a hyperlink to the EPA brochure or web-based interactive map.

Response:

a. See Section III.M of the Permit.

b. See Response to Comment 12.16. Staff believes the provided hyperlinks are sufficient.

c. It is the discharger's responsibility to seek and obtain other required permits.

d. Staff believes that providing coverage for approved pesticides with Receiving Water Monitoring Triggers is sufficient.

e. Staff cannot find the requested information and will add them when obtained.