

Conformed Response to February 18, 2011 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 Meeting**

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A. Comment Letters Received

Letter Number	Affiliation	Representative
1	California Department of Public Health	Vicki Kramer
2	City of Los Angeles Department of Water and Power	Katherine Rubin
3	Mosquito and Vector Control Association of California	Catherine Smith
4	Californians for Pesticide Reform Environment California Health and Habitat Mothers of Marin Against the Spray Pesticide Action Network of North America Pesticide Free Zone Pesticide Watch Education Fund Safe Alternatives to Pesticides Safety Without Added Toxins (SWAT) San Francisco Baykeeper Stop the Spray East Bay	David Chatfield Dan Jacobsen Sandy Ross Debbie Freidman Katherine Gilje Ginger Souders-Mason Paul S. Towers Nancy Jamello Karen Laslo Jason Flanders Nan Wishner

B. Responses to Comments

General Comment

Staff revised the responses to the comments below to include staff's responses to the State Water Board members' questions at the March 1, 2011 Board meeting, and to make the responses consistent with the adopted permit,

1. Comment Letter 1 – California Department of Public Health

Comment 1.01:

Permit Section: II.C. Given these added review requirements and delays in permit adoption, Vector-Borne Disease Section (VBDS) is concerned that public health pesticide applications by vector control agencies will not be appropriately covered by the implementation deadline on April 9, 2011. Early season vector control operations will be underway in many parts of the state by April, and some areas have year-round mosquito control needs. We also note that a survey of permit status in 22 states indicated all states, with the exception of Oregon and Washington, plan to provide immediate or much more rapid coverage under their vector control permits. At least six states, and the national NPDES vector permit draft, have provisions for emergency situations (i.e., no delay for response). We request SWRCB expedite the initial vector control permit approvals to prevent a lapse in public health pesticide applications and also request additional language to expedite permit processing and coverage during emergency conditions.

Response:

The NPDES regulations do not have provisions for emergency situations. Section 124.10(b) of Title 40 of the Code of Federal Regulations requires 30 days for the public to comment on a draft permit. Unless the regulations change, the Water Boards have to comply with this requirement. In addition, *Waterkeeper Alliance, Inc. v. EPA*, the Second Circuit Court of Appeals found that the terms of the nutrient management plans (NMPs) for confined animal feeding operations (CAFOs) are "effluent limitations" as that term is defined in the Clean Water Act (CWA) and, therefore, must be made part of the permit. In addition, the Court found that by not making the NMPs part of the permit and available to the public, USEPA's CAFO rule violated public participation requirements in CWA sections 101(e) and 402. Similarly, we have to post NOIs and pesticide application plans (PAPs) for the Vector Control Permit on our website to comply with the public participation requirements of CWA.

Regarding expedited approvals, the Vector Control Permit i became effective on March 1, 2011. Upon receipt of NOIs and PAPs, staff will post them on the State Water Board's website for the 30-day comment period and simultaneously review them during the comment period. Section VIII.D of the Permit states, "During March and April 2011, upon receipt of a PAP, the Deputy Director will issue a Provisional NOA within 3 working days. Upon receipt of a Provisional NOA, a discharger may commence discharges in compliance with this General Permit for up to 40 days, until issuance of a final NOA."

Comment 1.02:

Permit Sections VIII.B. and C.14. Not all vector control agencies maintain websites, particularly small and financially constrained districts. We request these annual requirements be changed to “provide public notice.”

Response:

Staff added “if the Discharger has a website” to the requirement as follows: Every calendar year, prior to the first application of pesticides, the Discharger shall notify potentially affected governmental agencies and, if the Discharger has a website, post the notification at its website.

Comment 1.03:

Permit Section VIII.C.8. It is not clear what is meant by “If applicable.” We do not believe this requirement is applicable to vector control, nor feasible in many cases such as when agency jurisdiction (i.e., potential treatment area) is large (e.g., county-wide or more). Recommend deleting this requirement.

Response:

Staff concurs and has deleted the provision.

Comment 1.04:

Permit Section VIII.C.9. Specific to item “b,” the requirement is unclear. We assume the statement refers specifically to pesticides, but minimum and consistent are relative terms and not necessarily desirable for effective vector control (see pesticide label requirements) or minimizing total pesticide use. Minimizing pesticide use is inherent in the implementation of BMPs, so the intended effect is redundant and the statement should be deleted. Specific to item “c”, this requirement is overly broad and potentially duplicative of CDPR and CDPH responsibilities. It should be revised to read “...on any potential adverse effects *to waters of the U.S.* from the pesticide application.”

Response:

Staff concurs that minimizing pesticide use is inherent in the implementation of BMPs. However, Section VIII.C.9.b requires that the measures to accomplish this BMP be specified and should be retained in the permit. Staff concurs with the recommended language for Section VIII.C.9.c, which has been renumbered and revised as follows:

Section VIII.C.9.c: a plan to educate Coalition’s or Discharger’s staff and pesticide applicator on any potential adverse effects to waters of the U.S. from the pesticide application;

Comment 1.05:

Permit Section VIII.C.11.a. This requirement is ambiguous and potentially problematic for compliance. Least toxic can have multiple meanings. Some pesticides have low mammalian toxicities but high toxicity to fish or invertebrates, and vice versa. Some pesticides are more toxic but break down rapidly, and others may have lower toxicity but remain for longer periods and therefore be less desirable for specific uses. Vector control agencies base pesticide selection on a variety of factors, not the least of which is a consideration of the environment to which the application will be made. Please delete this statement.

Response:

Staff concurs and has amended the language in the permit to read: If there are no alternatives to pesticides, dischargers shall use the least amount of pesticide necessary to effectively control the target pest.

Comment 1.06:

Permit Section VIII.E. Pesticide Application Log. It is not feasible in large application areas, particularly for adulticides, to specifically monitor all waters (e.g., flow rate, volume treated, visual assessment) in which pesticide deposition may occur. This section should clearly list those requirements applicable to (and feasible for) the application of larvicides, adulticides or both.

Response:

Staff concurs and has amended the language in Section VIII.E.6 as follows:

Visual monitoring assessment for larvicide applications and adulticide applications, unless inappropriate.

Comment 1.07:

Permit Section IX.C.1.d.

- a. Regarding subsection "d", we request the references to Discharger be modified to: "the Discharger or Monitoring Coalition."
- b. Regarding both subsections IX.C.1.d and IX.C.2 (and from our attendance at previous meetings, reviewing written comments, and SWRCB responses to written comments), it appears there have been previous miscommunications and/or misunderstandings regarding the purpose of monitoring triggers and subsequent actions, should exceedances occur. VBDS recommends that SWRCB would not re-open the permit to add additional restrictions to public health pesticide applications if monitoring triggers are temporarily exceeded without evidence that such transient exceedances result in water quality degradation.

Response:

- a. Staff has added the suggested revision.
- b. Staff concurs and would not recommend the State Water Board re-open the permit to add additional restrictions to public health pesticide applications if monitoring triggers are temporarily exceeded without evidence that such transient exceedances result in water quality degradation. The current permit language states that as a result of the evaluation, the permit **may** (emphasis added) be re-opened to add numeric Receiving Water Limitations for the residual pesticides exceeding the triggers. Thus, no change is necessary.

Comment 1.08:

Permit Sections IX.A.2. (p. 20) and IV.D. (p. D-23) and IX.C. (p. G-7). This wording implies that no pesticide on the larvicides and adulticides list would be permitted for application to impaired waters. We understood from previous communications that the only pesticides that would be prohibited from application to impaired waters would be those with the same specific active ingredient, or pesticide class, as that which caused the impairment classification. Recommend clarifying these statements with wording such as "pesticides with the same active

ingredient as the impairment" or "any pesticide in the same chemical family as the impairment."

Response:

Staff concurs and has amended the language as shown below:

This General Permit does not authorize the discharge of biological and residual pesticides or their degradation by-products to waters of the US that are impaired by the same pesticide active ingredients or any pesticide in the same chemical family included in permitted larvicides and adulticides listed in Attachments E and F.

Comment 1.09:

Table C-1. The table and related text require physical monitoring (e.g., temperature, pH, turbidity, and electrical conductivity) for all larvicides, in addition to temephos chemistry and toxicity requirements. Although it is not stated in the table or text, a SWRCB response to previous draft comments indicated that dissolved oxygen testing is also required for all larvicides. Other than for temephos, it is difficult to ascertain the value (i.e., cost/benefit) of accumulating these physical monitoring data for the larvicides used in vector control. Recommend the physical testing requirements, including dissolved oxygen, should be limited to temephos only.

Response:

The physical testing requirements for electric conductivity, pH, temperature, and turbidity are necessary because these parameters provide the general conditions of the receiving water. These tests are inexpensive and easy to do. Staff has revised Table C-1 to require dissolved oxygen testing only when temephos is applied. For each active ingredient in each environmental setting, physical testing is required only for six applications if applying more than six times per year and during each application if applying less than six times per year.

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

Comment 2.01:

There is inherent variability associated with toxicity testing, as well as aquatic pesticide applications to water (depending upon water depth, flow rate, spot versus large-scale treatment, time of year and day). For these reasons, it has proven very difficult to monitor for pesticide residuals in the field. In addition, "short-term pulses" of toxicity may be detected in receiving water that previously demonstrated no toxicity - a further reflection of inherent variability. LADWP assumes that toxicity tests will correctly determine that a non-toxic sample is indeed non-toxic ninety-five percent of the time. This conversely means there will be false-positive results five percent of the time. Using this assumption, even if all samples are non-toxic, the probability of passing the six consecutive tests will be no more than 74 percent. Given the role of variability, the probability may in fact be even lower.

Response:

At its March 1, 2011 meeting, the State Water Board decided to remove toxicity testing by dischargers. Instead, the State Water Board will initially fund toxicity studies using funds available to the State Water Board. The permit allows for reopening and modification to incorporate toxicity monitoring requirements if the State Water Board-funded toxicity study shows such requirements are necessary.

Comment 2.02:

Determining the causes of toxicity is very difficult, which is why most California water bodies that are impaired for toxicity list the source as "unknown." Further, toxicity testing serves only to establish general toxicity in the receiving water, not the presence of residual pesticides. Rather, analytical chemistry is the most appropriate tool for assessing whether deliberate pesticide applications have adverse impacts on water quality. If the purpose of the toxicity testing requirement is to determine the presence of unknown ingredients that are contained in pesticides, other more appropriate analytical methods exist.

Response:

Toxicity testing will provide information on the effect level of toxicity in an in-stream waste concentration sample, relative to the control. Since the effect levels of background and event or post-event samples will be compared with the control, the differences in effect levels between background and event or post-event would indicate whether the application is causing or adding toxicity.

Comment 2.03:

As a public agency and drinking water supplier, protecting water quality, its beneficial uses - and public health - are of LADWP's most important missions. However, a review of the 303(d) list shows that unknown sources are responsible for most of the toxicity impairment found in the state's water bodies, not entities such as LADWP that undertake deliberate pesticide applications. The toxicity of these pesticides is known, is used for beneficial purposes, and is applied in a manner consistent with its labeling, by well-trained operators.

Response:

Noted.

Comment 2.04:

In light of the above, LADWP believes that the need for toxicity testing has not been established and suggests that the Board reconsider whether or not toxicity testing is valid for the pesticides permits. However, should the Board require toxicity testing, LADWP requests that the above-referenced section be revised as follows (proposed text shown in bold-face):

"For the first application, the discharger shall collect one Background sample and one Event sample in the application area for toxicity testing. If the Background sample result shows no toxicity, the discharger shall continue taking only Event samples until a total of **three consecutive Event sample results** (emphasis added) 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."

Response:

See Response to Comment 2.01.

As stated in the previous response document, 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. Reducing the minimum number of samples to three will reduce the likelihood of detecting at least one toxic event by at least 20 percent.

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. Stabilize means the difference between the two multiplying factors is small. For example, the difference between the multiplying factors for 1 and 5 samples is 9. For 6 and 10 samples, it is 0.8. If the minimum number of samples is reduced to 3, the difference of the multiplying factors between 3 and 6 is 1.8. Thus, staff retains the requirement for six samples to characterize the effects of pesticide applications.

Comment 2.05:

The toxicity language in Option D excludes the next, intermediate scenario: that pre-existing toxicity may be established via a receiving water Background sample.

Response:

See Response to Comment 2.01.

Comment 2.06:

If there is pre-existing toxicity in receiving water, this significant fact must be reported to the Board for two reasons: (1) to establish a formal record of pre-existing toxicity in that specific receiving water; and because (2) pre-existing toxicity can affect a determination of toxicity resulting from a discharger's applications.

Therefore, LADWP requests that the above-referenced section be revised as follows (proposed text shown in bold-face): "For the first application, the discharger shall collect one Background sample and one Event sample in the application area for toxicity testing. If the Background sample result shows no toxicity, the discharger shall continue taking only Event samples until a total of three consecutive Event sample results show no toxicity in the receiving water. Thereafter, no further testing for toxicity will be required for the active ingredient used at that representative site. If the Background sample result shows toxicity, the discharger shall report this to the State Water Resources Control Board

(Board) within sixty days. If identifiable, all active ingredient/s that contribute to the toxicity must also be reported. If the contributing active ingredient/s cannot be identified, this shall also be reported.

Response:

See Response to Comment 2.05.

3. Comment Letter 3 – Mosquito and Vector Control Association of California

Comment 3.01:

MVCAC requests the SWRCB adopt alternative language in the permit regarding the effective time of the permit coverage.

Page 6, section II(C); page 19, section VIII(D); page D-15, section II(A)

2. Change the 30-day period to 10 days: The PAP has been posted on the State Water Board's website for a 10-day for comment period and approved by the Deputy Director.

MVCAC is concerned that the current 30-day proposed timeline requirements will not allow for approved permits before the April 9th deadline. Public health applications by mosquito and vector control agencies are year round activities and any delays in obtaining the permit could slow or even halt these applications. It seems unlikely that 60+ vector control agencies (plus an unknown number of applications from 2 other NPDES permits) can be expediently processed by SWRCB prior to April 9.

Response:

See Response to Comment 1.01.

Comment 3.02:

MVCAC requests the SWRCB adopt option A for the toxicity requirement.

The current chemistry monitoring approach under the proposed permit is superior to toxicity testing in terms of addressing potential impacts associated with specific pesticide applications. Toxicity testing is designed to assess water quality in a broad, nonspecific context. It gives a general assessment of the water without initially addressing specific potential toxicants. With toxicity monitoring, once it is determined that water quality standards have been exceeded, one still has to conduct Toxicity Identification Evaluations (TIEs) to determine the specific toxicant(s) causing the mortality to the test species. All this has to occur before specific mitigation measures or other restrictions can be developed and implemented. In other words, aquatic toxicity approaches are extremely difficult to apply to the specific actions approved under the NPDES permit. Many water characteristics (e.g. other contaminants, pH, temperature, dissolved oxygen) that are completely unrelated to a vector control pesticide application can affect the health of the test organisms making it extremely difficult to establish a cause-and-effect nexus between a pesticide application and the mortality of lab specimens. Further, inherent in pesticide applications are dilution and degradation and often significant mixing during water storage and delivery. For example, toxicity testing done on samples collected after a pesticide application in flowing water may report toxicity that results not from the pesticide, but from some toxicant(s) upstream of the sampling location. Without knowledge of the presence or absence of the specific pesticide, the erroneous conclusion might be

reached that the pesticide was the cause of test organism mortality. Toxicity testing should not be required at this time. If the results of the chemical monitoring indicate the need for toxicity testing, it can be later added by the SWRCB.

Response:

See Response to Comment 2.01.

Comment 3.03:

MVCAC requests the SWRCB change the language for monitoring of the larvicide, temephos. Page C-13, section IV(B).

In the new provision just before Table C-1, "...chemical and toxicity testing" should be "visual, physical, chemical and toxicity testing".

This change is necessary in order to clarify the scope of the monitoring requirements for larvicides. The following is an excerpt from the current Vector Control Permit for Larvicides and states: *The selection of control measures that use non-toxic and less toxic alternatives is an example of an effective BMP. Vector control agencies can select larvicides for vector control in some situations that have very low toxicity and pose very little or no threat to the environment. Specifically, (a) for microbial larvicides (e.g., Bacillus thuringiensis israelensis, Bacillus sphaericus), USEPA has concluded that they do not pose risks to wildlife, non-target species, or the environment; and (b) for methoprene, USEPA has concluded that, as used in vector control programs, it does not pose unreasonable risks to wildlife or the environment. Thin film larvicides (e.g., Agnique) also have low inherent toxicity.*

The SWRCB has already reviewed the larvicides used by vector control Districts and determined that their use is considered a BMP. Temephos has been identified as an active ingredient of concern and the need to collect data on this product is justified. However, the need to collect physical data on the other larvicides that have been reviewed by the SWRCB will provide no environmental benefit and the requirement should be removed.

Response:

See Response to Comment 1.09. In addition to getting information on the general condition of the receiving water, requiring these simple tests will help condition applicators to think about the potential impacts of their applications on the receiving water. For each active ingredient in each environmental setting, physical testing is required only for six applications if applying more than six times per year and during each application if applying less than six times per year.

Comment 3.04:

MVCAC requests the SWRCB change the Minimum Sampling Frequency component for Visual Monitoring listed in Table C-1 and C-2.

Change the requirement of "All applications at all application areas" to those active ingredients being tested for under the monitoring program.

MVCAC recognizes the need for documentation of visual monitoring and would propose that it be included with the physical, chemical, and potential toxicity testing and not for all applications.

These sections indicate that visual monitoring will be completed for “All applications at all application areas”. This requirement is infeasible to vector control applications. Districts make numerous applications daily and in acreage that can total up to 60,000 acres in a given event. Pesticides often are applied by truck and aircraft. The requirement to provide visual monitoring on all water bodies within a large block could delay the application event and is not practical for the protection of public health. Districts would need to devote staff time to visit and document the appearance of the waterway before and after an application as currently stated in the permit. The decision to treat large areas of land is made to create a public benefit by reducing the vector population and/or the infection rate of those vectors. Allocating time for staff to comply with this visual monitoring would eliminate other necessary treatments to control nuisance and disease carrying vectors and provides no environmental benefit. Also, at times larvicide applications are ordered on one day and not treated for up to 5 days later based on the availability and environmental conditions present at that time. Requiring personnel to revisit those sources on the day of application is burdensome and takes away time from other necessary activities.

Response:

To minimize the burden on applicators and still get the general conditions of the receiving water, language has been added to clarify that only six application areas or 10 percent of all application areas, whichever is greater, during each application event shall be tested for these parameters. Also, see Response to Comment 3.03.

Comment 3.05:

MVCAC requests the SWRCB remove the language referencing visual monitoring. Page 20, section VIII(E6) of the permit reads:

6. Visual monitoring assessment.

MVCAC members make applications that can total thousands of acres in a given application by truck or air and requiring visual monitoring on all water bodies within the application area is not feasible.

Response:

See Response to Comment 3.04.

Comment 3.06:

MVCAC requests the SWRCB change the language for the requirement of website posting of applications.

Page 17, Section VIII (B), Public Notice Requirements, reads:

Every calendar year, prior to the first application of pesticides, the Discharger shall notify potentially affected governmental agencies and if the Discharger maintains a website, post the notification at its website. The notification shall include the following information:

MVCAC has 62 member districts that range in size from one part time person to 70 fulltime employees. Not all member agencies have the ability, expertise, or funding to develop and maintain a website to be updated whenever applications need to be made.

Response:

See Response to Comment 1.02.

Comment 3.07:

MVCAC requests the SWRCB change the language regarding posting on a website.

Page 19, section VIII (C)(14) reads:

14. If the Discharger maintains a website, specify a website where public notices, required in Section VIII.B, may be found.

Response:

See Response to Comment 1.02.

Comment 3.08:

MVCAC requests the SWRCB change the receiving water limitation for malathion back to a trigger.

Page 15, section VI (A)

The proposed numeric receiving water limitations for malathion would essentially prohibit any detectable malathion residual in a receiving water. In order to control vector populations, malathion applications are applied at 0.03 lbs of active ingredient/acre and that may exceed the existing 0.1 ug/L numeric receiving water limitation. Due to this potential, malathion will likely not be used by agencies and this further limits vector control arsenal, promotes development of resistance, and could adversely affect public health. The numeric receiving water limitations for malathion need to be removed or adjusted back to a trigger to account for the application amount needed to achieve effective vector control. Alternatively, an allowance could be made to allow for exceedance of the standard for a limited time after application, similar to allowances made under the weed control permit. According to a recent analysis of pesticide use in California, vector control accounts for less than 1% of reported malathion use. This limitation of product use is not commensurate with the insignificant risk presented by vector control applications.

Response:

The monitoring triggers have been set due to the absence of water quality criteria for those active ingredients that have triggers. Since malathion has criteria, it is more appropriate to use them as receiving water limits than triggers. As MVCAC suggested, staff will pursue the possibility of setting an allowance for exceedance of the standard for a limited time after application, similar to allowances made under the Weed Control Permit.

Comment 3.09:

MVCAC requests the SWRCB modify the language for discharges covered by the permit. Page 4, section II(A) of the permit reads:

This General Permit only covers the discharge of larvicides and adulticides that are currently registered in California

Proposed Change: This General Permit only covers the discharge of larvicides and adulticides that are currently listed in the permit. Federal and state laws generally allow a pesticide owner to use existing pesticide supplies for a period of time even after the product has lost its registration. The SWRCB staff has extensively reviewed all products currently listed in the permit. The current statement raises questions about the ability to use existing inventory should a product lose its state registration, even if already reviewed and approved by SWRCB staff. The loss of the potential use of these products could result in economic loss to MVCAC members through no fault of their own.

Response:

See Response to Comment 8.02 in

http://www.waterboards.ca.gov/water_issues/programs/npdes/docs/aquatic/vector_cmmntrspns.pdf.

Comment 3.10:

MVCAC requests the SWRCB remove the language for product choices made by MVCAC. Page 19, section VIII(D12a) of the permit reads:

If there are no alternatives to pesticides, dischargers shall use the least toxic pesticide necessary to control the target pest.

Pesticide applications need to be made based on a variety of concerns including scope of public health threat, resistance, environmental conditions, cost, availability, etc. The decision on which product to use and when needs to be at the discretion of the district given the specific circumstances present at the time of application.

Response:

See Response to Comment 1.05.

Comment 3.11:

MVCAC requests the SWRCB include Coalition wherever Discharger is used. Page C-4, section II(A): Some dischargers will be a part of a coalition; therefore, wherever "Discharger" appears, it should be "Discharger or Coalition".

Response:

Staff has made the changes in the permit.

Comment 3.12:

MVCAC requests the SWRCB define "biological pesticides" in Attachment A-Definitions: Biological Pesticides: Certain microorganisms, including bacteria, fungi, viruses, and protozoa that are effective in controlling target pests. These agents usually do not have toxic effects on animals and people and tend not to leave toxic or persistent chemical residues in the environment.

Response:

Staff has added the following definition in the permit:

Biological Pesticides: A chemical which is derived from plants, fungi, bacteria, or other non-man-made synthesis and which can be used for pest control.

Comment 3.13:

MVCAC requests the SWRCB include the following comments for clarification:
Page 18, section VIII(C)(12). Insert “in order to” before “reduce the need.”
Page 18, section VIII (C) (8). Delete this line as it does not apply to vector control applications. Page 19, section VIII(C)(12)(b). Change “vector” to “vectors.”
Page 19, section VIII(D). Change “APAP” to “PAP.”

Response:

Staff has made the changes in the permit.

4. Comment Letter 4 – Environmental Groups

Comment 4.01:

We commend the inclusion of 30-day public comment requirement for PAPs as reflecting sound public policy, and agree that its inclusion is required by *Waterkeeper Alliance, Inc. v. EPA*, 399 F.3d 486 (2d Cir. 2005).

Response:

Staff appreciates the recommendations and support from interested groups.

Comment 4.02:

The permit application fee has apparently been increased from a nominal amount of \$136 to \$1,120 annually. We endorse the notion of setting permit fees in an amount sufficient to ensure the proper implementation of the program. However, we do not believe the Board has shown that the discharges at issue “require minimal or no treatment systems to meet limits and pose no significant threat to water quality,” or that the amount specified will be sufficient to properly implement the program. We note that annual fees required for comparable discharges elsewhere in section 2200, e.g., those applicable to “any discharge of toxic wastes,” are much higher. Compare 23 CCR § 2200(a) & (a)(1), Category “2.A” (\$13,321) or “3.A” (\$4,372), with SAP p. 12 ¶ III.L; VCP p. 12 ¶ III.L; AAISCP p. 12 ¶ III.L (“*The nature of pesticides is to be toxic*”) (emphasis added). Hence, an annual fee of \$4,732 should apply at a minimum.

Response:

The Fees Schedule described in Section 2200 of Title 23, California Code of Regulations states that “discharges associated with mosquito and vector control activities that are regulated by an individual or general NPDES permit adopted exclusively for these purposes, including those issued by a Regional Board, shall pay a fee of \$136.” Staff has included this revision in the permit.

Comment 4.03:

Antidegradation Policy. According to the revised permits, “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 preapplication conditions after project completion. Therefore, this General Permit is consistent with State and federal antidegradation policies.”

We are legally and factually concerned with the assertion that the permits “will ensure” that waterbodies are “returned to pre-application conditions” after completion of pesticide projects. The previous permit drafts had indicated that “[w]hile surface 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 beneficial uses such as human health. However, compliance with receiving water limitations *is required*. *Therefore*, this General Permit is consistent with State and federal antidegradation policies.” (emphases added). We believe that the earlier statement is legally correct and should be retained. Further, the supposition that it is generally possible to return a waterbody to pre-project conditions after application of a toxic chemical is factually unsupported. We believe that such a flawed assumption simply underscores the greater need to seek out and utilize alternatives to pesticides that will protect beneficial uses without creating toxic conditions or causing water quality violations. See also Comment #6.

Response:

Staff has made the suggested changes in Section III.L of the permit and Section IV.C.4 in Attachment D as shown below:

While surface 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 and other permit requirements is required.

Comment 4.04:

The revised Vector Control Permit sets a numeric receiving water limitation for discharges of malathion. Other pollutants, however, continue to be governed by numeric “monitoring triggers,” which may lead to the re-opening of the permit. Exceedances of these triggers also give rise to a duty to re-evaluate Best Management Practices (“BMPs”).

We endorse the Board’s usage of the malathion limits, but urge the Board to consider similar limits for dangerous pesticides like carbaryl and naled. We agree with the earlier sets of comments submitted by the National Marine Fisheries Service (“NMFS”) calling for more restrictive limits on the discharge of these pesticides, and note that their use has been found to cause significant harms. See EPA Office of Pesticide Programs, Reregistration Eligibility Decision for Naled (July 31, 2006), pp. 32-33, available at http://www.epa.gov/pesticides/reregistration/REDS/naled_red.pdf; NMFS, ESA Section 7 Consultation Biological Opinion re: EPA Registration of Pesticides Containing Carbaryl, Carbofuran, and Methomyl (Apr. 20, 2009), pp. 373-79, available at <http://www.nmfs.noaa.gov/pr/pdfs/carbamate.pdf>.

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 permit. 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.

Comment 4.05:

Public Notice Requirements.

- a. We agree that prior notification is an important requirement in general, but believe it to be completely inappropriate that *the discharger* is allowed to choose *which* website. Concerned residents should not have to scan the entirety of the Internet to learn of toxic discharges in their neighborhoods; rather, *all* planned discharges should be posted on a *single* website that can be easily found (preferably, the Board's), and these data should be searchable *by location*, if possible.
- b. We also believe that the Spray Applications Permit requirement that such notice be given prior to scheduled applications (as opposed to once a year) is appropriate for inclusion in the Vector Control Permit and Aquatic Animal Invasive Species Control Permit as well – these pesticides are no less dangerous, and the public has no less of a right to know about them before they occur. Moreover, there should be a requisite lead-time before any application may occur (e.g., 2-4 weeks), so that dischargers cannot creatively “schedule” their applications to occur, say, the very next day.

Response:

- a. Comment noted. Staff will compile the list of websites as they are received and consider posting the list on the State Water Board's website. Until the list becomes available, interested parties should refer to discharger's PAP which provides the information on the location of the application schedule. The discharger's PAP will be posted on the State Water Board's website for a 30-day public comment period before approval.
- b. Infestations may occur at any time at any location. Requiring public notice requirements prior to every application is infeasible.

Comment 4.06:

In the revised permits, the discharger's PAP includes a mandate to use the least toxic pesticide (if an alternatives analysis indicates that pesticides must be used), and to use the lowest amount of pesticide effective.

We applaud the inclusion of this requirement as perhaps the single most important protective feature in each permit, although its utility will obviously depend on how rigorously it is enforced by the Board and others. We note that the requirement still stops short of mandating that the least toxic alternative be used in every case (i.e., pesticide use *only* as a last resort) – the permits only require that an alternatives analysis be *performed*, but do not appear to dictate a result. In practice, the implementation of the NPDES permitting program for pesticides discharged to and over water should lead both to the development of newer aquatic pesticides that do their work without leaving residues and to increased reliance on less toxic means of pest control. Especially since no specific “best technology” analysis appears to have been done in determining these BMPs (in lieu of setting numerical effluent standards), we submit that a more rigorous requirement is necessary to satisfy both the Clean Water Act's

“technology-forcing” mandate, see generally *Weyerhaeuser Co. v. Costle*, 590 F.2d 1011, 1025 (D.C. Cir. 1978); *NRDC v. EPA*, 859 F.2d 156, 208-09 (D.C. Cir. 1988), and the legislative intent of the Act’s drafters, see generally S. Rep. No. 92-414, at 99 (1971) (statement of Sen. Dole) (emphasizing the importance of “develop[ing] *alternative means* of pest, weed and fungal control,” reducing “[o]ff-target applications,” and developing “pesticides which *degrade after application and leave no toxic or hazardous after-products.*”) (emphases added), reprinted in 1972 U.S.C.C.A.N. 3668.

Response:

The purpose of the permit is to protect the beneficial uses of the State’s receiving waters from biological and residual pesticide dischargers resulting from vector control applications. The permit would require dischargers to determine and implement feasible non-toxic and least toxic alternatives to the selected pesticide application project in order to protect against potential water quality impacts. The development of best management practices is consistent with 40 CFR §122.44(k) and is intended to provide necessary flexibility in planning and implementing effective pesticide applications while protecting water quality. The permit prohibits discharges that cause or contribute to an exceedance of water quality objectives and contains monitoring provisions to determine whether additional measures are needed to meet the requirements of the permit.

In response to CDPH’s concern about ambiguity of the term “least toxic,” the sentence has been changed to read: If there are no alternatives to pesticides, dischargers shall use the least amount of pesticide necessary to effectively control the target pest.

Comment 4.07:

Standard Provisions. For “water[s] classified as Outstanding National Resource Waters or as ... impaired by unknown toxicity,” the requirement that a project-specific antidegradation analysis be done before spraying has been removed.

It is unclear from the Board’s Response to Comments why this provision has been removed, and what is the legal basis for doing so. The wisdom of removing protections for pristine waterbodies (such as Lake Tahoe and Mono Lake), or for those impaired waterbodies wherein the potential harm from the pesticide application is necessarily unknown, seems suspect. We request that the project specific antidegradation analysis requirement for these waterbodies be reinstated.

Response:

Staff removed the requirement in response to the request by the Lahontan Regional Water Board (Region 6).

Comment 4.08:

Special Studies, Technical Reports, and Additional Monitoring Requirements. We believe this to be an improvement over the previous version, which simply required the discharger to undertake “additional investigations.”

- a. Still, nowhere do the permits indicate *who decides* what corrective actions a discharger has to take, and

- b. What the *enforcement mechanism* is for this requirement. We ask the Board to please clarify these points.

Response:

- a. The discharger has to provide the State Water Board what corrective actions it would take. The State Water Board's Division of Water Quality will determine whether the proposed corrective actions are adequate.
- b. Failure to comply with this requirement is a violation of the permit and may result in a State Water Board's enforcement action which can include a notice of violation, an administrative civil liability complaint with a fine, or revocation of the Notice of Applicability.

Comment 4.09:

We commend the Board for making the Corrective Action Deadlines provision both stronger and more explicit.

Response:

Staff appreciates the support and recommendations.

Comment 4.10:

The definition of "residual pesticides" has been changed to "those portions of the pesticides that remain in the water *after* the application and its intended purpose (elimination of targeted pests) have been completed" (emphasis added).

- a. We submit that this interpretation is inconsistent with the ruling of the U.S. Sixth Circuit Court of Appeals in *National Cotton Council*, which struck down EPA's earlier rule purporting to exempt applications of aquatic pesticides from the NPDES permit requirement altogether. As that court noted, in expressly holding that pesticide residuals are "added" by the point source applications introducing them to water, the "pesticide residue or excess pesticide – even if treated as distinct from pesticide – is a pollutant" *at the moment of discharge*. *National Cotton Council of America v. EPA*, 553 F.3d 927, 940 (6th Cir. 2009); see also *id.* at 938 ("excess and residue pesticides have *exactly the same chemical composition* and are discharged from the same point source at *exactly the same time* as the original pesticide") (emphasis added). This definition of "residual pesticides" is also inconsistent with multiple appellate court rulings that Congress intended water pollution to be controlled through "point source" regulation *whenever feasible*, e.g., *United States v. Earth Sciences, Inc.*, 599 F.2d 368, 373 (10th Cir. 1979); that a point source "adds" a pollutant when it "introduces" that pollutant to the waters "*from the outside world*," e.g., *Catskill Mountains Chapter of Trout Unlimited v. City of New York*, 273 F.3d 481, 491 (2d Cir. 2001); cf. *South Fla. Water Mgmt. Dist. v. Miccosukee Tribe of Indians*, 541 U.S. 95, 103 (2004); and that there is no implied NPDES exemption for discharges made for *allegedly beneficial purposes*, e.g., *Minnehaha Creek Watershed Dist. v. Hoffman*, 597 F.2d 617, 627 (8th Cir. 1979).
- b. Accordingly, the Board should clarify that no applicator otherwise covered by the permits may escape regulation by arguing that the pesticide in question has such a lengthy "intended purpose" timeframe that, in effect, it leaves no "residue."

- c. Likewise, the Board should reject any implication that the protective provisions of these permits apply only at some indeterminate point “after” the discharge occurs. In particular, there is no basis – in law or in policy – for the notion that in-stream water quality standards may be violated during the pendency of a pesticide application, as certain portions of the permit suggest. See, e.g., AAISCP p. 14 ¶ IV.C (noting that the prohibition against causing or contributing to violations of water quality standards “shall apply *outside* the treatment area *during* treatment, and *in* the treatment area *after* treatment has been completed”) (emphasis added).

Response:

- a. Staff amended the definition of residual pesticides to include excess amounts of pesticides used during applications.
- b. Comment noted. Staff will evaluate the reasonableness of project length based on the treatment efficacy of the pesticide.
- c. For pesticides to perform their intended purpose, receiving water limitations only apply to residual pesticides.

Comment 4.11:

Monitoring Reports. We believe that allowing Discharge Monitoring Reports (“DMRs”) to be in a form “as agreed by the discharger and the [Board’s] Deputy Director,” instead of a standardized form can only lead to abuse, as shrewd applicators seeking to avoid scrutiny may attempt to report their monitoring data in a way that understates or obscures the true nature of discharges documented. Such ad hoc DMRs are also likely to be less readily understood by concerned residents who may wish to perform an oversight role in ensuring compliance. The Board should propose a standardized DMR form for public comment, and require that it be used by all dischargers (even if such a form cannot be developed in time to be included with the finalized permits themselves).

Response:

Staff will create a reporting form for dischargers to use to provide consistency in reporting and facilitate staff’s review of monitoring data.

Comment 4.12:

General Monitoring Provisions. “All samples shall be taken at the anticipated monitoring locations specified in the Discharger’s or Coalition’s PAP, *unless otherwise specified.*”

It is unclear what “otherwise specified” means here. We believe the best course is to require that all monitoring be done only at the specific locations set forth in the PAP, since this is the information that the Board and members of the public will have evaluated in deciding whether even to *allow* the initial discharge. To the extent that the Board believes Vector Control or Aquatic Animal Invasive Species Control applications to be of a different nature, the Board should clarify that any *potential* monitoring locations also must be spelled out in the discharger’s PAP or APAP, as other provisions of those permits seem to indicate. See VCP p. C-11 ¶ IV.A.

Response:

Staff deleted “unless otherwise specified” to avoid confusion.

Comment 4.13:

We have several questions regarding monitoring locations, and how they relate to the requirements set forth in the permits themselves.

- a. Is the “location that receives the most applications” the same as a “representative monitoring location” (and, if these are separate concepts, where in the permit are the provisions requiring monitoring at the “location that receives the most applications”)?
- b. Does the monitoring scheme described in the above paragraph apply only to chemical testing, or does it apply to toxicity testing as well?
- c. How exactly does one determine the “location that receives the most applications” (e.g., is it based on a specific historical time period)?
- d. Why is it true that “the location that receives the most applications will likely show the highest concentrations of residuals” and that “areas that receive fewer applications would also show no exceedance of receiving water limitations” (e.g., cannot areas receiving fewer applications also receive a greater absolute quantity of pesticides)?
- e. Are there not reasons to require monitoring at “the location that receives the most applications,” as well as at other locations, *beyond* ensuring that a numerical receiving water limitation is not exceeded (e.g., a *narrative* receiving water limitation requiring “no toxics in toxic amounts,” compliance with which may depend on what aquatic animals are present in a given area)?

Under state and federal law, the monitoring provisions in an NPDES discharge permit must be sufficient to allow agency enforcers and concerned citizens to determine readily whether the discharger is in compliance with applicable permit terms, including prohibitions against violating numeric and narrative in-stream water quality standards. As the above questions suggest, it remains unclear precisely how the Board envisions the “representative monitoring” provisions to operate once the permits are in effect. We request that the Board please clarify these monitoring provisions.

Response:

- a. The “location that receives the most applications” is one of the “representative monitoring locations.”
- b. Currently, the monitoring scheme only applies to chemical testing because dischargers are not required perform toxicity monitoring. See Response to Comment 2.01.
- c. That is correct. The “location that receives the most applications” shall be based on historical record of applications.
- d. Comment noted. The monitoring and reporting program suggests that the discharger or coalition chose the “worst case or high use area” as representative monitoring locations. The “high use area” does not necessarily have to be based on number of applications; it can also be based on the amount of pesticide applied.
- e. Undoubtedly, there are reasons to require monitoring at all locations because water chemistry, aquatic life, pesticide applications differ at

different locations. However, the rationale for requiring sampling initially at the most-heavily applied sites is that if applications at these sites do not exceed limits or triggers or cause or add toxicity, it is likely that less heavily applied sites will not show impacts from the applications either.

Comment 4.14:

Sample Types. The revised Vector Control still requires “post-event” monitoring, but only whenever *the discharger* determines, apparently on a case-by-case basis, that the pesticide “project” is “complet[e].” The additional requirement in previous permit drafts that the discharger must perform this monitoring “within one week after the application event” has been removed.

We believe that removing an absolute timeframe for post-event monitoring invites abuse. If the discharger is allowed to determine when “project completion” occurs, he or she will simply wait to perform any sampling until long after any environmental harm has occurred, or the pesticide has fully dissipated (regardless of whether that pesticide is still performing any pest elimination function). See also Comment #11, above. We ask that the one-week post-event monitoring timeframe be reinstated.

Response:

The requirement for post-event monitoring to be conducted within one week after project completion was inadvertently deleted. Staff returned the one-week requirement in the permit.

Comment 4.15:

Toxicity Testing Requirements. The staff recommends five different options for toxicity testing, including performing no such testing, but recommends Option D for each permit. Option D appears to provide that “after a discharger has shown six consecutive samples of no toxicity, monitoring for toxicity will be discontinued,” until “[a] new application method is used, a BMP is changed, or an alternative product is used.” Unlike earlier versions, Option D also appears to allow dischargers to forsake taking further “background” samples if the first sample comes back negative.

As we stated in earlier comments, we strongly urge the Board to require some form of toxicity testing in these permits. These pesticides are *known toxicants* that can cause serious water quality problems and other adverse environmental effects, but – unlike for most industrial point source discharges – no “end-of-pipe” treatment technologies or numerical effluent limitations are being required or imposed to ameliorate these harms. Moreover, given that the permit only requires chemical testing for *active* pesticide ingredients, a rigorous toxicity monitoring scheme will be crucial in protecting against the risks posed by *inert* ingredients (which can be greater than the risks posed by active ingredients), and by *additive or synergistic* toxicological effects (both with other pesticides and with other constituents in the receiving water). See generally EPA Office of Pesticide Programs, Pesticide Regulation Notice 97-6 (Sept. 17, 1997), available at http://www.epa.gov/opppmsd1/PR_Notices/pr97-6.html; Letter from U.S. Fish & Wildlife Service to EPA re: Atrazine Risk Assessment (June 27, 2002), pp. 2-3, available at <http://www.eswr.com/104/fwsatrazineletter.pdf>.

As for Option D specifically, we are mindful that the Board wishes not to impose undue burdens or meaningless monitoring requirements on pesticide applicators. At the same time, we believe that *some* form of periodic toxicity monitoring should be required even where a discharger is able to establish a modest track record of not causing or contributing to toxic conditions. This is good policy for several reasons. First, the underlying characteristics of the waterbody may change over time, which may give rise to additive or synergistic toxic effects not captured by earlier sampling. Second, further toxicity monitoring ensures that the discharger does not, intentionally or inadvertently, alter the methods or chemicals applied in a way that may be deleterious to water quality. Third, an ongoing toxicity monitoring requirement allows private citizens concerned about discharges in their local waterbodies to perform their own in-stream monitoring, and to cross-check the results they obtain with what the discharger has reported to the Board, as an effective and supplemental assurance that relevant receiving water limitations are not being violated.

Lastly, given the need for an accurate assessment of toxicological risks, we urge that the more stringent requirement on “background” sampling from the earlier draft permits be retained.

Response:

See Response to Comment 2.01.