SAN FRANCISCO BAYKEEPER®

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State Water Resources Control Board
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sent via electronic mail

August 1, 2011

Re: Alameda County Pesticide Action Plan

Dear Mr. Isorena:

Thank you for accepting the following comments we submit on behalf of San Francisco Baykeeper ("Baykeeper"), the Center for Biological Diversity ("CBD"), the California Environmental Health Initiative, and our respective members. We are writing to express great concern over the proposed Alameda County Pesticide Action Plan ("PAP") submitted concurrently with Alameda County's Notice of Intent to discharge pesticides under the General NPDES Permit for Biological and Residual Pesticide Discharges from Vector Control Applications. If approved as proposed, the PAP would significantly imperil the environmental health of the water quality, plants, wildlife, and overall quality of life within Alameda County and in the San Francisco Bay. Alameda County's creeks already suffer impairment for pesticide toxicity, contributing to the decline of numerous threatened and endangered species in its watershed. Unfortunately, the proposed PAP explicitly offers a business-as-usual approach to pesticide applications in the County. Because of the inadequacy of nearly every element of the proposed PAP, as discussed in detail, below, we ask that the State Board reject the County's permit application until those inadequacies are resolved.

A. General Citation to "Best Management Practices for Mosquito Control in California" is Inadequate.

The Vector General Permit ("VGP") enumerates thirteen different items for discussion and analysis that each permittee must include in its Pesticide Action Plan ("PAP"). In response to at least nine of these required elements, Alameda County's PAP cites to the "Best Management Practices for Mosquito Control in California"[1] (hereafter "BMP manual"), without any excerpt, pinpoint citation, or discussion of exactly what information in the BMP manual is responsive to the VGP's required items. In so doing, Alameda County's PAP violates the procedural and substantive requirements of the VGP, and must be substantially revised before pesticide applications may be permitted.

[1] Presumably, the PAP refers to the *Best Management Practices for Mosquito Control in California: Recommendations of the California Department of Public Health and the Mosquito and Vector Control Association of California*, August, 2010, but this full title is not provided, nor is a copy of the manual itself.

Substantively, wholesale and generalized reliance on the BMP manual fails to analyze and improve Alameda County's own program. The VGP sets forth thirteen elements to be included in the PAP that are designed to minimize pesticide applications and impacts by engaging in a rigorous analysis of the County's pesticide program to determine things such as, when specific applications are and are not needed, what areas are environmentally sensitive to pesticide applications and should be protected, what alternatives to the County's ongoing practices exist, and how best to implement non-toxic and least-toxic alternatives. But the Alameda County PAP does none of this analysis and instead adopts a business-as-usual approach by simply citing to the *existing* BMP manual and other various regulations and agreements that govern its existing program. This constitutes no analysis for improvement, minimization, or alternative at all. *See, e.g., Vineyard Area Citizens for Responsible Growth v. City of Rancho Cordova* (2007) 40 Cal.4th 412 ("[I]nformation scattered here and there in . . . appendices or a report buried in an appendix, is not a substitute for a good faith reasoned analysis.")

Indeed, the principle justification for the General Permit / PAP regulatory regime was to afford each applicator the flexibility to tailor its program to its particular local environment in the most environmentally protective and appropriate way for that local environment, an approach that "allows dischargers to implement appropriate BMPs for different types of applications and different types of waters." (VGP at D-24.) The Alameda County PAP, however, provides no specific information about what BMPs are appropriate for the different types of applications and different types of waters in its jurisdiction. Undifferentiated reliance on the statewide BMP manual subverts this substantive VGP goal. The BMP manual itself recognizes the high variability among locations throughout the state, and therefore recommends that each local agency tailor its program to the local conditions on the ground:

> Each property is unique, and the BMPs listed in this manual will apply to some properties, but not others. Landowners should implement universally applicable BMPs and after evaluating their own property, also employ the mosquito control BMPs that are applicable to their situation. (BMP manual at 1.)
>
> Mosquito breeding on rural properties is highly variable due to differences in location, terrain, and land use. (BMP manual at 6.)
>
> Local vector control agencies may have more specific policies regarding the implementation of BMPs and other control operations, which may include use of enforcement powers authorized by the California Health and Safety Code. (BMP manual, executive summary.)

Unfortunately, the Alameda County PAP fails to evaluate any of these local nuances, fails to rigorously analyze its own program in light of the stringent requirements of the new VGP, and, therefore, must be substantially revised.

In addition, wholesale reliance on the BMP manual and other outside agreements and regulations fails the substantive and procedural requirements of the VGP that the PAP include technology based effluent limitations ("TBELs") that are fully enforceable, and available for public review and comment. (*See* VGP at 10 ["The effluent limitations contained in this General Permit are

narrative and include requirements to develop and implement a PAP that describes appropriate BMPs"]; *Waterkeeper Alliance, Inc. v. EPA*, 399 F.3d 486 (2nd Cir. 2005).) First, the VGP and the Clean Water Act require that the PAP have well-defined, concrete, enforceable TBELs. Alameda County's PAP fails to include well-defined, concrete, and enforceable TBELs because the PAP's reliance on outside document fails to include pinpoint citations and excerpts to enable an understanding of what specifically the PAP requires. This vagueness renders the PAP unenforceable. And, these outside documents are subject to change during the term of the PAP, rendering the PAP's TBELs unstable, and capable of evading enforcement and public review.

Second, the generalized citations to outside documents such as the BMP manual fail to provide the public and regulators with a meaningful opportunity to comment on the PAP, instead forcing the public and regulators to go find and peruse, for example, the 60-page BMP manual, to decide for themselves which portions, if any, are applicable to the particular PAP response. This is an impossible task, and thwarts the public's right to review and comment on the PAP.

B. PAP Item 1

The PAP fails to provide a meaningful description of "ALL target areas . . . in to which larvicides and adulticides are being planned to be applied or may be applied to control vectors." (VGP at 16.) Instead, the PAP states that "[a]ll aquatic sources in Alameda County are potential targets for pesticide applications . . . ." As discussed in the comment, above, this undifferentiated, broad-brush response is insufficient to satisfy the purposes of the PAP to provide the public and regulators with sufficient information to determine whether Alameda County's program is appropriately tailored to the unique environmental conditions within its jurisdiction. For example, the PAP should, at a minimum, name all water bodies on a map where aquatic pesticides may or will be applied. The PAP should also provide additional information about the target waters, such as, any Clean Water Act 303(d) impairment that must be considered before directly applying pesticides to the waterways, and the existence of any special status species that may be harmed by any pesticides that may be planned for use. These factors are discussed in greater detail in response to PAP Item 9, below, but should also be generally referenced in the initial description of "ALL target areas."

C. PAP Item 2

The PAP fails to include a "[d]iscussion of the factors influencing the decision to select pesticide applications for mosquito control," and instead merely refers to the BMP Manual. As stated, above, mere citation is not a "discussion." The PAP fails to provide any information about the factors influencing *its* decision to select pesticide applications, and a review of the cited BMP manual reveals no discussion of the factors influencing the decision to select pesticide applications for mosquito control. Pertinent questions that should have been asked and answered, but were not, include, but are not limited to: (1) what factors are considered to make a determination that an insect population is a "pest" that may cause significant harm to public or environmental health, (2) what factors are considered to determine when mechanical or cultural controls are insufficient to reduce or contain the insect population to less than harmful levels for the general public and ecosystem, (3) what considerations are made for the health of the water

body that will be impacted by an application, and (4) what are the human health impacts of the pesticide use?

With regard to question 4, above, we note as an example of health considerations that should be part of the District's decision making, that one of the pesticides listed as used in 2010, Agnique MMF, contains two Proposition 65 chemicals: 1,4 dioxane is a carcinogen and ethylene oxide is linked to cancer and reproductive harm. For another active ingredient in pesticides on the list, methoprene, the California Department of Pesticide Regulation has identified multiple data gaps with regard to chronic and subchronic toxicity, carcinogenic potential, birth defect impacts, and chromosome effects. How is the health information (and lack of information) considered in the District's decisions regarding pesticide use?

D. PAP Item 4

This item requires a description of all of the application areas and "a map showing these areas." In response, the PAP refers to a map of Alameda County provided on page 1 of the PAP; however, this map is illegible. The PAP is a publically enforceable part of the permit, but the illegible map precludes the public from knowing which application areas are planned on the map provided. Moreover, it is unclear whether this map does in fact include all of the application areas, including all ponds, creeks, marshes, ditches, etc., which is required by the plain language of the permit, and which is necessary for meaningful public oversight. Clearly the permit contemplated more than a political map of the County when it imposed this requirement.

E. PAP Item 5

The PAP mentions two alternatives to pesticide use for mosquito control that are the backbone of an integrated pest management approach to mosquito control: elimination of standing water and stocking of mosquito fish. However, the PAP fails to respond to the VGP's requirement that the PAP discuss the "limitations" of "[s]pecific methods used by the District." Identification of such limitations is required by the VGP because it is an essential step to *removing* additional barriers that may exist for non-pesticide vector controls. If the above two approaches used by the District are insufficient to provide adequate mosquito control, the PAP should describe the relevant "limitations."

F. PAP Item 6

The VGP requires a discussion of "[h]ow much product is needed and how this amount was determined." In response, the PAP provides the total quantity of treatments in 2010, and expects the same amount to be used in 2011. This response is flawed for two important reasons. First, and most importantly, this assumption provides direct evidence that Alameda County expects *not* to minimize and reduce pesticide applications, as required by the VGP. Instead, the PAP expressly states that business-as-usual will occur, and each year's applications will be roughly the same as before. Second, the PAP itself admits that "[a]ctual use varies annually depending on the mosquito activity," but the PAP fails to provide any additional information on how such applications may vary depending on what changes in mosquito activity, which information is required to constitute a clear and enforceable TBEL. Instead, this single-year snapshot provides

the public and regulators with no context in which to evaluate whether Alameda's program will in fact minimize and reduce pesticide applications as required by the VGP.

In addition, the District's response to item 6 indicates that "surveillance" is the basis for a determination of need to apply a pesticide product, but no details are given regarding the District's surveillance and mosquito monitoring protocols or thresholds. The description of the surveillance and monitoring of mosquito populations should make clear how the District decides where and when to treat, and how the surveillance and monitoring supports the goal of determining where and when larvicides are needed and ensuring that last-resort chemical applications are only larvicides and the use of adulticides is avoided. The District should not simply be applying larvicides to all waterways in the County, as the response to PAP item IV.A.3 implies.

A good integrated pest management ("IPM") program for mosquitoes focuses first on prevention and cultural controls (e.g., eliminating standing water and using mosquito fish), and if those are insufficient, then use of larvicides rather than use of adulticides (i.e., treatments of adult mosquitoes). The use of larvicides generally is considered preferable to the use of adulticides because larvicides: prevent the appearance of the blood-feeding adults; provide up to a month of control in contrast to the few hours provided by fogging with adulticides; are typically less toxic than adulticides; are typically applied to smaller areas than are adulticides and are applied in a manner that results in less human exposure than is usually the case with for adulticides.

The PAP should clearly explain the District's surveillance and mosquito monitoring protocols, the basis for deciding when and where chemical use is needed and avoiding chemical use and attendant impacts to the maximum extent possible, and the strategy to prioritize larviciding and avoid adulticiding.

G. PAP Item 7

The PAP fails to include any meaningful information on its monitoring program. An empty reference to an outside document without any information germane to the monitoring locations and the justification for selecting these monitoring locations renders this PAP application inadequate, incomplete, uncertain, and unenforceable. While group or coalition monitoring may be permitted by the VGP, such a program must provide monitoring data and procedures sufficient to determine the compliance of *each* permittee; yet information necessary to make this determination is not included in this PAP.

H. PAP Item 8

The PAP fails to provide the required "[e]valuation of available BMPs to determine if there are feasible alternatives to the selected pesticide application project that could reduce potential water quality impacts." (VGP at 16.) This item is the most important to reducing or avoiding adverse water quality impacts. As the VGP states, pesticide discharges to waters are "necessary only when no feasible alternative to the discharge (alternative application techniques, etc) is available and the discharge is limited to that increment of waste that remains after implementation of all reasonable alternatives for avoidance is employed" (VGP at D-15), and further states that

"[d]ischargers are required to determine and implement feasible non-toxic and least toxic alternatives to the selected pesticide application project that could reduce potential water quality impacts" (VGP at D-25). The proposed Alameda County PAP, however, fails to provide *any* evaluation of its own management practices sufficient to prove that pesticide discharges to waters will only occur when no avoidance or less toxic alternative is feasible. (The PAP instead merely cites to the BMP manual, but a quick review of the cited BMP manual also failed to turn up any such analysis; and, of course, the manual does not include any analysis of Alameda County's program.)

I. PAP Item 9

The VGP requires measures to ensure that only a minimum and consistent amount of pesticides is used. In response, the PAP merely states that the County will follow Department of Pesticide Regulation ("DPR") and California Department of Public Health ("CDPH") regulations, but fails to perform any analysis of, or provide any information showing that, such regulations requiring calibration annually actually result in an absolute minimum and consistent amount of pesticides being applied. Importantly, neither DPR nor CDPH evaluates pesticide applications to ensure protection of adopted water quality standards, or protection of special status species. *See, e.g.*, *National Cotton Council of America v. U.S. EPA* 553 F.3d 927 (6th Cir. 2009). Moreover, the VGP requirement should be read not only to apply to equipment functionality, but also to whether the applicator has chosen a management approach that "ensure that only a minimum and consistent amount is used."

The PAP fails to provide any meaningful information as to "each type of environmental setting" within the County that will be considered for pesticide application. (VGP at 17.) This is a crucial element for each *individual discharger* to implement under the general statewide permit, because of the wide variety of environmental settings throughout the state. At a minimum, the PAP, in this section or elsewhere, must include a list of all water bodies with impaired beneficial uses in its jurisdiction, and all water bodies containing sensitive or special status species.

Presently, all creeks in Alameda County are listed as impaired due to pesticide toxicity, and the VGP states that it "does not authorize the discharge of biological and residual pesticides and their degradation by-products to water of the US that are impaired by same pesticide active ingredients or any pesticide in the same chemical family included in permitted larvicides and adulticides listed in Attachments E and F." (VGP at D-21.) Because the PAP lacks a meaningful discussion of impairment of County water bodies, and potential pesticide applications to those waters, the public and regulators have no vehicle for enforcing this requirement of the VGP.

Similarly, the PAP has the potential to negatively impact a range of species in Alameda County that are protected under the California and federal Endangered Species Acts ("listed species"), from the thousands of pounds of pesticides proposed by the PAP. The negative impacts of pesticide use on ecological function and imperiled species are well documented.[2] Over 20 listed

[2] See e.g. Kegley et al. 1999, "Disrupting the Balance: Ecological Impacts of Pesticides in California" available at http://www.panna.org/issues/publication/disrupting-balance-ecological-impacts-pesticides-california; Robert J.

species in Alameda County could be impacted by the PAP,[3] and program elements and BMPs that would prevent significant impacts to these sensitive species should be evaluated and adopted.

The PAP demonstrates that it is feasible to avoid or minimize impacts to listed species, as identified by the requirements imposed on the PAP by the U.S. Army Corps of Engineers ("Army Corps") for waters and wetlands within the Army Corps' jurisdiction.[4] However, the PAP is noticeably deficient in relation to information on avoidance of listed species in areas outside the Army Corps jurisdiction. Indeed, as described above the PAP does not outline the specific areas where pesticide applications will take place. The wide-scale application of pesticides in areas where listed species are known to occur or could be affected by the pesticide residues leaves the Alameda County Mosquito Abatement District subject to legal liability through unauthorized "take" of listed species under section 9 of the Endangered Species Act unless measures to avoid the exposure of listed species to pesticide applications are utilized.[5]

The PAP and associated materials discuss feasible ways to avoid and minimize impacts to listed species. The Army Corps Permit Report outlines methods that can minimize impacts to listed species that are already being employed by the Alameda County Mosquito Abatement District, and should be employed throughout the district to minimize impacts to listed species. The Alameda County Mosquito Abatement District also describes alternatives to pesticide application and should employ those alternatives prior to authorizing pesticide application.[6] Only when those methods prove ineffective should the application of pesticides be considered, and this requirement should be clearly stated in the PAP.

Gilliom, 2007, "Pesticides in the Nation's Streams and Ground Water"; Environmental Science and Technology, v. 41, n.10, pp. 3408–3414, available at http://water.usgs.gov/nawqa/pnsp/pubs/files/051507.ESTfeature_gilliom.pdf.

[3] Fish: green sturgeon, steelhead trout; Herpetofauna: Alameda whipsnake, California tiger salamander, California red-legged frog; Birds: clapper Rail, California Black Rail, western snowy plover, California brown pelican, California least tern, Swainson's hawk, peregrine Falcon; Mammals: San Joaquin kit fox, salt marsh harvest mouse; Invertebrates: bay checkerspot butterfly, Callippe Silverspot butterfly; Plants: Contra Costa goldfields, pallid Manzanita, presidio clarkia, Santa Cruz tarplant; Plants and invertebrates: vernal pool species. The list is drawn from the Center publication "Poisoning Our Imperiled Wildlife-San Francisco Bay Area Endangered Species at Risk from Pesticides" (Miller, J. 2006, "Poisoning Our Imperiled Wildlife-San Francisco Bay Area Endangered Species at Risk from Pesticides" available at www.biologicaldiversity.org/publications/papers/bayareapesticidesreport.pdf which examines the risk that toxic pesticides pose to endangered species in the nine Bay Area counties, including Alameda County.

[4] *See* Department of the Army Regional Permit No. 4 for Mosquito Abatement Activities, July 31, 2007; Alameda County Mosquito Abatement District, Hayward California, 2010-2011 Army Corps Permit, June 2010 ("Army Corps Permit Report").

[5] 16 U.S.C § 1638.

[6] PAP at 6 of 8.

J. PAP Item 10

The PAP fails to describe how the County will annually "establish densities for larval and adult vector populations to serve as action threshold(s) for implementing pest management strategies," as required by the Vector General Permit. (VGP at 17.) Instead, the PAP states that the presence of *any* mosquito may necessitate treatment, providing the discharger with an inappropriate permit to discharge pesticides under any circumstances, whether or not objective criteria have been followed to identify a problem. For example, the actual threat represented by West Nile virus ("WNv"), which is the main public health threat from mosquitos, is extremely small. WNv is much less common and dangerous, statistically, than the flu. Given this, how does the County decide when there is a threat to public health? While the PAP does list some factors that the District may consider to establish a higher treatment threshold, the PAP provides inadequate information to understand how those criteria will be used to establish treatment thresholds, or to evaluate what treatment thresholds have been established already by the District, and whether those treatment thresholds are appropriate and protective of water quality. The information in this section is unenforceable as a TBEL.

The PAP should provide specific information on "known breeding areas for source reduction, larval control program, and habitat management," as required by the VGP. Instead, the PAP notes that any site that may hold water for more than 96 hours may be targeted. Such a general statement does not "identify known breeding areas" as the permit requires, fails to advance the purpose of providing public analysis to advance the reduction of pesticides to waterways, and is unenforceable.

K. PAP Item 11

The PAP fails to evaluate alternatives as required by the VGP. First, the PAP fails to describe how the discharger will evaluate the no action alternative, required by the VGP. Second, although the PAP lists, under item 5, two appropriate prevention alternatives (elimination of standing water and use of mosquito fish), the PAP does not, under items 5 or 11, evaluate these non-pesticide alternatives for their effectiveness, impacts on water quality or non-target organisms, nor does the PAP sufficiently evaluate the impacts on water quality or non-target organisms of the pesticides proposed for use.

Other strategies that should be considered to minimize the need for treatment and to minimize exposures include: systematic surveillance and monitoring to determine when larviciding is necessary, and establishing an opt-out registry that allows property owners to prepare non-chemical mosquito management plans for their property. The latter option protects organic gardeners and others who wish to avoid pesticide exposure, e.g., for health reasons.

The PAP inappropriately cites the "availability of agency resources, cooperation with stakeholders, [and] coordination with other regulatory agencies" as reasons why an alternative to pesticide treatment may not be implemented. These are inappropriate considerations under the VGP. They are unduly vague and render the technological based effluent limitations in the PAP unenforceable because of the discharger's discretion to cite agency or stakeholder cooperation as

a limiting factor. The purpose of the PAP is to set forth enforceable technological BMPs to minimize and avoid pesticide impacts to waters.

Last, the PAP simply rejects the VGPs proposed alternative that pesticides only be applied when vectors constitute a nuisance. Again, the PAP generally cites to two plans that are not discussed in the PAP itself and therefore provide no public analysis and are impermissibly unenforceable. The PAP does state that, "[i]n practice, the definition of a 'nuisance' is generally only part of a decision to apply pesticides," and that the applicator may instead consider "the overall risk to the public." This is overly vague, and does not constitute a meaningful analysis of whether the County could only apply pesticides when insects constitute a nuisance, as the VGP requires.

L. PAP Item 12

The PAP does not "ensure that all reasonable precautions are taken to minimize the impacts caused by pesticide applications," such as "taking account of weather conditions and the need to protect the environment." (VGP at 18.) Instead, the PAP generally states that "[t]his is an existing practice" of the County and is required by other regulations and agreements. This response provides no analysis of the problem at all, and is completely unenforceable because it lacks any operational details.

M. PAP Item 13

The VGP asks for "a website where public notices . . . may be found," and the PAP lists www.mosquitoes.org. However, a quick review of the website provided failed to reveal any public notices of potential or planned applications.

N. Conclusion

Thank you for your careful consideration of these comments. We hope that a revise PAP will be required that will provide the public with a better opportunity to determine whether the PAP will advance the VGP's goals of avoiding and reducing toxic pesticide applications to waterways wherever possible.

Sincerely,

/s/ Jason Flanders
Staff Attorney, San Francisco Baykeeper

/s/ Jonathan Evans
Staff Attorney, Center for Biological Diversity

/s/ Nan Wishner
The California Environmental Health Initiative