



October 31, 2014

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**Re: Comments on the Statewide Plant Pest Prevention and Management
Programmatic Environmental Impact Report**

Dear Ms. Petro:

Thank you for the opportunity to comment on the Draft Statewide Plant Pest Prevention and Management Programmatic Environmental Impact Report (DPEIR). We write on behalf of: California Environmental Health Initiative, Moms Advocating Sustainability, Center for Biological Diversity, Beyond Pesticides, Butte Environmental Council, Californians for Alternatives to Toxics, Californians for Pesticide Reform, California State Grange, Center for Environmental Health, Central California Environmental Justice Network, Citizens Committee to Complete the Refuge, the City of Berkeley, City of Richmond Mayor Gayle McLaughlin, Clean Water Action, Environmental Action Committee of West Marin, Environmental Justice Coalition for Water, Environmental Working Group, Friends of the Earth, Organic Consumers Association, Pesticide Action Network North America, Pesticide Free Zone, Raptors are the Solution, Safe Alternatives for Our Forest Environment, San Francisco Baykeeper, SAVE THE FROGS!, Slow Food California, and Topanga Creek Watershed Committee.

The DPEIR represents a tremendous opportunity for the California Department of Food and Agriculture (CDFA) to chart a course toward sustainable, ecologically and scientifically sound pest management policy. As currently drafted, however, the proposed plant pest prevention program (Proposed Program) is woefully misguided, and the DPEIR is grossly inadequate under the California Environmental Quality Act (CEQA). We recommend that CDFA dramatically revise the Proposed Program to focus on pest prevention through an ecological-agriculture pest management approach. We also urge CDFA to re-draft the DPEIR to comply with CEQA. This includes revising the

DPEIR to provide much greater detail on how the Program's activities will be carried out and what the Proposed Program's impacts will be. It must also be revised to clarify that the DPEIR is only first-tier programmatic document, and that the first step for all subsequent site-specific activities conducted under the Proposed Program will include an initial study that evaluates the site-specific impacts of the particular activity, along with an opportunity for public notice and comment.

I. The Proposed Program Should be Redesigned to Focus on Pest Prevention Through an Ecological-Agriculture Approach.

A. The Program's focus on eradication as a goal and pesticide application as its main management strategy results in unnecessary significant impacts.

The DPEIR offers an opportunity for CDFA to move away from the agency's status-quo pest management approaches that depend heavily on chemical treatments—to which a broad cross-section of the general public objects because of their negative health and environmental consequences—and to begin rebuilding public trust by moving toward a sustainable approach that protects human health and the environment.

The risks that pesticides pose to human health and the environment are well documented (see, e.g., President's Cancer panel 2010, Environmental Working Group 2005, World Health Organization 2012, Roberts et al. 2012, Leu 2014). The skyrocketing demand for organic food—16.5% per year from 2000 to 2010 (Growing Demand for Organic Food 2010)—demonstrates that the public takes those risks seriously and is increasingly heeding recommendations such as that of the American Academy of Pediatrics to limit exposure to pesticides as much as possible, especially for children (Roberts et al. 2012). In light of these facts and the significant cost of the DPEIR (\$4.5 million so far), it is both prudent and cost-effective for CDFA to use the occasion of a PEIR to develop a modern, minimally toxic approach to pest management based on the best current science rather than attempt to codify the same pest management model that the agency has been using, with few updates other than substituting of chemicals, at least since the controversial malathion aerial spraying for the medfly three decades ago.

Unfortunately, as the DPEIR repeatedly states, what it evaluates is not a new, sustainable approach but CDFA's current "ongoing program of pest prevention and management activities" (DPEIR at 6.0-1) as well as future projects that would be carried out following the same types of protocols. This current ongoing program is not

sustainable. It poses risks to human health and the environment, including grave risks to bees, other pollinators, and organic farms. It quarantined approximately 40% of the state's area in 2010 (Western Farm Press 2010), placing costly burdens on farmers, some of whom must comply with multiple regulations for several different quarantine pests. The DPEIR evaluates 79 different chemicals and leaves open the option for more chemicals to be added to the Proposed Program. With the rate of arrival of new pests likely to increase as a result of global climate disruption (Ogburn 2013) and the evidence of increasing contamination of human and water bodies as well as soil, the multiple costs of this approach—human health, environmental, personnel, and financial—are rapidly becoming unmanageable. Moreover, there is substantial and growing evidence that the current, chemical-based approach is not working, with repeated and spreading fruit fly infestations and the failure of intensive chemical treatments to control a recently detected and serious pest, the Asian citrus psyllid (both are discussed further below).

The DPEIR asserts that “CDFA’s first objective in invasive pest management is prevention” (DPEIR at 2-14) and that the Proposed Program’s “detection survey efforts are focused on known high-priority pests or pests that are likely to occur in California based on the presence of suitable climate, *habitat requirements*, and entry pathways” (DPEIR at 2-11, emphasis added). However, the only pest prevention activity described in the DPEIR is exclusion, which consists primarily of efforts to stop identified priority pests at the border and prevent their entry to the state or, once pests have entered the state, to prevent their movement by establishment of quarantines. Nothing in the DPEIR’s Program Description targets prevention activities at the abovementioned pest “habitat requirements” that make pests “likely to occur.” If prevention (which inherently satisfies all of the other Program objectives of reducing the risk from pests) is the agency’s first objective, then the DPEIR must analyze a robustly defined alternative that focuses on prevention and that could eliminate or greatly reduce the need for and environmental costs of eradication and control programs.

B. CDFA should consider a sustainable eco-agricultural pest prevention alternative.

The ideal candidate approach to prevent pest infestations and control pests to manageable levels, which accomplishes these goals by addressing pest habitat requirements, is what is variously called an eco-agricultural or ecological pest management approach, or a biological farming or conservation agriculture approach.

We briefly outline here an eco-agriculture alternative to the Proposed Program that incorporates many proven, successful organic practices and takes advantage of research from the domains of botany and entomology. This alternative is environmentally superior to the Proposed Program and would reduce or avoid many of the Proposed Program's significant impacts, including those that the DPEIR deems unmitigatable (air quality and climate change). It would also substantially accomplish not only the Program's first objective of preventing pest infestations, but most of the other key Program objectives: preventing damage by introduced pests; minimizing the impacts of pest management approaches on human health and urban and natural environments; promoting the production of a safe, healthy, secure food supply; implementing a program broad enough to apply to a wide range of pest groups, and being consistent with existing CDFA permits (e.g., NPDES and SWRCB) (DPEIR at 2-2). An eco-agricultural approach would also prevent economic and environmental damage to both organic and conventional farms and thus prevent conversion of farmland to non-agricultural uses, which is the DPEIR's criterion for evaluating impacts on agricultural resources. An eco-agricultural approach offers a potential non-toxic approach for addressing pests such as Asian citrus psyllid (ACP) and the associated Huanglongbing (HLB) disease. As Quarles (2013) reports, "even intensive insecticide programs for ACP are generally ineffective for preventing the introduction and spread of HLB, especially in new plantings," and the "extensive pesticide applications" being used for ACP "are causing psyllid resistance, and probably damage to bees and beneficial insects." ACP clearly demands a different approach from the status quo.

The eco-agricultural approach to pest prevention and management outlined here is a much more fleshed-out, realistic, and robust alternative than the overly simplified CEQA alternatives analyzed in the DPEIR's alternatives analysis. This alternative must be considered as the holistic and comprehensive framework of practices that it is and cannot simply be dismissed as "speculative" in its effectiveness. It must also be considered in the context of our comments regarding the Program's unrealistic emphasis on eradication of pests (which is notably not listed explicitly in the DPEIR as one of the Program objectives) and the lack of scientific basis for attempting eradication in most cases.

Substantial research on the resistance of healthy plants to pest infestation points toward an effective long-term pest prevention and management strategy that CDFA could employ to significantly reduce the environmental impacts associated with the agency's current pest management approach. The research of Phelan (2009) Beanland et al. (2003), and Chaboussou (2004) among others describes the principles of the eco-

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agricultural approach and provides evidence of its efficacy for pest prevention and management.

Phelan's work on the role of soil conditions in plant health and susceptibility to pests and disease in biological farming systems shows that plants that have high levels of complete carbohydrates and proteins, which herbivorous insects cannot digest, resist insect infestation and damage. In a series of controlled studies, Phelan et al. (1995, 1996) demonstrated reduced susceptibility to European corn borer of maize planted in organically managed soil. In those experiments, corn borer egg laying was more than 18 times greater on plants grown in conventionally farmed soil than among plants grown in soil from organic farms. Plants grown in organic soil exhibit the features of internal chemistry described above—high levels of complete carbohydrates, proteins, and other factors, which plants grown in conventional soil do not as further described below. These experiments both demonstrate the relationship between plant nutritional state and resistance to pests and provide evidence of the effectiveness of organic agriculture methods, particularly for soil amendment, in preventing pest infestation and increasing plants' resistance so that pest levels can be kept below a threshold (Phelan et al. 1995, 1996, 2009).

Similarly, research showing "major differences in the appetite of the Colorado potato beetle" for potatoes grown at different sites demonstrates that "certain traditional growing methods, such as the systematic application of manure and compost, encourage resistance to the Colorado potato beetle and even to disease, through the biochemical state that they create in the plant." Comparable studies of leafhoppers demonstrate the principle that a plant's "nutritional state determines resistance" (Chaboussou 2004). Chaboussou observes that "[a] plant will only be attacked when its biochemical state corresponds to the nutritional needs of the parasite in question" and that the "indirect effects which link plant physiology with resistance, through the nutritional role of the living soil, clearly demonstrate the risks posed by the myriad herbicides, insecticides, fungicides, and nematicides" due to "their effects on the soil's microorganisms."

Plants grown in conventionally farmed soil treated with synthetic fertilizers exhibit elevated levels of amino acids and other elements that make them metabolically more vulnerable to pest infestation and damage; the solubility of these substances and their mobility within plants makes the plants "more available to sucking insects feeding on phloem or xylem tissue" and "reduces the effectiveness of some plant defensive compounds, such as proteinase inhibitors." In addition, these substances "act as feeding and oviposition stimulants for many herbivorous insects" (Phelan 2009). Thus, plants

grown in soil that does not promote healthy plant chemistry are not only vulnerable to insect infestation and damage but actually invite pest damage by stimulating pest insects to lay eggs and feed on those plants' tissues. Plants grown in organically farmed (amended with a focus on carbon input) are much more robust to insect damage.

Research demonstrates that pesticides and synthetic fertilizers cause the nutrient deficiencies and imbalances that make plants vulnerable to pest damage. "When proteins are being synthesized, the plant is resistant, and when proteins are being broken down, the plant is at risk" (Paull 2007, citing Chaboussou's work). Chaboussou (2004) finds, for example, that organophosphate pesticides (which include the Proposed Program chemicals chlorpyrifos, diazinon, and malathion), inhibit plant protein synthesis, increasing plants' susceptibility to sucking insects such as mites, aphids, and psyllids as well as to fungal and other diseases. This research demonstrates that supporting plants' optimum nutritional state and thus pest resistance requires both avoiding pesticide use and employing nutrient management practices that enhance soil biological processes. This research also demonstrates that herbivorous insects cannot digest the complete proteins and other elements present in healthy plants.

A study of cotton plants treated with insecticides demonstrates that pesticides produce changes in plant chemistry that may make plants susceptible to resurgences of the target pest or emergence of secondary pests. Abdullah et al. (2006) found increased free amino acids, reduced sugars, and other changes in the chemistry of plants treated with insecticides. These conditions foster pest outbreaks and can cause pest control programs to fail (a phenomenon known as hormoligosis) (Phelan 2009).

It is also well documented and accepted that pesticides disrupt beneficial predators of insect pests. Thus, reducing pesticide use not only results in plants more robust to insect infestation but avoids impacts on beneficial non-target species that aid in controlling pests.

Other benefits of eco-agricultural approaches that begin with soil fertility as the basis for increasing pest prevention are "a greater potential to increase soil organic matter and carbon sequestration" and to reduce the emissions of nitrous oxide (N₂O), which has a "global warming potential 300 times that of carbon dioxide" (Phelan 2009, citing IPCC 2001). An estimated 60 percent of global N₂O emissions is attributable to farming (Chu et al. 2007, cited in Phelan 2009). The organic soil management practices of eco-agriculture reduce N₂O emissions (Phelan 2009). Thus, the eco-agricultural approach to pest prevention would reduce the Proposed Program's significant unmitigatable contribution to climate change.

Phelan (2009) concludes:

I am not suggesting that an agricultural design based on natural systems will be free of pests and disease, and without environmental problems. Even natural systems are subject to biotic stress. However, it is clear that the problem-solving approach of the past century of agricultural research has unintentionally created a managed ecosystem that is highly susceptible to invasive plants, insects, and disease, and that lacks the resistance to fluctuating abiotic conditions and resilience in subsequent response that is characteristic of most natural ecosystems. We will not be able to continue in the same manner; within a paradigm of individual problem solving, we will fall farther behind as we enter an era where new and greater challenges will arise, changing weather patterns will create more frequent stress and crop failures, and some of the real costs, previously ignored, will have to be paid. Unless we are willing to provide massive governmental support or accept environmental damage as a necessary trade-off, we must prepare for the future by changing the paradigm from one of problem solving to one of ecosystem management.

The Asian citrus psyllid, mentioned above, is just one example of how we are unable to meet new and greater pest management challenges using the existing paradigm of intensive chemical management with the intent to eradicate.

This is only a brief overview of the general principles of an ecological pest management approach that would address root causes of pest outbreaks and thereby significantly enhance CDFA's ability to achieve its DPEIR program goal of pest prevention. It would address habitat susceptibility to pests and put tools into the hands of growers to prevent pest outbreaks and reduce or eliminate the need for the kinds of emergency/rapid response chemical interventions on which CDFA currently relies.

An eco-agricultural approach to pest prevention would also reduce or avoid numerous environmental impacts of the Proposed Program, including:

- The significant unmitigatable air quality impacts associated with Proposed Program vehicle usage. This approach could largely be implemented by growers themselves, eliminating the need for agency vehicles to apply pest treatments.
- The significant unmitigatable air quality impacts associated with the Proposed

Program by reducing N₂O emissions from agriculture through organic soil management practices; volatile organic compound (VOC) emissions would also be reduced.

- The significant water quality impacts that the DPEIR risk analysis fails to disclose because few or no chemical treatments would likely be needed.
- The significant impacts on pollinators and other sensitive species from pesticide exposures that the DPEIR fails to disclose.
- The significant health risks that the DPEIR risk analysis understates by its iterative modeling to reduce results below levels of concern without associated mitigation.
- The potentially significant impacts on organic farming from pesticide treatments under the Proposed Program as outlined in Section V.G.

One can anticipate an agency response arguing that eco-agricultural pest management will not satisfy trading partners and international phytosanitary agreements. However, trade agreements allow for a broad range of pest thresholds and methods of demonstrating that an area is pest free. Moreover, as noted above, where pests such as the Asian citrus psyllid are unable to be controlled by aggressive pesticide treatments, CDFA must begin to use measures that are alternative to chemical treatments. It is easy to predict that the general public would respond far more positively to CDFA representatives imposing mandatory compost applications in backyards to prevent and control pests than to the imposition of mandatory spraying of toxic pesticides.

II. The DPEIR's CEQA Tiering Strategy Improperly Limits Subsequent Environmental Review.

Under CEQA, the DPEIR, as a program-level EIR, is only the first step in the CDFA's analysis, and subsequent site-specific environmental review is required for particular program activities. The DPEIR's "Tiering Strategy," however, appears to curtail almost all future environmental review. Accordingly, the Tiering Strategy must be revised to clarify that future environmental review, along with public notice and opportunity to comment, will be routinely required before CDFA may carry out pest management activities or changes to the Proposed Program.

A program EIR is designed to “(1) Provide an occasion for a more exhaustive consideration of effects and alternatives than would be practical in an EIR on an individual action, (2) Ensure consideration of cumulative impacts that might be slighted in a case-by-case analysis, (3) Avoid duplicative reconsideration of basic policy considerations, (4) Allow the lead agency to consider broad policy alternatives and program wide mitigation measures at an early time when the agency has greater flexibility to deal with basic problems or cumulative impacts, [and] (5) Allow reduction in paperwork.” 14 Cal. Code Regs. § 15168(b). “[A] *program* EIR is distinct from a *project* EIR, which is prepared for a specific project and must examine in detail site-specific considerations.” *Center for Sierra Nevada Conservation v. County of El Dorado* (2012) 202 Cal.App.4th 1156, 1184 (quoting *In re Bay-Delta Etc.* (2008) 43 Cal.4th 1143, 1169) (holding that subsequent “specific project” that was part of a program EIR required a tiered project EIR).

“For a subsequent project that is consistent with the program or plan analyzed in a first tier EIR, CEQA requires a lead agency to prepare an initial study to determine if the later project may cause significant environmental effects not examined in the first tier EIR. If the later project will cause such effects, the lead agency must prepare another EIR.” *Friends of Mammoth v. Town of Mammoth Lakes Redevelopment Agency* (2000) 82 Cal.App.4th 511, 528; *see also* 14 Cal. Code Regs. § 15168(c)(1). In other words, a program EIR is only the first step in environmental review, and an agency must prepare subsequent site-specific environmental impact reports for activities carried out under the program. *Id.*

The Statewide Plant Pest Prevention DPEIR is a particularly broad program EIR, covering all geographic areas in the state of California and all varieties of plant pest prevention and management activities overseen by CDFA.¹ The DPEIR evaluates the environmental effects of future specific pest management activities either in vague terms or not at all. For example, the DPEIR declined to review specific species impacts because “the geographic area under consideration is large and varied,” (DPEIR at 6-16); did not quantify the cumulative exposure to multiple pesticide application scenarios for sensitive receptors because “the number of possible combinations would be so large as to be prohibitive to calculate,” (DPEIR at 6.2-17); and did not review site-specific water or other impacts because “[t]he exact locations of Proposed Program activities would be

¹ The EIR itself is almost 500 pages and contains thousands of pages of attachments. This is tension with CEQA’s requirement that draft EIRs “should normally be less than 150 pages and for proposals of unusual scope or complexity should normally be less than 300 pages.” 14 Cal. Code Regs § 15141.

determined in the future in response to specific pest infestations,” (DPEIR at 6.7-9). Thus, it is clear that subsequent detailed, site-specific environmental review is required for any and all future pest management activities conducted under the statewide program. 14 Cal. Code Regs. § 15168(c)(1).

The DPEIR’s “Tiering Strategy,” however, reveals that CDFA intends to avoid almost all subsequent environmental review.² The Tiering Strategy first asks whether the activity at issue was described and evaluated in the DPEIR and provides a basic checklist that contains all of the vague and expansive categories of activities covered by the DPEIR (e.g., “inspection, trapping, ground-based spray applications,” etc.) along with questions to guide whether the activity was previously described (e.g., for “trapping,” “was the type of trap, its method of use, and if applicable, the chemicals it contains, described in Chapter 3 of the DPEIR?”) (DPEIR at B-12). If, according to the checklist and the subjective judgment of the reviewer, the activity was described in the DPEIR, future CDFA review is limited to checking off on a checklist the applicable management practices required by the DPEIR.

At no point is CDFA required by its Tiering Strategy to routinely evaluate site-specific impacts of the particular activity, including on specific species in the area, on particular water bodies, and on particular sensitive communities. The completion of the checklist would not be subject to public notice of any kind; therefore, the public would have no way to know that a new activity had been added to the Program or to review or challenge the agency’s rationale for making that decision without performing further environmental analysis. The DPEIR’s “Public Notification” protocol as outlined in

² CDFA General Counsel Michele Dias also verbalized this goal to the California Invasive Species Advisory Committee as follows on March 3, 2011: “The intent of the DPEIR is that we do such a thorough analysis that we don’t need additional environmental review when a particular pest is detected.” In a meeting held on May 20, 2011 with Ms. Dias at the office of then-State Assembly Member William Monning, Ms. Dias responded to a question about how public input after certification of the Pest DPEIR would affect a pest treatment program carried out under the DPEIR. She stated that the intent of a public meeting prior to a pest treatment application carried out under the DPEIR after it is certified would be to “inform the public. We could change our program but we are not required to change our program at that time.” In other words, Ms. Dias explained that the purpose of CDFA’s future public notice meetings are simply to inform the public of the agency’s course of action and that the agency does not intend to provide future opportunities for public comment and participation in decisions regarding future activities conducted under the Proposed Program.

Section 2.4.2 (DPEIR at 2-4) simply describes a series of steps to notify the public and local agencies that a pest project will take place, by means of letters, announcements in media, and meetings at which information is presented. This process is consistent with the goals described by Ms. Dias in footnote 1. The purpose is simply to inform the public about what the agency has already decided to do. There is no obligation for CDFA to listen to what the public says or to change any aspect of a project in response to public concerns.

This truncated and non-public review is particularly troubling with respect to chemical management activities. Here, the checklist and associated “questions” allow for no further review of chemical spraying if “the activity compl[ies] with Mitigation Measure HAZ-CHEM-3b.” However, no “Mitigation Measure HAZ-CHEM-3b” is described in either the Tiering Strategy or the DPEIR. The closest mitigation measures in name are HAZ-CHEM-1b and HAZ-CHEM-3. Mitigation Measure HAZ-CHEM-1b requires CDFA to train its staff regarding safe pesticide handling and application, and Mitigation Measure HAZ-CHEM-3 requires program staff to conduct chemical applications “in a manner consistent with the Proposed Program’s authorized chemical application scenarios” (DPEIR at B-33). Neither of these Mitigation Measures requires CDFA to evaluate and inform the public of the site-specific impacts that chemical spraying will have.

Even more problematic, the Tiering Strategy attempts to insulate from public scrutiny future activities that were never disclosed in the DPEIR. Future activities subjectively deemed “substantially similar” to activities in the DPEIR may be approved with only a CEQA addendum, which “does not need to be circulated for public review” DPEIR B-8, B-37. This may even include pesticides not evaluated in the DPEIR (*See* DPEIR at 3-11, emphasis added: “This section provides pest-specific narrative descriptions of activities proposed for inclusion in the Proposed Program. Management activities are described as they have been defined at the time of this Draft PEIR. In the future, management activities for specific pests may change (e.g., *different chemical products may be approved for use*).”)³ A CEQA addendum is proper when there are minor

³ This assertion that different chemical products may be approved in the future contradicts the following statement by CFDA’s Laura Petro from the minutes of a Joint OEHHHA/DPR Risk Assessment Status meeting on January 24, 2013: “CDFA (Laura) indicated that CDFA will not approve pesticides not evaluated in the PEIR to be used for quarantine or eradication treatments in the future” (DPEIR Appendix A HHRA at Attachment 1-50). The discrepancy between what the DPEIR tiering strategy says about approval of different chemical products and this statement by CDFA to representatives

technical changes to a project. 14 Cal. Code Regs. § 15164. But a CEQA addendum should not be used here to authorize future management activities that were never reviewed in the DPEIR, without opportunity for public review and input.

CDFA should amend its Tiering Strategy to comply with CEQA. In particular, the Tiering Strategy should clarify that the DPEIR is merely a first-tier general document, and that the first step for all subsequent site-specific activities conducted under the Proposed Program will include an initial study that evaluates the site-specific impacts of the particular activity, along with an opportunity for public notice and comment. See *In re Bay-Delta Programmatic Env'tl. Impact Report Coordinated Proceedings*, 43 Cal.4th 1143, 1173 (2008) (noting that when a DPEIR is broad and fails to discuss site-specific effects, “later project-level EIR’s may not simply tier from the PEIS/R analysis and will require an independent determination and disclosure of significant environmental impacts”). The Tiering Strategy should also clarify that CDFA must file a notice of determination for any subsequent program activity that it finds requires no further environmental review. See *Comm. For Green Foothills v. Santa Clara Cnty. Bd. of Supervisors* (2010) 48 Cal. 4th 32, 56 (“such a notice would seem to be required under the general rule that an agency file an NOD “[w]henver [it] approves or determines to carry out a project that is subject to” CEQA. (§§ 21108, subd. (a), 21152, subd. (a).)”).

Future disclosure and public review of individual pest management activities is particularly important because the DPEIR currently does not inform individual communities how they will be impacted by CDFA’s activities. As a result, these communities have no idea they might one day be affected and would learn, too late, that their chance to comment on the potential for a pesticide treatment program within their jurisdiction had come and gone years earlier when the DPEIR was certified. These communities must be provided with opportunities for public review and input regarding future individual activities affecting their local area.

To the extent that the DPEIR is attempting to adequately evaluate, once-and-for-all at the project level, all of the specific program activities described in the document, and to prevent further public notice of subsequent activities and site-specific environmental review, it is grossly inadequate under CEQA and should be set aside. It

of OEHHA and DPR raises questions about whether OEHHA and DPR might have drawn conclusions or made recommendations related to protection of health based on CDFA’s assurance that no other pesticides would be approved, and, if so, whether the agencies’ conclusions or recommendations would have been different had the agencies known that approval of other pesticides would in fact be provided for in the DPEIR.

would be impossible, even with extensive revision, to provide the meaningful, site-specific review required by CEQA for all pesticide activities in all geographic areas of California, in one document.

III. The Project Description Is Impermissibly Vague.

The primary goal of CEQA is to “[e]nsure that the long-term protection of the environment shall be the guiding criterion in public decisions.” Pub. Res. Code § 21001(d). To this end, CEQA requires that an EIR include an accurate project description, and that the nature and objective of a project be fully disclosed and fairly evaluated in the EIR. *San Joaquin Raptor Rescue Center v. County of Merced* (2007) 149 Cal.App.4th 646, 655 (quoting *County of Inyo v. City of L.A.* (1977) 71 Cal.App.3d 185, 199, 197-98). An EIR should contain “a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences.” 14 Cal. Code Regs. § 15151. Information should be organized and written in a way that is “meaningful and useful to decision-makers and to the public.” Pub. Res. Code § 21003(b). In addition, an EIR should be written in a way that readers are not forced “to sift through obscure minutiae or appendices” to find important components of the analysis. *San Joaquin Raptor Rescue Center*, 149 Cal.App.4th 645, 659. An EIR cannot rely on information that is not either included in the document or described and referenced. *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412.

Here, crucial details of the Proposed Program are missing, inconsistent, or unclear, including: the existing environmental conditions of specific locations where treatments will take place, the timing and intensities of those treatments, the criteria for decisions about how a project’s activities would change (for example, a change in objective from eradication to control of an insect and what changes in treatment methods would be associated with a change in objective), whether and when treatments would take place at schools or near other sensitive receptors such as the chronically ill, and many others as described below.

A. The DPEIR lacks clarity on where aerial spraying will take place.

Among the most controversial CDFA pest management practices in the eyes of the general public is aerial spraying. The DPEIR allows for aerial spraying of “agricultural” areas (DPEIR at 3-8) but does not define this term. The DPEIR also repeats in several places that aerial spraying will not take place in “residential” (DPEIR at ES-2, fn 1) or “urban” (DPEIR at 2-28) areas, but no definition is given of those two terms other

than the following explanation, from the glossary, of the use of the term “residential”; this explanation does not clarify what specific locations would be considered “residential” or “urban”:

Residential – The term residential is used in two contexts – one for treatments conducted in response to regulations (i.e., quarantines), and another for non-regulatory treatments (i.e., eradication and control programs). In regulatory situations, the term refers to treatments occurring in rural or rural residential locations outside of nurseries and areas of agricultural production. For non-regulatory situations, the term refers to both urban and rural residential areas.

The U.S. Census Bureau density criterion for “urban” areas is at least 1,000 people per square mile.⁴ Many inhabited areas of the state have fewer than 1,000 people per square mile; aerial spraying of these areas would therefore entail spraying human populations. Moreover, the use of the terms “residential” and “agricultural” in the definition above and elsewhere in the DPEIR is misleading because there are residences on and around many farms and ranches. The DPEIR must precisely define where aerial spraying could and could not take place and how human populations will accordingly be impacted.

B. The criteria for determining project initiation, project goals, project status changes, and project termination are undefined.

The DPEIR’s description of the Proposed Program fails to inform the public and decision makers of CDFA’s strategy for determining and modifying the goals of pest projects or for determining the duration of or terminating projects.

1. The pest rating process is insufficiently described.

The DPEIR states that CDFA will determine whether, when, and where to conduct Proposed Program activities after evaluating potential infestations through its Pest Rating Process, but fails to provide sufficient detail to inform the public how determinations under the Pest Rating Process are made (DPEIR at 2-4). First, CDFA considers the “Consequence of Introduction” of a pest by evaluating host range, suitability to the California environment, and potential economic and environmental impacts of the pest’s establishment. However, substantial disagreement could occur regarding how to evaluate each pest under these factors because they are inherently

⁴ <http://www.census.gov/geo/reference/pdfs/GARM/Ch12GARM.pdf>

fact-dependent and will need to be made on a case-by-case basis. The DPEIR admits that the Pest Rating Process will consider “environmental impacts of the pest’s establishment”; this again must be subject to CEQA review with full public participation. The DPEIR continues, stating that the Pest Rating Process

considers feasibility of eradication or control, available resources and technology to achieve program goals related to the pest, and other pest-specific factors that may affect the outcome of pest management activities. Based on this analysis, CDFA determines if, and what type of a pest management response should be pursued (DPEIR at 2-13).

Unfortunately, the DPEIR fails to provide sufficient information to determine how these evaluations will be made. Importantly, eradication constitutes a main Program objective in this DPEIR, and, as discussed further below, the environmental impacts of a Program activity will vary greatly depending on whether eradication is a feasible goal; yet the DPEIR itself defers analysis of the “feasibility of eradication” to an undefined, future, Pest Rating Process. Because eradication constitutes a main project objective of the Proposed Program, a determination of whether and when eradication may be feasible greatly influences which alternatives must be reviewed in this DPEIR.

The DPEIR goes on to state that pests will be given an “A, B, C, D, Q, or Z rating” based on the known distribution of the pest in the state, and that “Management responses . . . may be carried out for pests receiving an A, B, or Q rating,” but not a C, D, or Z rating. The DPEIR fails to explain what these ratings mean and how they are established, and provides no guidance on how CDFA may determine whether a pest management response should be pursued. The use of these ratings should be clarified, and the public must be apprised of the potential environmental impacts of these future decision-making processes through further CEQA review.

2. The criteria for determining pest management responses are undefined.

The DPEIR gives a list of general criteria for pest management responses, for example “whether the pest generally is distributed throughout the state or represents a new potential infestation,” “the potential environmental and economic consequences of not taking action,” the “potential feasibility and efficacy of available management responses,” and the “feasibility of eradication or suppression/control” (DPEIR at 2-14). However, no information is given regarding the scientific basis for such determinations. For example, what required trapping density, history, and data would justify the

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determination that a pest is a “new potential infestation?” On what basis are “the potential environmental and economic consequences of not taking action” assessed? How is the “feasibility of eradication or suppression/control” or the “potential feasibility and efficacy of available management responses” evaluated? These determinations are especially important in light of the fact that the DPEIR asserts that the Proposed Program’s environmental impacts may increase where multiple management activities occur simultaneously (DPEIR at 2-16 to 2-17).

The DPEIR offers only a single general paragraph (DPEIR at 2-16) to describe how decisions might be made regarding whether eradication is feasible. That paragraph says the agency “may convene” a Scientific Advisory Panel or Technical Working Group but gives no information about how the decision would be made whether or not to convene such a group, how participants in such a group would be chosen, and whether the public or affected communities would be invited to participate. The paragraph lists only generic types of information that might be considered by such a group: existing “work plans,” trapping densities and data, and “all scientific information necessary to make a determination.” This vague description is not only insufficient to function as environmental review of specific projects, but it does not give sufficient *program*-level information about the basis on which the agency would make these policy decisions. For example, no criteria are specified for determining whether eradication is feasible although ample scientific literature exists on this topic to support the development of such criteria (see e.g., Myers et al. 2000, Myers et al. 1998). As noted previously, the determination of whether eradication is feasible has profound effects on selected management responses, and on the analysis of which alternatives in the DPEIR may meet the Proposed Program’s stated objectives.

With regard to eradication as an objective, the scientific literature reflects the difficulty if not impossibility of truly eradicating insect species, for example, “[i]t is easiest to meet the necessary eradication conditions for isolated, small populations of species with low reproductive rate and no dormant life stages. Not surprisingly, the most notable successes to date have therefore involved the eradication of vertebrates (especially mammals) from isolated islands” (Clout and Veitch 2002). Insect pests of plants typically have high reproductive rates and dormant life stages and therefore do not meet this criterion. Myers et al. (1998) report that

There are similarities between the so-called eradication programs directed at the exotic species medfly and gypsy moth in western North America. . . . In both cases, insects are often caught subsequently in areas in which eradication was considered to have been successful. Based on

the results of annual pheromone trapping for gypsy moths in British Columbia, moths have been caught subsequently in five of eight 'eradicated' areas. These observations indicate that it is very difficult to eradicate a species once it has reached sufficiently high densities to be trapped.

This is but one of a number of examples in the Myers article of eradication programs that have been deemed successes, but then more of the supposedly eradicated species have subsequently been found. Myers et al. (1998) point out that reintroductions of eradicated species are "inevitable." "There is no such thing as a 'one-time' eradication effort, and reintroductions can have serious implications to the assessment of the costs and benefits of continued eradication programs." These authors conclude that "the word eradication is value-laden. It implies that the technology, finances, and willingness to accept side effects are sufficient to eliminate a species from a geographic area. An alternative—area-wide management—fits more comfortably into a sustainable paradigm for pest control," reducing both pesticide use and environmental impacts.

The DPEIR does not explain its determination to pursue eradication in light of the extreme difficulty of achieving this goal, nor does the DPEIR even acknowledge the factual evidence of this difficulty. The vagueness of the DPEIR's description of the Proposed Program's decision-making process regarding undertaking eradication combined with the aggressive and costly nature of the activities involved in eradication⁵ are important reasons that decisions regarding undertaking future eradication programs must be subject to public scrutiny and subsequent environmental review. The DPEIR's stated need for "rapid response" in eradication programs must not override the basic principles of CEQA, which are intended to make clear to the public and decision makers the environmental impacts of an action before that action is taken.

Although the DPEIR acknowledges that the "window of opportunity for successful eradication is brief" (DPEIR at 2-16), no information is provided about the timing or criteria for evaluating whether or when that brief window had closed and a pest has become sufficiently established so the eradication is no longer possible, or what the fate of an eradication project would be at that point. Nor does the DPEIR define the criteria based on which the agency would declare a pest successfully and permanently

⁵ Suckling et al. 2014 assert that the cost of fruit fly eradication programs in the U.S. averages \$12 million though "a few programmes have exceeded \$100 million"; it is not noted whether that is an annual or per-project cost. Multiple fruit fly eradication projects take place in the U.S. each year.

eradicated and what would happen to the project in that case. In view of the history of many CDFA eradication projects, which repeat over and over again year after year (see CDFA. 2012. Eradication Projects 1982-2012), the DPEIR should also address the question of when repeated discrete eradication programs, particularly within the same geographic area, would trigger the agency to re-evaluate the definition of eradication being used or the validity of continuing to “eradicate” the pest rather than shift to a control strategy.

A recently published journal article published (Suckling et al. 2014) argues the opposite viewpoint to that presented above, that eradication is generally successful. However, no supporting factual data are presented, and it appears that the basis for this conclusion is primarily a tabulation of declarations of successful eradication by eradicating agencies although the sources and criteria for declaring eradication are not specifically stated, only generally characterized. This study does not cite or address research published that analyzed CDFA’s fruit fly program data and showed that the repeated eradications of fruit flies from areas of California over the past 30 years are not true eradications but suppression of an established population (Papadopoulos et al., 2013, discussed in more detail below). However, Sucking et al. do acknowledge “The problem of recurrent detections in areas where successful eradication has been conducted (e.g. Rota Island, Texas, California, Florida, South Australia, Mexico, Belize, Chile and Japan) remains critical.” It is also worth noting that the lead author of this new study claiming broad success of eradication programs was the lead advisor for CDFA’s controversial light brown apple moth eradication program (discussed below as a case example of why the Proposed Program’s effort to limit public review is misguided), and that the new study was published in the Society of Chemical Industry journal. The Society of Chemical Industry describes itself as “where science meets business on impartial ground,” and its mission is: “to further the application of chemistry and related sciences for the public benefit, through our events and publications” (<http://www.soci.org/About-Us/About-SCI>). These definitions suggest questions about the agenda potentially driving the publication of the articles that appear in the journal.

3. The basis for and timing of changes in project objectives are unexplained.

Although the evaluation of alternative treatments in the DPEIR appears to merge eradication and control, less-toxic strategies are traditionally considered sufficient for control as CDFA has articulated elsewhere, for example: “The goal of the Light Brown Apple Moth (LBAM) Eradication Program is the elimination of breeding populations of

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the moth from California. This is fundamentally different than controlling the pest” (LBAM DPEIR at H-1).

The DPEIR only vaguely acknowledges that treatment methods might change when a pest project goal changes from eradication to control but does not inform readers about the timing or criteria for these changes. The DPEIR addresses this topic as follows (DPEIR at 2-16 – 17):

During the course of an eradication program, methodologies and strategies may be reviewed and updated to include a suppression program. A suppression program allows for maintenance of a population density below a critical threshold in some areas while initiating eradication in other areas where eradication remains feasible. A suppression program may have all the components of eradication, but may also include other combinations of IPM [integrated pest management] strategies...

The above paragraph gives no indication of the triggers that would lead the agency to review and modify a control (suppression) program and blurs the distinction between eradication and control. It does not address how the project goal—eradication or control—affects the choice of treatment methods. Because the two goals are quite different (eradication means eliminating every single specimen of a pest while control means suppressing pest numbers below a defined threshold), pest management programs, including current CDFA programs, typically assert that non- and less-toxic strategies are appropriate for control but are not sufficient for eradication although there is seldom specific evidence offered for the latter claim.

For example, from the LBAM DPEIR’s explanation of why integrated pest management was not considered as an alternative in that pest program: “Integrated Pest Management (IPM) is an approach to controlling pests. IPM evaluates the merits of pest management options and then implements a system of complementary management actions within a defined area. IPM, as a control strategy, was not evaluated further in the process to determine which tools would be used in the LBAM Program because it does not meet the objective of eradication” (LBAM DPEIR at S-5). Similarly, CDFA’s justifies rejecting biological controls (milky spore, parasites and predators), mechanical controls, and cultural control for the Japanese beetle because those are deemed not appropriate to achieve eradication (CDFA Integrated Pest Management Analysis of Alternative Treatment Methods to Eradicate Japanese Beetle 2014). For example: “milky spore was not an option for eradication” because “complete elimination of Japanese beetle had never been achieved” “Parasites and predators are

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not in general considered an effective stand alone eradication method...”; and trapping “is not recommended as a general eradication measure. . . .” These examples clearly distinguish pest treatment strategies as appropriate for eradication or control and are typical of the agency’s evaluations of treatments based on program or project objective. The DPEIR offers no evidence or rationale for not taking the project objective into account when choosing treatment options.

4. The criteria for determining the duration of pest management projects are undefined.

In addition to the above examples of lack of clarity regarding how pest project strategy decisions will be made and why eradication is considered a primary objective, the DPEIR is unclear regarding the duration of pest projects. In particular, no exit strategy is defined for projects. This means that the DPEIR effectively authorizes treatments for pests indefinitely. Even though the DPEIR does not inform the public about how long individual pest projects and treatments might continue, the Human Health Risk Assessment for the DPEIR makes assumptions about the potential length of exposure to project pesticides for some of the various “receptors” that were modeled, including: “In a residential setting, the [downwind bystander] DWB was assumed to have the potential to be exposed for a duration of 3 years, which, based on CDFA’s expert opinion, is the maximum consecutive years Proposed Program treatments would ever be expected to occur at a single residence. For a DWB living next to a production agriculture field or a nursery, the exposure duration was assumed to be 24 years for an adult (DTSC, 2011a) and 14 years for a child (US EPA, 2005q)” (Appendix A HHRA at 52). These assumptions, which do not reference any factual information about where or how long past or current CDFA programs have continued, offer a wide and inexact range of potentially long-term exposures. The DPEIR must disclose the expected lifetimes of current and future pest management projects based on factual evidence, the criteria for determining those lifetimes, and the potential cumulative impacts of indefinite programs.

Because the DPEIR does not disclose the specific process or site-specific data on which determinations would be made regarding the goals and trajectory of future pest projects, including when and how it would be decided that a project should change from eradication to control or conclude, the DPEIR fails to provide a discrete, finite, and stable project description capable of meaningful environmental review. In addition, owing to the wide range and combination of Proposed Program activities that could occur, all of these determinations must be subject to subsequent site-specific environmental review, including public notice and comment.

C. The pest management practices are undefined and the choice of practices is not supported by evidence.

The pest management practices (MPs) described in the DPEIR (DPEIR at 2-26 – 31) are generic, providing only a few general guidelines for addressing specific local site conditions, such as noting water bodies, storm drains, wind and other weather conditions and “using buffer zones where applicable to protect sensitive areas.” These MPs are not adequate to inform the residents of any particular community about the specific conditions that CDFA will (or must) take into account when treating for pests in that area, such as the presence of sensitive or endangered species, sites such as schools,⁶ hospitals, and nursing homes where sensitive individuals such as the elderly or those with asthma or other illnesses might reside or gather. Nor are these guidelines adequate to enable a full evaluation of potential localized environmental impacts, as the DPEIR fails to include any technical or detailed prescriptions based on evidence that such MPs could actually reduce or avoid significant environmental impacts.

There are numerous other examples of missing or ambiguous information regarding pest management practices in the Program Description, including: “in the future other types of traps and lures may be used” (DPEIR at 3-4). “In 2013, no activities were conducted to manage the polyphagus shothole borer; however, CDFA anticipates conducting a management program against this pest in the future” (this is the entire text of the description of the program for this insect) (DPEIR at 3-32). “. . . in the future, the biological control agents *Dolichogenodea tasmanica*, a larval parasite from Australia, and *Trichogramma platneri*, a native egg parasite, may be considered for release under the Proposed Program to manage LBAM” (DPEIR at 3-28). And, for host plant removal for palm weevil and sudden oak death: “This type of host removal is rarely used and would not be a reasonably foreseeable action under the Proposed Program. Therefore, the impacts of such actions are not evaluated in this Draft DPEIR” (DPEIR at 3-33 - 34).

D. The Proposed Program inaccurately describes itself as an integrated pest management program.

Another area where information about pest management strategies is missing and incomplete is the DPEIR’s vague description of what eradication projects entail: “a

⁶ The DPEIR discloses that schools would be treated under the Proposed Program: “Although generally to be avoided when possible, Proposed Program activities may need to occur at or near existing or proposed school sites” (DPEIR at 6.5-16).

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combination of complementary IPM approaches such approaches include sterile insect releases, host plant/flower/fruit removal, mass trapping, and chemical applications” (DPEIR at 2-16). This brief list of activities is an entirely incomplete and inaccurate description of what IPM entails, and this and other references to the Proposed Program as an IPM program (DPEIR at 2-17) are misleading. The Proposed Program’s pest management approach is not consistent with the primary goal of IPM: long-term prevention of pest problems by creating environments that are inhospitable to pests.⁷ In IPM, chemicals are applied in a selective, targeted way only as a last resort.⁸ In contrast, the Proposed Program, although it includes some biological controls that could be part of a comprehensive IPM approach, relies primarily on chemicals for eradication and control of pests and mostly omits the first-choice, non-toxic pest control approaches that are central to IPM: physical, mechanical, and cultural methods.

Nothing in the Proposed Program other than efforts to exclude pests from entering the state in the first place is aimed at long-term prevention of pest outbreaks or of eliminating the need for repeating aggressive interventions with chemicals or other ecosystem-disrupting treatments. A key element of many comprehensive IPM programs is that chemical treatments, in addition to being a last resort, should only be used in the context of a long-term plan to ensure that repeated use of chemicals will not be needed (City of Albany 2008). This criterion should be a centerpiece of any state pest management strategy, to safeguard human and environmental health and to prevent expenditure of taxpayer dollars on costly ongoing chemical treatments.

According to the University of California IPM website, “cultural controls are practices that reduce pest establishment, reproduction, dispersal, and survival.”⁹ Cultural controls include practices to make the landscape robust to repel insect infestations, such as timing of , and harvest to avoid the target pest’s most active and populous stages; interplanting of different species or planting of trap crops and hedgerows that draw pests away from the target crop, and other ways of avoiding single-species (monocrop) plantings to which pests are attracted and can easily do extensive damage; targeted support of soil health including microbial life to ensure plant health and reduce soil conditions vulnerable to pests taking up residence, etc. These non-toxic practices have been demonstrated to reduce pest infestations and damage (see e.g, Leu 2014).The DPEIR includes no cultural controls of any kind.

⁷ See <http://www.ipm.ucdavis.edu/GENERAL/whatisipm.html>

⁸ See, e.g., <http://www.beyondpesticides.org/infoservices/pcos/What%20is%20IPM.pdf>

⁹ <http://www.ipm.ucdavis.edu/GENERAL/whatisipm.html>

Mechanical and physical IPM controls “kill a pest directly or make the environment unsuitable for it.”¹⁰ Physical controls include barriers to keep insects away from plants and other manual strategies such as removal of plant debris timed according to a pest’s life cycle to eliminate overwintering habitat for insects. The DPEIR Program Description includes only two sentences on physical control and only a single example of an actual physical control strategy: stripping fruit from host trees. The DPEIR also identifies visual observation and trapping as physical controls to be used in the Proposed Program; however, these are not considered physical controls in IPM but rather part of the information gathering and monitoring on which decisions about whether to intervene to control a pest would be based.¹¹ A true IPM program would include a detailed list of other non-toxic physical controls appropriate to the types of pests targeted, for example those listed above.

The Proposed Program does include two examples of the traditional IPM element of biological control: using natural pest enemies and releasing insects sterilized by radiation, to reduce a target pest population by ensuring that mating is unsuccessful. However, a full-fledged IPM program would give priority to non-toxic cultural, physical, and mechanical methods and would not resort to biological control unless these less disruptive practices failed. The definition of what constitutes failure and when intervention to manage a pest is needed is another important element of any true, comprehensive IPM strategy. The Proposed Program focuses heavily on taking rapid action to eradicate pests, over-emphasizing chemical use and under-emphasizing the use of non-toxic controls.

Among the DPEIR list of CDFA pest projects, 8 use chemical treatments for eradication, quarantine, or both purposes, and 28 appear to entail primarily or exclusively exterior quarantines and trapping only; i.e., the latter are essentially monitoring projects designed to exclude pests. That leaves 16 projects carrying out

¹⁰ <http://www.ipm.ucdavis.edu/GENERAL/whatisipm.html>

¹¹ Trapping can be used as a least-toxic control method in IPM if a high density of traps is used to reduce pest populations and those traps do not contain pesticides but rather work by a passive mechanism, for example sticky traps that kill by holding a pest until it starves or dies from dehydration. However, the Proposed Program’s trapping component is described (DPEIR at 2-11 – 2-13) as explicitly only for the purpose of detecting and delimiting pest populations, not for reducing them. Further, the male attractant pest control method described in the DPEIR, which is a type of trap, uses a sticky substance combined with highly hazardous pesticides (e.g., naled), which is contrary to IPM’s goal of reducing pesticide use.

management activities other than exclusion and survey trapping. If 8 projects that are actively treating for pests in the state are using chemical treatments, then over 50% of CDFA's active pest management projects rely on chemical management. This does not include the 3 ongoing chemical management projects for specific insects that are designated in Table 5-15 as being excluded in the Proposed Program as well as the undefined number of "all other CDFA eradication programs," that are also designated in that table as excluded from the Proposed Program.

This high percentage of chemical management projects casts doubt on CDFA's claim that the agency uses integrated pest management, which aims to reduce pesticide use, and that they use the least-toxic methods.

The DPEIR's characterization of the Proposed Program as IPM even though Program activities are not consistent with IPM principles and practices constitutes one more example of the DPEIR's lack of analysis sufficient to enable the public to understand whether, where, or when IPM strategies would be used.

E. The DPEIR's descriptions of specific pest control measures and their justifications are impermissibly vague.

Even for pest programs that are currently ongoing and for which the DPEIR describes specific protocols and treatments (for example the density of traps per area, the size of the area considered to be infested around a trapped specimen, the treatment options, etc.), there is no explanation of the scientific basis for numerical determinations such as trap densities, infested or delimitation areas, etc.; no description of the criteria for declaring eradication or determining that eradication is no longer feasible; and no site-specific evaluation of the impacts of the treatments.

For the specific pest management activities that are being or would be carried out for particular pests, the DPEIR gives generic descriptions, for example, of types of traps (DPEIR at 3-3), biological control agents currently in use or potentially to be used along with vague indications of where these agents have been released or are established ("in southern California," "in the Central Valley") and the open-ended note that "Other BCAs may be used in the future" (DPEIR at 3-4). Various methods of spraying pesticides are also listed (DPEIR at 3-8 – 3-9), followed by a list of specific pest management projects that are currently under way or anticipated. For the projects that currently entail chemical applications, the chemicals and application methods that may be used are given without any indication of which are used, when, where, or why. For example, for the Asian citrus psyllid, the DPEIR says "[e]radication options would

include” two options for soil application, one for foliar spray, and one herbicide for spot treatment. For “quarantine compliance” for the same insect, the DPEIR says that “One of the following combinations of chemicals would be applied [sic] the soil of host plants...” and “One of the following chemicals would be applied to the leaves of host plants...” (DPEIR 3-12 – 13), but no information is given to indicate which chemical combinations would be chosen under what circumstances, in what locations, or why. The possible chemical treatments for the other 7 pests listed in the DPEIR for which chemicals are used are similarly non-specific, leaving the public with no idea what pesticides would be used under what circumstances.

Further, the Ecological Risk Assessment asserts, without explanation, that “[p]esticide applications for eradication or control of invasive pests within the [Pest Detection/Emergency Program] PD/EP would only occur in residential settings” while “[t]rapping either for the eradication or control of pests, or for detection, may occur both in residential areas and production agriculture” (Appendix A ERA at 55). No explanation is given for the use of pesticides only in residential settings (where exposures would presumably have the greatest human health impacts) but not in agricultural settings, and it is not clear whether or how this assertion might be consistent with treatment protocols described elsewhere in the document. For example, where delimitation of a new detection and subsequent treatment for the Asian citrus psyllid project is described (DPEIR at 3-11 – 12), it is not clear whether or when this would be carried out under the PD/EP program or whether treatments would differ in agricultural citrus groves and in residential yards. The implication that PD/EP treatments might create an increased risk of pesticide exposure in residential areas must be clarified in the DPEIR so that the public knows whether it is in fact true that pesticide use for PD/EP eradication or control activities takes place only in residential areas and not in other areas, and the differential human health impacts that potentially result from such a differential application of pesticide treatments must be accounted for in the Human Health Risk Assessment.

In addition to its failure to adequately describe the specific activities that would be carried out and chemicals that would be used for each pest project covered by the Proposed Program, the DPEIR fails to disclose to the public what evidence was used to choose the particular treatments that are described and based on what evidence other treatments were rejected. The following assertion, from the explanation of why a number of least- and non-toxic alternatives proposed during the DPEIR scoping were rejected by the agency, appears to express the overarching assumption guiding the selection of some treatment methods and the rejection of others: “CDFA already uses all feasible and effective management approaches, and expects to use newly developed

management approaches in the future to the extent they are also feasible and effective” (DPEIR at 7-12). Unfortunately, the DPEIR does not disclose to the public any factual basis on which the agency has determined that its approaches are not only feasible and effective but are the only feasible and effective strategies available. Nor does the DPEIR disclose any factual basis on which the agency has dismissed a long list of least- and non-toxic pest management approaches that it either considered in the DPEIR Alternatives Analysis or rejected outright without consideration. The DPEIR simply asserts that these alternatives would not achieve the Proposed Program objectives or their effectiveness is “speculative.” To satisfy the requirements of CEQA, the DPEIR must provide the public with a transparent and valid explanation for rejecting alternatives that have fewer environmental impacts than the Proposed Program. The lack of this information is particularly troubling given the extent to which the agency’s pest projects rely on toxic chemicals, which are not the least environmentally intrusive alternative.

F. The DPEIR improperly segments and piecemeals portions of its program from this environmental review.

The DPEIR states that its purpose is:

to provide an up-to-date, transparent, and comprehensive evaluation of CDFA’s activities. The PEIR will serve as an overarching CEQA framework for efficient and proactive implementation of Statewide Program activities.

(DPEIR at ES-1.) The DPEIR further states that “[t]his Draft PEIR is intended to meet CEQA requirements for CDFA’s reasonably foreseeable plant pest prevention, management, and regulatory activities” (DPEIR at 2-1). However, the DPEIR fails to include and analyze the whole of this statewide Program and is unclear what prior environmental documents are relied upon in this EIR.

Even though the DPEIR expressly states that its scope is CDFA’s entire Statewide Program activities, the DPEIR excludes some ongoing plant pest projects with no explanation (see DPEIR at Table 5-15, listing programs “[n]ot included in the Proposed Program but carried out by CDFA under previous CEQA and [National Environmental Policy Act] NEPA authorizations and other approvals”). Arbitrarily, other pest activities for which prior CEQA coverage does exist—the Japanese beetle, gypsy moth, fruit flies, glassy-winged sharpshooter (Pierce’s disease)—are part of the Proposed Program. The pest treatment projects that are listed as not included in the Proposed Program are: the

beet curly top virus control project (which entails, among other activities, aerial spraying of the pesticide malathion, a mutagen and reproductive effector), the red imported fire ant interior exclusion program (which uses pesticides “including bifenthrin and chlorpyrifos”; bifenthrin is implicated in bee decline and chlorpyrifos is a mutagen and reproductive effector); and “All other CDFA Eradication, Containment, and Interior Exclusion Programs,” (which are listed as using an unspecified “variety of application methods” and “many different application methods”). In addition, Table 5-15 also confusingly states that the Light Brown Apple Moth Eradication and Containment Program is not included in the Proposed Program, but the Light Brown Apple Moth Exclusion program is part of the Proposed Program.¹²

¹² The DPEIR explains elsewhere that CEQA compliance for the LBAM Eradication Program expires in 2015 and that the 2010 LBAM PEIR evaluated LBAM eradication and containment activities but not quarantine activities for LBAM which are evaluated in the DPEIR. It is unclear whether the LBAM eradication program will continue after the authorization for eradication activities expires in 2015, whether the LBAM “containment” (control) program described in the 2010 LBAM PEIR will continue after 2015, or how cumulative effects of the entirety of the LBAM program are evaluated in the DEIR. Although the names of the LBAM programs listed in Table 5-15 and the description of the relationship between the LBAM PEIR and DPEIR on pages 4-10-11 seem to imply that the LBAM eradication program will not continue after the prior CEQA authorization expires, the DPEIR’s description of the LBAM project (DPEIR at 3-28) describes activities that take place “if eradication is determined not to be feasible,” which implies that eradication activities will in fact continue. As noted earlier, a project’s objective is critical for determining the nature and duration of the treatments carried out in that project. A legal challenge to the 2010 LBAM PEIR included as one of its claims that the switch from eradication to control as the objective of the LBAM program at the time the LBAM PEIR was certified fundamentally changed the nature of the environmental impacts that had to be evaluated because the eradication program risk and impact analysis assumed a limited program life of 7 years until LBAM was eradicated whereas a control program was considered to be indefinite, and the environmental impacts of an indefinite control program were not studied in the 2010 LBAM PEIR. The DPEIR analysis of the LBAM project and its role in the Proposed Statewide Program must make clear what LBAM activities have and have not been evaluated, what activities will be ongoing for LBAM in the future, and what portions of the 2010 LBAM PEIR will be considered to remain in force or to be recirculated in the DPEIR.

The DPEIR fails to provide any explanation of how these programs are not a part of CDFA's Statewide Program activities that are described in the DPEIR at ES-2 and 2-1. Indeed, exclusion of these programs thwarts the DPEIR's objective to "[c]oordinate CEQA compliance for the multiple, interrelated pest prevention and management programs under the Statewide Program" (DPEIR at ES-2). More importantly, however, the environmental impacts of all of the above pest activities that are not included in the Proposed Program seem likely to be significant given that these activities include, as noted above, aerial spraying of malathion and applications of the other chemicals listed. Excluding these program activities from the DPEIR fails to inform the public and decision makers of the overall risk and impact of CDFA's "Statewide Program" activities. Of further concern are (1) whether the environmental review conducted for these other programs leads to any results that are inconsistent with the facts, methodologies, or conclusions presented in the DPEIR, and (2) whether the present DPEIR may in the future be tiered from as a program EIR for any future changes or authorizations of the excluded program activities. Without a complete evaluation of all of CDFA's Statewide Program activities, the DPEIR fails to describe the whole of the project, and fails to inform the public and decision makers of the overall environmental impacts of CDFA's plant pest projects.

The DPEIR references prior environmental documents for several plant pests – Japanese beetle, exotic fruit flies, gypsy moth, Pierce's disease (glassy-winged sharpshooter, and light brown apple moth—and purports to explain which portions of those prior documents would be remain in force and what portions of those documents would be replaced by/ considered to be recirculated in the DPEIR. The DPEIR incorporates these prior CEQA documents by reference (DPEIR at 4-1), but it is unclear exactly which portions of those prior documents remain in force, are considered supplemented by the DPEIR, or no longer remain in force. For example, for the Japanese beetle, the DPEIR lists the three treatments for the beetle that were evaluated in the 1974 EIR, identifies treatments that are no longer used, and lists types of treatments for the beetle that are evaluated in the DPEIR. But it isn't clear where the DPEIR relies on the analysis of the 1974 EIR when evaluating the direct, indirect, and cumulative impacts of Proposed Program activities (DPEIR at 4-2). In addition, the DPEIR references prior CEQA and/or NEPA "authorizations and other approvals" for plant pest projects not included in the DPEIR but does not disclose what those authorizations and approvals are and how these documents influence the DPEIR's conclusions.

The DPEIR should also consider its emergency response program as part of the whole of the project being considered through this DPEIR. The DPEIR states that:

The Draft PEIR is not intended to address emergency projects. An “emergency” is defined as a “sudden, unexpected occurrence, involving a clear and imminent danger, demanding immediate action to prevent or mitigate loss of, or damage to, life, health, property, or essential public services” (PRC Section 21060.3). When CDFA determines that a newly identified pest population requires an emergency response, CDFA authorizes an emergency project. In accordance with CEQA Guidelines Section 15269, emergency projects authorized by CDFA are exempt from CEQA. However, use of the Draft PEIR should lessen the likelihood that emergency exemptions would be invoked and would facilitate fast responses to new pest infestations, reducing impacts of these pests.

(DPEIR at 1-6.) There is no dispute that CDFA’s emergency response program constitutes a significant portion of CDFA’s Statewide Program, the project evaluated by this EIR. CEQA requires consideration of the environmental impacts that would result from an approval, not separate consideration of each underlying approval. While the DPEIR puts forth that emergency projects are exempt from CEQA, such an exemption should only be considered, when appropriate, on a case-by-case basis: no such CEQA exemption is available for an entire program. Here, CDFA’s emergency program is so fundamentally intertwined with the additional program management activities that it must be included within the whole of the project. For instance, CDFA initiates its program activities through its “Pest Detection/Emergency Projects Branch.” The DPEIR states:

Pest Detection/Emergency Projects (PD/EP) Branch. The PD/EP Branch initiates and operates programs designed to detect, suppress, and/or eradicate priority pests, before the pests become established in California. Within the branch, PD implements statewide detection programs through trapping and survey, and EP provides first response resources for eradication or suppression of the detected pest introductions.

Whether CDFA provides a first response of eradication or suppression will have direct implications for the program’s environmental impacts. How are emergency determinations made, and how are resulting management activities chosen? How and when could emergency management activities diverge from other program management activities? The relationship among pest detection, emergency response,

and the whole of the remaining program is simply too interdependent to excise from review in this EIR.

Indeed, the DPEIR itself makes the assertion that the Proposed Program would lessen the need for emergency response, but fails to provide any information or analysis to support this claim (DPEIR at 1-6). Similarly, the DPEIR states that “Under the No Program Alternative, . . . [r]apid response/eradication activities would continue to be conducted, often on an emergency basis” (ES-13). Clearly, this interdependence between the Proposed Program and CDFA’s emergency projects must be fleshed out.

Later, in its evaluation of BIO-CHEM-1 through BIO-CHEM-5, the DPEIR lumps together pesticides used for pest detection and emergency response into a single category. Moreover, the DPEIR goes on to assign mitigation measures to these impacts. How were impacts from emergency responses evaluated here, and how will the proposed mitigation measures be required for emergency projects?

The DPEIR should evaluate impacts, feasible mitigation measures, and alternatives for its emergency program throughout the EIR, as part of the whole of CDFA’s statewide program.

G. The DPEIR fails to list all future approvals required, and all responsible and trustee agencies.

The DPEIR fails to clearly identify future approvals required as part of the Proposed Program. CEQA requires an EIR’s project description to include:

- (A) A list of the agencies that are expected to use the EIR in their decision making, and
- (B) A list of permits and other approvals required to implement the project.

(CEQA Guidelines, § 15124(d)(1)). Nowhere is this information clearly provided in the DPEIR. Although some project descriptions allude to the need for a subsequent approval (e.g., “[s]tore contaminated absorbent material and materials that cannot be decontaminated in a leak-proof container and dispose the container at a Class I landfill,” DPEIR at 2-31), the DPEIR fails to comprehensively identify each local, regional, state, and federal agency whose subsequent approval would be required, and what specific activities would require such approval. This information must be provided as part of the Proposed Program description.

Without a complete list of future approvals required, it is difficult if not impossible for the public and public agencies to determine which agencies should have been consulted and provided a copy of this DPEIR for review and comment during the statutory period. According to the State Clearinghouse, reviewing agencies for the DPEIR include:

Resources Agency; Department of Conservation; Department of Fish and Wildlife, Headquarters; Cal Fire; Department of Parks and Recreation; Department of Water Resources; California Highway Patrol; Caltrans, Division of Transportation Planning; Air Resources Board; State Water Resources Control Board, Division of Water Quality; Department of Toxic Substances Control; Native American Heritage Commission.¹³

Conspicuously absent from this list are the Department of Pesticide Regulation (DPR), the Department of Public Health, the Office of Environmental Health Hazard Assessment (OEHHA), and the California Environmental Protection Agency. The DPEIR admits that, in implementing the Proposed Program, CDFA would have to comply with several programs administered by CDPR and OEHHA, yet neither is listed as a responsible agency with any subsequent approval authority over any portion of the Proposed Program. In addition, other statements in the DPEIR indicate that Proposed Program activities may occur on public lands, suggesting that the State Lands Commission and University of California System, also should have been consulted with, and provided a copy of the DPEIR for the statutory review and comment period.

In addition, the DPEIR repeatedly refers to future involvement by the United States Department of Agriculture, suggesting that this Proposed Program should be the subject of environmental review pursuant to the National Environmental Policy Act prior to approving or implementing the Proposed Program. For example, the DPEIR states that: “[e]arly detection occurs through a collaborative effort between USDA, CDFA, county agricultural commissioners, industry and producers” (DPEIR at 2-12); “CDFA bases its management response on the following criteria: . . . The potential severity of the pest infestation (i.e., fecundity, pathways, availability of hosts, availability of vectors) as determined by the USDA’s New Pest Advisory Group . . .” (DPEIR 2-14); “USDA may convene a Technical Working Group to consider each situation before deciding on a response plan,” DPEIR at 2-16; “population thresholds are pest-specific and are set based on input from USDA,” (DPEIR at 2-17); “introducing

¹³ <http://www.ceqanet.ca.gov/DocDescription.asp?DocPK=684218>

biological control agents by engaging other required State and federal agencies (e.g., NEPA environmental review through USDA," (DPEIR at 2-21); "LBAM are detected using pheromone-baited sticky traps, following a trapping plan cooperatively implemented by CDFA and the U.S. Department of Agriculture (USDA)" (DPEIR at 4-10). The DPEIR should completely describe the USDA's role in approving and funding each aspect of the Proposed Program.

H. The apple moth program is a case example illustrating the need for specific description of the Proposed Program activities and subsequent environmental review for all projects.

CDFA's light brown apple moth (LBAM) program, which began in 2008 and continues today, illustrates why the identified ambiguities in the description of the Proposed Program must be clarified.

The DPEIR's premise that CDFA must respond rapidly to eradicate when a "new" or "dangerous" pest is identified is based on the dual assumption that the agency can reliably determine whether a pest is new or dangerous and whether eradication is possible. In fact, the evidence of CDFA's past pest eradication projects demonstrates the unreliability of the agency's determinations about whether a pest is new or has already spread beyond the small delimited area in which eradication might be feasible and the grave impacts on human and environmental health as well as the huge financial costs of their erroneous judgments. Along with the decades of emergency "eradications" of fruit flies described below and in listed in the references included with this letter (CDFA. 2012. Eradication Projects 1982-2012, Papadopoulos et al. 2013), the LBAM program is an example of CDFA's rush to eradicate a pest that it deemed new and dangerous and found in a range so limited that eradication would be feasible. In fact, LBAM has proven not to be a damaging pest and to have already been widespread in several areas of the state, beyond what was feasible to consider for eradication, when the insect first became a priority at the agency.

The result of CDFA's incorrect determinations about LBAM was a decision to aerially spray large populated areas of Monterey and Santa Cruz counties, after which hundreds of people reported illnesses and at least one infant nearly died.¹⁴ In addition, the agency planned to expand the spraying to the San Francisco Bay Area and repeat it monthly for 7 years, a plan that was stopped by public outcry and legal challenges; the

¹⁴ <http://www.sfgate.com/health/article/Aerial-pesticide-spraying-put-people-at-risk-3185991.php>

legal challenge that stopped LBAM spray in the Bay Area would no longer be possible if the DPEIR as currently written were to be certified.

Several aspects of the apple moth eradication program demonstrate that CDFA abused its discretion – as two judges ruled in lawsuits to stop the spray program (*Helping our Peninsula's Environment v. CDFA* 2008; *County of Santa Cruz v. CDFA* 2007) – and that the agency's historic poor judgment does not warrant the vast latitude to make similar future judgments that CDFA seeks in the DPEIR.

First, it is now clear that LBAM does not merit its "Class A" or high-risk designation, which is what justifies the kind of rapid or emergency eradication response that the DPEIR is designed to authorize. CDFA has not produced a single documented instance of damage to crops or wildland plants by LBAM in the 7 years since the LBAM emergency was declared. The LBAM program DPEIR, which was certified in 2010, admits that "no crop damages have been experienced to date" (LBAM DPEIR 3-21, B 3-5), and none have been documented since then. What assurance does the public have that CDFA's judgment regarding the risk posed by a pest would be any more sound in the next instance than it was for LBAM?

Second, findings of LBAM over a large area in 2007-08 – portions of Monterey and Santa Cruz counties, locations around the San Francisco Bay Area – already indicated that eradication was impossible despite the agency's murky attribution to a technical working group the opinion that eradication was feasible.

Third, CDFA's trapping program for LBAM was grossly inadequate to support a determination that LBAM was a new introduction. The agency had not trapped at all for the pest in most of the state including some of the areas where it was subsequently found in large numbers, so it had no reasonable basis on which to conclude that LBAM was a new introduction. A 2009 National Academy of Sciences (NAS) report (National Research Council) on the justification for the apple moth's designation as a priority pest concluded, "the survey and trapping regimen used in California before 2007 was probably inadequate to determine the presence or absence of LBAM."

As the months passed, LBAM was detected in traps in more and more areas. CDFA claimed this was evidence that LBAM populations were spreading across hundreds of square miles essentially before their very eyes. But in fact, as the NAS report notes, the assertion of "a progressively increasing population is misleading in that the limitations of the census methods are not discussed. The increase in mean moths per trap per month may partly reflect the increasing number of traps and the

increasing geographic area of their placement, inasmuch as both can increase the probability of inclusion of localized high-density populations. Data derived from repeated trapping at the same locations with constant trapping efforts are more informative.”

In short, CDFA’s trapping densities and protocols were insufficient to draw any conclusions about how long LBAM had been in the state or how far it had spread. The NAS report also critiqued the model used to project LBAM’s potential spread as “not well documented with regard to assumptions and justifications” and found that “[t]he interpretation of the model output as the probability of establishment is technically incorrect.” The NAS concluded on the basis of these and other flaws that *[t]he biological data presentedto support the invasive nature of LBAM, its history in California, and its potential geographic distribution in the United States are problematic and in some cases not based on sound, rigorous science.*” The NAS report also criticized the “inconsistent and sometimes incomprehensible analytic techniques” used to justify LBAM’s classification. These included projections of large-scale economic damage from LBAM that were skewed by using the highest-value crops grown in California even though LBAM is not known to be a pest of those crops and other defects.

Despite the lack of data on whether LBAM’s range and numbers made it even a candidate for an eradication effort, the lack of data about damage attributable to LBAM, and the long list of unsubstantiated analyses of the risk LBAM posed that were later documented by NAS, CDFA rushed to declare an emergency and spray populated areas with an untested pesticide, within months of an apple moth being found in a retired entomologist’s personal backyard trap, which was the only reason the moth came to CDFA’s attention.

Based on this flawed sequence of events in one of the most recent pest “emergencies” that CDFA declared, the groups on whose behalf these comments are submitted are understandably skeptical and apprehensive about the DPEIR’s vague descriptions of how the Proposed Program would make the types of decisions that went so awry in the LBAM story as well as the extensive license that DPEIR gives CDFA to take actions similar to those taken for LBAM. If the DPEIR had been certified before LBAM was found, CDFA would have been free to spray – and would still be spraying today – 7 million residents of the San Francisco Bay Area, monthly, with a pesticide whose health effects had never been evaluated, for a pest that has done no damage to agriculture. Even though the DPEIR asserts that no future aerial spraying will take place in “residential” or “urban” areas, a program of spraying from trucks or backpacks

in cities and on private property would still be possible — and is routinely pursued now for other pests.

And even though LBAM has still to date done no documented damage to crops since its identification in 2007, the quarantines and treatments for the moth continue because the agency has no exit strategy or criteria for reducing the scope or intensity of the program. So the program continues to burden farmers and homeowners with costly quarantine regulations and to create health and environmental risks through the use of unnecessary chemicals. The Pest DPEIR Proposed Program threatens to replicate the LBAM program trajectory on an exponentially larger scale, with multiple pests and multiple chemicals in multiple places, potentially continuing indefinitely with no public re-evaluation of program goal or treatment approaches.

The LBAM example demonstrates that the sweeping scope of the DPEIR is unacceptable. The LBAM example shows how CDFA's program activities can have significant environmental and health impacts, and it calls into question the DPEIR's conclusions that most impacts of the Statewide Program would be insignificant. Moreover, not only do the agency's pest treatments pose a risk to public and environmental health, but the DPEIR gives CDFA far too much latitude to undertake pest treatments without the checks and balances of a publicly noticed CEQA process that would not just "inform" affected communities but give them an opportunity to vet the agency's proposed activities and take action to stop those treatments if the evidence does not justify them. This type of scrutiny is what is necessary to keep the environmental and public health impacts of future program activities in check, and exactly the kind of public scrutiny the DPEIR appears designed to enable CDFA to avoid.

CDFA should learn from the mistakes of the LBAM program. The agency should disclose in the DPEIR with much more clarity than it has done what future activities are permitted and when, and should clearly provide for subsequent public review.

I. The DPEIR must disclose whether pesticide treatments will occur near sensitive populations.

Although the risk assessment and impact summary for the DPEIR air quality analysis states that Program activities would take place at schools, the DPEIR itself does not explain whether Program treatments would be carried out at schools, what types of treatments would or would not be allowable at schools including whether the California Department of Pesticide Regulation (DPR) *List of Pesticide Products Prohibited*

from Use in Schools and Child Care Facilities would be used in choosing pesticides that might be applied at school sites, or what mitigation measures would be applied to protect children from pesticide exposure if treatments were carried out at schools. There is no discussion of whether the Proposed Program would respect individual school districts' bans on pesticide use, required buffer zones, or other relevant regulations. The DPEIR must explicitly disclose whether Program activities, including pesticide applications, will take place at schools, under what conditions, and with what mitigations.

Similarly, the DPEIR does not address how hospitals, nursing homes, and other facilities where ill and vulnerable populations are found would be handled in the Proposed Program. This information must be disclosed. For example, the Hazards and Hazardous Materials Risk assessment section noted that databases are available that identify the locations of schools and elder care facilities (DPEIR at 6.5-5) but does not say what the agency will do with this information in regard to, for example, avoiding treatment, adjusting treatment protocols, or other measures. The DPEIR should clearly discuss what impacts the Proposed Program will have on vulnerable populations and how these impacts may be avoided or mitigated.

IV. The DPEIR Fails to Adequately Define the Program's Baseline.

In order to determine whether a project's impacts will be significant, CEQA requires the lead agency to compare the impact of a proposed project to the "physical environmental conditions in the vicinity of the project, as they exist at the time the notice of preparation is published." These conditions serve as the project's "baseline." 14 Cal. Code Regs. § 15125; *see also* 14 Cal. Code Regs. § 15126.2(a). The description of the project's baseline must ensure that the public has "an understanding of the significant effects of the proposed project and its alternatives," 14 Cal. Code Regs § 15125(a). Accurately determining the baseline environmental conditions is crucial to accurately evaluating a project's impact.

The DPEIR's description of the environmental baseline of the Proposed Program is far too vague to provide the public with an understanding of what impacts the Proposed Program will have. Where possible, more detailed information on statewide environmental conditions and existing program activities must be provided in a revised DPEIR. In particular, and as described below, current CDFA activities, and existing groundwater and surface water conditions should be described on a statewide level in more detail.

We recognize that some detailed site-specific information is simply not possible for a programmatic EIR of this scale, and that the DPEIR is only able to provide incomplete data when characterizing the existing environmental qualities of the entire state of California. Such information, however, is critical for determining what incremental environmental change a proposed project may have and whether it may be significant. The DPEIR should clarify that this ground-level information, therefore, must be included in subsequent project-level CEQA review for each future management activity proposed pursuant to this Proposed Program.

A. The DPEIR must disclose the CDFA activities considered as part of the baseline.

The DPEIR notes that “[m]any of the activities that would be conducted under the Proposed Program are already ongoing. Therefore, the impacts analysis presented in this Draft PEIR considers these ongoing activities to be a part of the baseline environmental conditions” (DPEIR at 6.0-1). But nowhere in the DPEIR does it list exactly which of the “many” activities the DPEIR considers part of the baseline, and which of the Proposed Program activities are considered as in addition to the baseline activities. Similarly, the DPEIR states that “although noise-generating pest management activities are ongoing, they may occur in locations which have not been previously subjected to these activities; therefore the baseline level of noise-generating pest management activities is zero in these locations” (DPEIR at 6.0-2). But nowhere does the DPEIR state where “noise-generating pest management activities are ongoing” and where they are not. Instead, the DPEIR concludes without evidence that it is “anticipated to be rare that noise generated under the Proposed Program would combine with other noise sources to create substantial noise effects. The contribution of the Proposed Program to the cumulative noise impact would not be considerable, and the cumulative impact would be less than significant” (DPEIR at 6.6-13).

In particular, the DPEIR does not disclose how much pesticide CDFA actually uses annually in its plant pest management programs. Although the database associated with the DPEIR gives CDFA pesticide application rates, and total usage in the state for Proposed Program chemicals is given in Tables 5-5 through 5-13, the DPEIR does not anywhere state actual usage specifically by CDFA or by growers complying with required CDFA quarantine or other pest management protocols in current or prior years. This information must be disclosed for the public to understand the past and current contribution of CDFA pesticide use. These data should ideally be broken down to show chemical usage for each pest project. Without transparent information on CDFA’s current chemical use, it is impossible to determine what contribution the Proposed

Program might in its current ongoing state be making to cumulative impacts or to have a sense of the potential magnitude of growth in that chemical use as the other foreseeable pest projects described in the DPEIR might be implemented.

B. The DPEIR fails to adequately describe groundwater conditions.

The DPEIR fails to meaningfully describe the existing groundwater quantity or quality of areas that will be adversely affected by the Proposed Program, providing only gross, aggregated, and generalized data that fail to describe the existing environmental conditions for purposes of any project-level impact assessment. For example, the DPEIR fails to state:

- Specifically which groundwater basins or aquifers are contaminated?
- Which are contaminated by pesticides or pesticide toxicity?
- What are the activities and factors that led to this contamination?
- How can these activities and factors be extrapolated to groundwater basins that have not been tested?
- What have been the drinking water or agricultural water supply consequences for areas with pesticide-contaminated groundwater?
- What are projections for future groundwater demands?
- What remediation efforts have been attempted, at what cost, and to what success?

Regarding groundwater quantity and supply, the DPEIR does report, for some regions, what percentage of regional drinking water consumption comes from groundwater. However, the DPEIR fails to include this statistic for each region and fails to disclose specifically which aquifers within each region are relied on most heavily or are most depleted (DPEIR at 6.7-1 to 6.7-4).

Regarding groundwater quality, the DPEIR states that:

Between 2009 and 2010, CDPR and the California Department of Public Health (CDPH) sampled 22,999 wells, of which pesticides were detected in 5,160 wells (Cal/EPA 2011). CDPR collected and tested surface water in six agricultural regions throughout California between June 2006 and July 2007. Of the 95 water samples, 82 percent had detections of at least one active ingredient and 65 percent had detections of more than one active ingredient (Starner et al. 2011) (DPEIR at 6.7-6).

The DPEIR fails to disclose that the DPR data cited only monitored for 6 of the 98 pesticides on the Groundwater Protection List, relying on data from other agencies to characterize 37 of the listed pesticides, and providing no data for 55 listed pesticides.¹⁵ The DPR program also failed to include soil monitoring, and failed to monitor for pesticide degradates. Although DPR's 2013 groundwater monitoring report expanded its scope slightly, still only 18.9% of pesticides, 10.9% of wells, and 30.2% of counties, were sampled.¹⁶ No sampling for aggregate pesticide toxicity is ever reported. DPR's groundwater data do not describe existing conditions sufficiently to enable determination of the Proposed Program's impacts.

The DPEIR goes on to cite additional data showing existing groundwater contamination but, again, fails to provide sufficient information to enable a determination of the effects of the Proposed Program compared to existing environmental conditions:

With respect to groundwater, the following chemicals that may be used under the Proposed Program were monitored in groundwater and reported in one or more databases (USGS 2011, CEDEN 2010, SWRCB 2000, CDPR 2009a; CDPR 2009b; CDPR 2010b; CDPR 2011b; CDPR 2012a; CDPR 2012b; CDPR 2012d): carbaryl, chlorpyrifos, DDVP, diazinon, imidacloprid, malathion, methyl bromide, naphthalene, permethrin, 1,2,4-trimethylbenzene, and xylene. Only methyl bromide and the inert ingredients 1,2,4-trimethylbenzene, naphthalene, and xylenes exceeded their respective EPA acute or chronic Human Health HHBP (EPA 2009a), MCL (EPA 2011a), or the most stringent regulatory level available for California groundwater (DPEIR at 6.7-7).

A complete assessment of these data is required: how great and frequent were the exceedances that were found? Where did they occur? What consequences or remediation efforts followed? Were any samples close to, but not above, the most stringent regulatory level available?

Regarding these data, the DPEIR goes on to state:

¹⁵ See, http://www.cleanwateraction.org/files/publications/ca/Pesticides_and_Groundwater.pdf

¹⁶ See, <http://www.cdpr.ca.gov/docs/emon/grndwtr/wellinv/wirmain.htm>

Ingredients present in Proposed Program pesticide formulations include 1,2,4-trimethylbenzene, naphthalene, and xylenes, typically at concentrations less than 5 percent. These chemicals are more typically constituents of gasoline and diesel fuel. California has remediated numerous leaking underground storage tanks that have affected groundwater (Cal/EPA 2011). Accordingly, these three chemicals in groundwater are most likely traceable to leaking underground storage tanks (DPEIR at 6.7-7).

The DPEIR simply provides no evidence to support this speculation. While the DPEIR fails to state exactly where such exceedances occurred, and whether any pesticide applications of the detected chemicals had occurred within the vicinity of the test site, the majority of the data the DPEIR references here come from DPR, which expressly states that, to conserve agency resources, water bodies most likely to suffer from pesticide contamination will be prioritized for testing.

In sum, while the DPEIR does report that pesticide contamination of groundwater has been and is a problem throughout California, the DPEIR fails to provide relevant information necessary – such as specifically where pesticide-contaminated groundwater exists or is likely to exist, how such contamination came to be, and what environmental and public health impacts have resulted – to enable evaluation of the potentially significant impacts of the Proposed Program on actual groundwater supplies

C. The DPEIR fails to adequately describe surface water conditions.

The DPEIR's description of existing surface water quality monitoring presents an alarming picture, yet, again, fails to provide sufficient information to actually understand the affected environment sufficiently:

In monitoring conducted between 2001 and 2010, more than 50 percent of collection sites showed some degree of toxicity (in fresh water and fresh water sediment samples), and more than 45 percent of the sites showed some degree of toxicity (in marine sediment samples).

...

Correlation analyses and toxicity identification evaluations suggest that toxicity to invertebrate test species was caused most often by pesticides (e.g., diazinon and chlorpyrifos) (DPEIR at 6.7-6 to 6.7-7).

While these data clearly show that pesticide contamination of surface waters is a critical problem, without a more particularized review of which surface waters are and are not contaminated, no meaningful evaluation of the Proposed Program's impacts is possible.

The DPEIR continues:

Among the chemicals that may be used under the Proposed Program, acephate, acetamiprid, bifenthrin, carbaryl, chlorpyrifos, cyfluthrin, diazinon, fenpropathrin, glyphosate, imidacloprid, malathion, methamidophos, naled, naphthalene, permethrin, pyrethrins, thiamethoxam, and xylene surface water concentrations are monitored and reported in one or more databases (DPEIR at 6.7-7).

Accordingly, the DPEIR provides no description of the existing environmental conditions regarding all other pesticides proposed for use in the program.

For the majority of the listed ingredients, surface water concentrations are below detection limits in California surface water. Only acephate, chlorpyrifos, and diazinon exceeded their respective U.S. Environmental Protection Agency (EPA) acute or chronic Human Health Benchmark for Pesticides (HHBP) (EPA 2012a), Maximum Contaminant Level (MCL) (EPA 2009x), or the most stringent regulatory level available for California surface water. The highest detected concentration of acephate was found at 13.5 parts per billion (ppb). Chlorpyrifos was found at a high of 3.96 ppb, and diazinon was found at a high of 61.9 ppb (DPEIR at 6.7-7).

First, the DPEIR is unclear which "listed ingredients" it refers to; pesticides and their ingredients are placed on many different lists. Second, what pesticides were detected, but below the most stringent regulatory level? Were any pesticides detected that were near the most stringent regulatory level? Third, for pesticides detected above regulatory limits: what were the magnitude and frequency of exceedances? Lastly, for all sampling described in this paragraph, which water bodies were tested?

Finally, the DPEIR states that, "[i]n addition to the previously described Surface Water Protection Program (SWPP), CDPR operates a Groundwater Protection Program (GWPP)." (6.7-6.) However, the CDPR Surface Water Protection Program is nowhere "previously described" in the DPEIR. This program constitutes a major regulatory effort

to curtail surface water contamination from pesticides, and a discussion of its strengths and limitations, as well as the Proposed Program's ability to comply with it, is required.

Again, while the DPEIR does report that pesticide contamination of surface water has been and is a problem throughout California, the DPEIR fails to provide relevant information necessary to evaluate the potentially significant impacts of the Proposed Program on actual surface water bodies, such as specifically where pesticide-contaminated surface waters exist, how these specific waterways came to be contaminated, which pesticides have caused contamination and to what degree, and what environmental and public health impacts have resulted.

D. The DPEIR fails to adequately describe hydrologic site conditions where applications would occur.

Because future pesticide treatments under the Proposed Program could occur anywhere within the State of California, at any time, the DPEIR could not and did not adequately describe the existing environmental conditions of all sites that would be subject to pesticide treatments. However, the DPEIR does not deny that these site conditions matter a great deal for determining the fate and transport of chemicals off site to an impacted water body. Instead, the DPEIR simply assumes, with no supporting evidence or analysis, that the undescribed site conditions will all help to mitigate the Proposed Program's impacts:

[t]he assessment assumed that chemicals would go directly from a treated field or other area into the waterbody; real-life conditions would be likely to include varying soils conditions (affecting adsorption), heterogeneous terrain (as in the case of row crops), dilution from irrigation, buffer zones from waterbodies, and other measures intended to reduce potential for discharges. A local waterway or drainage also potentially would have a greater existing volume of water and flow-through than the modeling assumes, and this also would result in a greater dilution of any chemical concentrations in runoff (DPEIR at 6.7-11).

Here, the DPEIR simply admits that it does not take into account "real-life conditions." Without evaluating site-specific conditions, it is not possible to determine the impacts of an activity under the Proposed Program.

What soil types most and least promote groundwater infiltration, and where do these occur? What soil types most erode and contribute to direct and stormwater

discharges of pesticide-contaminated sediment, and where do these soils occur? Where might treatments occur over impervious surfaces? What pathways of contamination exist on each site, and in what proximity to target pests? What is the assimilative capacity for each receiving water location?

The DPEIR must be corrected to provide the public with a meaningful picture of what activities are included in the baseline, and what Proposed Program activities will result in significant impacts above the environmental baseline.

E. The DPEIR fails to adequately describe baseline air quality conditions.

The DPEIR seemingly randomly and without justification selected 2008 through 2010 as the years from which the baseline for criteria pollutants would be developed. There is no explanation or justification, other than a conclusion that doing otherwise was “determined not to provide more representative data.” Furthermore, even for those years, some information was missing, and a single year’s data are used as the basis for the baseline, despite CDFA’s own admission that “the location and intensity of Statewide Program activities is inherently highly variable from year to year . . .” (DPEIR at 6.2-16). Despite this admitted variability, the DPEIR assumes “that the Proposed Program would have the same activity level as the baseline” (*Id.*). The DPEIR fails to provide any information or analysis to support this baseline choice, and its own evidence suggests that some years with higher baseline criteria pollutant loading would occur.

V. The DPEIR Fails to Adequately Analyze the Significant Environmental Impacts of the Proposed Program.

CEQA requires that an EIR describe the proposed project’s significant environmental effects; each such effect must be revealed and fully analyzed in the EIR. Pub. Res. Code § 21100(b), 21002.1; CEQA Guidelines § 15126.2(a). Significant effect on the environment refers to substantial, or potentially substantial, adverse changes in physical conditions. Pub. Res. Code § 21060.5; *see also* Pub. Res. Code § 21100(d). An EIR must provide an “analytically complete and coherent explanation” of its conclusions. *See Vineyard Area Citizens for Responsible Growth v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 439-40. “The data in an EIR must not only be sufficient in quantity, it must be presented in a manner calculated to adequately inform the public and decision makers, who may not be previously familiar with the details of the project.” *Id.* at 442. Moreover, an EIR that purports to rely upon a future analysis or that does not properly incorporate or reference a separately performed analysis does not adequately inform

the public. *Id.* at 440-41, 443; *see also* CEQA Guidelines, § 15151 (providing that an EIR should contain “a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences”).

As discussed below, the DPEIR fails to adequately disclose and analyze the significant environmental effects of the Proposed Program, including impacts on sensitive species.

A. The DPEIR significantly underestimates the area of the state expected to be under quarantine.

The DPEIR estimates the area of the state expected to be under quarantine for one or more pests will be 100,000 acres (DPEIR at 3-35). This number appears likely to be significantly underestimated based on past history. In 2010, the Western Farm Press reported that 384 million acres (600,000 square miles) of California was under quarantine for eight pests. To date in 2014, nearly 30 million acres (47,000 square miles) are under quarantine for only one pest, the Asian citrus psyllid. Thus, in comparison to past and current quarantine area in the state, the projected total of 100,000 square miles in future years is a gross underestimate. The DPEIR should base its estimate of future quarantine area on a factual analysis of quarantine area in past years corresponding to the numbers of pests and pest programs represented.

B. The DPEIR does not justify its conclusions about impacts of program treatments on sensitive species.

As is the case throughout the DPEIR, the biological resources section does not and cannot analyze all needed relevant information to adequately inform the public and decision makers of the Proposed Program’s significant impacts on critical plant and wildlife species. Instead, substantial analysis and formulation of necessary mitigation measures is deferred to a future time when, under the DPEIR’s tiering strategy, no public review and comment will occur, and with no guiding performance standards or criteria. Adverse impacts on numerous species are identified in the DPEIR, and assurances that these impacts will be avoided are simply unsupported by detailed information and analysis.

For example, the DPEIR’s impact analysis relies heavily on its Ecological Risk Assessment, which states:

The presence of special-status species or sensitive habitat may require that treatment regimens be altered so that take of the species, or adverse modification of sensitive habitat, would not occur. Treatment plans are designed so that “take” of special-status species would not occur. This may mean that a section of riparian area only would be treated partially (*e.g.* no insecticides sprayed on trees above a certain height level so that no drift occurs into the associated water body) or no treatment would occur at all (Appendix A ERA at 494).

This improperly defers both the analysis of the impact and the development of mitigation measures to a future process that is entirely outside of public CEQA review. What special-status species or sensitive habitat is being impacted? What treatment modifications would be necessary? How would such modifications affect the Program goals?

The DPEIR includes a threshold of significance stating that Program activities would have a significant adverse impact on biological resources if the activity would “Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan”; but the DPEIR goes on to conclude that such impacts would be less than significant because the Program “would be required to comply” with such plans and policies” (DPEIR at 6.3-7). Of course, the DPEIR does not and cannot actually evaluate whether its proposed activities *would* comply with all applicable state, regional, and local plans and policies, nor does the DPEIR even list which specific plans and policies may be implicated. All such future analysis is inherently place-specific and must be the subject of future environmental review. The information provided in the DPEIR gives the public no way to determine whether the Program, as proposed, would implicate and comply with any particular plan or policy adopted to protect sensitive species.

The DPEIR provides inadequate information or analysis to support its conclusions that both physical and chemical traps and lures could have no significant impact on sensitive species (DPEIR at 6.3-9, 6.3-15). The DPEIR states that traps and lures usually have special design and color to focus on target species and therefore would not harm other species, yet the Ecological Risk Assessment and DPEIR also rely on surrogate species for their evaluations, contradicting the DPEIR’s conclusion that species of similar taxonomic, geographic, and dietary varieties would not behave similarly. The only evidence offered to support the conclusion that non-target species would not be harmed by trapping is the absence of information: “to date CDFA has not been made aware of any special-status invertebrates caught in its traps” (DPEIR at 63-

9). In addition, the DPEIR concludes that “[t]rapping also would not be anticipated to reduce insect populations to a level that would have negative impacts on special status insectivores or pollinator-dependent, special-status plant species,” but provides no information or analysis to support this bare conclusion.

The DPEIR states that “sweep net surveys may result in the capture and mortality of non-target invertebrates, including special-status invertebrates in limited instances,” but goes on to conclude that this would not have a substantial effect on special-status species or natural communities (DPEIR at 6.3-9). Does this activity have any potential to take any threatened, endangered, or special-status species? Does the DPEIR consider the taking of a listed species to be a less-than-significant impact?

The DPEIR’s conclusion that removal of host fruits and flowers would not impact sensitive or special-status species is also unsupported. First, the DPEIR notes that “CDFA or growers often do not remove host fruit or flowers in part because of concerns regarding reduced food availability for native insects,” establishing CDFA’s belief that this activity may in fact adversely impact native insects (DPEIR 6.3-9). But the DPEIR presents no binding commitment that such removal will not occur. The DPEIR goes on to state that host removal would not occur in sensitive natural communities, but provides no indication of where this would apply or how it would be monitored or ensured. The DPEIR argues that host removal would mimic typical ongoing fruit harvest activities, despite the fact that harvest may be seasonal while the CDFA program could occur at any time and with far greater impacts on host fruits and flowers than many harvest practices. Lastly, the DPEIR states that the limited area of agency activity would only constitute a small portion of foraging area for any insect but provides no information to support this conclusion, even where some Program management areas may include tens of thousands of acres.

Mitigation Measure BIO-CHEM-2 impermissibly defers disclosure and evaluation of impacts to be mitigated, fails to include performance standards or guidelines that ensure impacts will be mitigated to less-than-significant levels, and fails to include binding commitments. First, Mitigation Measure (MM) BIO-CHEM-2 states that CDFA will “identify any suitable habitat for special-status wildlife species identified as having potential to (1) occur in the region and (2) be affected by the treatment scenario in question” (DPEIR at 6.3-13). This is precisely the sort of determination and evaluation that must occur through CEQA review for the benefit of responsible agencies and the public. As stated, MM BIO-CHEM-2 provides CDFA unfettered discretion to determine whether or when it applies, cutting the public entirely out of the process. Second, MM BIO-CHEM-2 states that if such habitat is

found, “CDFA may obtain technical assistance from USFWS, CDFW, and NMFS to develop treatment plans that will avoid or minimize substantial adverse effects on special-status species.” In this situation, technical assistance from relevant wildlife agencies should not be permissive, as MM BIO-CHEM-2 proposes, but compulsory and include specific standards as CEQA requires. Mitigation measures must be “fully enforceable through permit conditions, agreements, or other measures” so “that feasible mitigation measures will actually be implemented as a condition of development.” *Federation of Hillside & Canyon Ass’ns v. City of Los Angeles*, 83 Cal.App.4th 1252, 1261 (2000). CDFA proposes unenforceable mitigation measures that they “may obtain technical assistance” requiring CDFA to coordinate with the wildlife agencies and “may include modifications” (DPEIR at 6.3-13). These vague and non-binding measures provide no requirements for the adoption of mitigation measures upon which CDFA would rely to reduce the Proposed Program’s potentially significant impacts. “[R]eliance on tentative plans for future mitigation after completion of the CEQA process significantly undermines CEQA’s goals of full disclosure and informed decisionmaking.” 184 Cal.App.4th 70, 92. The DPEIR fails to provide any specified standards as required by CEQA, leaving the adoption of these mitigation measures in doubt.

The DPEIR fails to provide meaningful performance standards or criteria for MM BIO-CHEM-2, stating only that “[t]reatment plan measures may include modifications in the timing, locations, and/or methods for chemical treatments on a case-by-case basis, including establishment of site-specific buffers.” MM BIO-CHEM-2 states that no “take” authorization will be required but fails to explain why. MM BIO-CHEM-2 also states that a treatment plan will be “provided to those implementing the treatments” but does not explain how or whether the treatment plan would be binding on such parties, or how or whether it would be monitored. CEQA requires CDFA to “provide that measures to mitigate or avoid significant effects on the environment are fully enforceable through permit conditions, agreements, or other measures.” Pub. Res. Code § 21081.6(b).

The DPEIR’s evaluation of impacts on insectivores through impacts on non-target insects is inadequate. First, why were the limited number of “Scenarios with Potentially Elevated Risk for Non-Target Insects” chosen (DPEIR at 6.3-13 - 14)? Second, the DPEIR rests its conclusion on the assertion that activities “would be implemented in existing residential, agricultural, or nursery settings that would not provide high-quality habitat and frequently would be disturbed by human activity,” without any actual evaluation of any particular treatment area to determine whether, for example, a

particular agricultural or residential setting, because of its unique management practices, actually does provide high-quality habitat for special-status insectivores.

The DPEIR fails to adequately disclose and analyze the Proposed Program's impacts and environmental setting. The DPEIR assumes that many biological resources will not be impacted because pesticide spraying would "generally" occur in areas away from native habitat and would not affect "high quality habitat" (DPEIR at 6.3-1, 6.3-14). The DPEIR fails to disclose and analyze the impacts of pesticide spraying when it would not "generally" occur away from native habitat. The DPEIR fails to adequately analyze the admitted impacts to native habitat because it improperly assumes that no spraying will occur there. The DPEIR's failure to provide an adequate discussion of the location of spraying in relation to sensitive biological resources (DPEIR at 6.3-4) runs afoul of CEQA.

The DPEIR fails to adequately disclose and analyze the Proposed Program and its impacts because it disregards the impacts of pesticide drift, especially on biological resources. CEQA requires that an EIR analyze the whole of the Project including associated project components and impacts, and impacts that are further distant in the future. *See* CEQA Guidelines, §§ 15126 (impact from all phases of the project), 15358(a) (direct and indirect impacts). A National Research Council report summarized the literature on spray drift and bracketed the spray drift component of a pesticide application conducted under "normal" (not defined, but presumably within label restrictions, 3-10 mph) wind conditions as typically 40-60% of the applied mass (National Research Council 1993). In an environmental monitoring study of pesticide drift, the California Department of Pesticide Regulation assumed primary spray drift losses of 10-60% (CA DPR 2010). Much of this loss of material is in the form of "driftable fines," fine aerosol particles under 200 microns in size that are not deposited on the ground near the application. An evaluation of the information provided by a spray nozzle manufacturer's technical literature indicates that a nozzle commonly used for insecticide and fungicide applications produces 34% of the spray volume with a diameter less than 200 microns at 3 bars of pressure, indicating that 34% of the total spray applied is comprised of driftable fines under those conditions (TeeJet 2014).

Long-range transport of pesticides used in the Central Valley of California has been shown to result in contamination of sensitive habitats in the Sierra Nevada mountains (Zabik 1993, Aston 1997, McConnell 1998, LeNoir 1999), and the presence of pesticide residues in the bodies of amphibians in these areas has been well-documented (Fellers 2004, Sparling 2009, Sparling 2001, Datta 1998). The data show a strong association between the disappearance of four frog species from historic sites in

California, and agricultural land use upwind, (Davidson 2002), or historic upwind pesticide use (Davidson 2004), indicating that windborne agricultural chemicals may be contributing to species population declines.

More recent work on the California yellow-legged frog provides additional perspective on the potential impacts of driftable fine aerosols in sensitive habitats (Davidson 2007).

The mountain yellow-legged frog (*Rana muscosa*) is native to the Sierra Nevada of California and Nevada and to the Transverse Ranges of southern California (Stebbins 2003). In the Sierra Nevada, *R. muscosa* was once abundant in the extensive fishless habitats present at mid to high elevations (Grinnell and Storer 1924, Mullally and Cunningham 1956). Its unique life history, including a two-to-four-year larval stage and an adult stage that overwinters underwater (Bradford 1983, Matthews and Pope 1999, Vredenburg et al. 2005), restricts successful breeding to permanent water bodies (Knapp and Matthews 2000). During the past century, *R. muscosa* has disappeared from most of its historic range (Jennings and Hayes 1994, Drost and Fellers 1996). As a result of the severity of these declines, the southern California populations are now listed as “endangered” under the U.S. Endangered Species Act and the listing of the Sierra Nevada populations was recently determined to be “warranted” (Federal Register 2003).

The authors assessed the impacts of both pesticides and the introduction of non-native fish on the frog population declines and found that, while the probability of *R. muscosa* presence was significantly reduced by both fish and pesticides, the landscape-scale effect of pesticides was much stronger than that of fish.

The DPEIR fails to adequately disclose and analyze the Proposed Program’s potentially significant impacts on sensitive species. The DPEIR admits that significant impacts would likely occur from the Proposed Program, “[f]or the purposes of CEQA, either acute or chronic ecological risks exceeding the level of concern, or both, may be significant impacts” (DPEIR at 6.3-6). The Ecological Risk Assessment contained in Appendix A recognizes that the application of pesticides from the Proposed Program would exceed the level of concerns for numerous species. For example, levels of concerns were exceeded for Sacramento splittail, arroyo chub, desert pupfish, riparian brush rabbit, tricolored blackbird, western yellow-billed cuckoo, purple martin, yellow rail, certain amphibians, aquatic invertebrates such as fairy shrimp, pollinators,

terrestrial insects, and other species. The assertion in the body of the DPEIR that the impacts would be less than significant contradicts the data provided in the Ecological Risk Assessment. The DPEIR's failure to disclose and analyze these impacts is contrary to CEQA.

1. The program must comply with the Endangered Species Act

The Proposed Program is subject to the Endangered Species Act ("ESA"), and must fully comply with the Act's provisions. The ESA was enacted to provide a conservation program for endangered and threatened species and the ecosystems upon which those species depend. 16 U.S.C. § 1531(b). The DPEIR recognizes that the Proposed Program has the potential to adversely impact federally endangered or threatened species and their habitat (DPEIR at 6.3-11).

Section 9 of the ESA makes it illegal for any person (which includes a governmental entity like CDFA) to "take" an endangered species listed under the ESA. 16 U.S.C. § 1538(a)(1)(B). "Take" has been defined to mean to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in such conduct. 16 U.S.C. § 1532(19). Further, the U.S. Fish and Wildlife Services ("USFWS"), one of the agencies charged with administering the ESA, has defined "harm" to include "significant habitat modification or degradation which actually kills or injures fish or wildlife by significantly impairing essential behavioral patterns, including breeding, spawning, rearing, migrating, feeding or sheltering." 50 C.F.R. § 222.102. CDFA may shield itself from section 9 liability by establishing a Habitat Conservation Plan with USFWS and National Marine Fisheries Service. 16 U.S.C. § 1539(a)(1)(B).

To limit CDFA's section 9 ESA liability, CDFA should adopt pest management tactics and programs that limit or eliminate pesticide application and their associated harms to listed species and their habitats. However, CDFA's mitigation measure to reduce impacts to sensitive species and listed habitat is a voluntary program that provides no assurances that the impacts will be reduced. As noted in these comments CDFA proposes unenforceable mitigation measures that they "may obtain technical assistance" requiring CDFA to coordinate with the wildlife agencies and "may include modifications" (DPEIR at 6.3-13). These vague and non-binding mitigation measures provide no requirements to ensure that CDFA actually engages in coordination to obtain technical assistance from the wildlife agencies or adoption of actual mitigation actions to reduce the Proposed Program's potentially significant impacts to sensitive species.

CDFA may also take advantage of ESA section 7 consultation. The Proposed Program involves Federal agency funding, permits, or authorizations in connection to the Statewide Program, such as a Plant Protection and Quarantine Permit from the United States Department of Agriculture's ("USDA") Animal and Plant Health Inspection Service, and surveys performed with and by USDA, and federal funding (DPEIR at 2-12, 2-13, 2-20). The consultation process is designed to prevent jeopardy to listed species or destruction or adverse modification of critical habitat. Section 7(a)(2) requires that "[e]ach Federal agency shall, in consultation with and with the assistance of the [USFWS], insure that any action authorized, funded or carried out by such agency [] is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined by [USFWS] ...to be critical." 16 U.S.C. § 1536(a)(2). Federal agencies are required to consult with the USFWS to determine whether their actions will jeopardize a listed species' survival or adversely modify designated critical habitat. If jeopardy to species or destruction or adverse modification will result, the consultation process will identify ways to modify the action in a way that would avoid those results. 50 C.F.R. § 402.14. The reliance of CDFA on federal permits, programs, and funding triggers the ESA section 7 consultation process that should occur prior to approval of the Proposed Program.

2. The DPEIR's analysis of impacts on pollinators is inadequate.

The DPEIR's evaluation of impacts on pollinators is grossly inadequate. First, the DPEIR admits that its Ecological Risk Assessment determined that the limited scenarios it reviewed "could result in risk that would exceed the level of concern for pollinators" (DPEIR at 6.3-14). Among the list of chemicals in the Proposed Program are several that are lethal to bees, including neonicotinoid pesticides that scientists believe are implicated in colony collapse disorder (Xerces Society 2014, Hopwood et al. 2012). With regard to the risks to pollinators, the DPEIR's significance evaluation states:

However, CDFA would implement various avoidance and minimization measures as part of the Proposed Program (including the MPs discussed in Chapter 2, Proposed Program Description, and the pollinator measures included in Attachment 1 of Appendix J). These measures would minimize the potential adverse effects on pollinators. Therefore, the risk to pollinators from the Proposed Program would be minimal and would not substantially affect the local or regional populations of pollinators available for special-status flowering plant species.

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No actual analysis of how the MPs would reduce or avoid this impact is provided. In addition, the “pollinator measures” included in Appendix J, attachment 1, are nowhere evaluated in the DPEIR, and “a report buried in an appendix, is not a substitute for a good faith reasoned analysis.” *Vineyard Area Citizens v. City of Rancho Cordova* (2007) 40 Cal.4th 412. To the extent that the MPs and “pollinator measures” are intended as mitigation measures, the DPEIR must include them as such.

A review of Appendix J, attachment 1, raises further questions. Are each of the listed activities a mandatory part of the Proposed Program in perpetuity? The proposed actions begin with a simple recitation of the same Program activities provided for in the main DPEIR, not ones specifically designed to avoid impacts on pollinators. Further the identified mitigation techniques, are not well defined or explained. For example:

- Implement site specific buffers as necessary to protect pollinators from possible drift
- Check properties for evidence of bee hives to ensure protection of pollinators.
- Choose appropriate sprayer and nozzles using site specific parameters to avoid unintended impacts to pollinators (DPEIR at J-13).

When are site-specific buffers necessary, and what buffer is required? What measures will applicators take “to ensure protection of pollinators” if bee hives are detected? What measures will be implemented to protect wild bee colonies and other native pollinators? What variations in spray nozzles are possible within labeling requirements, and how can CDFA ensure that proper spray nozzle calibration will occur? Later the document states CDFA will “educate treatment personnel on how to handle bee encounters,” but does not disclose what harms may occur if encounters are not properly handled, nor what measures treatment personnel should take or avoid. The document also states that CDFA will “cover non-target flowering plants and water sources (i.e., bird baths) during treatment to avoid drift or drip from adjacent or overhanging treated plants when necessary,” but provides no guidance on when this would be necessary or how this would be accomplished. Among the actions that the DPEIR lists as currently being taken to protect bees in areas where CDFA carries out emergency pest treatment projects (DPEIR at J-16) are: notification of treatment personnel regarding any beehives known to be in the treatment area (identified from the local Agricultural Commissioner’s list of registered beekeepers), addition to the post-treatment notice of a comment that would indicate that a property had not been treated because of pollinator activity, and provision of alternate treatment schedules to unregistered beekeepers who are newly identified. As noted above, it is not clear whether these activities are required or advisory or how they are enforced, nor is it clear how omitting the treatment of an

individual property or properties would protect bees, which are known to forage up to at least 6 miles from their colony (Beekman and Ratnieks 2000) and therefore would still come in contact with pesticides applied to neighboring properties.

Moreover, focusing these measures on domestic beehives and registered beekeepers will not protect wild bee colonies, which are likely the healthiest and most essential bee colonies to preserve as the evidence suggests that they alone can provide partial or complete pollination services for crops (Kremen and Ostfeld 2005) and that interactions between wild and domestic bees increase pollination efficiency (Greenleaf and Kremen 2006). In addition, wild colonies can serve as a genetic reserve for bee breeders, and the genetic diversity that can be introduced from wild colonies may protect against colony collapse and other vulnerabilities of domestic colonies (Sheppard 2012). The existence of wild colonies surviving despite the presence of the Varroa destructor mite (Seeley 2006) suggests the importance of wild bees as a genetic resource. Therefore, it is essential that CDFA's Proposed Program include robust mitigation measures to protect wild bees from impacts of Program pesticides.

CDFA also states it will coordinate with Cal-Trans, Land Management, and Conservation "to provide access to native forage for bees," but provides no information on where and how this would occur, and to what effect (DPEIR at J-18). The document also says that CDFA will "Partner with bee experts and sister agencies to develop more regionally located cleaning areas. CDFA currently only has the Needles staging area as an option for Apiary Shippers" (DPEIR at J-19). What impacts on pollinators will this avoid, and what is required to make more regionally located cleaning stations feasible?

Appendix J, attachment 1 then provides substantial evidence of significant program impacts to bee hives at border stations, noting that heat, noise, and other stressors can be detrimental. Appendix J, attachment 1 states that inspection workers will provide water to drivers to help calm bees, but whether this will be mandatory at all stations, and is feasible for all drivers, in all situations, is unclear. Further, it is unclear what effect these activities at the border would have on both wild and kept bee populations within Proposed Program treatment areas. The document states CDFA will "[i]dentify gaps and trends in border station hold times for bee shipments and work on process improvement to streamline inspections" (DPEIR Appendix at J-17), but this evaluation should occur now, during the environmental review process, before the Proposed Program is approved. Digital imaging is also referenced, but again, it is unclear whether this is always feasible and available. Lastly, the document references providing vendor referrals to shippers who do not pass inspection, to use a pay service to have their loads cleaned, but the document does not explain what impacts this would

avoid, nor why it would be infeasible for CDFA to avoid such impacts in the same manner as the private vendors.

In sum, Appendix J, attachment 1 provides substantial evidence that the Proposed Program may result in significant impacts on pollinators, lists activities related to bees that do not have direct relationship to impacts on bees or other pollinators that would be caused by Proposed Program activities, and fails to meaningfully consider the benefits and feasibility of mitigation measures to avoid this impact.

The comments of professor James L. Frazier provide additional expert analysis of the deficiencies in the DEPIR's analysis of risks to pollinators, conclusions about the significance of impacts on pollinators, and adequacy of the mitigation measures and voluntary activities of the agency related to pollinators and are incorporated herein by reference.

3. The DPEIR's analysis of impacts on wetlands is insufficient.

The DPEIR asserts that chemical treatments on sensitive natural communities or wetlands would have no impacts, because "Proposed Program activities would not occur within wetlands and other aquatic or sensitive natural communities" (DPEIR at 6.3-15). The DPEIR provides no information on how this determination was reached. Determining whether an area constitutes a "wetland" can include a complex evaluation of hydrology, flora, and fauna, and can often be the subject of intense debate. The process is similarly complex for determining whether an area constitutes a "sensitive natural community," even applying the California Department of Fish and Wildlife (CDFW) list provided in Appendix I. Yet, here, the DPEIR flatly asserts that all wetlands and sensitive communities will be avoided. Without on-the-ground evaluation of where any treatment activity is proposed to occur, such a conclusion simply cannot be supported, and this determination must be subject to future, fact-specific, environmental review. And in fact, avoidance of all discharges to wetlands is virtually impossible, as wetlands commonly collect significant portions of upstream urban and agricultural runoff.

Moreover, many if not most remaining wetlands provide habitat for endangered species. Similarly, the majority of California surface waters have been designated as habitat for endangered salmonids, and receive urban and agricultural runoff. It is simply infeasible for CDFA to ensure that none of its pesticide discharges reach surface waters that provide critical habitat for listed salmonids.

C. The DPEIR's Ecological Risk Assessment fails to analyze the impacts of the Proposed Program.

The DPEIR's Ecological Risk Assessment (ERA) is deficient in numerous ways in addition to those that have already been mentioned in other sections of this letter. The ERA at the outset states significant elements of environmental risk that are not evaluated, acknowledging for example that its models "in many cases are not capable of modeling all of the complex fate and transport processes that can occur once the chemicals are released into the environment" (Appendix A ERA at 58-59) and that "toxicity data were not always available for all taxonomic groups. This was most common for amphibians and reptiles. Bird or fish toxicity data were used when no data were available for terrestrial-phase amphibians and reptiles or aquatic-phase amphibians, respectively. It was not known when this approach might lead to an over or underestimation of risk" (Appendix A ERA at 14).

Other deficiencies in the ERA that result in grossly incomplete disclosure to the public of the Proposed Program's ecological risks include:

- Failure to analyze the environmental impacts of numerous Proposed Program activities "due to the inability to quantify risk"
- Failure to analyze numerous exposure pathways due to lack of available data
- Failure to analyze the full range of pesticides used in the Proposed Program, including their "inert" ingredients
- Unsubstantiated and illogical assumptions about exposure duration

1. The ERA fails to analyze the impacts of numerous Proposed Program activities.

The ERA states:

"Several Proposed Program activities have not been evaluated in this ERA, due to the inability to quantify risk and/or the absence of a clear pathway by which species could be exposed. These activities include:

- Activities not involving the use of chemicals
- Fumigations within chambers.
- Lures used in trapping programs, because exposure to wildlife could not be quantified. Specifically, trapping agents within traps were not analyzed because the likelihood that wildlife would consume the traps or

chemicals within the traps was considered extremely remote” (Appendix A ERA at 1-2).

Fumigation within chambers uses the potent toxin and ozone-depleting chemical methyl bromide, whose use is being phased out in accord with the Clean Air Act and an international treaty. Fumigation under the Proposed Program is identified in the HHRA as an activity that is likely to exceed levels of concern for human health. Questions are raised regarding its characterization in the risk assessment, as noted in the minutes of the DPR/OEHHA/CDFA Risk Assessment meetings included as Attachment 1 to the HHRA:

“OEHHA question: Don't you think that methyl bromide will go into the soil?

Joe: we believe that it is likely to volatilize.

Mike: pointed out that treated commodity is boxed leaves that have been picked and are not associated with soil anymore. Methyl bromide treatment occurs in two locations in CA: San Diego and LA”

(Appendix A HHRA at Attachment 1-5).

Despite the uncertainty of the risk assessors’ “belief” that methyl bromide will not go into soil and the absence of evidence that it could affect ecological receptors, “fumigation within chambers” using this deadly chemical is not analyzed in the ERA, leaving the public with no idea about its potential ecological risks.

2. The ERA fails to analyze numerous exposure pathways for ecological receptors.

There are multiple examples of exposure pathways that the ERA deems complete but does not analyze because of lack of data, or unsubstantiated conclusions that risks were minimal or that exposure would not occur (emphases added):

- “Based on the application scenarios for fruit flies, the residential and agricultural applications would consist only of foliar applications and Figure ECO 9 shows the [conceptual site model] CSM for these application scenarios. Based on the CSM, complete exposure pathways exist for inhalation or dermal contact with vapors, droplets or mist. However, *since adequate toxicity data is not available for many of the species for these exposure pathways, this pathway was only quantitatively evaluated in the ERA for terrestrial insects via dermal contact exposure* (Appendix A ERA at 41).

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- For Asian citrus psyllid treatments: *“The only pathway carried forward is direct dermal contact exposure to terrestrial insects from the foliar spray due to inadequate data for the other potentially complete exposure pathways from vapors, droplets or mist. Exposure pathways for birds and mammals are complete for dermal contact and ingestion of vegetation and soil (including uptake from the soil following drench application), however due to inadequate toxicity data for vegetation and soil contact, the only exposure pathway quantitatively evaluated in this ERA is the ingestion pathway”* (Appendix A ERA at 45).
- *“The exposure pathway for fish and aquatic invertebrates is complete via surface water following movement through or over soil beneath treated plants and from the possibility of drift to adjacent surface water, but adequate toxicity data for ingestion of contaminated food items or ingestion of water does not exist, so only effects from exposure from immersion in surface water containing pesticide residues has been analyzed”* (Appendix A ERA at 46).
- For the Pierce’s Disease Control Program (PDCP): *“Residential and nursery applications (Figure Eco-14 and Eco-15) would consist of foliar spray applications, soil drench applications, or inserting pesticide containing tablets beneath the soil surface. No combination treatments would occur in the PDCP. Complete exposure pathways exist for inhalation by ecological receptors from foliar spray applications only. No exposure could occur to terrestrial insects via direct dermal contact exposure from the soil treatments”* (Appendix A ERA at 46). No explanation is given regarding why terrestrial insects would not contact chemicals released by tablets inserted in soil.
- For the apple moth program: *“Trapping activities (Figure Eco-20) would consist of placement of traps containing lures or applying lures to exterior surfaces such as tree trunks. Exposure pathways were potentially complete for ingestion by various ecological receptors, but because the potential was diminishingly small, no quantitative analysis was performed”* (Appendix A ERA at 55). No evidence is given to support the conclusion that the potential is *“diminishingly small.”*

3. The ERA makes unsubstantiated and illogical assumptions about exposure duration.

In the subsection *“Chronic Exposure in Terrestrial Species”* the ERA states that (emphases added):

“No published guidance indicates the exposure period to be used when calculating the time-weighted average for chronic exposure in terrestrial species. Since no precedent is available for a standard time period, the following approach is based on the avian nesting periods, agreed upon during the interagency coordination meetings with CDFA, OEHHA and DPR staff. Birds were selected to develop the chronic exposure period in terrestrial vertebrates because *they are more mobile than other taxonomic groups and might be tied to a specific area only during their nesting period*. Although other taxonomic groups might be present in a specific area for longer, *choosing the shorter duration of the bird nesting season provides a conservative approach*. This is due to the fact that chemical concentrations decrease over time, and as a results [sic], using a shorter time period results in a relatively higher time-weighted average”

(Appendix A ERA at 60). No explanation is offered for choosing the limited time duration of nesting season only to perform a chronic exposure evaluation, which by definition should address long-term exposure. The issue in chronic exposure is not the concentration of the chemical to which a receptor is exposed but the long-term duration of exposure. Short-term exposures are appropriate for acute, not chronic exposure assessments. Using a short-duration exposure to evaluate a chronic exposure effect is not only illogical but almost certainly results in understatement of the chronic exposure risks.

4. The DPEIR fails to adequately analyze the full range of Program pesticides and inert ingredients.

The DPEIR fails to adequately analyze the full range of pesticides and their inert ingredients. The DPEIR admits that it “provides analysis for the subset of these pesticides evaluated in the Proposed Program’s Human Health and Ecological Risk Assessment” but does not conduct an analysis on the “[n]umerous registered pesticides [that] exist for use against the pests of concern under the Proposed Program” (DPEIR at 2-21 to 2-22). The DPEIR also fails to adequately disclose and analyze the impacts of inert ingredients in the pesticides that are used. Many of the potentially hazardous additives allowed for use as pesticide additives are environmental contaminants and toxins that are known neurotoxins and carcinogens (NCAP 2006). The DPEIR claims to have analyzed the inert ingredients (DPEIR at 6.3-6), but fails to adequately disclose those chemicals to the public. The DPEIR also “did not model risks to plants because the main purpose of the program (to protect agricultural crops) would require the use of chemicals that do not adversely affect plants” (DPEIR at 6.3-5). However, the DPEIR admits to the use of the herbicide glyphosate on stumps (DPEIR at 3-12), and generally

in the Proposed Program (DPEIR at 6.7-7). The EIR's failure to conduct a good faith effort and analysis and disclosure is contrary to CEQA. The DPEIR fails to properly disclose and analyze impacts because of its failure to properly describe the scope of the Proposed Program, and when, where, how and what pesticide applications would be sprayed.

5. The ERA contains numerous other deficiencies similar to those identified for the HHRA.

Finally, the ERA exhibits several deficiencies parallel to those of the Human Health Risk Assessment, detailed in section V.F. This includes the assumption that chemicals deemed "substantially similar" have comparable modes of action and impacts, a claim that is not supported, e.g., "Where possible, surrogate chemicals have been identified for inert ingredients lacking adequate information, based on similarity in chemical structure and physical properties (Appendix A ERA at 3). See the comments of professor Warren Porter, expert review of the Human Health Risk Assessment for comment on this assumption.

D. The DPEIR's water quality analysis is inadequate.

1. The DPEIR fails to adequately analyze impacts on surface waters.

As discussed above, the DPEIR fails to describe each water body that will be impacted by Program activities. In addition, the DPEIR fails to meaningfully characterize and evaluate all Program activities that will impact these undescribed water bodies. Waters will be impacted by both direct and indirect discharges under the Proposed Program, but the DPEIR fails to appropriately distinguish between the two, and fails to provide an adequate description of the indirect pesticide loading through runoff, erosion, track off, and other movement from pesticides off site and into waters. The DPEIR does admit that, "[b]ecause of the diffuse nature of non-point sources, they are difficult to regulate and are the leading cause of water quality issues in the U.S. (EPA 2011c)." (DPEIR at 6.7-5.) Yet, the DPEIR concludes that virtually none of its pesticide applications would reach, much less adversely affect, surface waters. The key measure the DPEIR should provide is the cumulative pesticide toxicity resulting in storm drains and waterbodies following program impacts. Not only is existing pesticide toxicity widespread, but existing DPR studies clearly demonstrate that CDFA pesticides have adversely impacted surface waters.¹⁷

¹⁷ <http://www.cdpr.ca.gov/docs/emon/pepests/rifa/>

The California State Water Resources Control Board has plainly stated that the analysis that this DPEIR attempts to undertake is simply impossible: “Given the nature of [CDFA’s] General Permit and the broad range of beneficial uses to be protected across the state, data analysis of specific water bodies is infeasible” in any single statewide environmental review document. (NPDES at 12.) Therefore, the DPEIR could not and does not provide sufficient environmental information and analysis to determine the significance of any project-level activity.

- a. The program activities are inconsistent with CDFA’s NPDES spray permit.

The DPEIR repeatedly relies on CDFA’s NPDES permit requirements to reduce or avoid significant water quality impacts (e.g., DPEIR at 2-26, 6.7-22), yet the Program proposes management practices that conflict with NPDES permit requirements. Further, the DPEIR misapplies key Clean Water Act standards. And, as stated above, the NPDES permit itself did not undertake a review of potential impacts on all California waters.

MP-Spray-1 attempts to mirror the best management practice requirements from the NPDES Spray Permit but deviates at a critical juncture. The NPDES Spray Permit requires CDFA to “*Choose* integrated pest management methods designed to minimize the scale and number of pesticide applications: Integrating multiple measures such as quarantines, sterile release, host removal, bait stations or mass trapping.” (NPDES at D-20, emphasis added.) In contrast, MP-Spray-1 requires CDFA to “*Consider* integrated pest management methods designed to minimize the scale and number of pesticide applications.” (DPEIR 2-26, emphasis added.)

MP-Spray-4 is also inconsistent with the NPDES spray permit in several respects. MP-Spray-4 requires CDFA to “Delay or do not apply foliar sprays if wind speeds are over 10 miles per hour,” or when there is a 40% chance of rain within 24 hours (DPEIR at 2-27), while the NPDES spray permit requires the following of CDFA:

- i. Do not make spray applications if wind speeds are less than 3 miles per hour or over 10 miles per hour (limited to 5 miles per hour for CTV program).
- ii. Avoid spraying during stable (inversion) conditions (early morning and early evening) when there is little or no vertical

- mixing of the air. These conditions generate concentrated drift clouds and increase the chance of drift fallout.
- iii. Check weather service prior to application and **DO NOT** make application if rain (50% chance or higher) is forecast 48 hours prior to an intended application.
 - iv. Monitor wind direction and do not spray when there are sensitive crops/areas immediately downwind.
 - v. Keep records of air temperature, wind speed, and wind direction for aerial applications.

(NPDES at D-31, emphasis original.) MP-Spray-4 creates numerous conflicts with these provisions. First, the DPEIR allows CDFA to “delay or do not apply” spray under unsafe wind conditions while the NPDES permit requires that spray not be applied under such circumstances; the addition of “delay” creates an ambiguity allowing for inconsistency with the NPDES permit. Second, the DPEIR places a wind restriction at greater than 10 miles per hour but fails to include any of the additional wind restrictions required by the NPDES permit. Third, the DPEIR allows for spraying within 48 hours of a 50% chance of rain, which is expressly prohibited by the NPDES permit. These inconsistencies are repeated in MP-GROUND-1, MP-GROUND-2, and MP-GROUND-4.

MP-GROUND-1 and MP-GROUND-2 also require applicators to “[m]aintain a 30-foot buffer around water bodies per NPDES permit” (DPEIR at 2-28, 2-29), while CDFA’s “Pesticide Application Plan” (“PAP”), enforceable as part of its NPDES spray permit, requires that “[s]taff will maintain a minimum distance of 30 meters from surface water” (PAP at 15). Moreover, it is highly questionable whether even a 30-meter buffer could sufficiently protect water quality and species habitat. For example, in 2006, the National Oceanic and Atmospheric Administration (NOAA) Fisheries required a ¼-mile buffer for spray around the Salinas River and its tributaries, including agricultural drains and canals (PAP at 8).

MP-GROUND-3 includes training requirements for personnel but fails to include any training regarding applications in areas with potential impacts on sensitive species (DPEIR at 2-29). The NPDES spray permit, in contrast, requires “Annual safety & endangered species training for all personnel mixing or applying pesticides” (NPDES at D-30). What does such training consist of, and why was the endangered species training excluded from the safety training required by the DPEIR?

The NPDES permit requires that:

If the Discharger identifies alternative control measures to the selected pesticide application project that could reduce potential water quality impacts and that are also feasible, practicable, and cost-effective, the Discharger shall implement the identified alternative measures.

(NPDES at D-29.) In contrast, the DPEIR states that:

Selection of Management Approaches: Based on experience and knowledge of the available methods, and after consideration of potential risks to human health and the environment, the least damaging and most economical method or combination of methods to be used is selected.

(DPEIR at 2-17.) While the NPDES permit requires alternatives to be implemented if “cost-effective,” the DPEIR only requires the “most economical method or combination of methods.” A measure may be cost-effective even if it is not the most economical measure possible.

For each of these reasons, the Proposed Program would violate CDFA’s NPDES spray permit, is not as protective as CDFA’s NPDES spray permit, and all DPEIR impact analysis premised on NPDES spray permit consistency must be revised.

b. CDFA has failed to comply with its NPDES Permit.

CDFA currently adheres to a PAP that appears to have been improperly submitted to and processed by the State Water Board.¹⁸ While the State Water Board’s website shows that CDFA’s original PAP was subject to public review and comment prior to receiving State Water Board approval, the “Revised Pesticide Application Plan” posted on the State Water Board’s website shows no public review or comment period occurring.¹⁹ Any major revisions to the PAP require subsequent public review and comment. Unfortunately, the Revised PAP is undated and fails to indicate what revisions it contains.

¹⁸ See, http://www.swrcb.ca.gov/water_issues/programs/npdes/pesticides/docs/sprayaapplication/2011-0004-dwq/cdfa_rev.pdf

¹⁹ See, http://www.swrcb.ca.gov/water_issues/programs/npdes/pesticides/spray_application.shtml

Moreover, while the DPEIR relies heavily on compliance with the NPDES permit to reduce or avoid significant environmental impacts, the NPDES permit's PAP itself simply continues to kick the can down the road, with no meaningful environmental review. For example, describing CDFA's Moth Control Program, the PAP states that:

In the event that treatment is triggered in close proximity to a body of water, where application may result in a direct discharge of pesticides to the body of water, CDFA will identify and describe the waters, application and treatment areas, and any representative monitoring location. In addition, CDFA will describe any site specific BMP's for the environmental setting. As soon as the information becomes available it will be posted on the CDFA web page and provided electronically to the [State Water Board].

(PAP at 26). A review of the CDFA website, and request for documents to the State Water Board, however, failed to find the promised environmental analysis. This level of deferral cannot satisfy CEQA's purpose and mandate to provide the public and decision makers with sufficient information to inform good environmental planning and policy. What BMP analysis did CDFA implement for potential impacts on water bodies under its Moth Control Program, as described in the PAP? What evidence exists that this information was posted for public consideration?

A review of CDFA's Annual Reports submitted to the State Water Board also calls into question the extent to which the NPDES permit can and does actually protect water quality, and the ability of CDFA to effectively self-police compliance with the NPDES permit requirements. For instance, the NPDES permit calls on CDFA to develop its own monitoring program, which it submitted as part of its PAP, stating:

Due to the quantity of acres treated and the nature of aerial applications, the CDFA will monitor water bodies during aerial applications. Water bodies will be monitored when aerial applications are performed within a quarter (1/4) mile of a water body. Representative sample sites will be chosen according to the number of water bodies encountered during the season.

(PAP at 50). Unfortunately, the CDFA 2013 Annual Report states that no sampling occurred anywhere in the State and provides scant information regarding spray activities to determine whether or not water quality was impacted, such as whether any surface waters or shallow ground water tables were within a quarter mile of any spray,

or the GPS coordinates or street address of any application. For example, the report includes a 38,950-acre aerial spray in “Westside Fresno, Kings, Kern Co.,” where no monitoring was conducted, and with no further information about the spray or precise location, other than noting its date, April 19, a prime point in the spring season to find flowing streams (2013 Annual Report at 3). The Annual Report includes thousands of additional acres of treatments throughout the state, but gives insufficient information to determine the proximity of any waterways, no discussion of any best management practices put in place to reduce or avoid impacts to waters, and no water quality monitoring at all. CDFA’s 2011 Annual Report also indicated no sampling occurred.

CDFA’s 2012 Annual Report indicated that one sampling project occurred, but the Annual Report failed to include any actual monitoring data. CDFA indicated to the State Water Board that it believed no monitoring to be required because CDFA did not believe any discharge had occurred. However, this point should be proven by monitoring, and requests for this data from CDFA have gone unanswered. Moreover, this approach directly contradicts CDFA’s own PAP which repeatedly states that “[i]n the event that treatment is triggered in close proximity to a body of water, where application may result in a direct discharge of pesticides to the body of water, CDFA will identify and describe the waters, application and treatment areas, and any representative monitoring location.” A review of CDFA’s annual reports shows it has not complied with this repeated provision in its own PAP. The NPDES permit itself includes numerous additional monitoring provisions that anticipate and require some level of actual monitoring by CDFA pursuant to the NPDES permit; yet CDFA to date has failed to provide any such monitoring data to the State Water Board or the public. Without adequate monitoring data, CDFA has not shown and cannot show that it has complied with its NPDES permit, nor that it has not caused or contributed to any water quality standard exceedances.

- c. CDFA does not propose to ensure that private applicators will comply with an NPDES permit.

The DPEIR acknowledges that:

CDFA’s Statewide General NPDES Pesticide Permit addresses pesticide applications undertaken directly by CDFA or its contractors, but does not extend to growers complying with CDFA’s quarantine requirements. Individual growers must obtain their own NPDES Permits for pesticide applications that can reach surface waterbodies.

(DPEIR at 2-25). Presently, therefore, CDFA can provide no assurance that individual growers will protect water quality when complying with a CDFA order. The DPEIR does require that individual growers contract to comply with all “relevant” DPEIR requirements but fails to disclose which are relevant in what circumstances. And, as discussed, above, the DPEIR itself includes standards that are less stringent than those of the NPDES spray permit. The DPEIR should therefore be revised to include requirements that no grower may apply pesticides in an attempt to comply with any CDFA order unless and until the grower has provided CDFA with proof that it has obtained NPDES permit coverage.

- d. The DPEIR erroneously assumes CDFA’s discharges receive a dilution credit.

It is well-established law that a permitted discharger may receive a mixing zone of dilution to determine compliance with receiving water objectives if and only if that discharger has conducted a mixing zone study, submitted to a Regional Board or the State Board for approval and expressly incorporated into the individual discharger’s permit. (See, e.g., *Waterkeepers N. Cal. v. AG Indus. Mfg.*, 2005 U.S. Dist. LEXIS 43006 [“A dilution credit is a limited regulatory exception that must be preceded by a site specific mixing zone study”]; Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California, 65 Fed. Reg. 31682 (May 18, 2000), 31701 [“All waters . . . are subject to the criteria promulgated today. Such criteria will need to be attained at the end of the discharge pipe, unless the State authorizes a mixing zone.”])

The DPEIR entirely ignores Clean Water Act requirements for obtaining dilution credits, and, with no supporting evidence whatsoever, effectively and illegally grants CDFA dilution credits across the board. (See, DPEIR at 6.7-11, 6.7-12, 6.7-18, 6.7-19, 6.7-20, 6.7-21, 6.7-22, 6.7-23, 6.7-27). For each instance in which the DPEIR wishes to apply dilution credit to its determination of whether water quality impacts will be significant, the DPEIR must perform – with the approval of the State or Regional Water Board – a mixing zone study considering the impacted waterbody and the specific types and quantities of the proposed pollutant discharge(s). Short of that, the DPEIR fails to analyze whether any pesticide dilution in any waterbody in any amount could protect beneficial uses.

In addition, if an application activity covers a significant portion of any watershed, no dilution will occur because waters contaminated with pesticide discharges will simply meet with more waters contaminated with pesticide discharges.

- e. The DPEIR's ecological risk assessment model fails to actually analyze the Proposed Program.

The Ecological Risk Assessment fails to actually model potential pesticide discharges to waters caused by the Proposed Program. In fact, it is unclear exactly what the Risk Assessment does model:

The Human Health and Ecological Risk Assessment (Appendix A) modeled concentrations of pesticides in waterbodies that could result from implementation of various pesticide use scenarios for the Proposed Program. This modeling took into account some, but not all, fate and transport mechanisms, and absent regulatory requirements such as the MPs identified in Chapter 2, Proposed Program Description (DPEIR at 6.7-11).

How could any reliable model not include the mechanisms for fate and transport of these chemicals? What fate and transport assumptions did the model actually use? Which were not used? Where were impervious surfaces evaluated? Impervious surfaces frequently exist in nurseries and have been shown to create pathways of pollution. What treatment methods were used assuming no compliance with any regulatory requirements, and no implementation of any Program MPs?

In addition, the DPEIR and its model failed to meaningfully consider impacts on drinking water supplies. The DPEIR risk assessment simply states that drinking water supplies will be avoided, with no supporting information, analysis, or binding program commitments:

Although the treatments which may be conducted under the Proposed Program may contribute to surface water concentrations of these ingredients, treatments are limited to areas where potentially impacted surface waters are not used as drinking water resources (Appendix A HHRA at 38).

In fact, many above ground streams, springs, and groundwater sources do supply drinking water to residents and farms in rural counties. As noted, above, however, these are not individually identified in the DPEIR's baseline description. Moreover, the DPEIR provides no mechanism for evaluating whether a proposed treatment would

potentially impact such drinking water source, nor feasible mitigation or avoidance measures.

- f. The DPEIR fails to analyze or provide any further information regarding how or whether Management Practices will minimize pesticide discharges to waters.

As discussed above, the DPEIR's Risk Assessment model failed to analyze to what extent each MP would actually reduce pesticide contamination of waterways (See DPEIR at 6.7-32). In addition, the DPEIR fails to provide any narrative, technical discussion of precisely how each MP accomplishes this goal. The failure to provide this analysis undermines the DPEIR's conclusions that the MPs will minimize pesticide impacts to waters to less-than-significant levels. For example, while the DPEIR notes that erosion and sedimentation are major pathways contributing pollutant loads to surface waters, a review of the DPEIR's MPs shows that none are designed to reduce erosion or sedimentation from any particular site.

The Ecological Risk Assessment (ERA) suggests that CDFA relies upon its NPDES permit "when it is not feasible to avoid discharge to surface water despite the implementation of BMPs," but the DPEIR provides no further discussion of when or why BMPs would be infeasible to avoid pesticide discharges to waters (DPEIR at Appendix A ERA at 495).

Lastly, the DPEIR is internally contradictory. On one hand, it concedes that the NPDES permit may allow for pesticide discharges to waters, but argues that "direct discharge to waterbodies would be unlikely to occur after implementation of the MPs" (DPEIR at 6.7-22). Unfortunately, this simply cannot be the case, as, discussed above, the MPs themselves repeatedly water down the protections of the NPDES permit.

- g. The DPEIR shows that numerous pesticides will have significant impacts on waters
 - (i) Pesticides with numeric standards will exceed those standards.

Impact WQ-CHEM-5 "focuses on those chemicals for which applicable numerical water quality standards exist, and the modeled surface water concentrations from the Ecological Risk Assessment exceeded those standards." (DPEIR at 6.7-32.) Hence, according to the DPEIR's own model, water quality impacts would be significant.

However, with no analysis of specific site conditions, or the extent to which any or all MPs may reduce pesticide discharge loads to waterways, the DPEIR simply disregards its own model and concludes that: "Implementation of MP-SPRAY 1 through 7, MP-AERIAL-1, and MPGROUND 1 through 5 would minimize the likelihood of these chemicals reaching surface water through runoff or drift."

It is worth noting that this approach contradicts the DPEIR's stated strategy to use conservative assumptions in its modeling to prove *no possible* significant impact:

Focusing on such "worst-case" scenarios builds in a margin of error so that any conclusions reached are anticipated to overstate the actual impacts; in other words, *if applications are shown to not have significant impacts under these conditions*, significant impacts under real-world conditions would be exceptionally unlikely. In using such conservative assumptions, the analysis adds an additional measure of protection.

(DPEIR at 6.7-11, emphasis added). But this is not the route the DPEIR takes for Impact WQ-CHEM-5, which the model does predict will have significant impacts on water quality. The DPEIR should not be free to disregard its model whenever and howsoever it chooses.

In reaching its conclusion, the DPEIR also relies on the improper assumption that, where a numeric limit for a specific pesticide has been established for specific water bodies but not established for other waters, then discharges of that pesticide to waters where no numeric limit is set, even if above other analogous regulatory limits, will have no significant impact:

With the exception of cyfluthrin and permethrin, all of the standards that were modeled to be exceeded are specific to standards which apply to a particular waterbody and would not apply elsewhere (DPEIR at 6.7-22).

The DPEIR fails to support this conclusion with any analysis or facts. Which waterbody-specific standards did the DPEIR consider? How and why were the numeric limits established for those waters? How do the established numeric standards compare to each other? And, how are all other waters that may be impacted by these chemicals similar in relevant respects to the conditions that led to the creation of the numeric standards referenced? In other words, the DPEIR should not assume that, simply

because no numeric standard has yet been established for a specific waterbody, that discharges above analogous regulatory limits would not impair uses in that waterbody.

The DPEIR further states that;

CDFA's NPDES Permit for Biological and Residual Pesticide Discharges addresses carbaryl and cyfluthrin. The permit stipulates that a PAP must be prepared in accordance with the permit requirements and thresholds. Adherence to this permit and an approved PAP would avoid discharge of these pesticides into surface waterbodies, or would require monitoring if discharge is unavoidable (DPEIR at 6.7-22).

As discussed above, the Proposed Program fails to follow the NPDES requirements, the PAP was improperly revised and submitted, the PAP itself is ineffective to mitigate discharges to waters, CDFA has failed to follow its own PAP, no monitoring data are available, and, even if monitoring were to occur "if discharge is unavoidable," monitoring would take place *after* all significant impacts have occurred. None of these things can be relied on to *avoid* significant impacts to waters. Moreover, the DPEIR's argument that the program will not cause any exceedance of regulatory thresholds because the program will comply with all regulatory thresholds is simply circular. Lastly, as discussed above, the MPs proposed are less stringent than CDFA's NPDES requirements.

For chlorpyrifos and pyrethroids, the DPEIR model predicts significant impacts on impaired waters (DPEIR at 6.7-22, 6.7-23). However, the DPEIR downplays the significance of these impacts by granting CDFA a dilution credit for chlorpyrifos and pyrethroid discharges, but with no actual analysis of dilution rates. First, as mentioned above, dilution credits may only be granted after site-specific review, approved by the Water Board. Second, no assimilative capacity remains in an impaired waterbody, so no dilution credit should be applied. Third, the argument that treatment sites are not close enough to waterbodies for impairment to be pure conjecture unsupported by any fact (see, e.g., DPEIR at 6.7-22, MPs "encourage avoidance of waterbodies," "would not likely be used in close proximity to surface water," and DPEIR at 6.3-15, "[p]roposed Program activities would not occur within wetlands"). Moreover, if stormwater runoff from such sites discharges to a municipal storm sewer, which discharges to a waterbody, the proximity of the site itself to the waterbody is irrelevant. Without any mixing zone study and approved dilution credit, the applicable regulatory standard for the DPEIR to consider is the concentration of discharge as it is discharged or leaves any site.

Further, regarding pyrethroids, the DPEIR states that “it is unlikely that these pyrethroids would reach waterbodies in any substantial concentrations,” but does not state exactly what concentrations would reach waterbodies (DPEIR at 6.7-23). Again, where a waterbody is impaired by this pollutant, no assimilative capacity remains, and any discharge, however minimal, could exceed regulatory standards and further impair beneficial uses. The DPEIR fails to meaningfully analyze this impact.

- (ii) Pesticides with no numeric standards may still impair beneficial uses and/or cause nuisance.

It is also unclear whether the DPEIR modeled pesticide discharges to waters from pesticides with no numeric water quality standard (DPEIR at 6-7.30). Were these pesticides modeled, and if so, what were the resulting discharge concentrations? If discharge concentrations were not modeled, the DPEIR fails to provide sufficient information to analyze the impacts these discharges would have on waters. At a minimum, the DPEIR should compare modeled discharge concentrations to EPA’s Human Health and Aquatic Life Benchmarks for pesticides,²⁰ as these triggers are employed both by EPA and DPR for determining the significance of impacts to aquatic life, and contain thresholds for most all of the chemical being proposed for use by CDFA.

The DPEIR attempts to dismiss these chemicals that have no numeric threshold without providing sufficient analysis or supporting information, stating:

Based on available research, these chemicals generally break down quickly in the environment and do not last in the environment long enough for harmful concentrations to build up.

These chemicals would not be used in sufficient frequency and/or quantities to cause concern to regulatory agencies . . .

(DPEIR at 6.7-16).

If these chemicals “generally” break down quickly, under what conditions would this not be the case? If they do not last in the environment long enough for harmful

²⁰ http://www.epa.gov/oppefed1/ecorisk_ders/aquatic_life_benchmark.htm;
http://www.epa.gov/espp/litstatus/effects/appendix_f_rq_method_and_locs.pdf

concentrations to build up, how long do they last, how long is long enough to be harmful, what buildup of concentrations would be harmful, and in what quantity will these chemicals reach waters? What impacts are caused by their degradates? What frequency and/or quantities would cause concern to regulatory agencies? And on what “available research” are these conclusions based?

The DPEIR admits the importance of these site-specific environmental conditions, and admits that they were not modeled (DPEIR at 6.7-22). The DPEIR’s piecemealed approach to environmental impact analysis is incomplete, difficult to discern, and fails to support clear, informed environmental decision making.

It also appears that the only narrative standards considered by the impact analysis are whether the discharges would result in “visible oil sheens or impairments of taste and odor,” which of course only constitute two of numerous narrative standards designed to protect dozens of beneficial uses. Will CDFA actually monitor waters for changes in taste? And, even where no pesticide-specific numeric standard is established, the DPEIR should still evaluate cumulative pesticide toxicity. The DPEIR simply fails to provide meaningful analysis of pesticides with no established numeric water quality standard.

The DPEIR also asserts that, if, in the future, any such pesticides do receive a numeric water quality standard, discharges would be modeled for consistency with such standards (DPEIR at 6.7-31). However, without having those modeled data available now, the DPEIR concludes that implementation of the proposed program would render any impacts less-than-significant. (DPEIR at 6.7-30, 6.7-31.) Because the DPEIR cannot now know at what regulatory level discharges of such pesticides may be permitted, and because the DPEIR has failed to present the quantities in which these pesticides may be discharged under the Proposed Program, the DPEIR has failed to analyze whether current pesticide discharges may exceed future regulatory levels.

The DPEIR fails to model copper discharges to support its impact analysis, despite the fact that copper is listed as a Clean Water Act section 303(d) contaminant in numerous California water bodies, with many more documented as impaired by pesticide toxicity.²¹ The DPEIR bases this omission on the notion that copper’s adherence to soils makes any transport to water extremely unlikely (DPEIR 6.7-31). This reasoning is flawed in several ways. First, discharges of sediment from application sites would carry copper to waters, but the DPEIR fails to provide any information regarding

²¹ http://www.swrcb.ca.gov/water_issues/programs/swamp/reports.shtml#spot

soil or erosion conditions at application sites, nor are any of the DPEIR's MPs designed to prevent erosion or sedimentation. Second, the Ecological Risk Assessment model does predict some level of pesticide discharge to waters, and where a waterbody is listed as impaired by copper, any further copper loading would be significant.

- (iii) The DPEIR fails to consider impacts from Proposition 65 listed chemicals.

The DPEIR admits that DDVP and Carbaryl are chemicals that will be used in the Program and are listed under California Proposition 65 as carcinogens and/or reproductive toxicants (DPEIR at Table 5-7). This information is presented only in the form of a table indicating the proposed pounds of each chemical to be used in each California county, but fails to clarify over what time frame the tables apply. These chemicals appear on the Groundwater Protection List described in Section 13145 of the Food and Ag. Code (1996), and therefore are not exempt from regulation under Prop. 65's discharge prohibition, and can be presumed to probably pass into a source of drinking water if applied where they get deposited or where they could pass into drinking water sources. Moreover, the DPEIR omits any actual discussion of the impacts of these chemicals as Proposition 65 listed toxicants, and fails to disclose or consider Proposition 65's absolute bar to any discharge of a listed chemical into a drinking water source:

No person in the course of doing business shall knowingly discharge or release a chemical known to the state to cause cancer or reproductive toxicity into water or onto or into land where such chemical passes or probably will pass into any source of drinking water, notwithstanding any other provision or authorization of law except as provided in Section 25249.9. (California Health & Safety Code § 25249.5).

The California Supreme Court has concluded that "'release' include[es] presumably 'leaching' of toxic chemicals . . ." (*People v. Superior Court (American Standard, Inc.)* (1996) 14 Cal.4th 294, 308). A regulated discharge or release of a Prop. 65-listed chemical can occur through emissions into the air, via aircraft application. The DPEIR should evaluate when and where any release of a Proposition 65 contaminant into any drinking water supply could occur under the Proposed Program and what steps will be taken to prevent any such discharges or exposures by applicators, growers, workers, sensitive receptors or the public generally.

In addition, individuals and businesses must provide a clear and reasonable warning before knowingly and intentionally exposing anyone to a listed chemical. To avoid liability and prove that a discharge poses no significant risk, the law places the burden on the person causing the exposure to show that the exposure, assuming lifetime exposure at the level in question, will have no observable effect assuming exposure at one thousand (1,000) times the level in question (Health & Safety Code § 25249.10 (c)). The DPEIR has failed to perform this evaluation.

While these requirements may not apply to CDFA itself as a state agency, they may extend to growers complying with CDFA's quarantine requirements. Moreover, even where CDFA *is* exempted from the requirements of Prop 65, the DPEIR should still clearly describe the environmental and human health hazards of the chemicals proposed to be used in the program, assess where drinking water sources are in the vicinity of any pesticide treatment that would use these chemicals, and evaluate exposure risk, and ways to limit discharges and exposures to foster informed environmental decision-making.

- (iv) No chemicals are "generally regarded as safe" for discharges to waters.

The DPEIR omits any meaningful evaluation of impacts from numerous mineral, oils, products considered safe in foods or cosmetics, and "[o]ther naturally occurring chemicals" that "were determined to be generally environmentally safe and would not pose a water quality concern" (DPEIR 6.7-15 to 6.7-16). No such regulatory standard exists for water quality impacts, and the DPEIR's classification of whole categories of chemicals as having no potential to impair water quality is misleading and fails to adequately assess the environmental impacts of discharging such chemicals to water bodies. Generally regarded as safe is a food classification by FDA, with no applicability to the natural environment. For example, copper has relatively low toxicity to humans, but is highly toxic to aquatic organisms.

First, it should be noted that CDFA is expressly prohibited from discharging such constituents to waters pursuant to its NPDES Permit, which states that:

This General Permit covers the point source discharge of biological and residual pesticides resulting from spray applications using the following: acetamiprid, aminopyralid, *Bacillus thuringiensis kurstaki* (Btk), carbaryl, chlorsulfuron, clopyralid, cyfluthrin, dinotefuran, glyphosate, imazapyr, imidacloprid, malathion, naled, nuclear polyhedrosis virus (NPV),

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pheromone, pyrethrins, Spinosad A and D, triclopyr butoxyethyl ester (BEE) and triclopyr triethylamine salt (TEA) (NPDES at 4).

...

The discharge of biological and residual pesticides at a location or in a manner different from that described in this General Permit is prohibited (NPDES at 12).

Nevertheless, the DPEIR fails to model what concentrations of the chemicals it has categorized as “generally regarded as safe” would reach water bodies. Nor does the DPEIR provide any historic monitoring of effects and concentrations of these chemicals. For minerals, “e.g., quartz, calcium silicate, kaolin-clay,” the DPEIR simply asserts that they “would not pose a concern because they generally would settle to the bottom or would wash out of aquatic environments and would not be considered toxic to aquatic life” (DPEIR at 6.7-16). First, the use of “e.g.” indicates that the list that follows is not exhaustive; therefore, the DPEIR fails to disclose all of the minerals that will actually be used. Second, the fact that minerals will settle to the bottom is irrelevant because impacts on benthic habitat could still occur, as could sediment contamination. Third, the assertion that minerals could “wash out of the aquatic environments” is irrelevant if such minerals first wash through and thereby impact the aquatic environments.

The DPEIR dismisses oils in this category, “e.g., geraniol, mineral oil, vegetable oil,” as “ones that typically are used in products designated as safe for human contact or consumption.” Again, it is unclear which oils “e.g.” refers to. It is well documented that consumer product safety regulations provide no protection for the aquatic environment (see, e.g., *National Cotton Council of America v. USEPA*, 553 F.3d 927 (6th Cir. 2009); protecting waters is the province of the CWA and NPDES permits such as the one that prohibits the discharge of the chemicals in question. The DPEIR further states that “[t]hese oils also typically degrade rapidly in the environment” but fails to disclose which oils, or under what conditions such oils do not “typically” degrade rapidly. Lastly, the DPEIR fails to provide any concentration modeling of discharges, which is necessary for determining the harmfulness of effects on waters.²²

The DPEIR states that “[t]he remaining chemicals are naturally occurring and typically are found in agricultural or other processes, [. . . and] tend not to cause harm if used for anthropogenic purposes” (DPEIR at 6.7-16). However, the discharge of a pollutant to a waterbody is not a “use[] for anthropogenic purposes,” and the DPEIR presents no information evaluating the effects of these chemicals on aquatic resources.

²² See, http://articles.petoskeynews.com/2013-06-14/oil-spill_39981841

Use of the term “naturally occurring” is simply a red herring; caustic chemicals such as cyanide and mercury also occur naturally.

In sum, the DPEIR must disclose each pollutant that it lumps into the category “generally regarded as safe,” model discharge concentrations, and evaluate the resulting impacts on water quality.

- h. The DPEIR fails to analyze sediment toxicity.

The DPEIR reports that:

In monitoring conducted between 2001 and 2010, more than 50 percent of collection sites showed some degree of toxicity (in fresh water and fresh water sediment samples), and more than 45 percent of the sites showed some degree of toxicity (in marine sediment samples). Statewide toxicity trends were evaluated between 2008 and 2011. The incidence of toxicity remained relatively stable over those 4 years, with a substantial amount of toxicity seen in approximately 22 percent of the sediment samples. Approximately 7 percent of the samples were identified as highly toxic (DPEIR at 6.7-6).

However, the DPEIR’s impact analyses consider only changes in water quality within the water column; sediment quality impacts are ignored. For example, when discharge loads are compared to regulatory limits, no sediment quality standards are included, such as the State Water Board’s Water Quality Control Plan for Enclosed Bays and Estuaries – Part I Sediment Quality (State Board Resolution 2011-17).²³ Moreover, the DPEIR repeatedly argues that impacts will be lessened because pesticides would adhere to sediment or soils or break down in the water column, but it then fails to consider what resulting changes in sediment quality would occur.

2. The DPEIR fails to meaningfully analyze cumulative impacts to waterbodies.

The DPEIR states that:

²³ See, http://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2011/rs2011_0017.pdf

Proposed Program activities in locations where relevant pesticides could reach an impaired waterbody would be required to implement Proposed Program MPs so that discharges to these waterbodies would not occur or would be minimized (DPEIR at 6.7-33).

This reliance on Program MPs is flawed in several ways. First, as discussed above, the DPEIR fails to evaluate the efficacy of its MPs in reducing discharges to waters. Second, the DPEIR states that, with MP implementation, “discharges to these waterbodies would not occur *or would be minimized*” (DPEIR at 6.7-33, emphasis added). Minimized to what level? Earlier, the DPEIR states that impaired waterbodies “have no additional assimilative capacity,” and that, “[t]herefore, *any additional contribution* by the Proposed Program to an impairment would be a considerable contribution to a cumulatively significant impact” (DPEIR at 6.7-33, emphasis added). The DPEIR clearly states that complete avoidance is not necessarily feasible in all circumstances and where complete avoidance is not possible, minimization of discharge would be the goal. However, as the DPEIR admits, even minimal discharge of pesticides to a waterbody listed as impaired by pesticides or pesticide toxicity constitutes a cumulatively considerable impact. Thus, the DPEIR MPs would not protect these waterbodies.

Finally, Mitigation Measure WQ-CUM-1 does nothing. It requires that, prior to any treatment, CDFA will identify whether the treatment area:

contains or is in proximity to any waterbodies impaired for relevant pesticides, pesticides in general, or toxicity. For those treatments where impaired waterbodies are present, CDFA shall implement relevant Proposed Program MPs (DPEIR at 6.7-34).

First, the mitigation fails to define what constitutes “proximity to any waterbodies,” or what “relevant” MPs would be. More importantly, however, the MPs are already part of the Proposed Program and thus should be assumed to be implemented regardless of whether or not a listed impaired waterbody is nearby. What MPs would be “relevant” here, and would those MPs not be implemented for treatments that do not take place near an impaired waterbody?

3. The DPEIR fails to adequately analyze impacts on groundwater

According to the United States Geological Survey (USGS):

The effects of past and present land-use practices may take decades to become apparent in groundwater. When weighing management decisions for protection of groundwater quality, it is important to consider the time lag between application of pesticides and fertilizers to the land and arrival of the chemicals at a well. This time lag generally decreases with increasing aquifer permeability and with decreasing depth to water. In response to reductions in chemical applications to the land, the quality of shallow groundwater will improve before the quality of deep groundwater, which could take decades.²⁴

The DPEIR does not address the factors outlined by the USGS or include any careful consideration of whether or when a pesticide or its degradates could infiltrate to a groundwater supply. The DPEIR presents no information regarding the varying permeability and infiltration rates of soils and sub-soil strata in any area where spray applications will occur. Nor does the DPEIR evaluate, or provide mechanisms to evaluate, whether high groundwater tables may be present in an application area. Nor does the DPEIR describe where currently contaminated groundwater supplies exist.

The DPEIR fails to mention the existence of DPR's Groundwater Protection Regulations,²⁵ and in particular the "Groundwater Protection Areas" (GWPA) designated in those regulations. A GWPA is defined as:

a one-square mile section of land that is sensitive to the movement of pesticides. GWPA's can be established if any of the following are true:

- previous detections of pesticides in that section
- contains coarse soils and depth to ground water < 70 feet
- contains runoff-prone soils/hardpans and depth to ground water < 70 feet

Pesticide use is restricted in GWPA's; regulations and management practices differ depending on whether the GWPA is a leaching or runoff area.²⁶

The DPEIR's impact analysis fails to consider whether any GWPA's could be affected by the Proposed Program, what the impacts of the Program would be, and

²⁴ See, <http://water.usgs.gov/edu/pesticidesgw.html>

²⁵ See, http://www.cdpr.ca.gov/docs/emon/grndwtr/regs/pesticide_use.htm

²⁶ See, http://www.cdpr.ca.gov/docs/emon/grndwtr/gwpa_locations.htm

whether any Program features would lessen or worsen groundwater impacts in a GWPA.

Lastly, as mentioned above, the DPEIR discloses that groundwater monitoring data exists showing that “methyl bromide and the inert ingredients 1,2,4-trimethylbenzene, naphthalene, and xylenes exceeded their respective EPA acute or chronic Human Health HHBP (EPA 2009a), MCL (EPA 2011a), or the most stringent regulatory level available for California groundwater” (DPEIR at 6.7-7). The DPEIR then dismisses, without supporting evidence or analysis, 1,2,4- trimethylbenzene, naphthalene, and xylene contamination as caused by leaking underground fuel storage tanks. But the DPEIR provides no further analysis of methyl bromide contamination: where did this contamination occur, at what levels, with what human exposure, and when and where will methyl bromide be used by CDFA? How did the groundwater contamination by methyl bromide occur in the first place, and how could it occur again?

E. The DPEIR’s air quality analysis is inadequate.

The DPEIR fails to adequately describe each air district that will be impacted and meaningfully characterize and evaluate the impacts of the Program activities in the various undescribed air districts. Instead, the DPEIR’s “assessment discusses air quality on a regional air basin level” (DPEIR at 6.2-5). This overly broad approach fails to account for the very real impacts that “occur at different locations and with different intensities” at a local level within unspecified air districts. (Id.) The DPEIR attempts to reconcile and justify its approach by stating that the “location and intensity of Statewide Program activities is inherently highly variable from year to year, based on the locations of pest infestations and quarantines.” (Appendix G – Air Quality and Greenhouse Gas Technical Report at G-2). However, this admission about the variability of Program activities is the very reason a more detailed analysis needs to be provided.

The air quality analysis acknowledges that sensitive receptors “could be exposed to airborne pesticide ingredients during pesticide application” (6.2-24) and that the risk assessment found that, for several baseline scenarios, “inhalation exposures could exceed the level of concern,” but that alternative application scenarios were developed to reduce the exposure to below the level of concern. (See Section V.F for a discussion of this iterative method of altering the application scenarios until exposures were below levels of concern as deficient under CEQA).

Emissions were calculated based on emissions factors for the equipment (off-road, aircraft, on-road) and the source activity (application of the pesticide). The DPEIR

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for the most part utilized established emissions factors developed by California Air Resources Board for aircraft and vehicles typically used in agricultural settings. However, the DPEIR failed to account for emissions from other stationary equipment which is used in agricultural settings when applying pesticides, e.g. pumps, portable diesel and gasoline powered internal combustion engines. Also, with regard to aerial application, while conservatively assuming aircraft emissions factors would not change over time, the DPEIR utilized older studies from the California Air Resources Board (CARB) in 1990 and the Bay Area Air Quality Management District (BAAQMD) in 1999 for pounds per gallon of fuel and fuel per acre. More current and regionally specific studies for land sprayed fuel consumption would be better sources, e.g., studies from where aerial application more commonly occurs, like in the Sacramento and San Joaquin Valleys. Additionally, the DPEIR did not account for emissions generated from the daily trips of the different types of vehicles.

Ozone precursor emissions (i.e., reactive organic gases [ROG] and nitrous oxides [NOX]) should be discussed separately from carbon monoxide (CO) in environmental impact analyses. CO should be evaluated based on the concentrations generated and receptors exposed to those concentrations. Ground-level ozone is a pollutant of regional, e.g. air district, concern. Ozone is formed each day when emissions of ozone precursors, ROGs and NOx, react in the presence of sunlight (Sacramento Metropolitan Air Quality Management District CEQA Guide, December 2009, rev. 2014at 4-3). However, the DPEIR groups CO and ozone precursors together under its Criteria Air Pollutant Emission Inventory methodology, thereby conflating these separate impacts.

The DPEIR only evaluates the impacts of Toxic Air Contaminants (TACs) on sensitive receptors. But TACs, some of which cause cancer, affect non sensitive receptors as well. Impacts from TACs on local populations were not included in the DPEIR. In addition, the DPEIR fails to quantify the exposures to fossil-fueled application equipment emissions containing diesel PM or TACs. And, in turn, the DPEIR failed to account for measures that could be used to reduce exposure of sensitive receptors to diesel PM, such as diesel particulate filters, use of equipment during times when receptors are not present, staging areas established away from possible receptors, use of on-road engines instead of off-road engines. The impact of diesel and gasoline emissions, the exposure to criteria pollutants and to TACs, must be accounted for as part of the Proposed Program activities in the DPEIR.

F. The DPEIR Human Health Risk Assessment fails to adequately analyze the Proposed Program's impact on human health.

The DPEIR risk assessment is insufficient to inform the public about the hazards of the Proposed Program. The DPEIR itself appears to acknowledge this in the section entitled "Use of the Risk Assessment to Determine Environmental Impacts in the Draft DPEIR" (6.0-18), which states: "The quantitative assessment of risk in Appendix A [the Human Health Risk Assessment and Ecological Risk Assessment] evaluates the potential risk to human and ecological receptors, but is not equivalent to an environmental impact analysis under CEQA."

The DPEIR's Human Health Risk Assessment (HHRA) contains numerous omissions and assumptions that render it inadequate under CEQA because it fails to inform the public and decision makers of the true hazards of the Proposed Program. Key deficiencies in the HHRA include:

- The use of an iterative method of running exposure scenarios with altered parameters until model results showed that exposures were below a level of concern, which, as discussed in Section VII, is not a substitute for enforceable, monitorable mitigation measures to protect public health from exposures.
- Definitions of modeled receptors that omit critical age and population groups and that do not address unique aspects of children's exposure risks
- Failure to analyze valid exposure pathways of concern such as exposures of the general public to Program pesticide residues on purchased food
- Undocumented assumptions about exposure durations
- Omission of several plant pest programs from both the DPEIR and HHRA, so the pesticide exposures from those programs are not accounted for, and there is no way to know whether their inclusion might result in exceedance of exposure thresholds of concern
- Failure to address the exceedance of a level of concern for methyl bromide exposure
- Reliance on the assumption that degradation of chemicals always reduces risk when in fact breakdown products of some chemicals can be as toxic as, and more persistent than, the parent chemical

- Failure to even attempt to model exposure to multiple chemicals from multiple CDFA treatment programs

In addition, as detailed in the expert letter of Professor Warren Porter, which is incorporated herein by reference, the HHRA relies on a number of flawed assumptions that are contradicted by scientific evidence.

1. The HHRA improperly modified risk scenarios to ensure results below a threshold of concern without specifying mitigation measures.

The HHRA admits that an iterative method was used to modify scenario parameters until exposures dropped below a level of concern. As discussed in Section VII, this approach does not pass muster under CEQA because it does not disclose to the public the risks of the activity in question or allow evaluation of proper, enforceable, monitored mitigation measures to ensure public health is protected. Minutes of the January 24, 2013 CDFA, OEHHA, and DPR Risk Assessment Status Meeting indicate that the agency and the risk assessment consultants were apprised of OEHHA's concern about this approach: "OEHHA (Reggie) expressed concern regarding use of an iterative approach, and that it was not standard practice." Moreover, a subsequent comment by DPR makes clear that this approach is appropriately used to develop regulations, i.e., binding requirements: "DPR staff indicated that it is a commonly used approach when developing regulations, since it helps identify what types of protective measures are necessary (for instance, whether a buffer is needed)" (Appendix A HHRA Attachment 1 at 51). Adjusting parameters in the risk assessment scenarios to bring the risk level below a threshold concern is not the same as proposing valid required mitigations. Thus, this approach to modeling masks the true risks of the program without providing any assurance that risks will, in reality, be what the models assume. Moreover, in a discussion of the risks from the pesticide Tombstone in the August 22, 2013 Risk Status meeting minutes, in regard to a recommendation that higher protection [personal protective equipment] PPE may reduce the risk as reflected by preliminary analysis, the CDFA representative admits this may not be possible because "CDFA is not a regulatory agency and can't enforce more than what is required by law. CDFA may suggest [best management practices] BMPs for nursery workers but the better approach would be to refine the conservative estimates at the field level" (Appendix A HHRA Attachment 1 at 219). This comment acknowledges that suggested or assumed behaviors to reduce risk are not enforceable and underscores the need for enforceable mitigation measures.

2. Definitions of modeled receptors omit critical age and population groups and fail to address unique aspects of children's exposure risks.

In defining the receptors for the risk analysis, the HRRRA excludes many categories of individuals who realistically would be exposed to Program pesticides without any basis for these exclusions. For example, the description of the "downwind bystander" receptor states:

"Due to the fact that the DWB would most likely be a resident, three life-stages were considered in the analysis. The first life-stage, the infant, was considered to be between the ages of 0 to <2 years old and was assumed to have no exposure to drift from pesticide active or inert ingredients applied under the Proposed Program. This no exposure assumption for the infant is made under the assumption that infants cannot access treated areas. The second life-stage, the child, was considered to be between the ages of 2 to <16 years old (US EPA 2005q), and the final life-stage, the adult, was considered to be age 16 to 40 years old (DTSC 2011a)"

(Appendix A HHRA at 52).

There are two unrealistic assumptions in this description. First, there is no basis given for assuming that infants would not be exposed to pesticide drift. This assumption is contrary to fact; numerous accounts of drift (e.g., English 2000, <http://www.crpe-ej.org/crpe/index.php/about-us/who-we-are/advisory-board/115-teresa-de-anda>) report impacts on residences where children live. And, second, there is no reason to assume that all adults exposed to pesticide drift would be between the ages of 16 and 40. Excluding infants, pubescent children, and older adults from the DWB model eliminates the three life stages that are most vulnerable to adverse effects of pesticide exposure: babies whose greater susceptibility results from immature detoxification capabilities, rapidly growing organs, and greater exposure, pound for pound, to toxins than adults; pubescent children who are especially vulnerable to hormonal effects; and older adults who are more likely to have compromised immune and detoxification capabilities as well as to be more prone than other age groups to chronic illness.

A number of other sensitive receptors are also omitted from the risk analysis. None of the definitions of receptors includes pregnant women, fetal exposures, or

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individuals with asthma or other chronic illness. The DPEIR also fails to analyze the impact of the Proposed Program on individuals with multiple chemical sensitivity (MCS). The reason given is that "Conclusive evidence does not exist to substantiate MCS as a physical disorder with physical cause(s)" (DPEIR at 6.5-13). No explanation is offered to justify this conclusion. Current research regarding genetic differences in detoxification pathways and abilities among individuals (see, e.g., McKeown-Eyssen et al. 2004; Cherry et al. 2011; Palmer 2004) suggests that there are genetic factors, including the presence of single nucleotide polymorphisms (SNPs), in complex illnesses such as chemical sensitivity. The fact that science has not fully uncovered the mechanism by which MCS symptoms are produced does not justify the DPEIR's failure to analyze the impact of the Proposed Program on individuals with MCS. Arguably, we also do not know the precise mechanism by which cancers are produced as a result of chemical exposure, but the DPEIR nonetheless evaluates carcinogenicity. (It is perhaps worth noting that cigarette companies offered a similar justification for decades – that we cannot identify the particular pollutant particle that initiates the chain of events leading to cancer). In addition, research by the California Department of Health (Kreutzer et al. 1999) revealed that 6.3% of more than 4,000 California residents surveyed reported "doctor-diagnosed 'environmental illness' or 'multiple chemical sensitivity,'" 16% of California residents reported allergy or unusual sensitivity to everyday chemicals, and 12% reported sensitivity to more than 1 chemical. These figures indicate that even 15 years ago, a significant percentage of the state's population identified as having MCS. The number of individuals potentially with this diagnosis and potentially affected by the Proposed Program makes a clear case for the need to evaluate Program impacts on this class of receptors.

In evaluating children's exposure to contaminated soil, the HHRA looks only at ingestion of soil (pica) (Appendix A HHRA at 41-42 and 56) even though pica is not common behavior compared to the much more common phenomenon of contaminated dirt being brought into homes on the shoes of residents. Children crawl in this transported soil, naturally bringing their hands to their mouths, inhaling it as dust, and having dermal contact, which results in multiple exposure pathways for sensitive receptors. In sum, "treated areas" are not just areas that children play in because treated soil is brought inside the home (Bradman et al., 2007; Beamer et al, 2008). The HHRA fails to account for this exposure. Similarly, the expert review of the HHRA by professor Warren Porter notes that the omission from the analysis of children consuming leaves from plants in areas that have been treated is an unrealistic assumption.

The omissions listed above demonstrate that the DPEIR has failed to fully analyze and disclose the Program's human health risks and raise the question of

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whether the risk results are underestimated. Would inclusion of these categories of sensitive receptors and their realistic behaviors have caused risk results to exceed levels of concern such that they could not be “adjusted” by iterative modeling to be brought below the threshold?

3. The risk assessment results do not accurately evaluate risk because of other invalid assumptions

Other invalid assumptions in the risk assessment include:

- The method by which treatment areas in nurseries are estimated. The treatment area for fruit fly control in nurseries is calculated using only the surface area of the nursery pots treated, not the actual acreage covered (Appendix A HHRA at 66-67, 101) (even though the Ecological Risk assessment assumes that 10% of the chemical diazinon applied to nursery plants will “move across or through soil” (Appendix A HHRA at 92)). Estimating the treatment area as only the surface of the soil in the pots of the plants that are sprayed artificially reduces the risk to the applicator.
- The assumption that degradation of chemicals results in lower risk (Appendix A HHRA at 91) when in fact breakdown products of some pesticides can be as toxic as the parent chemical and persist longer in the environment (Leu 2014).
- As noted in Section 6, the DPEIR does not assess synergistic effects of pesticides: “some pesticides are recognized to have the potential to act synergistically (greater than additive) when a common mechanism of toxicity exists.... EPA’s cumulative exposure and risk assessment of common mechanism pesticides is more comprehensive in the exposure and chemicals included than were feasible to conduct for the Proposed Program because exposures to these pesticides could occur from sources other than the Proposed Program, a large number of possible combinations of exposures would be possible, and predicting which combinations would be most likely would be difficult” (DPEIR at 6.0-14–15). There are two problems with this approach. First, the fact that the DPEIR does not analyze the synergistic effects of “common-mechanism” means that the DPEIR fails to disclose this risk of the Proposed Program. Second, the DPEIR does not even consider synergism that is known to occur between chemicals with very different mechanisms of toxicity.

If it is not possible to determine and inform the public about the true risk of the synergistic exposure resulting from the Program’s pesticide use, this suggests that

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the health risks risk of the Proposed Program are insufficiently understandable and that that the agency should therefore not be pursuing a program using chemicals whose true risks to human health cannot be analyzed. Wherever such risk occurs but its scope cannot be conclusively described, the DPEIR should appropriately warn the public by determining the impact to be significant and unavoidable as proposed. This undescribed potential risk to human health adds to the case for an ecological-agriculture approach to pest management, which would not pose such unquantifiable pesticide exposure risks.

- Other omissions from the risk assessment that could result in the level of risk being underestimated include failure to analyze exposure for individuals who purchase nursery plants (e.g., Appendix A HHRA at 71, 102) that have been treated or food that has been fumigated with methyl bromide (Appendix A, HHRA Attachment 1 at 45) and, as noted earlier, omission from the DPEIR altogether of three ongoing categories of plant pest treatments: aerial malathion spraying in the beet curly top virus program, use of chlorpyrifos and bifenthrin in the red fire ant program, and “a variety of pesticides and many different application methods” in “all other CDFA eradication, containment, and interior exclusion programs” (DPEIR at 5-42 – 45).

G. The DPEIR’s conclusion that the proposed program will not disrupt organic farming is unsupported.

The DPEIR acknowledges that pesticide drift “can reach a home garden or a neighboring farm’s crops, causing unintended pesticide residues and/or plant damage that could jeopardize organic certification for USDA Organic-certified growers, or more likely, affect their ability to market their product as organic” (DPEIR at 6.1-29). But the DPEIR determined that this impact would be “speculative” and that “even if such a conversion were to take place, this would not result in a conversion of farmland to non-agricultural use, but instead a conversion of organic farming to conventional farming” *Id.*

The DPEIR’s analysis of the impact on organic farms is improperly narrow, thus obscuring significant potential impacts. As an initial matter, the DPEIR is incorrect to suggest that pesticide drift has never before impacted organic farms, even with mandated buffer zones (see e.g., Environment News Service 2008, Marcotty 2011; Clark 2013; Karnowski 2014 documenting the loss of organic certification of an asparagus plot valued at \$74,000, due to drift and despite a buffer zone; English 2000; also Penn 2014 and Alley 2014, which do not state explicitly whether organic vineyards were

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specifically affected but demonstrate the impact of a recent drift incident on a large area in Lodi CA where there are roughly 200 vineyards, some organic).

Moreover, the DPEIR improperly narrows its review of significant impacts on organic farms by analyzing only whether these organic farms would be converted to non-agricultural use. This analysis ignores the many significant environmental impacts on organic farms from pesticide drift, including disrupting the fine-tuned ecological balance of insects, pollinators, and soil microbes, cultivated by these farms.

The analysis also ignores the potential economic impact on organic farmers of losing organic certification or being unable to sell specific harvests for the premium prices that organic produce commands. This is even though such an economic impact could result in the farmer going out of business and the farmland being converted to non-farming uses, which is the sole significance criterion the DPEIR does recognize. Finally, organic farms may also sustain economic losses caused by the Proposed Program's quarantines. For example, testimony to the California Senate Committee on Food and Agriculture regarding the apple moth program (2010) described the experiences of an organic strawberry farmer subject to repeated shutdowns of many weeks' duration while CDFA analyzed insect samples taken from his property. During that time, he was unable to ship his crop but had to pay workers to pick and destroy it resulting in an estimated loss of \$40,000 even though each of the insects turned out not to be LBAM. An avocado farmer from southern California who spoke at the same hearing described the burdensome economic impacts of multiple quarantines affecting her farm. Farmers in general and especially small farms depend on the revenues from each season and cannot necessarily sustain even short-term economic losses. The DPEIR should quantify and analyze the potential environmental impacts of the economic effects of the Proposed Program on organic growers.

The DPEIR's analysis of organic farms is also inconsistent with how it treats impacts on conventional farms. The DPEIR makes the unsubstantiated statement that "Left unchecked, many [invasive] pests could cause certain crops to no longer be economically viable, and in a worst-case scenario, result in conversion of farmland to non-agricultural uses" (DPEIR at 6.1-27). No evidence is given of this having happened in the past. Moreover, this logic does not consider that conventional farmers could simply switch to different crops unaffected by a particular pest as the DPEIR assumes with regard to pesticide impacts on organic farmers. That is, the analysis asserts that organic farmers in a pest quarantine zone can switch to growing crops not affected by a target pest. The DPEIR asserts should make a comparable assumption that conventional farmers affected by pests could simply switch to crops that are not hosts to the pest in

question rather than exaggerating the economic and environmental impact for conventional farmers (while underestimating it for organic farmers). The DPEIR agricultural resources analysis should consider conventional and organic farmers equally with regard to economic impacts that could lead to environmental impacts, as CEQA requires.

H. The DPEIR's conclusion that the Proposed Program will benefit farmers in the long term is unsupported.

The DPEIR concludes that even though the program could be very costly to farmers in short term, it will benefit them in long term because pests will be controlled or eradicated (DPEIR at 6.1-27 - 28). However, no consideration is given to the potential that farmers, whether organic or conventional, might not be able to sustain the allegedly temporary economic losses caused by the Proposed Program's quarantines and/or treatments and might give up their farms as a result of these economic impacts. The DPEIR should consider this potential impact as well as the negative impacts of the Proposed Program on all farmers, including the adverse impacts on the health of farmers and their families and the negative environmental consequences of Program chemicals on factors essential for farmers to successfully grow healthy crops – e.g., the health of soil, beneficial insects, pollinators, etc.

VI. The DPEIR Fails to Adequately Evaluate Cumulative Impacts.

CEQA requires that the lead agency analyze cumulative impacts. Cal. Pub. Res. Code § 21083(b)(2); 14 Cal. Code Regs. § 15064(h)(1). A cumulative impact is an impact created as a result of the project when evaluated together with other past, present, and reasonably foreseeable future projects causing related impacts. 14 Cal. Code Regs. §§ 15355, 15064. In performing a cumulative impacts analysis, the EIR must assess the significance of the incremental addition of a project to the combined individual effects of one or more separate projects. 14 Cal. Code Regs. § 15355. The analysis should provide sufficient data to ensure that the cumulative effects are identified and disclosed, and should make a good faith reasonable effort at disclosing all cumulative impacts. See *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal. App. 3d 692, 729; *Whitman v. Board of Supervisors* (1979) 88 Cal. App. 3d 397.

The DPEIR's analysis of the cumulative impacts of other pesticide programs is deficient. The DPEIR describes CDFA's and other agencies' pesticide programs only in extremely vague terms, without explaining why more specific data were not utilized. For instance, it lists "past, existing, and future pesticide use" as including "USDA

Control Programs for Other Pests,” which “conducts or funds activities, use[s] a variety of pesticides, [and] use[s] many different application methods” (DPEIR at 5-43); *see generally* Table 5-15. But it fails to give even the most basic data on what types of pesticides are used by these programs, how much, in what areas, and whether/how these programs when combined with the Proposed Program will result in cumulative impacts. It is puzzling that the DPEIR does not include information on specific pesticides used by others when this information is in many cases not difficult to obtain. For example the USFWS website lists the pesticides for which the forest service has done risk assessments (<http://www.fs.fed.us/foresthealth/pesticide/risk.shtml>), and the risk assessments list the application methods. Chemicals used by USFWS that are also used in the Proposed Program are: BTK, dinotefuran, DDVP, imidacloprid, lambda cyhalothrin, malathion, and glyphosate.

The DPEIR’s conclusions regarding significant cumulative impacts are likewise deficient. For example, the DPEIR acknowledges that “multiple sources of [toxic air contaminants] may exist in a local area that collectively could potentially result in a cumulatively significant impact.” But it concludes without supporting evidence that the Proposed Program would not contribute to cumulatively considerable toxic air contaminants (DPEIR at 6.2-26). Likewise, the DPEIR acknowledges that

[a]lthough exposure to other hazards also would occur, including to pesticides used for purposes other than the Proposed Program . . . this exposure and related health risk could not be quantitatively evaluated in a meaningful manner because too many assumptions would be necessary regarding the frequency, quantity of material used, type of pesticide used, an application mechanisms that would occur in any of the many unique settings within California (DPEIR at 6.5-22; *see also* DPEIR at 6.0-18 (explaining why the quantitative assessment of risk did not evaluate the potential cumulative effects of multiple different types of exposure events)).

Yet the DPEIR concludes that the Program’s “estimated risk of adverse health effects would be below established thresholds, and cumulative exposure to multiple pesticides with common mechanism of actions would be below levels of concern.” *Id.* A vague acknowledgement that other programs may involve pesticide use, coupled with the conclusion that these programs would not be cumulatively significant when combined with the Proposed Program, fails to provide meaningful information for the public to evaluate the cumulative impacts of the Program and does not meet the most fundamental requirement of CEQA, that an EIR describe precisely the environment

where a proposed project will be implemented and the difference in that environment that will be attributable to the proposed project and its impacts.

Lastly, as discussed above, the DPEIR's lack of specificity regarding the duration of any treatment activity, the combination of management approaches taken, and the location(s) of any targeted pests, renders any meaningful cumulative impacts analysis impossible for an EIR of this scope.

VII. Proposed Mitigation Measures are Impermissibly Speculative, Vague, Unenforceable, Improperly Deferred, or Improperly Included as Project Components.

CEQA requires an agency issuing an EIR to identify mitigation measures that, if implemented, would reduce the impacts of the project below the "significance" threshold. Cal. Pub. Res. Code § 21081. For each significant effect, an agency must either identify measures that the project will include which will mitigate the effect, identify measures that another agency has jurisdiction to adopt, or find that the necessary mitigation measures are infeasible. Cal. Pub. Res. Code § 21081. In the latter case, the agency must issue a statement of overriding considerations describing why the project should go forward even without the infeasible mitigation measures. *Sacramento Old City Assn. v. City Council* (Ct. App. 1991) 280 Cal. Rptr. 478, 492 (citing Cal. Pub. Res. Code § 21081(a)). Mitigation measures must be "fully enforceable through permit conditions, agreements or other measures." Cal. Pub. Res. Code § 21081.6(b); 14 Cal. Code Regs. § 15126.4(a)(2); *Sierra Club v. Cnty. of Fresno* (2014) 226 Cal. App. 4th 704, 750, review filed (July 8, 2014) (finding that mitigation measures that were vague as to how they would be enforced were invalid). Agencies must support their finding that mitigation measures are adequate with substantial evidence.

Mitigation measures may not be included as a project component. *Lotus v. Dep't of Transp.* (2014) 223 Cal.App.4th 645. Rather, the project must "separately identify and analyze the significance of the impacts [of the project] before proposing mitigation measures." *Id.* at 658. Failure to treat mitigation measures separate from project components "precludes both identification of potential environmental consequences arising from the project and also thoughtful analysis of the sufficiency of measures to mitigate those consequences." *Ibid.*

Many of the mitigation measures proposed in the DPEIR are impermissibly speculative, vague, and unenforceable. For instance, the DPEIR suggests several management practices that would be "recommended" for growers using non-USDA

approved pesticide products in the vicinity of an organic growing operation, to minimize the potential for pesticide drift, including “enforce[ing] runoff and drift prevention” (DPEIR 6.1-30—6.1-31). But the DPEIR does not explain how growers will “enforce runoff and drift prevention,” how this management measure will mitigate the risk of drift, and how the mitigation measure will be monitored and enforced. Similarly, to avoid water quality impacts in quarantine areas, the mitigation measure requires that “growers are to implement relevant Proposed Program [management practices]” but fails to explain which management practices are “relevant” how they will mitigate the risk, and how these measures will be enforced (*See* DPEIR at 6.7-32).

Other mitigation measures are improperly deferred. While proper tiering of environmental review allows an agency to defer analysis of certain details of later phases of long-term linked or complex projects until those phases are up for approval, CEQA’s demand for meaningful information ‘is not satisfied by simply stating information will be provided in the future.’ *Santa Clarita Organization for Planning the Environment v. County of Los Angeles* (2003) 106 Cal.App.4th 715, 723. “Tiering does not excuse the lead agency from adequately analyzing reasonably foreseeable significant environmental effects of the project and does not justify deferring such analysis to a later tier EIR or negative declaration.” 14 Cal. Code Regs. § 15152(b). Here, for example, the DPEIR attempts to mitigate impacts to special-status species by saying that “CDFA may obtain technical assistance from USFWS, CDFW, and NMFS to develop treatment plans that will avoid or minimize substantial adverse effects on special status-species” (DPEIR at 6.3-13). But such future undefined mitigation is improperly deferred where, like here, the agency could reasonably identify the scenarios requiring mitigation. *See California Clean Energy Comm. v. City of Woodland* (2014) 225 Cal. App. 4th 173, 200 (holding that when the agency had studied and attempted to mitigate certain effects from the project as a whole, it could not excuse inadequate mitigation by putting off corrective action to a future date). These speculative “treatment plans” must be clearly defined and provided for public review and comment as part of the DPEIR. Similarly, Mitigation Measures HAZ-GEN-4a through HAZ-GEN-4c defer site evaluation for potentially hazardous conditions until just before a management activity could occur, and provide no evaluation of types of mitigation measures that could be implemented (DPEIR at 6.5-17). These must be amended to provide the requisite detail. Similarly, the Human Health Risk Assessment notes that “exposure monitoring data suggests potential exists for chronic and sub-chronic risks” to fumigation workers applying methyl bromide but that “Mitigation, if any, that may be required to reduce chronic and sub-chronic exposure of methyl bromide below the [level of concern] LOC for these receptors is being further assessed by CDPR” (Appendix A HHRA at 73). This mitigation must be defined.

Finally, many mitigation measures appear to have been improperly included as a component of the Proposed Program. For example, the Human Health Risk Assessment indicates that when calculating the risk of the Proposed Program to human health, the Risk assessment made “one or more reasonable changes to the application technique or method” or changed the “assumptions on receptor exposure,” resulting in “the estimated risk being reduced below [a level of concern].” (Appendix A HHRA at 64). The Risk Assessment clarified that while these changes are referred to in the Risk Assessment as “mitigation” measures, “[t]he term ‘mitigation’ in this [Risk Assessment] is not necessarily synonymous with the term as it is used in CEQA.”

Indeed, the “adjustments” made by the Risk Assessment to mask the level of risk posed by the Proposed Program are not included as mitigation measures in the DPEIR. *Compare, e.g.,* Human Health Risk Assessment, Appendix A at 125 (discussing “mitigation options which can reduce risk below the [level of concern]” for “Pierce’s Disease Control Program Scenarios,” including “limit the number of acres treated by an individual applicator”) *with* DPEIR at 6.5-20—6.5-21 (proposing that mitigation for human health risks include compliance with “authorized chemical application scenarios” but failing to define what application scenarios are “authorized” and failing to explain whether this would require limiting the acreage treated for Pierce’s Disease) *and* DPEIR at 6.5-22 (stating that the Risk Assessment “concluded that implementation of the allowed chemical management activities would not result in risk exceeding the level of concern for human health”). To the extent that the Human Health Risk Assessment has employed what it terms “mitigation” to bring the impacts of components of this Proposed Program under significance thresholds for human health and other risks, the DPEIR must be revised to disclose these risks as significant impacts and properly propose and analyze enforceable mitigation measures under CEQA. *Lotus*, 223 Cal.App.4th 645.

Mitigation measures contained in the DPEIR that are improperly included within the project description, or which do not include specific details on what the measures are, how the measures will effectively mitigate the environmental impacts of the Proposed Program, and how the measures will be monitored and enforced, are invalid under CEQA. The DPEIR must be revised and recirculated to include adequate mitigation.

VIII. The DPEIR's Alternatives Analysis is Flawed.

The DPEIR must “consider a reasonable range of potentially feasible alternatives that will foster informed decisionmaking and public participation.” 14 Cal. Code Regs. § 15126.6. Rather than presenting a reasonable range of alternatives, the DPEIR (1) overly simplifies the goal of the Proposed Program as “eradication,” thereby eliminating viable pest management program alternatives; (2) presents an overly simplified and misleading alternatives analysis; and (3) fails to present and analyze a superior integrated pest management approach.

The combined effect of defining the DPEIR alternatives in an overly simplistic manner and prioritizing eradication as the Program goal is that continuation of the agency's status quo pest management program is artificially made to appear the only feasible solution and thus the preferred alternative even though it is not environmentally superior. The long-term effect of certifying a DPEIR that contains this alternatives analysis is that it would effectively give the agency a permanent justification for continuing to use the most hazardous chemicals and to eschew less-toxic approaches. And because the DPEIR contains no explanation of the basis for downgrading a project from eradication to control or phasing it out altogether, the result would be an indefinite cycle of chemical pest control.

We have suggested that the Proposed Program be redesigned entirely to focus on an ecological-agricultural approach. If the Proposed Program is not redesigned, at a minimum the DPEIR should be revised and recirculated with (1) a program goal that allows for other pest management alternatives to be considered; (2) presentation and analysis of meaningful program alternatives that accurately reflect the practices each alternative comprises; and (3) analysis of a truly sustainable and ecologically sensitive pest management alternative.

A. By defining eradication as the Proposed Program's primary goal, the DPEIR prevents meaningful review of superior pest management strategies

Although the Proposed Program is a conglomeration of activities that include border exclusion and trapping activities, ongoing pest eradication and control projects, and future projects with as-yet undefined goals, and the DPEIR's analysis in many areas blurs the distinction between eradication and control, the DPEIR nonetheless emphasizes its intent to cover “rapid response” projects to eradicate “newly discovered” pests before they have an opportunity to spread. By emphasizing that the

goal of the Proposed Program is eradication—an activity that is rarely successful—the DPEIR skews the choice of control methods to the most hazardous options and thus prevents meaningful review of superior strategies.

As noted earlier, eradication of insect and other pests is rarely successful (Clout and Veitch 2002); almost no proven insect eradications are reported in the scientific literature. Moreover, eradication has not been achieved by CDFA's ongoing plant pest programs despite the agency's claims of repeated eradications in discrete locations. In reality, the agency repeatedly "eradicates" the same pests over and over each year. Of the nearly 400 emergency eradication projects that CDFA has conducted since 1982, many have repeated multiple times for the same 9 insects. (See CDFA. 2012. Eradication Projects 1982-2012.). After each project, CDFA claims eradication; this claim is usually based on a scientifically suspect criterion of trapping no additional specimens of the pest during a very small number of life cycles (typically a matter of days or a few weeks. Because this definition is not realistic or based on sound biological principles, the agency frequently detects the same pest again in the same geographic area, starting the treatment cycle over without acknowledging that the first "eradication" did not work (Papadopoulos et al. 2013; Myers et al. 1998).

This unscientific definition of eradication based on a small number of life cycles assumes 100% saturation and efficiency of CDFA's traps, which is implausible at best. As a recent paper by University of California, Davis entomologists (Papadopoulos et al. 2013) shows, this approach, which is a linchpin of the Proposed Program, has manifestly failed for fruit flies, a pest species that CDFA has targeted for more than 30 years. Papadopoulos et al.'s detailed study (2013) of CDFA's own fruit fly data proves that repeated appearances each year of 5-9 species of fruit flies in or very near the original locations where they were originally detected years ago as well as in locations that have gradually radiated out from that origin point over decades clearly form the pattern of an established and spreading pest population. This is in contrast to CDFA's claim that each reappearance of these insects is a new reintroduction from outside the state. The Papadopoulos et al. study's time-lapse GIS mapping of CDFA's own fruit fly data makes the expanding establishment of these pests visually clear. Thus, the alleged repeated emergency eradications of fruit flies in California are nothing more than an ongoing program of chemical control. A similar pattern applies for other insect species, for example Japanese beetle populations that have reappeared in almost the exact same location in the Sacramento area after treatments using the carcinogen Carbaryl.

CDFA's pest management program is not eradicating anything. It might, as Papadopoulos et al. point out, be slowing the spread and achieving some measure of

control over an established group of pests. Nonetheless, CDFA continues to insist on eradication as the goal of “rapid response” activities to be carried out under the Proposed Program.

The result of this emphasis on eradication is that the choice of control methods is often skewed to the most hazardous pesticides, which the agency claims are necessary to eradicate pest populations. This undermines the agency’s claim that it uses integrated pest management (IPM) and the least-toxic methods. It also, unfortunately, leads the agency to choose the CEQA alternative that has the most adverse effect on human health and the environment because of its dependence on chemical treatments. Appendix L, Table L-1 lists the 79 chemicals evaluated for the Proposed Program, some of which have been in use for decades and many of which have significant health and environmental effects including cancer, birth defects, miscarriages, reproductive system damage, and extreme toxicity to bees and other pollinators, fish and other aquatic life, birds, and mammals.

Setting eradication as a primary goal of the Proposed Program distorts the choice of the preferred alternative because the agency simply dismisses any less-toxic alternative pest control methods as insufficiently powerful to eradicate species.

B. The DPEIR’s alternatives are overly simplified.

The three CEQA alternatives considered (in addition to the no program alternative) are: use of no pesticides, organic pesticides only, and no eradication. All three are artificially simplified; they ignore that, in a true IPM or sustainable pest management program, any or all of these strategies would be part of a comprehensive approach that included site- and pest-specific physical and cultural strategies to reduce vulnerability to pest outbreaks and a hierarchy of control measure options to use if pest damage reached an unacceptable threshold. Simply banning pesticides or limiting pesticide use to organic only with no other changes in landscape or crop management is a flawed and even absurd conception of what is entailed in a comprehensive integrated or sustainable pest management program. These do not constitute a reasonable range of alternatives for a program as broad as this. This conceptualization of the alternatives reflects fundamental limitations in the agency’s perception of IPM. It also reveals a key premise underlying the Proposed Program – that we must eradicate and only the harshest chemicals are sufficient for that purpose in most cases. Many organic and sustainable growers practice sound, comprehensive pest management that is not predicated on eradication and that does not necessitate the use of pesticides at all or of

pesticides other than those approved for organic agriculture. These types of programs and practices should be evaluated as alternatives.

C. An “eco-agricultural” pest management approach would be an environmentally superior alternative and would avoid many of the impacts of the Proposed Program.

In conclusion, as described above in Section I, CDFA should redesign the Proposed Program as an eco-agricultural pest management program. In the event that CDFA does not redesign the proposed program, our proposed eco-agricultural approach should be proposed in a meaningful, not simplified, form and evaluated as a viable alternative to the Proposed Program.

A revised and recirculated DPEIR should also consider other alternatives which meet the Proposed Program’s objective of pest “prevention.” Although the DPEIR asserts that “CDFA’s first objective in invasive pest management is prevention” (DPEIR at 2-14), the only prevention activity described in the DPEIR is exclusion, which, as noted earlier, consists primarily of effort to stop identified priority pests at the border and prevent their entry to the state or, once pests have entered the state, to prevent their movement by establishment of quarantines. If prevention is the agency’s first objective, i.e., the objective that inherently satisfies all other objectives, then the DPEIR should analyze a robustly defined alternative that focuses on prevention and that would potentially eliminate the need for and environmental costs of eradication and control programs.

IX. Conclusion.

For the forgoing reasons, CDFA should use this opportunity to chart a new course toward a more sustainable pest management approach. The DPEIR must be dramatically revised and recirculated. The revised, recirculated version should focus not only on pest prevention with a meaningful analysis of fully developed CEQA alternatives for sustainable pest management but also: 1) adequately disclose the full health and environmental impacts of Program activities; 2) include adequate mitigation measures; and 3) make clear that it is a first-tier document and that site-specific environmental analysis will be carried out for both current and future Program activities, with adequate public review and notice.

CEHI et al., Comments on CDFA DPEIR
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