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10
11 IN THE UNITED STATES DISTRICT COURT
12 FOR THE NORTHERN DISTRICT OF CALIFORNIA
13 SAN FRANCISCO DIVISION

14
15 **Center for Biological Diversity**, a non-profit)
organization,) Case No. _____
16)
Plaintiff,) **COMPLAINT**
17)
v.) **(Environmental Matter)**
18)
Environmental Protection Agency, and)
19 **Stephen Johnson**, Administrator, U.S. EPA)
20 Defendants.)

21
22 **INTRODUCTION**

23
24 1. This action challenges the failure of defendant Environmental Protection Agency (“EPA”)
25 to consult with the United States Fish and Wildlife Service (“FWS”) pursuant to Section 7(a)(2) of the
26 Endangered Species Act (“ESA”), 16 U.S.C. § 1536(a)(2), regarding the effects of EPA-registered
27 pesticides on eleven endangered and threatened species in the San Francisco Bay Area (“Bay Area”).
28

PARTIES

1
2 9. Plaintiff CENTER FOR BIOLOGICAL DIVERSITY is a non-profit corporation with
3 offices in San Francisco, Joshua Tree, Los Angeles, Shelter Cove, and San Diego, California; Portland,
4 Oregon; Buxton, North Carolina; Pinos Altos, New Mexico; Tucson and Phoenix, Arizona; and
5 Washington, D.C.. The Center is actively involved in species and habitat protection issues throughout
6 the continental United States, Alaska, and Hawaii, as well as outside of the United States. The Center
7 has 32,000 members that live throughout these regions, including the Bay Area. The Center and its
8 members and staff include local residents with educational, moral, spiritual, scientific, and recreational
9 interests in the Bay Area, its ecosystems and the species dependent upon a healthy and thriving
10 environment. The Center and its members and staff also enjoy the biological, recreational, and aesthetic
11 values of the areas inhabited by these Bay Area species. The Center and its members and staff have
12 participated and continue to participate in efforts to protect and preserve the Bay Area habitats these
13 species are dependent upon. The Center brings this action on its own behalf and on behalf of its
14 adversely affected members and staff.

15 10. Plaintiff’s members use and enjoy the Bay Area for recreational, scientific, educational,
16 moral, spiritual, and aesthetic purposes. Plaintiff’s members derive recreational, scientific, educational,
17 moral, spiritual, and aesthetic benefits from the existence in the wild of the listed species identified in
18 this complaint through wildlife observation, study, photography, restoration activities, and educational
19 programs. The past, present, and future enjoyment of these benefits by Plaintiff’s members has been, is
20 being, and will continue to be irreparably harmed by EPA’s disregard of its statutory duties. The above-
21 described educational, moral, spiritual, scientific, recreational, and aesthetic interests of Plaintiff, its
22 staff, and members have been adversely affected by the EPA’s failure to comply with the ESA and
23 continual registration and authorization of pesticides known to be harmful to these species. Unless the
24 relief requested is granted, Plaintiffs’ interests will continue to be adversely affected and injured by
25 EPA’s failure to consult with the FWS, as well as by the ongoing and continual harm to habitat and take
26 of these species as a result of ongoing pesticide use.

27 11. Defendant ENVIRONMENTAL PROTECTION AGENCY (“EPA”) is the federal agency
28 charged with registering pesticides under the Federal Insecticide, Fungicide, and Rodenticide Act

1 (“FIFRA”) and with ensuring that the pesticide uses it authorizes will not have unreasonable adverse
2 effects on the environment, including on threatened and endangered species and their habitat. 7 U.S.C.
3 §§ 136-136y. EPA also has duties to regulate and restrict pesticide uses under the Federal Food, Drug,
4 and Cosmetic Act, as amended by the Food Quality Protection Act, 21 U.S.C. §§ 307-397. EPA is
5 further charged with complying with the ESA with respect to its programs, authorities, and actions. 16
6 U.S.C. § 1536.

7 12. Defendant STEPHEN JOHNSON is the Administrator of EPA. He is sued in his official
8 capacity as EPA Administrator.

9 **LEGAL BACKGROUND**

10 **I. The Endangered Species Act.**

11 13. When a species has been listed as threatened or endangered under the Endangered Species
12 Act (“ESA” or the “Act”), federal agencies must ensure that their programs and activities are in
13 compliance with the Act.

14 14. Section 7(a)(2) of the ESA requires that “each federal agency shall, in consultation with
15 and with the assistance of the Secretary, insure that any action authorized, funded, or carried out by such
16 agency (hereinafter in this section referred to as an ‘agency action’) is not likely to jeopardize the
17 continued existence of any endangered species or threatened species or result in the destruction or
18 adverse modification of habitat of such species which is determined by the [FWS] . . . to be critical.” 16
19 U.S.C. § 1536(a)(2).

20 15. The Act establishes an interagency consultation process to assist federal agencies in
21 complying with their Section 7(a)(2) duty to guard against jeopardy to listed species or destruction or
22 adverse modification of critical habitat. Under § 7(a)(2), federal agencies must consult with FWS to
23 determine whether their actions will jeopardize listed species’ survival or adversely modify designated
24 critical habitat and if so, to identify ways to modify the action to avoid that result. 50 C.F.R. § 402.14.

25 16. An agency must initiate consultation under Section 7 whenever it undertakes an action
26 that “may affect” a listed species or critical habitat. 50 C.F.R. § 402.14(a). Conversely, an agency is
27 relieved of the obligation to consult on its actions only where the action will have “no effect” on listed
28 species or designated critical habitat. Effects determinations are based on the direct, indirect, and

1 cumulative effects of the action when added to the environmental baseline and other interrelated and
2 interdependent actions. 50 C.F.R. § 402.02 (definition of “effects of the action”).

3 17. Regulations implementing Section 7 broadly define the scope of agency actions subject to
4 consultation to encompass “all activities or programs of any kind authorized, funded, or carried out, in
5 whole or in part, by Federal agencies,” including the promulgation of regulations and the granting of
6 licenses. 50 C.F.R. § 402.02 (definition of “action”).

7 18. Agencies must also consult on ongoing agency actions over which the federal agency
8 retains, or is authorized to exercise, discretionary involvement or control. 50 C.F.R. § 402.16
9 (reinitiation of consultation). Agencies must consult on such ongoing agency actions “if new
10 information reveals effects of the action that may affect listed species or critical habitat in a manner or to
11 an extent not previously considered; if the identified action is subsequently modified in a manner that
12 causes an effect to the listed species or critical habitat that was not considered in the biological opinion;
13 or if a new species is listed . . . that may be affected by the identified action.” *Id.*

14 19. To initiate consultation, an agency must assess the impacts of the action on listed species
15 and their habitat and provide all relevant information about such impacts to FWS. 50 C.F.R. §
16 402.14(c). If the action agency determines that an action “may affect,” but is “not likely to adversely
17 affect” the listed species or its critical habitat and FWS concurs in writing in that determination, the
18 agency does not have to undergo formal consultation. 50 C.F.R. § 402.13. However, if FWS does not
19 concur, or if the action agency has determined that the action is “likely to adversely affect” the listed
20 species, the agencies must conduct a formal consultation. *Id.* at §§ 402.02, 402.14(a). In 2004, EPA,
21 along with FWS and the National Marine Fisheries Service issued joint counterpart regulations
22 concerning the consultation process for the registration of pesticides. Those regulations were found by a
23 federal court to violate the ESA in August of 2006.

24 20. The end product of formal consultation is a biological opinion in which FWS determines
25 whether the action will jeopardize the survival and recovery of listed species or will destroy or adversely
26 modify the species’ critical habitat. 16 U.S.C. § 1536(b). In order to make this determination, FWS
27 must review all relevant information and provide a detailed evaluation of the action’s effects, including
28 the cumulative effects of federal and nonfederal activities in the area, on the listed species. 16 U.S.C. §

1 1536(b)(3)(A); 50 C.F.R. § 402.14(g)-(h). FWS has a statutory duty to use the best available scientific
2 information in an ESA consultation. 16 U.S.C. § 1536(a)(2); 50 C.F.R. § 402.14(g)(8). If FWS
3 determines that the action is likely to jeopardize the species, the biological opinion must specify
4 reasonable and prudent alternatives that will avoid jeopardy. 16 U.S.C. § 1536(b); 50 C.F.R. §
5 402.14(h)(3). FWS must also formulate discretionary conservation recommendations to reduce or
6 minimize the action’s impacts on listed species or critical habitat. 50 C.F.R. § 402.14(g)(6).

7 21. Not only does a Section 7(a)(2) consultation assist the action agency in discharging its
8 duty to avoid jeopardy, but the biological opinion also affects the agency’s obligation to avoid the “take”
9 of listed species. Under ESA Section 9, 16 U.S.C. § 1538(a)(1)(B), it is illegal for any person—whether
10 a private or governmental entity—to “take” any endangered species of fish or wildlife listed under the
11 ESA. “Take” is defined to mean harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect,
12 or attempt to engage in such conduct. *Id.* at § 1532(19). FWS has defined “harm” to include “significant
13 habitat modification or degradation which actually kills or injures fish or wildlife by significantly
14 impairing essential behavioral patterns, including breeding, spawning, rearing, migrating, feeding or
15 sheltering.” 50 C.F.R. § 222.102.

16 22. As part of a consultation, FWS determines whether to authorize the incidental take of
17 listed species through the issuance of an incidental take statement. An incidental take statement may be
18 issued only if the action can proceed without causing jeopardy. 16 U.S.C. § 1536(b)(4). An incidental
19 take statement must: (1) specify the impact of the incidental take on the listed species; (2) specify
20 reasonable and prudent measures the agency considers necessary to minimize that impact; and (3) set
21 forth mandatory terms and conditions. *Id.*

22 23. An incidental take statement insulates the federal agency from liability for a take of a
23 threatened or endangered species, provided the agency complies with the statement’s terms and
24 conditions. This insulation extends further to any entity receiving a federal permit, license,
25 authorization, or funding subject to, and in compliance with, the statement. Thus, the Act provides that:

26 [A]ny taking that is in compliance with the terms and conditions specified in a written
27 statement provided under subsection (b)(4)(iv) of this section shall not be considered to
28 be a prohibited taking of the species concerned.

1 16 U.S.C. § 1536(o)(2).

2 **II. The Federal Insecticide, Fungicide, And Rodenticide Act.**

3 24. The Environmental Protection Agency is responsible for the oversight of pesticide sales
4 and use in the United States. Specifically, the Federal Insecticide, Fungicide, and Rodenticide Act
5 (“FIFRA”) charges the EPA with registering, reviewing, and reregistering chemicals and chemical
6 formulations for use as insecticides, fungicides, rodenticides, and pesticides (collectively “pesticides”) in
7 the United States. 7 U.S.C. §§ 136-136y. Under FIFRA, a pesticide generally may not be sold or used
8 in the United States unless it has an EPA registration for that particular use. 7 U.S.C. § 136a(a). EPA
9 may register a pesticide if it makes the following determinations: (1) the labeling complies with
10 FIFRA’s requirements; (2) the composition claims are warranted; (3) the pesticide will perform its
11 intended function; and (4) the pesticide will not cause unreasonable adverse effects on the environment.
12 7 U.S.C. § 136a(c)(5). The culmination of the registration process is EPA’s approval of a label for the
13 particular pesticide. FIFRA makes it unlawful to use a pesticide in a manner inconsistent with the label,
14 id. at § 136j(2)(G), or to make any claims that differ substantially from the label. Id. at § 136j(1)(B).

15 25. EPA must classify pesticides as general or restricted use pesticides, depending on the risk
16 posed to the environment. Where necessary to guard against unreasonable adverse environmental
17 effects, EPA must classify a pesticide as restricted use. 7 U.S.C. § 136a(d)(1)(C). Restricted use
18 pesticides are subject to additional regulatory restrictions, particularly concerning application of the
19 pesticide. Id. EPA must reclassify pesticides as restricted use pesticides where necessary to prevent
20 unreasonable adverse effects on the environment. Id. at § 136a(d)(1)(C)(2).

21 26. After approving a pesticide registration, EPA retains discretionary involvement and
22 control over that registration. EPA must periodically review pesticide registrations with a goal of
23 reviewing each pesticide registration every 15 years. 7 U.S.C. § 136a(g)(1). EPA has the authority to
24 compel registrants to submit data necessary for a reregistration review. Id. at 136a(g)(2). Registrants
25 are required to submit to EPA any information about registered pesticides’ unreasonable adverse effects
26 on the environment. Id. at § 136a(d)(2). EPA considers such information in reviewing and, where
27 necessary, modifying the pesticide registrations.

1 27. The EPA Administrator has the authority to cancel pesticide registrations whenever “a
2 pesticide or its labeling or other material required to be submitted does not comply with the provisions
3 of this Act or, when used in accordance with widespread and commonly recognized practice, generally
4 causes unreasonable adverse effects on the environment.” 7 U.S.C. § 136d(b). The Administrator may
5 immediately suspend a pesticide registration to prevent an imminent hazard. *Id.* § 136d(c). An
6 announcement by the Administrator of an intent to cancel a pesticide use often results in the registrant’s
7 voluntary cancellation of, or agreement to further constraints upon that use.

8 28. In 1988, amendments to FIFRA established a comprehensive reregistration scheme,
9 which EPA has been using since its enactment. 7 U.S.C. § 136a–1. The 1988 amendments required
10 reregistration of all pesticide active ingredients initially registered before November 1, 1984. The 1988
11 amendments established a reregistration process consisting of five phases: Phase 1 required EPA to list
12 all active ingredients; Phase 2 required registrants (pesticide producers) to notify EPA whether or not
13 they intended to reregister their products, to identify and commit to providing necessary studies, and to
14 pay a reregistration fee; Phase 3 required registrants to submit summaries and reformat acceptable
15 studies, flag studies indicating adverse effects, re-commit to satisfying all applicable data requirements,
16 and pay the final installment of the registration fee; Phase 4 required EPA to review all Phase 2 and
17 Phase 3 submissions and required registrants to meet any unfulfilled data requirements; Phase 5 required
18 EPA to review all the studies that have been submitted for a case, and decide whether or not pesticide
19 products containing the active ingredient(s) are eligible for reregistration. EPA is still in the Phase 5
20 process of making reregistration decisions.

21 29. EPA’s “reregistration decisions” require EPA to determine whether the pesticide causes
22 unreasonable adverse effects to people or the environment when used according to product labeling. *Id.*
23 at § 136a–1(g)(2)(C). The results of EPA’s review are presented in a Reregistration Eligibility Decision
24 (“RED”) document.

25 30. The RED contains a human health assessment and an environmental assessment. The
26 environmental assessment evaluates the likelihood that exposure to that pesticide may cause harmful
27 ecological effects. The effects can be direct (e.g. fish die from a pesticide entering waterways, or birds
28 do not reproduce normally after ingesting contaminated fish), or indirect (a birds become sick from

1 ingesting contaminated fish). The studies conducted in the environmental assessment include: defining
2 the chemical properties of the pesticide; determining how the pesticide behaves in the environment; and
3 assessing its impact on plants and animals not targeted by the pesticide (nontarget organisms). To
4 determine how the pesticide behaves in the environment, EPA measures the interaction of the pesticide
5 with soils, air, sunlight, surface water, and ground water. Some of the basic questions that must be
6 answered to determine the “environmental fate” of the pesticide include: how fast and by what means
7 does the pesticide degrade; what are the breakdown chemicals; how much of the pesticide or its
8 breakdown chemicals will travel from the application site; and where will the pesticide or its breakdown
9 chemicals accumulate in the environment. Environmental fate analyses help to develop estimates of
10 pesticide concentrations in the environment. EPA establishes the risk assessment by comparing possible
11 exposures to a pesticide, based on the environmental fate analyses, with resulting harmful effects on
12 plants and animals. The result will indicate the likelihood of hazard to plants and animals from use of
13 the pesticide.

14 31. The environmental assessment does not assess or consider the cumulative effects posed
15 by multiple pesticides, with or without similar toxicity mechanisms, on the environment. The
16 environmental assessment also does not consider the synergistic effects associated with the use of the
17 registered pesticide interacting with other pesticides, both direct and indirect, on the environment.

18 32. The environmental assessment also does not assess the impact of “inert” ingredients. An
19 inert ingredient means any substance (or group of structurally similar substances if designated by the
20 Agency), other than an active ingredient, which is intentionally included in a pesticide product. Inert
21 ingredients play a key role in the effectiveness of a pesticidal product. For example, inert ingredients
22 may serve as a solvent, allowing the pesticide's active ingredient to penetrate a plant's outer surface. In
23 some instances, inert ingredients are added to extend the pesticide product's shelf-life or to protect the
24 pesticide from degradation due to exposure to sunlight. Pesticide products can contain more than one
25 inert ingredient, but federal law does not require that these ingredients be identified by name or
26 percentage on the label. Only the total percentage of inert ingredients is required to be on the pesticide
27 product label.

1 33. In September 1997, the Environmental Protection Agency issued Pesticide Regulation
2 Notice 97-6, which encourages manufacturers, formulators, producers, and registrants of pesticide
3 products to voluntarily substitute the term “other ingredients” as a heading for the “inert” ingredients in
4 the ingredient statement on the label of the pesticide product. EPA made this change after learning the
5 results of a consumer survey on the use of household pesticides. Many comments from the public and
6 the consumer interviews prompted EPA to discontinue the use of the term “inert.” Many consumers are
7 misled by the term “inert ingredient,” believing it to mean “harmless.” Since neither federal law nor
8 the regulations define the term “inert” on the basis of toxicity, hazard or risk to humans, non-target
9 species, or the environment, it should not be assumed that all inert ingredients are non-toxic.

10 34. The types of measures included in REDs to reduce risks that are of concern include:
11 voluntary cancellation of pesticide products or deletion of uses; declaring certain uses ineligible or not
12 yet eligible (and then proceeding with follow-up action to cancel the uses or require additional
13 supporting data); restricting use of products to certified applicators; limiting the amount or frequency
14 use; improving use directions and precautions; adding more protective clothing and equipment
15 requirements; requiring special packaging or engineering controls; requiring no-treatment buffer zones;
16 employing ground water, surface water, or other environmental and ecological safeguards; and other
17 measures.

18 35. In 1996, Congress further amended FIFRA with the Federal Food, Drug, and Cosmetic
19 Act (“FFDCA”), 21 U.S.C. § 346a, as amended by the Food Quality Protection Act (“FQPA”), Pub.L.
20 104-170, which established new safety standards for pesticide residue in food. Under FQPA, EPA must
21 further determine with “reasonable certainty that no harm” will come to infants, children or other
22 sensitive individuals exposed to pesticides from food, water, and home and garden use. FQPA also
23 requires EPA to consider the cumulative effects of pesticides with common mechanisms of toxicity
24 when evaluating the safety of individual pesticides. EPA is satisfying FQPA’s requirements by
25 reassessing all existing “tolerances” (maximum limits for pesticide residues in foods). EPA is using the
26 reregistration program to accomplish the tolerance reassessments.

27 36. Interim REDs (“IREDs”) are issued for pesticides that are undergoing reregistration,
28 require a reregistration eligibility decision, and also must be included in a cumulative assessment under

1 FQPA because they are part of a group of pesticides that share a common mechanism of toxicity. An
2 IRED is issued for each individual pesticide in the cumulative group when EPA has completed the
3 pesticide's risk assessment and risk management decision. An IRED may include measures to reduce
4 food, drinking water, residential, occupational, and/or ecological risks, to gain the benefit of these
5 changes before the RED can be issued, following the Agency's consideration of cumulative risks for the
6 group.

7 37. EPA also issues Reports on FQPA Tolerance Reassessment Progress and Interim Risk
8 Management Decisions, known as TREDs, for pesticides that require tolerance reassessment decisions
9 under the FQPA but do not require a reregistration eligibility decisions at present because: the pesticide
10 was first registered after November 1984; EPA completed a RED for the pesticide before the FQPA was
11 enacted; or the pesticide is not registered for use in the United States but tolerances are established that
12 allow crops treated with the pesticide to be imported from other countries. Like IREDs, some TREDs
13 will not become final until EPA considers the cumulative risks of all the pesticides in the cumulative
14 group.

15 38. After EPA has issued a RED and declared a pesticide reregistration case eligible for
16 reregistration, individual end-use products that contain pesticide active ingredients included in the case
17 still must be reregistered. This concluding part of the reregistration process is referred to as "product
18 reregistration." In issuing a completed RED document, EPA calls in any product-specific data and
19 revised labeling needed to make final reregistration decisions for each of the individual pesticide
20 products covered by the RED.

21 39. In November of 2005, EPA published a final notice for its Field Implementation of its
22 Endangered Species Protection Program ("ESPP"). The ESPP was established to address compliance
23 with the ESA in the pesticide registration process. The foundation of the ESPP relies upon the use of
24 Endangered Species Protection Bulletins ("Bulletins"). Prior to issuance of the final ESPP, these
25 Bulletins were voluntary. While the ESPP maintains that it will contain enforceable use limitations as
26 identified in the Bulletins, as of yet there are no new Bulletins. Existing county bulletins are not
27 enforceable pesticide use limitations.

1 **FACTUAL BACKGROUND**

2 **I. The San Francisco Bay Area.**

3 40. The San Francisco Bay Area is valued for its extensive open space and the spectacular
4 San Francisco Bay, which provide scenic views and recreational opportunities for nearly 10 million
5 people. The unique Bay Area wildlands, which provide many with inspiration and a connection to
6 nature, harbor a rich biological diversity, and the varied ecosystems around the Bay provide habitat for
7 numerous endangered species of animals and plants.

8 41. The overall health of the Bay Area and the diverse habitats it provides are at risk due to
9 extensive agricultural and urban pesticide use. The pesticides that are sprayed on our food, our soil and
10 our lawns find their way into local creeks and ultimately the San Francisco Bay, posing a significant
11 threat to water quality and jeopardizing endangered species.

12 42. At least 30 of the 51 federally endangered or threatened animal species that occur in the
13 Bay Area may be adversely affected by the annual use of more than 8 million pounds of pesticides in the
14 Bay Area. Listed fish, birds, insects, mammals and plants all may be adversely affected from the
15 registered use of pesticides in the following nine Bay Area counties: Marin, Sonoma, Napa, Solano,
16 Contra Costa, Alameda, Santa Clara, San Mateo and San Francisco.

17 43. More than two billion pounds of pesticides are sold each year in the U.S. for agricultural,
18 commercial, and home uses. The EPA has registered more than 18,000 pesticides and over 900 are
19 registered for use in California. Based on reported uses alone, over 61 million pounds of pesticide
20 active ingredients were applied in the Bay Area from 1999 through 2005. Over 9.2 million pounds of
21 pesticide active ingredients were reported applied over 2 million acres in the Bay Area in 2005 alone. In
22 addition, some portion of the estimated 150 million pounds of pesticides applied to crops in the Central
23 Valley each year is transported to the San Francisco Bay and Delta.

24 44. Actual pesticide use may have been up to several times the identified amount since home
25 and garden pesticide use and most industrial, commercial and institutional pesticide applications not
26 made by professional applicators do not have to be reported to the state of California. For example, the
27 San Francisco Estuary Project's *Pesticides in Urban Surface Waters: Urban Pesticides Use Trends*
28

1 *Annual Report 2005* estimated that about 73% of California pesticide use in 2003 did not require
2 reporting.

3 **II. Waterways Throughout the Bay Area Are Contaminated With Pesticides.**

4 45. Agricultural and urban runoff transport pesticides away from their application areas, with
5 pesticides either dissolved in water or bound to suspended sediments in the water.

6 46. Over the last decade, the U. S. Geological Survey (“USGS”) has released several reports
7 on nationwide water quality surveys, documenting the astounding prevalence of pesticides in our
8 nation’s waterways, particularly in streams and ground water in basins with significant agricultural or
9 urban development.

10 47. This polluted runoff can pose acute and chronic problems to wildlife and plants. Not
11 surprisingly, the USGS noted a direct correlation between the amounts and types of pesticides used and
12 their frequency in nearby surface waters. Pesticides were found at concentrations exceeding established
13 levels of concern and mixtures of multiple pesticides were commonly found in stream samples.

14 48. However, the USGS studies only represent a brief snapshot of pesticides in our
15 environment, since they do not assess aquatic pesticide concentrations through daily monitoring over the
16 entire seasons that pesticides are used. With limited sampling size, the studies most likely do not reflect
17 the highest concentrations and fail to measure the duration pesticides persist in our waters.

18 49. Despite the fact that pesticides are found in waterways in various combinations, the EPA
19 only assess the risk of pesticides on an individual basis. This type of assessment fails to consider
20 cumulative and synergistic effects pesticides pose to the environment and threatened and endangered
21 species.

22 50. The Sacramento-San Joaquin Delta is a complex system of tidally influenced,
23 interconnected sloughs and channels. The hydrologic complexity is further increased by freshwater
24 inputs to the Delta from several rivers and sloughs. 500,000 pounds of over 30 different herbicides are
25 applied annually on agricultural lands in the Delta, and an additional 5 million pounds are applied
26 upstream in three other watersheds: the Sacramento River, San Joaquin River, and French Camp Slough.
27 The Delta watershed encompasses agricultural areas that receive intense applications of various
28 herbicides. A study conducted in 1997 detected 13 herbicides in one or more water samples. The

1 herbicide concentrations varied considerably spatially and temporally and several pesticides were
2 detected frequently and at elevated concentrations.

3 51. USGS has also studied and tracked the concentrations and movement of dormant spray
4 pesticides used on orchards in the Central Valley as they moved through the Sacramento-San Joaquin
5 Delta. All the concentrations of diazinon measured in the rivers and bay throughout the study were
6 above the guideline recommended by the National Academy of Sciences for the protection of aquatic
7 life. Other pesticides including chlorpyrifos, methidathion and carbaryl were also routinely detected.

8 52. Pesticide contamination of waterways is an ongoing problem in the San Francisco Bay
9 Area. Most of the San Francisco Bay and Delta is listed as “impaired” or not meeting EPA water quality
10 standards due to high concentrations of the pesticides chlordane, DDT, diazinon and dieldrin. The
11 Sacramento-San Joaquin Delta, Carquinez Strait, Suisun Bay, Richardson Bay, San Pablo Bay, the
12 central basin, central, lower and southern San Francisco Bay, the Oakland Inner Harbor and San
13 Leandro Bay are of particular concern. In 2005 the California Regional Water Quality Control Board
14 proposed adding several water bodies to the impaired list due to pesticides: Lake Chabot for chlordane,
15 DDT and dieldrin; San Pablo Reservoir for chlordane, dieldrin, heptachlor and toxaphene; and San
16 Leandro Bay, Stege Marsh in Richmond and Stevens Creek for chlordane and dieldrin.

17 53. Thirty-seven creeks draining into San Francisco Bay are also listed as impaired due to
18 high concentrations of the pesticide diazinon, including: Arroyo Corte Madera Del Presidio, Corte
19 Madera Creek, Coyote Creek, Gallinas Creek, Miller Creek, Novato Creek, San Antonio Creek and San
20 Rafael Creek in Marin County; the Petaluma River in Sonoma County; Laurel Creek, Ledgewood Creek
21 and Suisun Slough in Solano County; Mount Diablo Creek, Pine Creek, Pinole Creek, Rodeo Creek, San
22 Pablo Creek, Walnut Creek and Wildcat Creek in Contra Costa County; Alameda Creek, Arroyo De La
23 Laguna, Arroyo Del Valle, Arroyo Las Positas, Arroyo Mocho, lower San Leandro Creek and San
24 Lorenzo Creek in Alameda County; Calabazas Creek, Coyote Creek, the Guadalupe River, Los Gatos
25 Creek, Matadero Creek, Permanente Creek, San Felipe Creek, Saratoga Creek and Stevens Creek in
26 Santa Clara County; and San Francisquito Creek and San Mateo Creek in San Mateo County.

1 **III. Sediment in the Bay Area Is Contaminated With Pesticides.**

2 54. The health of the Bay’s sediment is important since it provides habitat for benthic
3 organisms at the bottom of the food chain such as clams and insects, which are a food source for fish.
4 The presence of pesticides in Bay sediments or on stream bottoms also indicates the pesticides are or
5 were present in the Bay or in the water of a stream.

6 55. Stream sediments can act as a reservoir for contaminants, with pesticides entering and
7 leaving stream bottom sediments through numerous pathways. Settling of contaminated suspended
8 sediments, re-suspension and export of sediments in the water column, adsorption onto and release from
9 mineral or organic sediments, interactions with stream-bottom organisms, ingestion or absorption by
10 organisms, and elimination of wastes and release from decaying contaminated organisms can
11 contaminate stream sediments. Pesticides can persist and accumulate in sediment and in aquatic
12 organisms through these processes even at concentrations too low to be detected using conventional
13 methods.

14 56. Pesticides of concern enter the water and active sediment of San Francisco Bay in runoff
15 from the Central Valley and local watersheds. The USGS is studying sediments transported into the San
16 Francisco Bay Estuary from the Sacramento and San Joaquin Rivers, which carry waters from the
17 Central Valley where more than 500 different pesticides are used.

18 57. In a study of the suspended sediments transported into estuaries by the “first flush” runoff
19 event from the first major storm of the year, USGS found an average of 10 of 19 analyzed pesticides in
20 each of the 15 samples taken. Samples contained chlordane, chlorpyrifos, dacthaql, molinate,
21 oxyfluorfen, pebulate, thiobencarb, alachlor, endosulfan, eptam, sulfotep and trifluralin. Pesticides in
22 sediments may account for much of the pesticides transported to estuaries, where they have different
23 environmental effects than dissolved pesticides, affecting aquatic life differently than dissolved
24 pesticides and posing particular risk to filter-feeding pelagic and benthic organisms. The majority of
25 suspended sediments move into estuaries in annual pulse flows with the first flush of runoff from the
26 first major winter storm, and remain longer in estuaries than water.

1 **IV. Aquatic Species May be Adversely Affected From Continued and Ongoing Exposure to**
2 **Pesticides.**

3 58. Fish in the Sacramento-San Joaquin Delta, San Francisco Bay and its tributaries inhabit
4 an ecosystem already stressed by dams and water diversions, urban development and invasion of exotic
5 species. The large concentrations of toxic pesticides that enter the Bay affect many aquatic species.

6 59. A 1999 Pesticide Action Network North America (“PANNA”) report, *Disrupting the*
7 *Balance: Ecological Impacts of Pesticides in California*, documented the impact of pesticides on
8 wildlife statewide. The report found that multiple pesticides are often found in California waters and
9 sediments at concentrations exceeding levels lethal to zooplankton, a primary food source for fish.
10 The PANNA report also discussed the effects of routine toxic pulses of diazinon and chlorpyrifos in
11 California streams during critical stages in fish development. Pesticide contamination of the Bay
12 Area’s waterways is an ongoing problem and as detailed in this report, aquatic species are particularly
13 vulnerable to pesticides. Much of the San Francisco Bay and Delta and many Bay Area streams are
14 listed as “impaired” or not meeting water quality standards due to high concentrations of pesticides
15 such as chlordane, chlorpyrifos, DDT, diazinon and dieldrin. Although some organophosphate
16 chemicals such as chlorpyrifos and diazinon are being gradually phased out for household use, the
17 agrochemical industry is turning to pyrethroid pesticides that are known to accumulate in aquatic
18 sediment and be highly toxic.

19 60. While maintaining healthy, viable invertebrate communities in our natural waters is an
20 objective in and of itself, these invertebrates are also ecologically important as food for priority fish
21 populations. Numerous studies have documented that virtually all of the priority fish populations in
22 the Sacramento-San Joaquin River basins and the San Francisco Estuary rely upon these invertebrates,
23 particularly during their vulnerable early life stages. Pulses of pesticides through these aquatic
24 ecosystems diminish the available invertebrate resources that occur at critical periods, such as when
25 fish fry are dependent on invertebrates for food, adversely affecting fish populations. The period when
26 toxicity in these waters occurs (January-June) coincides with the presence of early life stages of most
27 of the fish populations currently in decline, including delta smelt, chinook salmon, longfin smelt,
28

1 Sacramento splittail, steelhead trout, and green sturgeon, all of which have been identified as "Priority
2 Species" by the CALFED Bay-Delta program.

3 61. Acutely toxic pulses of pesticides move down the Sacramento and San Joaquin Rivers
4 and local San Francisco Bay streams and through the estuaries and Bay Delta with “remarkable
5 persistence and relatively little dilution,” according to the U.S. Fish and Wildlife Service. Researchers
6 have reported episodic toxicity in the Delta involving peaks of organophosphate pesticides, as well as
7 carbofuran, chlorpyrifos, trifluralin and atrazine. Such pulsed introduction of pollutants may increase
8 the time of exposure to pesticides or expose fish and other aquatic organisms during biologically
9 sensitive times.

10 62. There is growing evidence that numerous fish species in the Delta are suffering direct
11 mortality or additional stress from the presence of toxic substances such as pesticides. There is also
12 evidence that the plankton upon which Delta fish feed may be depleted by these highly concentrated
13 pulses of pesticides. The Delta's open water forage fish populations are collapsing in a crisis that
14 potentially threatens the entire estuarine food web. From 2004 to the present, delta smelt, longfin
15 smelt and juvenile striped bass in the Delta have fallen to their lowest ever recorded levels and
16 copepods, the main food source for small fish in the Delta, have also fallen to extremely low levels.
17 Toxic chemicals including pesticides and herbicides are suspected to play a role in these alarming
18 declines.

19 **V. Amphibian Species May be Adversely Affected From Continued and Ongoing Exposure to**
20 **Pesticides.**

21 63. Pesticides have serious adverse impacts on the growth and development of amphibians.

22 64. Carbamates, organophosphates, and triazines have all been shown to disrupt hormone
23 systems. Endocrine disruptors are synthetic chemicals that mimic natural hormones, disrupting natural
24 processes by sending false messages, blocking real messages, preventing synthesis of the body’s own
25 hormones, and accelerating the breakdown and excretion of hormones. Endocrine disruption affects
26 how an organism develops and functions. Reproductive disorders, immune system dysfunction, thyroid
27 disorders, types of cancer, birth defects and neurological effects have all been linked to endocrine
28 disruption.

1 65. Several studies have documented the impact of endocrine disruptors, including numerous
2 registered pesticides, on amphibians.

3 66. For example, interference with reproduction in red-spotted newts (*Notophthalmus*
4 *viridescens*) from exposure of endosulfan, a commonly-used pesticide and recognized endocrine
5 disruptor, was recently documented at extremely low levels.

6 67. A USGS study found that atrazine exposure to larval tiger salamanders affected both
7 growth and hormonal responses.

8 68. Another study recently found that amphibians are likely to be far more sensitive to
9 pesticides in the real world than traditional laboratory tests used to establish regulatory standards would
10 indicate. The study found that low contamination levels of carbaryl cause significant mortality due to the
11 length of exposure. Long-term exposure to low levels of carbaryl in combination with added biological
12 stressors, such as the presence of predators, dramatically increased mortality. The study suggests that it
13 is highly likely that the current regulatory science has dramatically underestimated the impacts of many
14 pesticides.

15 69. Recent studies on the impact of atrazine have found that it can disrupt sexual development
16 of frogs at concentrations 30 times lower than levels allowed by EPA. Studies have exposed frogs to low
17 levels of atrazine (levels which can often be found in the environment) and found that these low levels
18 of atrazine demasculinized male frogs, preventing male characteristics from fully forming. As a result,
19 studies have concluded that due to the pervasive nature of atrazine at levels that can disrupt sexual
20 development, aquatic environments are at risk.

21 70. EPA's newly drafted criteria for atrazine for the protection of aquatic life is 12 parts per
22 billion (ppb). Studies have found hermaphroditism in frogs at exposure levels as low as 0.1 ppb, far
23 below the level established by EPA as safe for aquatic organisms. The effective doses demonstrate the
24 sensitivity of amphibians to the presence of pesticides in the environment. U.C. Berkeley researcher
25 Tyrone Hayes has noted that amphibians are at great risk because the highest atrazine levels coincide
26 with the breeding season for amphibians. Additionally, the low-dose endocrine-disrupting effects are of
27 great concern because the described effects are all internal and may go unnoticed by researchers. Thus,
28

1 “exposed populations could decline or go extinct without any recognition of the developmental effects
2 on individuals.”

3 71. Another study focusing on the reproductive system of the northern leopard frog, (*Rana*
4 *pipiens*) and the green frog (*Rana clamitans*) tested frogs from eight breeding sites, four of which were
5 situated in apple orchards. Embryos and larvae were subjected to *in-situ* and ambient pond water
6 (laboratory) assays and to toxicity tests of pesticides used in orchards. The *in-situ* embryos and larvae
7 suffered high mortality at some of the orchard sites, while high hatching success was found in the
8 reference sites, indicating that mortality in orchard ponds was probably due to stressful environmental
9 conditions. Toxicity tests revealed that diazinon and the formulations Dithane DG, Gunthion 50WP, and
10 Thiodan 50WP cause mortality, deformities, and/or growth inhibition in embryos and tadpoles.
11 Residues of three of these compounds were detected at the *in-situ* sites.

12 72. Another study focused on the synergistic effects of trematode infections and pesticide
13 exposure on frogs and found that amphibian limb deformities were exacerbated by the stress of pesticide
14 exposure.

15 73. Skeletal malformations to tadpoles have also been attributed to pesticide exposure.

16 74. Reduced testicular development to tadpoles was documented in a 2001 Canadian study.
17 This study found that exposure of tadpoles to atrazine at 21 µg/L for 48 hours during gonadal
18 differentiation resulted in decreased testicular volume among males.

19 75. In 2000, a USGS study documented that pesticides are instrumental in the decline of
20 several amphibian species in California. The study found that pesticides, including diazinon are
21 reducing cholinesterase activity in tadpoles.

22 76. As evidenced from the studies highlighted above, numerous studies have documented
23 significant impacts from pesticide exposure to amphibians. Many of these findings have gone through
24 peer-review and been published in well-respected environmental toxicology digests. EPA pesticide
25 review teams should be well aware of these studies when assessing the environmental affects of
26 registered pesticides on species, including endangered and threatened species, in the environmental risk
27 assessment chapter of a pesticide’s RED.

1 **VI. Avian Species May be Adversely Affected From Continued and Ongoing Exposure to**
2 **Pesticides.**

3 77. Pesticides also affect our songbirds, waterfowl, and raptors. For example, the pesticides
4 carbofuran and diazinon are responsible for the majority of bird kills in California, with as many as 17
5 birds killed for every 5 acres treated with carbofuran.

6 78. Synthetic pyrethroids, similar to organochlorines, are suspected to have reproductive
7 effects on birds. Sub-lethal exposure to pesticides can chronically affect avian behavior, reproduction
8 and nervous system function. Birds exposed to pesticides can become more susceptible to predation,
9 experience weight loss and have decreased resistance to disease. Pesticide exposure can also reduce
10 interest in mating and defending territory and cause birds to abandon their nestlings.

11 **VII. Insect Species May be Adversely Affected From Continued and Ongoing Exposure to**
12 **Pesticides.**

13 79. Broad-spectrum pesticides used to destroy pest insects can disrupt the natural balance
14 between pest and predator insects and indiscriminately kill beneficial insects needed for pollination and
15 other ecosystem services as well. Many beneficial insects play essential roles in pollination, soil
16 aeration, nutrient cycling and pest control. Pest insect populations can often recover more rapidly than
17 beneficial insects because of their larger numbers and ability to develop resistance to pesticides. With
18 rapid reproduction and no predators to check their numbers, this can cause a resurgence of the target pest
19 and secondary pests. Escalating pesticide applications can result in pests with even greater resistance to
20 pesticides, and the "pesticide treadmill" goes around and around. Although nationwide insecticide use
21 increased 10-fold from 1945 to 1989, crop losses from insects nearly doubled and now more than 500
22 pest species are resistant to pesticides nationwide.

23 **VIII. EPA's Registration of Pesticides May Adversely Affect the Following Bay Area Species.**

24 SAN FRANCISCO BAY AND DELTA FISH SPECIES

25 The Tidewater Goby (*Eucyclogobius newberryi*)

26 80. The tidewater goby is a small fish that inhabits brackish water along the coast of
27 California. It is found in Marin, Sonoma and San Mateo Counties; it is extirpated from Contra Costa,
28 Alameda and San Francisco Counties. The tidewater goby was listed as endangered in 1994. The FWS

1 is concerned about high diazinon levels that can cause water column toxicity in lagoons that are
2 tidewater goby habitat, noting that some creeks in Marin County are considered by the State Water
3 Resources Control Board (SWRCB) to be “Water Quality Limited” due to diazinon in urban runoff.
4 Anywhere from 250,000 to 1 million pounds of diazinon were used from 1999-2003 in the Bay Area.
5 FWS published a Recovery Plan for the species in 2005. Exhibit A of the Center’s NOI shows an
6 overlap of tidewater goby observations and pesticide use in southern coastal San Mateo County.

7 The Delta Smelt (*Hypomesus transpacificus*)

8 81. The delta smelt is a nearly translucent steely-blue fish found only in the brackish waters
9 from Suisun Bay upstream through the Sacramento-San Joaquin River Delta in Contra Costa,
10 Sacramento, San Joaquin, Solano and Yolo Counties. It was listed as threatened in 1993. FWS
11 published a five-year review for the species reaffirming threatened status in 2004. Delta smelt spawn in
12 backwater sloughs and along channels with tidal influence.

13 82. Delta smelt habitat in the Sacramento-San Joaquin Delta estuary receives flushes of high
14 concentrations of agricultural pesticides such as carbofuran, chlorpyrifos, and diazinon. The SWRCB
15 lists all the important water bodies in the smelt’s range as impaired by one or more contaminants,
16 commonly including pesticides such as diazinon, chlorpyrifos, malathion, chlordane, DDT and dieldrin.
17 Up to 1 million pounds each of chlorpyrifos, diazinon and malathion were applied in the Bay Area from
18 1999-2003. However, CDPR has not yet identified which pesticides are used in Delta smelt habitat.

19 83. Recent research indicates that toxicity of certain contaminants in smelt habitat occurs in
20 episodes, often in runoff from rainstorms following periods of use of the chemicals. Acutely toxic pulses
21 of pesticides move down the rivers and through the estuary with “remarkable persistence and relatively
22 little dilution.” Researchers report episodic toxicity in winter associated with organophosphate pesticide
23 treatment of dormant orchards; carbofuran and chlorpyrifos in the San Joaquin River and Delta in
24 spring, possibly associated with treatment of alfalfa; rice pesticides in late spring and early summer with
25 release of rice field water; and a variety of herbicides from irrigation tail water during the summer.
26 Peaks of numerous other chemicals, including the herbicides trifluralin and atrazine, have also been
27 found.

1 western Contra Costa County. Use of pesticides upstream of clapper rail observations is seen in
2 Sonoma, Napa, Solano, San Mateo, Santa Clara, Alameda and Contra Costa Counties.

3 The Salt Marsh Harvest Mouse (*Reithrodontomys raviventris*)

4 87. The salt marsh harvest mouse is a small, mostly nocturnal rodent that lives in tidal and
5 diked salt marshes, only around the San Francisco Bay and its tributaries. Harvest mice have declined
6 primarily because thousands of acres of wetlands habitat in the San Francisco Bay have been filled,
7 degraded, or converted for agricultural use. Flood control and mosquito abatement activities as well as
8 introduced predators and competitors are also threats. The harvest mouse was listed as endangered in
9 1970.

10 88. Pesticides that enter marsh habitats are also a threat to remaining harvest mouse
11 populations. Over 110 pesticides are used in proximity to salt marsh harvest mouse habitat in the Bay
12 Area, including carbaryl, chlorothalonil, chlorpyrifos, 2,4-D, diazinon, and permethrin. The FWS has
13 concluded that use of eight rodenticides (brodifacoum, bromadiolone, bromethalin, chlorophacinone,
14 cholecalciferol, diphacinone, warfarin, and zinc phosphide) in harvest mouse habitat could jeopardize
15 the continued existence of the species, but reported use of these rodenticides in the Bay Area counties
16 where the harvest mouse occurs was minimal in 2003.

17 89. The 1993 Biological Opinion on the Effects of 16 Vertebrate Control Agents on
18 Threatened and Endangered Species (“1993 BO”) found that brodifacoum, bromadiolone, bromethalin,
19 chlorophacinone, diphacinone, pival, vitamin D3, warfarin, and zinc phosphide jeopardized the harvest
20 mouse. The 1993 BO assigned Reasonable and Prudent Alternatives (“RPAs”) for all of these control
21 agents.

22 90. The regulations implementing section 7 of the ESA (50 C.F.R. § 402.02) define
23 reasonable and prudent alternatives as alternative actions, identified during formal consultation, that (1)
24 can be implemented in a manner consistent with the intended purpose of the action, (2) can be
25 implemented consistent with the scope of the action agency’s legal authority, (3) are economically and
26 technologically feasible, and (4) would avoid the likelihood of jeopardizing the continued existence of
27 listed species and/or avert the destruction or adverse modification of critical habitat.

1 survival directly or indirectly affect their food supply. The FWS cited studies reporting severe toxicity
2 to amphibians from exposure to endosulfan, including extensive paralysis, delayed metamorphosis and
3 high death rates, noting that “endosulfan is extremely toxic at low concentrations to amphibians.”

4 97. Use of over 1.3 million pounds of metam sodium, 1.1 million pounds of methyl bromide,
5 250,000 pounds of chlorpyrifos, 33,000 pounds each of acephate and maneb, 25,000 pounds of
6 malathion, 20,000 pounds of azinphos-methyl and 9,800 pounds of endosulfan were reported from 1999-
7 2003 for the five Bay Area counties where the tiger salamander occurs.

8 98. FWS also noted that poisons (i.e. rodenticides) typically used on ground squirrels are
9 likely to have a disproportionately adverse effect on California tiger salamanders, which inhabit rodent
10 burrows, are smaller than the target species, and have permeable skins. Furthermore, use of pesticides
11 such as methoprene in mosquito abatement may have an indirect adverse effect on the California tiger
12 salamander by reducing the availability of prey.

13 99. In the South Sacramento Draft Habitat Conservation Plan (“HCP”), FWS noted that
14 toxicants, even at sub-lethal levels may still cause adverse effects such as developmental abnormalities
15 in larval salamanders and behavioral abnormalities in adult salamanders. The Draft HCP went on to
16 note that sources of chemical pollution, which may adversely affect the salamander include pesticides
17 used in agricultural, landscaping, roadside maintenance, and rodent and vector control activities, as well
18 as stormwater from residential and urban lawn care. In regards to rodent control, FWS noted that the
19 salamander spends the majority of its life aestivating underground in burrows and that widespread
20 burrowing mammal control likely poses a significant threat to the salamander. Besides the possible
21 direct adverse affects associated with rodenticides and fumigants, California ground squirrel and pocket
22 gopher control operations may also indirectly affect the salamander by reducing the number of upland
23 burrows available to them.

24 100. FWS designated critical habitat for the salamander in 2005. EPA did not consult on the
25 impacts of pesticides on the salamander after critical habitat was designated. FWS cited pesticide
26 application as a threat for East Bay Unit 11 (Braen Canyon Unit, Santa Clara County, 6,991 acres –
27 Southern Santa Clara County generally west of Gilroy, south of Kelly Lake, east of Pacheco Lake, and
28 north of Jamison Road) and Unit 12 (San Felipe Unit, Santa Clara and San Benito Counties, 6,642 acres

1 – Generally west of Camadero, south of Kickham Peak, east of San Joaquin Peak, and north of
2 Dunneville). Exhibit E of Plaintiff’s NOI also shows an overlap of pesticide use and tiger salamander
3 observations in Sonoma county (Sonoma population) and an overlap of pesticide use and tiger
4 salamander observations in eastern Contra Costa, central and eastern Alameda and Santa Clara counties
5 (Central California population).

6 The San Francisco Garter Snake (*Thamnophis sirtalis tetrataenia*)

7 101. All known populations of the San Francisco garter snake occur in San Mateo County near
8 freshwater marshes, ponds, and slow-moving streams along the coast. The garter snake was designated
9 as endangered in 1967. FWS published a five-year review for the species reaffirming endangered status
10 in 2006.

11 102. The San Francisco garter snake may be threatened by pesticide use on private lands where
12 it still occurs. The FWS has noted that pesticides are a threat to other aquatic garter snakes in
13 California. Pesticides used in proximity to San Francisco garter snake habitat in the Bay Area include
14 carbaryl, carbofuran, chlorothalonil, chlorpyrifos, diazinon, dinocap and permethrin. A total use of over
15 52,000 pounds of these pesticides was reported for San Mateo County from 1999-2003.

16 103. A 1999 FWS memo identified acephate, azinphos-methyl, bendiocarb, carbofuran,
17 chlorpyrifos, endosulfan, naled, permethrin and trifluralin pesticide use within one mile of the San
18 Francisco garter snake’s habitat.

19 104. The 1993 BO made jeopardy determinations for the San Francisco garter snake for
20 aluminum phosphide, magnesium phosphide, potassium nitrate and sodium nitrate. These are all
21 rodenticides. RPAs were identified to avoid jeopardy and included prohibition of use during hibernation
22 period and a monitoring enforcement program. Intended use on burrows could result in exposure to
23 garter snakes during hibernation.

24 105. A 1996 FWS letter to EPA approved of two EPA Bulletins for grain bait and pelletized
25 rodenticides and burrow fumigants for species covered in the 1993 biological opinion. The 1996 FWS
26 letter identified that measures set out in the county bulletins could be substituted for the RPAs and
27 RPMs for the San Francisco garter snake set out in the 1993 BO. Exhibit F of Plaintiff’s NOI shows
28 overlap of San Francisco garter snake observations and pesticide use in San Mateo County.

1 The California Freshwater Shrimp (*Syncaris pacifica*)

2 106. California freshwater shrimp are found only in low elevation perennial streams or
3 intermittent streams with perennial pools in the northern San Francisco Bay Area. Freshwater shrimp
4 require low gradient streams with diverse habitat structure including undercut banks, exposed roots,
5 woody debris and overhanging vegetation. The freshwater shrimp was listed as endangered in 1988.
6 FWS initiated a five-year review for the species in 2006.

7 107. Among other factors, shrimp populations and habitat are threatened by inadvertent
8 introduction of herbicides and pesticides into creek water through aerial drift, spills, and runoff.
9 Freshwater shrimp may also be sensitive to pesticides commonly used in vineyards. Over 85 pesticides
10 are used in proximity to California freshwater shrimp habitat in the Bay Area, including chlorpyrifos,
11 diazinon and diuron.

12 108. While a June 14, 1989 Biological Opinion on the National Pesticide Consultation (1989
13 BO) reviewed the impact of pesticides on the California freshwater shrimp and found that none of the
14 reviewed pesticides were likely to affect the shrimp, a 1999 FWS memo noted that acephate and
15 chlorpyrifos are used within one mile of its habitat. Exhibit G of Plaintiff's NOI shows an overlap of
16 California freshwater shrimp observations and pesticide use in Sonoma County and pesticide use
17 upstream of California freshwater shrimp observations in Napa County.

18 TERRESTRIAL SPECIES

19 The San Joaquin Kit Fox (*Vulpes macrotis mutica*)

20 109. The San Joaquin kit fox is the smallest member of the dog family in North America, with
21 an average weight of about 5 pounds. San Joaquin kit foxes inhabit grasslands in the San Joaquin
22 Valley and eastern Bay Area Counties. In the eastern Bay Area, kit foxes mostly prey on California
23 ground squirrels. Kit foxes either dig their own dens or use dens constructed by other animals. The
24 primary threat to kit foxes is the loss and degradation of suitable habitat due to agricultural, industrial,
25 and urban developments. The kit fox was listed as endangered in 1967. FWS initiated a five-year
26 review for the species in 2006.

27 110. Hundreds of San Joaquin kit foxes were destroyed in the past by strychnine poisoned bait
28 used for coyote control. The federal government began controlling use of rodenticides in 1972 and

1 prohibited above-ground application of strychnine within the range of the kit fox in 1988. However, use
2 of 28 pounds of strychnine was reported in 2003 for pest control in the East Bay counties where the kit
3 fox occurs.

4 111. Intensive agricultural use in the Central Valley still exposes kit foxes to a wide array of
5 pesticides and rodenticides.

6 112. The use of more than 22,000 pounds of aluminum phosphide was reported from 1999-
7 2003 in the East Bay counties where the kit fox occurs. At least 27 San Joaquin kit foxes were killed
8 from poisoning recently in the Central Valley and two were poisoned in 1992 in the East Bay, primarily
9 by the rodenticides brodifacoum, chlorophacinone, and bromadiolone. Brodifacoum is a deadly
10 rodenticide widely available to the public as an active ingredient in rat and mouse baits such as Talon,
11 Havoc, and D-Con.

12 113. Pesticides and rodenticides may indirectly affect the survival of kit foxes by reducing the
13 abundances of their staple prey species. For example, California ground squirrels, the staple prey of kit
14 foxes in the northern portion of their range, were eliminated from Contra Costa County in 1975 by
15 extensive rodent eradication programs. This severely reduced kit fox abundance through secondary
16 poisoning and elimination of prey.

17 114. In the 1999 FWS memo, FWS noted that 13 of the 15 pesticides assessed (acephate,
18 aldicarb, azinphos-methyl, bendiocarb, carbofuran, chlorpyrifos, endosulfan, S-fenvalerate, naled,
19 parathion, permethrin, phorate, and trifluralin) are all used within one mile of San Joaquin kit fox
20 habitat. The kit fox is likely to come into contact with these chemicals via runoff or from aerial drift as
21 well as through direct contact with sprays and treated soils, or through the consumption of contaminated
22 prey. FWS also noted that pest control practices affect kit foxes directly, secondarily and indirectly by
23 reducing prey populations.

24 115. The FWS determined in the 1993 BO that use of some burrow fumigants (aluminum and
25 magnesium phosphide), anticoagulant rodenticides (chlorophacinone, diphacinone, and pival), and gas
26 cartridges (potassium nitrate and sodium nitrate) in kit fox habitat could jeopardize the species. The
27 1993 BO made “no jeopardy” determinations for brodifacoum, bromadiolone, zinc phosphide, provided
28 RPMs were followed. The 1996 FWS letter to EPA approved of two EPA Bulletins for grain bait and

1 pelletized rodenticides and burrow fumigants for species covered in the 1993 biological opinion. The
2 1996 FWS letter identified that measures set out in the county bulletins could be substituted for the
3 RPAs and RPMs for the San Joaquin kit fox set out in the 1993 BO. Exhibit H shows an overlap of the
4 San Joaquin kit fox range and pesticide use in eastern Contra Costa, northeastern Alameda, and Santa
5 Clara counties.

6 The Alameda Whipsnake (*Masticophis lateralis euryxanthus*)

7 116. The Alameda whipsnake is a slender snake with black dorsal coloring and distinctive
8 yellow-orange racing stripes down each side. Adult whipsnakes grow from three to four feet in length.
9 Whipsnakes are extremely fast moving and hold their heads high off the ground in a cobra-like manner
10 while hunting for potential prey, which includes lizards, small mammals, snakes, and nesting birds.
11 Alameda whipsnakes occupy disappearing northern coastal scrub and chaparral habitats broken by
12 grassland and rocky hillsides, primarily in Contra Costa and Alameda Counties. Whipsnake habitat has
13 been severely reduced and fragmented by urban sprawl, road construction, livestock grazing, and fire
14 suppression. The whipsnake was listed as threatened in 1997. FWS published a Recovery Plan for the
15 species in 2003. Critical habitat was redesignated in 2006.

16 117. The FWS is concerned about exposure to rodenticides, herbicides and pesticides
17 adversely affecting the Alameda whipsnake directly or indirectly through prey reduction or habitat
18 alteration.

19 118. CDPR identifies the following pesticide use in Alameda whipsnake habitat: 2,4-D,
20 chlorophacinone, diphacinone, and lindane. The 1996 letter from FWS to EPA approved of two EPA
21 Bulletins for grain bait and pelletized rodenticides and burrow fumigants for species covered in the 1993
22 BO, but noted that reinitiation was necessary for several species covered in the bulletins but not subject
23 to the 1993 consultation, including the Alameda whipsnake. EPA has not consulted on the use of
24 pesticides, including rodenticides and burrow fumigants on the Alameda whipsnake. Exhibit I of
25 Plaintiff's NOI shows overlap of Alameda whipsnake observations and/or whipsnake critical habitat and
26 pesticide use in Alameda County.

1 The Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*)

2 119. The valley elderberry longhorn beetle is a colorful cylindrical beetle less than an inch
3 long, associated with riparian elderberry trees during its entire life cycle. Riparian fragmentation and
4 destruction due to urbanization, agricultural conversion, and waterway maintenance are the primary
5 threats to this insect. Insecticide and herbicide use in agricultural areas and along roadsides may be
6 factors limiting the beetle's distribution. The longhorn beetle was listed as threatened in 1980. In 1999,
7 the FWS released Conservation Guidelines for the valley elderberry longhorn beetle, which cautioned
8 that pesticides or herbicides should not be sprayed within 100 feet of elderberry beetle habitat. FWS
9 published a 5-year review for the species in 2006.

10 120. The 1999 FWS memo determined that acephate, bendiocarb, chlorpyrifos, fenthion,
11 naled, permethrin, and S-fenvalerate jeopardize the longhorn beetle and that the registered uses of
12 acephate, bendiocarb, fenthion, naled and permethrin for mosquito or gypsy moth control are likely to
13 adversely modify designated critical habitat by contaminating elderberry plant surfaces or tissues on
14 which the beetle lives and feeds. FWS also found that while not likely to cause jeopardy, aldicarb,
15 azinphos-methyl, carbofuran, endosulfan, parathion and phorate may adversely affect the species.
16 However, FWS based its proposed no-jeopardy determinations on the implementation of RPMs. The
17 1999 FWS memo noted that critical habitat for the valley elderberry longhorn beetle may be adversely
18 modified by acephate, bendiocarb, fenthion, naled and permethrin (for mosquito or gypsy moth control).
19 Exhibit J of Plaintiff's NOI shows an overlap of valley elderberry longhorn beetle observations and
20 pesticide use in northern Solano County.

21 Bay Checkerspot Butterfly (*Euphydryas editha bayensis*)

22 121. The bay checkerspot butterfly depends upon several different host plants during its life
23 cycle: eggs are laid on a native plantain, which the larvae feed upon; if this food is not sufficient for
24 development the larvae may move onto owl's clover; the larvae then generally enter dormancy until the
25 following winter, then emerge to feed again, pupating in late winter; finally the adults emerge shortly
26 thereafter. The checkerspot butterfly was listed as threatened in 1987. FWS designated critical habitat
27 for this species in 2001.

1 Both new and existing pesticide registrations, as well as other authorizations of pesticide use, constitute
2 “agency actions” subject to § 7(a)(2)’s consultation duty. 16 U.S.C. § 1536(a)(2).

3 127. All pesticides identified in paragraphs 134 to 247 below are currently registered for use
4 by EPA.

5 128. EPA is currently evaluating and reregistering several soil fumigants including
6 chloropicrin and metam sodium. These pesticides are in the pre-RED status and undergoing review.

7 129. EPA is currently developing risk management decisions for several rodenticides
8 considered to pose the greatest risk to human health and the environment including brodifacoum,
9 bromadiolone, bromethalin, chlorophacinone, cholecalciferol, defethialone, diphacinone, warfarin, and
10 zinc phosphide. These pesticides are in the pre-RED status and undergoing review.

11 130. EPA has set out in its ESPP that it will evaluate the impact of pesticide registrations on
12 endangered and threatened species in the registration process.

13 131. EPA is violating Section 7(a)(2) of the ESA and its implementing regulations by failing to
14 initiate and reinitiate consultation with FWS and by failing to ensure through consultation that the
15 registration and reregistration of pesticides as identified in paragraphs 134 through 247 do not jeopardize
16 the continued existence of endangered and threatened species or destroy or adversely modify designated
17 critical habitat. 16 U.S.C. §§ 1536(a)(2), 1540(g); 50 C.F.R. Part 402. This constitutes a violation of
18 the ESA within the meaning of 16 U.S.C. § 1540(g).

19 The Tidewater Goby (*Eucyclogobius newberryi*)

20 132. EPA issued an Interim Reregistration Eligibility Decision for diazinon in July of 2002.
21 EPA has failed to consult with FWS and failed to ensure through consultation that the registration and
22 reregistration of diazinon does not jeopardize the continued existence of the tidewater goby.

23 The Delta Smelt (*Hypomesus transpacificus*)

24 133. EPA issued a Reregistration Eligibility Decision for alachlor in September of 1998. EPA
25 has failed to consult with FWS and failed to ensure through consultation that the registration and
26 reregistration of alachlor does not jeopardize the continued existence of the Delta smelt or destroy or
27 adversely modify designated critical habitat.

1 134. EPA issued a Reregistration Eligibility Decision for atrazine in April of 2006. EPA has
2 failed to consult with FWS and failed to ensure through consultation that the registration and
3 reregistration of atrazine does not jeopardize the continued existence of the Delta smelt or destroy or
4 adversely modify designated critical habitat.

5 135. EPA issued an Interim Reregistration Eligibility Decision for carbaryl in June of 2003.
6 EPA has failed to consult with FWS and failed to ensure through consultation that the registration and
7 reregistration of carbaryl does not jeopardize the continued existence of the Delta smelt or destroy or
8 adversely modify designated critical habitat.

9 136. EPA issued an Interim Reregistration Eligibility Decision for carbofuran in August of
10 2006. EPA has failed to consult with FWS and failed to ensure through consultation that the registration
11 and reregistration of carbofuran does not jeopardize the continued existence of the Delta smelt or
12 destroy or adversely modify designated critical habitat.

13 137. EPA issued an Interim Reregistration Eligibility Decision for chlorpyrifos in September
14 of 2001. EPA has failed to consult with FWS and failed to ensure through consultation that the
15 registration and reregistration of chlorpyrifos does not jeopardize the continued existence of the Delta
16 smelt or destroy or adversely modify designated critical habitat.

17 138. EPA issued an Interim Reregistration Eligibility Decision for diazinon in July of 2002.
18 EPA has failed to consult with FWS and failed to ensure through consultation that the registration and
19 reregistration of diazinon does not jeopardize the continued existence of the Delta smelt or destroy or
20 adversely modify designated critical habitat.

21 139. EPA issued a Reregistration Eligibility Decision for eptc (eptam) in September of 1999.
22 EPA has failed to consult with FWS and failed to ensure through consultation that the registration and
23 reregistration of eptc (eptam) does not jeopardize the continued existence of the Delta smelt or destroy
24 or adversely modify designated critical habitat.

25 140. EPA issued a Reregistration Eligibility Decision for malathion in July of 2006. EPA has
26 failed to consult with FWS and failed to ensure through consultation that the registration and
27 reregistration of malathion does not jeopardize the continued existence of the Delta smelt or destroy or
28 adversely modify designated critical habitat.

1 141. EPA issued a Tolerance Reassessment Progress and Interim Risk Management Decision
2 for metolachlor in July of 2006. EPA has failed to consult with FWS and failed to ensure through
3 consultation that the registration and reregistration of metolachlor does not jeopardize the continued
4 existence of the Delta smelt or destroy or adversely modify designated critical habitat.

5 142. EPA issued a Reregistration Eligibility Decision for pebulate in September of 1999. EPA
6 has failed to consult with FWS and failed to ensure through consultation that the registration and
7 reregistration of pebulate does not jeopardize the continued existence of the Delta smelt or destroy or
8 adversely modify designated critical habitat.

9 143. EPA issued a Reregistration Eligibility Decision for simazine in April of 2006. EPA has
10 failed to consult with FWS and failed to ensure through consultation that the registration and
11 reregistration of simazine does not jeopardize the continued existence of the Delta smelt or destroy or
12 adversely modify designated critical habitat.

13 144. EPA issued a Reregistration Eligibility Decision for sulfotep in September of 1999. EPA
14 has failed to consult with FWS and failed to ensure through consultation that the registration and
15 reregistration of sulfotep does not jeopardize the continued existence of the Delta smelt or destroy or
16 adversely modify designated critical habitat.

17 145. EPA issued a Reregistration Eligibility Decision for thiobencarb in September of 1997.
18 EPA has failed to consult with FWS and failed to ensure through consultation that the registration and
19 reregistration of thiobencarb does not jeopardize the continued existence of the Delta smelt or destroy or
20 adversely modify designated critical habitat.

21 146. EPA issued a Tolerance Reassessment Progress and Interim Risk Management Decision
22 for trifluralin in August of 2004. EPA has failed to consult with FWS and failed to ensure through
23 consultation that the registration and reregistration of trifluralin does not jeopardize the continued
24 existence of the Delta smelt or destroy or adversely modify designated critical habitat.

25 147. EPA issued a Tolerance Reassessment Progress and Interim Risk Management Decision
26 for diquat dibromide in April of 2002. EPA has failed to consult with FWS and failed to ensure through
27 consultation that the registration and reregistration of diquat dibromide does not jeopardize the
28 continued existence of the Delta smelt or destroy or adversely modify designated critical habitat.

1 155. EPA issued a Reregistration Eligibility Decision for endosulfan in July of 2002. EPA has
2 failed to consult with FWS and failed to ensure through consultation that the registration and
3 reregistration of endosulfan does not jeopardize the continued existence of the salt marsh harvest mouse.

4 156. EPA issued a Reregistration Eligibility Decision for permethrin in April of 2006. EPA
5 has failed to consult with FWS and failed to ensure through consultation that the registration and
6 reregistration of permethrin does not jeopardize the continued existence of the salt marsh harvest mouse.

7 157. EPA issued a Reregistration Eligibility Decision for brodifacoum in September of 1997.
8 EPA has failed to reinitiate consultation with FWS and failed to ensure through consultation that the
9 registration and reregistration of brodifacoum does not jeopardize the continued existence of the salt
10 marsh harvest mouse.

11 158. EPA issued a Reregistration Eligibility Decision for bromadiolone in September of 1997.
12 EPA has failed to reinitiate consultation with FWS and failed to ensure through consultation that the
13 registration and reregistration of bromadiolone does not jeopardize the continued existence of the salt
14 marsh harvest mouse.

15 159. EPA issued a Reregistration Eligibility Decision for bromethalin in September of 1997.
16 EPA has failed to reinitiate consultation with FWS and failed to ensure through consultation that the
17 registration and reregistration of bromethalin does not jeopardize the continued existence of the salt
18 marsh harvest mouse.

19 160. EPA issued a Reregistration Eligibility Decision for chlorophacinone in September of
20 1997. EPA has failed to reinitiate consultation with FWS and failed to ensure through consultation that
21 the registration and reregistration of chlorophacinone does not jeopardize the continued existence of the
22 salt marsh harvest mouse.

23 161. EPA issued a Reregistration Eligibility Decision for cholecalciferol in September of 1997.
24 EPA has failed to reinitiate consultation with FWS and failed to ensure through consultation that the
25 registration and reregistration of cholecalciferol does not jeopardize the continued existence of the salt
26 marsh harvest mouse.

27 162. EPA issued a Reregistration Eligibility Decision for diphacinone in September of 1997.
28 EPA has failed to reinitiate consultation with FWS and failed to ensure through consultation that the

1 registration and reregistration of diphacinone does not jeopardize the continued existence of the salt
2 marsh harvest mouse.

3 163. EPA issued a Reregistration Eligibility Decision for warfarin in June of 1991. EPA has
4 failed to reinitiate consultation with FWS and failed to ensure through consultation that the registration
5 and reregistration of warfarin does not jeopardize the continued existence of the salt marsh harvest
6 mouse.

7 164. EPA issued a Reregistration Eligibility Decision for zinc phosphide in September of
8 1997. EPA has failed to reinitiate consultation with FWS and failed to ensure through consultation that
9 the registration and reregistration of zinc phosphide does not jeopardize the continued existence of the
10 salt marsh harvest mouse.

11 The California Tiger Salamander (*Ambystoma californiense*)

12 165. Populations of the California tiger salamander were listed as threatened and endangered
13 throughout different counties of California in 2004. Critical habitat was designated in 2005. EPA has
14 neither initiated nor reinitiated consultation for the following pesticides since the salamander was listed
15 as threatened and endangered or critical habitat was designated.

16 166. EPA issued an Interim Reregistration Eligibility Decision for acephate in September of
17 2001. EPA has failed to consult with FWS and failed to ensure through consultation that the registration
18 and reregistration of acephate does not jeopardize the continued existence of the California tiger
19 salamander or destroy or adversely modify designated critical habitat.

20 167. EPA issued an Interim Reregistration Eligibility Decision for azinphos-methyl in October
21 of 2001. EPA has failed to consult with FWS and failed to ensure through consultation that the
22 registration and reregistration of azinphos-methyl does not jeopardize the continued existence of the
23 California tiger salamander or destroy or adversely modify designated critical habitat.

24 168. EPA issued an Interim Reregistration Eligibility Decision for chlorpyrifos in September
25 of 2001. EPA has failed to consult with FWS and failed to ensure through consultation that the
26 registration and reregistration of chlorpyrifos does not jeopardize the continued existence of the
27 California tiger salamander or destroy or adversely modify designated critical habitat.

1 169. EPA issued a Reregistration Eligibility Decision for endosulfan in July of 2002. EPA has
2 failed to consult with FWS and failed to ensure through consultation that the registration and
3 reregistration of endosulfan does not jeopardize the continued existence of the California tiger
4 salamander or destroy or adversely modify designated critical habitat.

5 170. EPA issued an Interim Reregistration Eligibility Decision for fenamiphos in May of 2002.
6 EPA has failed to consult with FWS and failed to ensure through consultation that the registration and
7 reregistration of fenamiphos does not jeopardize the continued existence of the California tiger
8 salamander or destroy or adversely modify designated critical habitat.

9 171. EPA issued a Reregistration Eligibility Decision for malathion in July of 2006. EPA has
10 failed to consult with FWS and failed to ensure through consultation that the registration and
11 reregistration of malathion does not jeopardize the continued existence of the California tiger
12 salamander or destroy or adversely modify designated critical habitat.

13 172. EPA issued a Reregistration Eligibility Decision for maneb in August of 2005. EPA has
14 failed to consult with FWS and failed to ensure through consultation that the registration and
15 reregistration of maneb does not jeopardize the continued existence of the California tiger salamander or
16 destroy or adversely modify designated critical habitat.

17 173. EPA issued a Reregistration Eligibility Decision for mancozeb in September of 2005.
18 EPA has failed to consult with FWS and failed to ensure through consultation that the registration and
19 reregistration of mancozeb does not jeopardize the continued existence of the California tiger
20 salamander or destroy or adversely modify designated critical habitat.

21 174. EPA issued a preliminary risk assessment for metam sodium in June of 2004. EPA has
22 failed to consult with FWS and failed to ensure through consultation that the registration and
23 reregistration of metam sodium does not jeopardize the continued existence of the California tiger
24 salamander or destroy or adversely modify designated critical habitat.

25 175. EPA issued a Reregistration Eligibility Decision for methyl bromide in September of
26 2006. EPA has failed to consult with FWS and failed to ensure through consultation that the registration
27 and reregistration of methyl bromide does not jeopardize the continued existence of the California tiger
28 salamander or destroy or adversely modify designated critical habitat.

1 176. EPA issued a Reregistration Eligibility Decision for oryzalin in September of 1994. EPA
2 has failed to consult with FWS and failed to ensure through consultation that the registration and
3 reregistration of oryzalin does not jeopardize the continued existence of the California tiger salamander
4 or destroy or adversely modify designated critical habitat.

5 177. EPA issued an Interim Reregistration Eligibility Decision for phosmet in October of
6 2001. EPA has failed to consult with FWS and failed to ensure through consultation that the registration
7 and reregistration of phosmet does not jeopardize the continued existence of the California tiger
8 salamander or destroy or adversely modify designated critical habitat.

9 178. EPA issued a Reregistration Eligibility Decision for aluminum phosphide in September of
10 1998. EPA has failed to consult with FWS and failed to ensure through consultation that the registration
11 and reregistration of aluminum phosphide does not jeopardize the continued existence of the California
12 tiger salamander or destroy or adversely modify designated critical habitat.

13 179. EPA issued a Reregistration Eligibility Decision for chlorophacinone in September of
14 1997. EPA has failed to consult with FWS and failed to ensure through consultation that the registration
15 and reregistration of chlorophacinone does not jeopardize the continued existence of the California tiger
16 salamander or destroy or adversely modify designated critical habitat.

17 180. EPA issued a Reregistration Eligibility Decision for diphacinone in September of 1997.
18 EPA has failed to consult with FWS and failed to ensure through consultation that the registration and
19 reregistration of diphacinone does not jeopardize the continued existence of the California tiger
20 salamander or destroy or adversely modify designated critical habitat.

21 181. EPA issued a Reregistration Eligibility Decision for strychnine in September of 1996.
22 EPA has failed to consult with FWS and failed to ensure through consultation that the registration and
23 reregistration of strychnine does not jeopardize the continued existence of the California tiger
24 salamander or destroy or adversely modify designated critical habitat.

25 182. EPA issued a Reregistration Eligibility Decision for methoprene in September of 1991.
26 EPA has failed to consult with FWS and failed to ensure through consultation that the registration and
27 reregistration of methoprene does not jeopardize the continued existence of the California tiger
28 salamander or destroy or adversely modify designated critical habitat.

1 The San Francisco Garter Snake (*Thamnophis sirtalis tetrataenia*)

2 183. EPA issued an Interim Reregistration Eligibility Decision for acephate in September of
3 2001. EPA has failed to consult with FWS and failed to ensure through consultation that the registration
4 and reregistration of acephate does not jeopardize the continued existence of the San Francisco garter
5 snake.

6 184. EPA issued an Interim Reregistration Eligibility Decision for azinphos-methyl in October
7 of 2001. EPA has failed to consult with FWS and failed to ensure through consultation that the
8 registration and reregistration of azinphos-methyl does not jeopardize the continued existence of the San
9 Francisco garter snake.

10 185. EPA issued an Interim Reregistration Eligibility Decision for carbofuran in August of
11 2006. EPA has failed to consult with FWS and failed to ensure through consultation that the registration
12 and reregistration of carbofuran does not jeopardize the continued existence of the San Francisco garter
13 snake.

14 186. EPA issued an Interim Reregistration Eligibility Decision for chlorpyrifos in September
15 of 2001. EPA has failed to consult with FWS and failed to ensure through consultation that the
16 registration and reregistration of chlorpyrifos does not jeopardize the continued existence of the San
17 Francisco garter snake.

18 187. EPA issued a Reregistration Eligibility Decision for endosulfan in July of 2002. EPA has
19 failed to consult with FWS and failed to ensure through consultation that the registration and
20 reregistration of endosulfan does not jeopardize the continued existence of the San Francisco garter
21 snake.

22 188. EPA issued a Reregistration Eligibility Decision for naled in January of 2002. EPA has
23 failed to consult with FWS and failed to ensure through consultation that the registration and
24 reregistration of naled does not jeopardize the continued existence of the San Francisco garter snake.

25 189. EPA issued a Reregistration Eligibility Decision for permethrin in April of 2006. EPA
26 has failed to consult with FWS and failed to ensure through consultation that the registration and
27 reregistration of permethrin does not jeopardize the continued existence of the San Francisco garter
28 snake.

1 registration and reregistration of brodifacoum does not jeopardize the continued existence of the San
2 Joaquin kit fox.

3 197. EPA issued a Reregistration Eligibility Decision for chlorophacinone in September of
4 1997. EPA has failed to reinitiate consultation with FWS and failed to ensure through consultation that
5 the registration and reregistration of chlorophacinone does not jeopardize the continued existence of the
6 San Joaquin kit fox.

7 198. EPA issued a Reregistration Eligibility Decision for bromadiolone in September of 1997.
8 EPA has failed to reinitiate consultation with FWS and failed to ensure through consultation that the
9 registration and reregistration of bromadiolone does not jeopardize the continued existence of the San
10 Joaquin kit fox.

11 199. EPA issued a Reregistration Eligibility Decision for strychnine in September of 1996.
12 EPA has failed to reinitiate consultation with FWS and failed to ensure through consultation that the
13 registration and reregistration of strychnine does not jeopardize the continued existence of the San
14 Joaquin kit fox.

15 200. EPA issued a Reregistration Eligibility Decision for aluminum phosphide in September of
16 1998. EPA has failed to reinitiate consultation with FWS and failed to ensure through consultation that
17 the registration and reregistration of aluminum phosphide does not jeopardize the continued existence of
18 the San Joaquin kit fox.

19 201. EPA issued a Reregistration Eligibility Decision for magnesium phosphide in September
20 of 1998. EPA has failed to reinitiate consultation with FWS and failed to ensure through consultation
21 that the registration and reregistration of magnesium phosphide does not jeopardize the continued
22 existence of the San Joaquin kit fox.

23 202. EPA issued a Reregistration Eligibility Decision for diphacinone in September of 1997.
24 EPA has failed to reinitiate consultation with FWS and failed to ensure through consultation that the
25 registration and reregistration of diphacinone does not jeopardize the continued existence of the San
26 Joaquin kit fox.

1 203. EPA issued a Reregistration Eligibility Decision for pival in September of 1997. EPA has
2 failed to reinitiate consultation with FWS and failed to ensure through consultation that the registration
3 and reregistration of pival does not jeopardize the continued existence of the San Joaquin kit fox.

4 204. EPA issued a Reregistration Eligibility Decision for inorganic nitrates (sodium and
5 potassium nitrate) in September of 1991. EPA has failed to reinitiate consultation with FWS and failed
6 to ensure through consultation that the registration and reregistration of inorganic nitrates (sodium and
7 potassium nitrate) does not jeopardize the continued existence of the San Joaquin kit fox.

8 205. EPA issued an Interim Reregistration Eligibility Decision for acephate in September of
9 2001. EPA has failed to consult with FWS and failed to ensure through consultation that the registration
10 and reregistration of acephate does not jeopardize the continued existence of the San Joaquin kit fox.

11 206. EPA completed a revised risk assessment for aldicarb in January of 2007. EPA has failed
12 to consult with FWS and failed to ensure through consultation that the registration and reregistration of
13 aldicarb does not jeopardize the continued existence of the San Joaquin kit fox.

14 207. EPA issued an Interim Reregistration Eligibility Decision for azinphos-methyl in October
15 of 2001. EPA has failed to consult with FWS and failed to ensure through consultation that the
16 registration and reregistration of azinphos-methyl does not jeopardize the continued existence of the San
17 Joaquin kit fox.

18 208. EPA issued an Interim Reregistration Eligibility Decision for carbofuran in August of
19 2006. EPA has failed to consult with FWS and failed to ensure through consultation that the registration
20 and reregistration of carbofuran does not jeopardize the continued existence of the San Joaquin kit fox.

21 209. EPA issued an Interim Reregistration Eligibility Decision for chlorpyrifos in September
22 of 2001. EPA has failed to consult with FWS and failed to ensure through consultation that the
23 registration and reregistration of chlorpyrifos does not jeopardize the continued existence of the San
24 Joaquin kit fox.

25 210. EPA issued a Reregistration Eligibility Decision for endosulfan in July of 2002. EPA has
26 failed to consult with FWS and failed to ensure through consultation that the registration and
27 reregistration of endosulfan does not jeopardize the continued existence of the San Joaquin kit fox.

1 211. EPA issued a Reregistration Eligibility Decision for naled in January of 2002. EPA has
2 failed to consult with FWS and failed to ensure through consultation that the registration and
3 reregistration of naled does not jeopardize the continued existence of the San Joaquin kit fox.

4 212. EPA issued an Interim Reregistration Eligibility Decision for phorate in March of 2001.
5 EPA has failed to consult with FWS and failed to ensure through consultation that the registration and
6 reregistration of phorate does not jeopardize the continued existence of the San Joaquin kit fox.

7 213. EPA issued a Tolerance Reassessment Progress and Interim Risk Management Decision
8 for trifluralin in August of 2004. EPA has failed to consult with FWS and failed to ensure through
9 consultation that the registration and reregistration of trifluralin does not jeopardize the continued
10 existence of the San Joaquin kit fox.

11 The Alameda Whipsnake (*Masticophis lateralis euryxanthus*)

12 214. The Alameda whipsnake was listed as threatened in 1997. Critical habitat was
13 redesignated in 2006. EPA has not initiated or reinitiated consultation for the following pesticides since
14 critical habitat was designated.

15 215. EPA issued a Reregistration Eligibility Decision for 2,4 D in June of 2005. EPA has
16 failed to consult with FWS and failed to ensure through consultation that the registration and
17 reregistration of 2,4 D does not jeopardize the continued existence of the Alameda whipsnake or destroy
18 or adversely modify designated critical habitat.

19 216. EPA issued a Reregistration Eligibility Decision for chlorophacinone in September of
20 1997. EPA has failed to consult with FWS and failed to ensure through consultation that the registration
21 and reregistration of chlorophacinone does not jeopardize the continued existence of the Alameda
22 whipsnake or destroy or adversely modify designated critical habitat.

23 217. EPA issued a Reregistration Eligibility Decision for diphacinone in September of 1997.
24 EPA has failed to consult with FWS and failed to ensure through consultation that the registration and
25 reregistration of diphacinone does not jeopardize the continued existence of the Alameda whipsnake or
26 destroy or adversely modify designated critical habitat.

27 218. EPA issued a Reregistration Eligibility Decision for aluminum phosphide in September of
28 1998. EPA has failed to consult with FWS and failed to ensure through consultation that the registration

1 and reregistration of aluminum phosphide does not jeopardize the continued existence of the Alameda
2 whipsnake or destroy or adversely modify designated critical habitat.

3 219. EPA issued a Reregistration Eligibility Decision for magnesium phosphide in September
4 of 1998. EPA has failed to consult with FWS and failed to ensure through consultation that the
5 registration and reregistration of magnesium phosphide does not jeopardize the continued existence of
6 the Alameda whipsnake or destroy or adversely modify designated critical habitat.

7 220. EPA issued a Reregistration Eligibility Decision for inorganic nitrates (sodium and
8 potassium nitrate) in September of 1991. EPA has failed to consult with FWS and failed to ensure
9 through consultation that the registration and reregistration of inorganic nitrates does not jeopardize the
10 continued existence of the Alameda whipsnake or destroy or adversely modify designated critical
11 habitat.

12 221. EPA issued a Reregistration Eligibility Decision for brodifacoum in September of 1997.
13 EPA has failed to consult with FWS and failed to ensure through consultation that the registration and
14 reregistration of brodifacoum does not jeopardize the continued existence of the Alameda whipsnake or
15 destroy or adversely modify designated critical habitat.

16 222. EPA issued a Reregistration Eligibility Decision for bromadiolone in September of 1997.
17 EPA has failed to consult with FWS and failed to ensure through consultation that the registration and
18 reregistration of bromadiolone does not jeopardize the continued existence of the Alameda whipsnake or
19 destroy or adversely modify designated critical habitat.

20 223. EPA issued a Reregistration Eligibility Decision for bromethalin in September of 1997.
21 EPA has failed to consult with FWS and failed to ensure through consultation that the registration and
22 reregistration of bromethalin does not jeopardize the continued existence of the Alameda whipsnake or
23 destroy or adversely modify designated critical habitat.

24 224. EPA issued a Reregistration Eligibility Decision for difethialone in September of 1997.
25 EPA has failed to consult with FWS and failed to ensure through consultation that the registration and
26 reregistration of difethialone does not jeopardize the continued existence of the Alameda whipsnake or
27 destroy or adversely modify designated critical habitat.

1 225. EPA issued a Reregistration Eligibility Decision for pival in September of 1997. EPA has
2 failed to consult with FWS and failed to ensure through consultation that the registration and
3 reregistration of pival does not jeopardize the continued existence of the Alameda whipsnake or destroy
4 or adversely modify designated critical habitat.

5 226. EPA issued a Reregistration Eligibility Decision for warfarin in June of 1991. EPA has
6 failed to consult with FWS and failed to ensure through consultation that the registration and
7 reregistration of warfarin does not jeopardize the continued existence of the Alameda whipsnake or
8 destroy or adversely modify designated critical habitat.

9 227. EPA issued a Reregistration Eligibility Decision for zinc phosphide in September of
10 1997. EPA has failed to consult with FWS and failed to ensure through consultation that the registration
11 and reregistration of zinc phosphide does not jeopardize the continued existence of the Alameda
12 whipsnake or destroy or adversely modify designated critical habitat.

13 228. EPA is in the pre-RED review of acrolein. EPA has failed to consult with FWS and failed
14 to ensure through consultation that the registration and reregistration of acrolein does not jeopardize the
15 continued existence of the Alameda whipsnake or destroy or adversely modify designated critical
16 habitat.

17 The Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*)

18 229. EPA issued an Interim Reregistration Eligibility Decision for acephate in September of
19 2001. EPA has failed to consult with FWS and failed to ensure through consultation that the registration
20 and reregistration of acephate does not jeopardize the continued existence of the valley elderberry
21 longhorn beetle.

22 230. EPA issued an Interim Reregistration Eligibility Decision for chlorpyrifos in September
23 of 2001. EPA has failed to consult with FWS and failed to ensure through consultation that the
24 registration and reregistration of chlorpyrifos does not jeopardize the continued existence of the valley
25 elderberry longhorn beetle.

26 231. EPA issued a Reregistration Eligibility Decision for naled in January of 2002. EPA has
27 failed to consult with FWS and failed to ensure through consultation that the registration and
28

1 reregistration of naled does not jeopardize the continued existence of the valley elderberry longhorn
2 beetle.

3 232. EPA issued a Reregistration Eligibility Decision for permethrin in April of 2006. EPA
4 has failed to consult with FWS and failed to ensure through consultation that the registration and
5 reregistration of permethrin does not jeopardize the continued existence of the valley elderberry
6 longhorn beetle.

7 233. EPA completed a revised risk assessment for aldicarb in January of 2007. EPA has failed
8 to consult with FWS and failed to ensure through consultation that the registration and reregistration of
9 aldicarb does not jeopardize the continued existence of the valley elderberry longhorn beetle.

10 234. EPA issued an Interim Reregistration Eligibility Decision for azinphos-methyl in October
11 of 2001. EPA has failed to consult with FWS and failed to ensure through consultation that the
12 registration and reregistration of azinphos-methyl does not jeopardize the continued existence of the
13 valley elderberry longhorn beetle.

14 235. EPA issued an Interim Reregistration Eligibility Decision for carbofuran in August of
15 2006. EPA has failed to consult with FWS and failed to ensure through consultation that the registration
16 and reregistration of carbofuran does not jeopardize the continued existence of the valley elderberry
17 longhorn beetle.

18 236. EPA issued a Reregistration Eligibility Decision for endosulfan in July of 2002. EPA has
19 failed to consult with FWS and failed to ensure through consultation that the registration and
20 reregistration of endosulfan does not jeopardize the continued existence of the valley elderberry
21 longhorn beetle.

22 237. EPA issued an Interim Reregistration Eligibility Decision for phorate in March of 2001.
23 EPA has failed to consult with FWS and failed to ensure through consultation that the registration and
24 reregistration of phorate does not jeopardize the continued existence of the valley elderberry longhorn
25 beetle.

Bay Checkerspot Butterfly (*Euphydryas editha bayensis*)

1
2 238. The bay checkerspot butterfly was listed as threatened in 1987. Critical habitat was
3 designated in 2001. EPA has not initiated or reinitiated consultation for the following pesticides since
4 critical habitat was designated.

5 239. EPA issued an Interim Reregistration Eligibility Decision for acephate in September of
6 2001. EPA has failed to consult with FWS and failed to ensure through consultation that the registration
7 and reregistration of acephate does not jeopardize the continued existence of the bay checkerspot
8 butterfly or destroy or adversely modify designated critical habitat.

9 240. EPA issued an Interim Reregistration Eligibility Decision for azinphos-methyl in October
10 of 2001. EPA has failed to consult with FWS and failed to ensure through consultation that the
11 registration and reregistration of azinphos-methyl does not jeopardize the continued existence of the bay
12 checkerspot butterfly or destroy or adversely modify designated critical habitat.

13 241. EPA issued an Interim Reregistration Eligibility Decision for chlorpyrifos in September
14 of 2001. EPA has failed to consult with FWS and failed to ensure through consultation that the
15 registration and reregistration of chlorpyrifos does not jeopardize the continued existence of the bay
16 checkerspot butterfly or destroy or adversely modify designated critical habitat.

17 242. EPA issued a Reregistration Eligibility Decision for naled in January of 2002. EPA has
18 failed to consult with FWS and failed to ensure through consultation that the registration and
19 reregistration of naled does not jeopardize the continued existence of the bay checkerspot butterfly or
20 destroy or adversely modify designated critical habitat.

21 243. EPA issued a Reregistration Eligibility Decision for permethrin in April of 2006. EPA
22 has failed to consult with FWS and failed to ensure through consultation that the registration and
23 reregistration of permethrin does not jeopardize the continued existence of the bay checkerspot butterfly
24 or destroy or adversely modify designated critical habitat.

25 244. EPA issued a Reregistration Eligibility Decision for endosulfan in July of 2002. EPA has
26 failed to consult with FWS and failed to ensure through consultation that the registration and
27 reregistration of endosulfan does not jeopardize the continued existence of bay checkerspot butterfly or
28 destroy or adversely modify designated critical habitat.

