United States Department of Agriculture

Marketing and Regulatory Programs

Animal and Plant Health Inspection Service

Mediterranean Fruit Fly Cooperative Eradication Program

Fallbrook, San Diego County, California

Environmental Assessment, November 2009

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I. Need for the Proposal

The Mediterranean fruit fly or Medfly, *Ceratitis capitata* (Wiedemann), is a major pest of agriculture throughout many parts of the world. Because of its wide host range (over 300 species of fruits and vegetables) and its potential for damage, the Medfly represents a serious threat to U.S. agriculture. Although it has been introduced intermittently to the U.S. mainland since its first introduction in 1929, successful eradication programs have prevented it from becoming a permanent pest in the conterminous United States.

An establishment of Medfly would be disastrous to agricultural production in California and the United States. Although established on the Hawaiian Islands, the unchecked presence of Medfly on the U.S. mainland would result in widespread destruction of crops, such as apricot, avocado, grapefruit, nectarine, orange, peach, and cherry. Commercial crops, as well as home production of host fruits, would suffer if Medfly were allowed to become established. Fruit that has been attacked by Medfly is unfit to eat because the Medfly larvae tunnel through the fleshy part of the fruit, damaging the fruit and subjecting it to decay from bacteria and fungi.

On October 29, 2009, two adult male Medflies were collected in a Jackson trap located in an orange tree in Fallbrook, San Diego County, California (CDFA, 2009a). Confirmation of this finding triggered Federal involvement in response to this outbreak. A mated female Medfly was collected from an IPMT trap located at another Fallbrook location a few days later, on November 1, 2009 (CDFA, 2009b). On November 5, 2009, 68 live Medfly larvae were collected from a kumquat tree in the neighborhood of the first detection (CDFA, 2009c). The area surrounding the infestations is a mixture of agricultural acreage, developed urban and residential districts, managed parkland and some undeveloped regions.

Although Medfly is not known to be established in California, many host plant species are grown in San Diego County, which increases the potential environmental impact of the Fallbrook detections. This Medfly infestation represents a major threat to the agriculture and environment of California and other U.S. mainland States. The U.S. Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS) and the California Department of Food and Agriculture (CDFA) are proposing a cooperative program to eradicate the Medfly infestation and prevent the spread of Medfly to noninfested areas of the United States.

APHIS' authority for cooperation in the program is based upon the Plant Protection Act (Title 4 of the Agricultural Risk Protection Act of 2000), which authorizes the Secretary of Agriculture to carry out operations to eradicate insect pests, and to use emergency measures to prevent the dissemination of plant pests new to, or not widely distributed throughout, the United States.

Since 1984, APHIS has cooperated with State departments of agriculture on a number of successful Medfly eradication programs. One recent example is the Mediterranean Fruit Fly Cooperative Eradication Program conducted with the CDFA in El Cajon, San Diego County, California (USDA–APHIS, 2008).

This site-specific environmental assessment (EA) analyzes the environmental consequences of alternatives which have been considered for Medfly eradication, and considers, from a site-specific perspective, environmental issues relevant to this particular program. Alternatives for Medfly eradication have been discussed and analyzed comprehensively within the Fruit Fly Cooperative Control Program, Final Environmental Impact Statement—2001 (FF EIS) which is incorporated by reference and summarized within this EA. The eradication measures being considered for this program have been discussed and analyzed comprehensively within the fruit fly chemical risk assessments (USDA–APHIS, 1998a, and 1998b) and risk assessments for spinosad (USDA–APHIS, 1999a, 1999b, and 2003). Those documents are also incorporated by reference and summarized within this EA.

II. Alternatives

Alternatives considered for this proposed program include (1) no action, (2) quarantine and commodity certification, and (3) eradication using an integrated pest management (IPM) approach. Component techniques of eradication include the use of chemical pesticides to facilitate the timely elimination of the current Medfly infestation.

A. No Action

The no action alternative would result in no Federal effort being made to eradicate the Medfly or restrict its expansion from the infested area. In the absence of a Federal effort, quarantine and eradication would be left to State government, grower groups, and individuals. (Please visit the CDFA website at http://www.cdfa.ca.gov/phpps/pdep/treatment/medfly_treatment.html for details about the current California program for Medfly.) Expansion of the infestation would be influenced by any pest control actions exerted over it, by the proximity of host plants, and by climatic conditions. "No treatment" might be the only choice with respect to some sensitive locations where Federally-listed threatened and endangered species or critical habitats occur; in such cases, lack of action could result in a continuing and expanding infestation. This alternative would continue the agency exclusionary practices to preclude outbreaks of Medfly in high risk areas, including the ongoing use of sterile insect technique (SIT) as part of the preventive release program. An expansion of the infestation would likely result in substantial economic losses to growers in the United States and losses of U.S. export markets.

B. Quarantine and Commodity Certification

This alternative combines a Federal quarantine with commodity treatment and certification, as stipulated under Title 7 of the Code of Federal Regulations (CFR), Part 301.32. Regulated commodities harvested within the quarantine area would be restricted to movement within that area unless treated with prescribed applications and certified for movement to outside the area. For a large infestation, intensive quarantine enforcement activities could be necessary including safeguarding of local fruit stands, mandatory baggage inspection at airports, and judicious use of road patrols and roadblocks. The quarantine actions of this alternative would result in a reduction of human-mediated movement of Medfly in host plant materials to areas outside the quarantined area; however, the infestation could remain established within the quarantine boundaries. Any Medfly eradication efforts would be managed by, and wholly under the control of, CDFA.

Interstate movement of regulated commodities would require issuance of a certificate, or limited permit, contingent upon commodity treatment or the grower or shipper complying with specific conditions designed to minimize pest risk and prevent the spread of the Medfly. Eradication methods that may be used in this alternative include (1) regulatory chemicals, (2) cold treatment, (3) vapor heat treatment, and (4) irradiation treatment. Regulatory chemical treatments may include fumigation with methyl bromide and bait spray with a mixture of protein hydrolysate bait and either spinosad or malathion, whose potential environmental impacts have been evaluated by the FF EIS (USDA–APHIS, 2001). Cold treatment, vapor heat treatment, or irradiation treatment of certain produce, as a requirement for certification and shipping, must be made in facilities that are inspected and approved by APHIS.

C. Eradication (Preferred Alternative)

APHIS' preferred alternative for the Medfly program is eradication using an integrated pest management (IPM) approach. This alternative combines quarantine and commodity certification with eradication treatments. Eradication efforts for Medfly considered in the FF EIS (USDA–APHIS, 2001) include any or all of the following: chemical eradication, SIT, physical control, cultural control, and regulatory control. Under this alternative the Medfly population will be eradication by trimedlure attractant and sticky trapping; pesticide treatments will consist of ground-based applications of either spinosad bait or malathion formulations (CDFA, 2009d).

The current eradication zone involves primarily the rural residential area south of the Fallbrook municipal center (see appendix A). This zone covers approximately 22.2 square miles, and is encompassing the area defined by an approximate radius of 1.5 miles around each property on which an adult fly is trapped, or on which another life stage of Medfly is present (CDFA, 2009d). Three types of traps—

Jackson, yellow panel, and Multilure—will be placed over an 81-square mile area around each detection site in order to delimit the infestation and to determine the efficacy of treatments. All monitoring traps will be serviced for a period equal to three Medfly life cycles beyond the date of the last fly detection (CDFA, 2009d). Depending upon temperature variations, a life cycle (total time from egg to adult) may last from five weeks to five months (CDFA, 2008).

It has been determined that no non-pesticidal options available will effectively eradicate Medfly (CDFA, 2009b). The treatment plan for Medfly within this zone will, therefore, include ground applications of an organic formulation of spinosad bait to the foliage of all host trees and plants within a 200-meter radius of the detection site. Foliar applications are applied with hydraulic spray or hand-spray equipment. SIT will also be used on the Medfly population—the eradication area will be flooded with a continued release of sterile male Medflies in order to disrupt the reproduction cycle and so reduce the wild population. Larval surveys will be conducted up to 200 meters around any property where a Medfly is trapped. If Medfly larvae are discovered, fruit from the infested property and up to 100 meters around the find site will be removed and taken for disposal under regulatory compliance (CDFA, 2009d).

The public will be notified 24 hours prior to insecticidal treatment or physical removal of potentially infested fruit from their property, and provided with guidelines for post-treatment precautions and harvest protocols. Treatments will be repeated day for 7 to 14 days for one Medfly life cycle. The eradication project will continue for three life cycles past the date of the last Medfly trapped (CDFA, 2009d).

III. Potential Environmental Consequences

This EA analyzes the potential environmental consequences of alternatives that have been considered for Medfly eradication, and considers, from a site-specific perspective, environmental issues relevant to this particular program. The preferred alternative, eradication, would involve an IPM approach that may use any or a combination of the following: (1) no action, (2) quarantine, (3) regulatory chemical application (fumigation, soil treatment, and bait spray application), (4) eradication chemical applications (protein bait spray and/or soil treatment), (5) cold treatment, (6) vapor heat treatment, and (7) irradiation treatment. The capability of an adult Medfly to fly distances in excess of 40 miles makes it possible for commercial host-plant growing areas outside the eradication zone to become infested. Therefore, the regulatory treatment methods used for movement of commercial produce are covered in the event that the eradication zone should expand to include groves or orchards.

Alternatives for Medfly eradication have been discussed and analyzed comprehensively within the FF EIS (USDA–APHIS, 2001). The eradication measures being considered for this site-specific program—surveillance trapping,

spinosad bait or malathion application, removal of fruit from potentially infested properties, and sterile insect release—have been analyzed comprehensively within the fruit fly chemical risk assessments (USDA–APHIS, 1998a, and 1998b) and risk assessments for spinosad (USDA–APHIS, 1999a, 1999b, and 2003). These documents are incorporated by reference and summarized within this EA.

This area's site-specific characteristics were considered with respect to the program's potential to affect (a) human health, (b) nontarget species (including threatened and endangered species), and (c) environmental quality. In addition, potentially sensitive areas have been identified, considered, and accommodated through special selection of eradication methods and use of specific mitigation measures. Further analysis will be required regarding any expansion of the current eradication zone.

Fallbrook is a community located roughly six miles west of Interstate 15, five miles north of State Route 76, and approximately 15 miles east of the Pacific Ocean in the hills of southern California. Its population of 44,000 is spread over 127 square miles of an unincorporated part of northern San Diego County and is administered by the County Board of Supervisors (COC, 2009). The Fallbrook area is bordered on the west by Camp Pendleton Marine Corp Base. The Fallbrook Community Airpark is a small county operated airport located within walking distance of the Fallbrook municipal center (L18 Airpark, 2009).

Primarily agricultural, Fallbrook also contains commercial/industrial, residential and recreational developed areas, with multiple urban/wildlife interfaces. Agricultural production ranges from avocado, citrus, cherimoya, kiwi and macadamia nut orchards to vineyards and floral nurseries. Golf, tennis, cycling, hiking and horseback riding along the rivers and in the hill country are popular recreational activities. The local climate is Mediterranean, with warm winters and cool summers; annual rainfall averages 16" and the average daytime temperature is 61°F. The land varies from 500 to 1500 feet above sea level.

The Fallbrook Land Conservancy privately owns and manages over 1,840 acres of conservation land in the Fallbrook area, including eight nature preserves and two mountains (FLC, 2009). The land is primarily preserved to protect its meadowland, wetland, forested, canyon, upland and vernal pool habitats. Some of the preserves have gardens, historic structures, picnic areas, and trails for public use (FLC, 2009; Chester, 2000).

The County of San Diego has developed a multiple species conservation program, which is currently out for public comment and is expected to be implemented in 2010. The City of Fallbrook falls within the North County planning area (San Diego, 2008). The County government is coordinating with the U.S. Fish and Wildlife Service and California Department of Fish and Game and is pursuing coverage for 63 species of sensitive plants, mammals, birds, amphibians, reptiles, and invertebrates (San Diego, 2009).

There are thousands of acres of commercial grove and nursery production in the current eradication zone, and some producers may opt for certification treatments to allow movement of their commodities out of the quarantine area. (Please see appendix A for map of current program boundaries.) The certification requirements (7 CFR, Part 301.32) include premises and commodity treatments, either of which may have an impact on the human environment. These treatments are evaluated generally in the FF EIS (USDA–APHIS, 2001) and their potential environmental effects for the Fallbrook eradication zone are discussed specifically in this chapter of the EA.

There are three watersheds linked to the Fallbrook community: Santa Margarita is the primary resource, followed by San Juan and San Luis Rey Watersheds (PCW, 2005). All three contain impaired water bodies listed and regulated by the California Environmental Protection Agency under the Clean Water Act Section 303(d) List of Water Quality Limited Segments. Two of the impaired water bodies directly affecting and affected by Fallbrook usage are the Santa Margarita River and Rainbow Creek. Ongoing contaminant issues for Rainbow Creek include elevated levels of phosphorus, sulfates, and total dissolved solids; sulfate, enterococcus, fecal coliform, nitrogen, and toxicity contamination continue to be listed for the Santa Margarita River (CEPA, 2009).

The region in and around the Fallbrook community obtains irrigation and drinking water from the California State Water Project, the Colorado River, groundwater, and local streams and reservoirs (WEF, 2006). Two utilities purchase and deliver water for the community: the Fallbrook Public Utility District (FPUD), and the Rainbow Municipal Water District (RMWD). See figure 1 for a map showing the boundaries of each district. FPUD purchases its water from the San Diego County Water Authority and the Metropolitan Water District of Southern California. FPUD delivers water to some 35,000 people over a 28,000 square acre service area. The water is imported from the Colorado River and the State Water Project (FPUD, 2005). RMWD purchases water for distribution from the San Diego County Water Authority to about 7,200 customers within a few unincorporated communities including a portion of Fallbrook (RMWD, 2009). Both FPUD and RMWD also provide sanitation services.

Urban and agricultural runoff flows directly into local waters, picking up trash, dirt, chemicals, and other contaminants along the way. The eradication plan calls for ground-based spray applications to host plants in agricultural, residential and industrial districts of Fallbrook. As an added protection to existing municipal water treatment and recycling, standard mitigation measures will be applied to protect marine and freshwater resources, as discussed in section C, Environmental Quality.

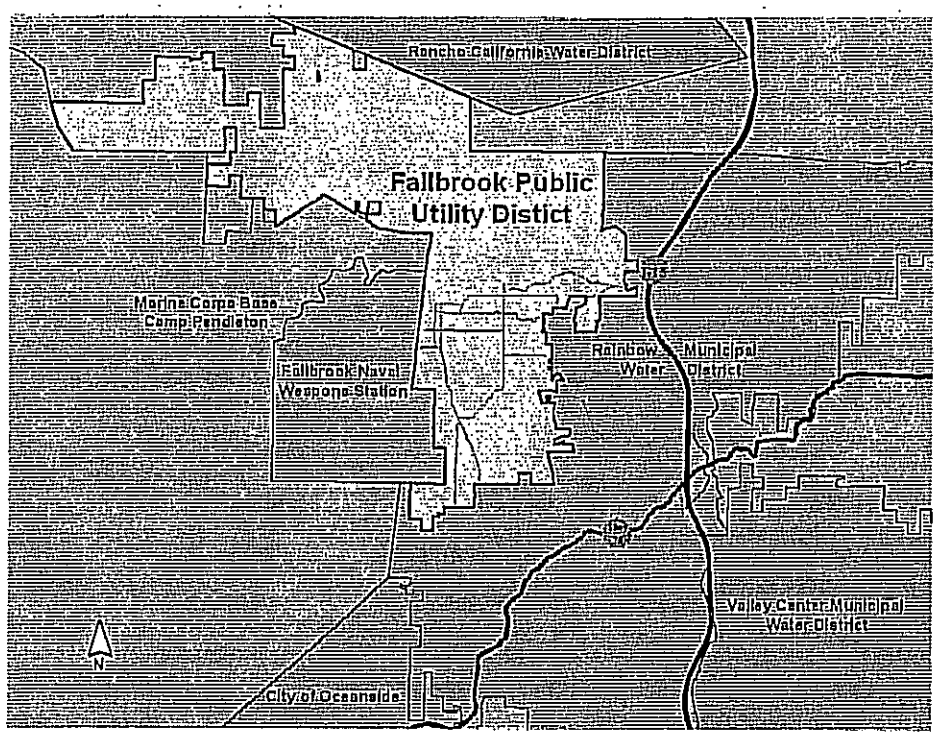


Figure 1. Fallbrook Utility Districts
Source: FPUD, 2009

The orchard acreage and undeveloped lands around the Fallbrook community provide habitat for many species of indigenous vegetation and wildlife. Fallbrook falls within the jurisdiction of the North San Diego County Multiple Species Conservation Subarea Plan, which is being developed by the County of San Diego, the California Department of Fish and Game, and the U.S. Fish and Wildlife Service. The plan is designed to protect 63 species of sensitive plants, mammals, birds, amphibians, reptiles, and invertebrates, such as the Stephen's kangaroo rat which lives in grasslands and the San Diego fairy shrimp which inhabits vernal pools (CFG, 2009; San Diego, 2008; San Diego 2009).

A. Human Health

No adverse effects on human health are expected to result from the program use of SIT, sticky traps, or trimedlure (FF EIS, 2001; EPA, 2008). The principal concerns for human health identified in the FF EIS are related to the potential program uses of the chemical pesticides: spinosad bait, malathion, and methyl bromide (a fumigant) (USDA–APHIS, 2001). Three major factors influence the human health risk associated with pesticide use—their exposure to humans, their toxicity to humans, and the fate of the pesticides in the environment. Each of the program pesticides is known to be toxic to humans; however, exposure to the pesticides is likely to be minimal owing to program use patterns.

The Fallbrook eradication program will employ surveillance trapping, ground-based applications of spinosad bait, and SIT. Potential exposure is low for the spinosad bait to be used in this eradication program because treatments are limited to ground-based applications to host plants. Most commercial applications will be applied to groves where exposure to the general public is unlikely. The analyses and data of the EIS and human health risk assessments indicate that exposures to pesticide from normal program operations are not expected to result in substantial adverse human health effects. (Refer to the FF EIS (USDA–APHIS, 2001) and the human health risk assessments (USDA–APHIS, 1999a, and 1998a) for more detailed information relative to human health risk.) No adverse impacts to human health are expected to occur from these actions, if executed properly and in accordance with label instructions.

Another mitigation measure that will further minimize exposure of humans to program pesticides is the requirement for public notification. Information concerning the Fallbrook Medfly eradication project will consist of press releases to the general public. Either the county agricultural commissioner or the public information officer will serve as the primary contact to the media. Any resident whose property will be treated will be notified in writing at least 24 hours prior to treatment. Following the treatment, notices are left with homeowners detailing precautions to take, and post-harvest intervals applicable to any fruit on the property.

In general, a well-coordinated eradication program using IPM technologies results in the least usage of chemical pesticides overall, and the least potential to adversely affect human health. The no action alternative or the quarantine and commodity certification alternative would not eliminate the Medfly as readily or as effectively as the eradication alternative. Over a protracted time period, there would likely be broader, more widespread use of pesticides by homeowners and commercial growers, with correspondingly greater potential for adverse impacts to human health.

B. Other Considerations

Potential environmental impacts of implementing the preferred alternative have been considered regarding historical and archeological sites in the Fallbrook region. No adverse effects are anticipated as a result of the surveillance trapping, SIT, or spinosad spray applications.

Some executive orders, such as Executive Order 13045, Protection of Children From Environmental Health Risks and Safety Risks, and Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations, as well as departmental and/or agency directives call for special environmental reviews in certain circumstances. No circumstance that would trigger the need for special environmental reviews is involved in implementing the preferred alternative considered in this document. The

proposed program does not pose any disproportionate adverse effects to children, minority populations, or low-income populations over those effects to the general population.

Executive Order 13175, "Consultation and Coordination with Indian Tribal Governments," was issued to ensure that there would be "meaningful consultation and collaboration with tribal officials in the development of Federal policies that have tribal implications...." The Pala Indian Reservation (shown in figure 2) is the closest federally recognized tribal land in the vicinity of Fallbrook, but is not located within the current eradication zone and is not expected to be affected by the program activities within that zone.

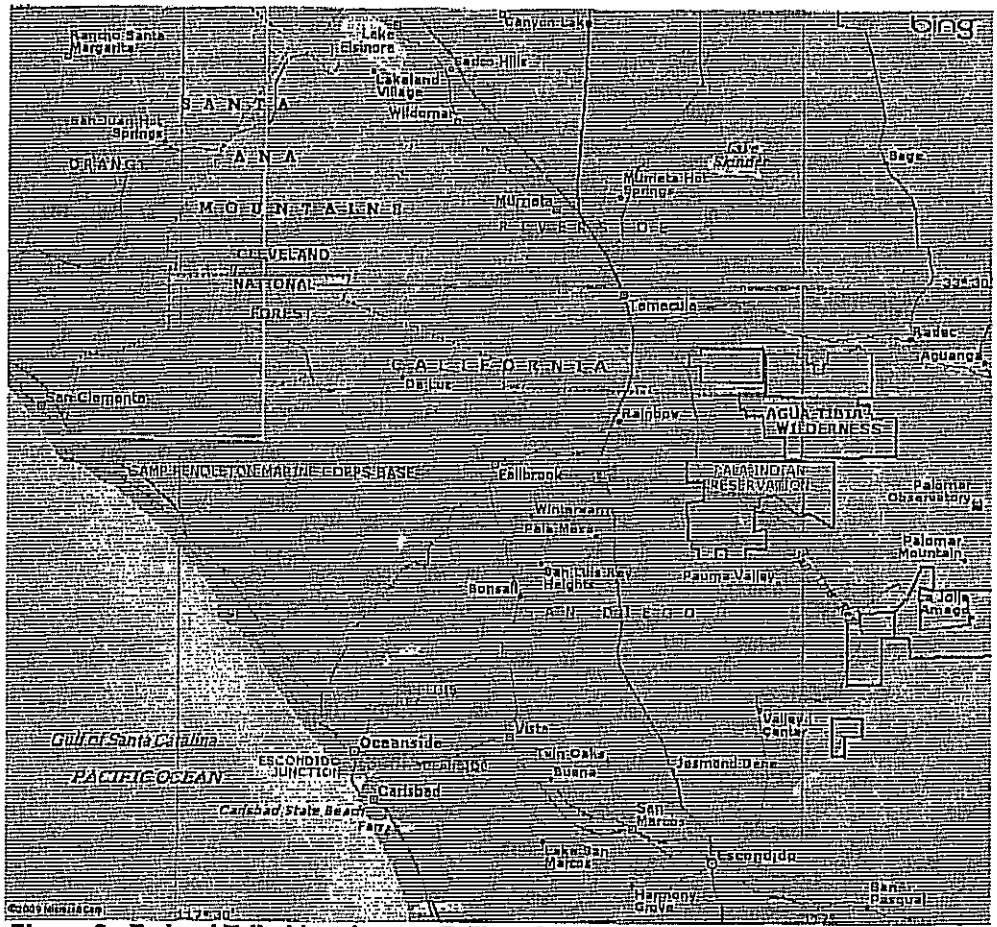


Figure 2. Federal Tribal Lands near Fallbrook, CA
Source: MS Encarta World Atlas at
http://encarta.msn.com/map_701535158/Pala_Indian_Reservation.html

The preferred alternative for Fallbrook currently requires quarantine or treatment of commodities and premises only for those producers who decide to sell their produce outside the eradication zone. Should future detections of Medfly warrant expansion of the current eradication zone into additional tribal lands, program

officials will initiate consultation with the governing tribal authorities before undertaking further action (CDFA, 2009d).

C. Nontarget Species

The principal concerns for nontarget species, including threatened and endangered species, also relate to the program use of pesticides. Paralleling human health risk, the risk to nontarget species is related to the pesticides' exposure to nontarget species, toxicity to the nontarget species, and fate in the environment. All of the program pesticides are highly toxic to invertebrates; however, the likelihood of exposure (and thus, impact) varies a great deal with the use pattern. Current eradication activities are limited to ground-based, foliar applications of spinosad bait to host plants and the use of SIT to control wild Medfly populations. The spinosad treatments target Medfly host plants in a manner that minimizes potential exposure and associated risks to nontarget species. The bait applications attract only a small number of invertebrate species other than Medfly. The release of sterile Medflies over the eradication zone will occur after the spinosad treatment has reduced the wild Medfly population and thus lessened the availability of sexually mature female Medflies. SIT is expected to have no adverse effect on nontarget species (Refer to the FF EIS (USDA–APHIS, 2001) and its nontarget risk assessments (USDA–APHIS, 2003, 1999b, and 1998b) for more information on risks to all classes of nontarget species.)

A well-coordinated eradication program using IPM technologies (the preferred alternative) generally results in the least use of chemical pesticides overall, with minimal adverse impacts to nontarget species. The no action alternative and the quarantine and commodity certification alternative are less effective at eliminating Medfly, and are likely to result in broader and more widespread use of pesticides by homeowners and commercial growers, with correspondingly greater potential for adverse impact to the human environment.

The Fallbrook eradication zone was considered with respect to special characteristics that could influence the implementation of program operations. Some of the eradication zone is developed residential and industrial space, and program actions undertaken in these areas are expected to have no adverse affect on non-target species and habitats. The greater part of the eradication zone, however, consists of agricultural and undeveloped land, including a variety of aquatic habitats. Program actions undertaken in the treatment area are expected to have no adverse affect on non-target species, including listed species and critical habitat. Critical habitat for the Arroyo toad, Coastal California gnatcatcher and Southwestern willow flycatcher occurs within the eradication zone, however not within the current treatment areas. APHIS has consulted with the Carlsbad Fish and Wildlife Service and should the treatment areas or eradication zone expand necessary avoidance measures to protect listed species and critical habitat will be employed.

Section 7 of the Endangered Species Act and its implementing regulations govern consultation with FWS and/or the National Marine Fisheries Service to ensure that proposed actions are not likely to jeopardize the continued existence of threatened or endangered species, or result in the destruction or adverse modification of critical habitat. APHIS has reviewed the eradication zone and proposed treatment area and identified critical habitat for the Arroyo Toad, Coastal California gnatcatcher and the Southwestern willow flycatcher. APHIS, in cooperation with CDFA, has consulted with FWS regarding the potential impacts of program operations to affect these species and their critical habitat. After review of the proposed action, FWS has determined the current treatment area does not pose immediate risks to listed species or critical habitat, however should the treatment areas or eradication zones expand, FWS recommended APHIS employ a 100-foot buffer to avoid impacts to critical habitat of listed species. Therefore, should the treatment areas or eradication zone expand in to critical habitat for any of the above listed species APHIS will employ a 100-foot no spray buffer in to all program operations which will be adhered to throughout all treatments associated with this action. Provided these buffers are adhered to and the Medfly population is contained within the existing eradication zone, no further consultation with FWS is necessary.

There will be no chemical treatments in riparian habitat, wetlands lacking host plants, or areas not adjacent to paved roads (CDFA, 2009d). In addition, per standard protocol, precautions will be taken to avoid runoff (no applications when rain is anticipated or when winds exceed 10 mph).

To summarize, the program will not apply pesticides to riparian areas, undeveloped areas of native vegetation, or areas where endangered species or natural habitats exist. All pesticide treatments will be applied to residential properties and within existing urban and industrial areas and commercial groves (CDFA, 2009d). In the event that the eradication zone has to be expanded, APHIS, in cooperation with CDFA, will reinitiate consultation with FWS, as necessary.

D. Environmental Quality

The principal environmental quality concerns are for the protection of air quality, water quality, and the minimization of the potential for environmental contamination. In relation to preserving environmental quality, program pesticides remain the major concern for the public and the program. Although program pesticide use is limited, especially in comparison to other agricultural pesticide use, the proposed action would result in a controlled release of chemicals into the environment. The fate of those chemicals varies with respect to the environmental component (air, water, or other substrate) and its characteristics (temperature, pH, dilution, etc.). The half-life of malathion in soil or on foliage ranges from 1 to 6 days; in water, from 6 to 18 days. The half-life of spinosad ranges from 8 to 10 days in soil, up to 2 days in water, and residues on

plants persist for only a few hours. Effects from residues of individual treatments are no longer detectable in environmental substrates within a few weeks of application. (Refer to the FF EIS (USDA–APHIS, 2001) and the spinosad risk assessment (USDA–APHIS, 2003) for a more detailed description of the pesticide's environmental fate.)

Finally, the program has been considered with respect to its potential to cause cumulative impacts on the human environment. APHIS has considered implementation of the preferred alternative in the context of other pest insect eradication and quarantine projects in California. As of November 9, 2009 there are four eradication zones designated for Medfly in San Diego County: Fallbrook, Mira Mesa, Imperial Beach, and Escondido. One eradication zone is also designated in Santa Monica, Los Angeles County. The nearest Medfly detection to Fallbrook is in Escondido, about 12 miles to the southeast as the crow flies. There is no double exposure or cumulative impact at present. See appendix B for a map of current Medfly project areas within California.

The treatments for overlapping eradication programs in California target different insects and do not affect the same non-target organisms. Additional eradication zones in place at the time of preparation of this EA have been designed to target:

- 1 White Striped fruit fly outbreak in Los Angeles County
- 1 Oriental fruit fly outbreak in Los Angeles County
- Asian citrus psyllid outbreaks in 5 CA counties including San Diego County
- Light brown apple moth outbreaks in 16 CA counties including San Diego County

No significant cumulative impacts are anticipated as a consequence of implementing the preferred alternative or its component treatment measures. There have been no residual impacts from previous Federal and non-Federal actions targeting fruit fly infestations in the Fallbrook area; and there are no reasonably foreseeable future actions that could result in incremental increases in environmental effects. Based on APHIS' review of the context and intensity of the existing, ongoing, and potential future treatments, there will be no cumulative impacts to the human environment resulting from this program.

IV. Listing of Agencies Consulted

California Department of Food and Agriculture
Plant Health and Pest Prevention Services
Pest Detection/Emergency Projects
1220 - N Street
Sacramento, California 95814

U.S. Department of Agriculture
Animal and Plant Health Inspection Service
Plant Protection and Quarantine
Invasive Species and Pest Management
4700 River Road, Unit 134
Riverdale, MD 20737

U.S. Department of Agriculture
Animal and Plant Health Inspection Service
Policy and Program Development
Environmental and Risk Analysis Services
4700 River Road, Unit 149
Riverdale, Maryland 20737

U.S. Department of the Interior
Fish and Wildlife Service
Carlsbad Field Office
6010 Hidden Valley Road, Suite 101
Carlsbad, CA 92011

V. References Cited

California Department of Fish and Game, 2009. California Department of Fish and Game, Resource Management Programs,Natural Community Conservation Planning. Status of Plans: San Diego Multiple Species Conservation Program (MSCP) (Approved). Available at http://www.dfg.ca.gov/habcon/nccp/status/SanDiego_MultSpecies.html Accessed on 11/4/09

California Department of Food and Agriculture, 2008. Mediterranean Fruit Fly Fact Sheet. Last updated: 10/23/08. Available at http://www.cdfa.ca.gov/phpps/factsheets/MedFlyFactSheet.pdf Accessed on 10/29/09

California Department of Food and Agriculture, 2009a. Plant Health and Pest Prevention Services. Pest and Damage Record. PDR Number 1442998. Collection date: October 29, 2009.

California Department of Food and Agriculture, 2009b. Plant Health and Pest Prevention Services. Pest and Damage Record. PDR Number 1442999. Collection date: November 01, 2009.

California Department of Food and Agriculture, 2009c. Plant Health and Pest Prevention Services. Pest and Damage Record. PDR Number 1442426. Collection date: November 05, 2009.

California Department of Food and Agriculture, 2009d. Pest Detection/Emergency Projects. Proclamation of an eradication project. Mediterranean fruit fly. City of Fallbrook, San Diego County. November 2, 2009.

California Environmental Protection Agency, 2009. State Water Resources Control Board. Water Issues. Final 2008 Draft Clean Water Act Sections 305(b) and 303(d) Integrated Report for the San Diego Region: Appendix B - Summary of Assessed Water bodies. August 28, 2009. Available at http://www.swrcb.ca.gov/rwqcb9/water_issues/programs/303d_list/docs/r9_summary_water_bodies_assessed_app_b_rev1.pdf Accessed on 11/4/09

CDFA—See California Department of Food and Agriculture

CEPA—See California Environmental Protection Agency

CFG—See California Department of Fish and Game

Chester, T. 2000----Fallbrook Land Conservancy. Available at http://home.znet.com/schester/Fallbrook/attractions/conservancy.html Accessed on 10/30/09

COC—See Fallbrook Chamber of Commerce

County of San Diego, 2008. Multiple Species Conservation Program, Map of North County. Last updated November 2008. Available at http://www.sdcounty.ca.gov/dplu/mscp/NCMSCP_maps_photos.html Accessed on 10/30/09

County of San Diego, 2009. Multiple Species Conservation Program, North County: Biology. Last updated March 2009. http://www.sdcounty.ca.gov/dplu/mscp/NCMSCP_biology.html Accessed on 10/30/09

EPA—See U.S. Environmental Protection Agency

Fallbrook Chamber of Commerce, 2009. Website for The Greater Area of Fallbrook Chamber of Commerce. Our Community: Fallbrook History. Available at http://Fallbrookchamber.com/ChamberWebsite/FallbrookHistoryTemplate.htm Accessed on 10/30/09

Fallbrook Public Utilities District, 2009. Fallbrook Public Utilities District: About Us: About FPUD: Inside FPUD. Available at http://www.fpud.com/Inside_FPUD.aspx Accessed on 10/30/09

FF EIS—See U.S. Department of Agriculture, Animal and Plant Health Inspection Service, 2001.

FLC, 2009 Fallbrook Land Conservancy-- http://www.Fallbrooklandconservancy.org/

FPUD—See Fallbrook Public Utilities District

L18 Airpark, 2009. Fallbrook Community Airpark. Website for L18 Airpark Corporation. Available at http://www.l18airpark.com/ Accessed 10/30/09

PCW—See Project Clean Water

Project Clean Water, 2009. San Diego's Watersheds: San Juan, Santa Margarita and San Luis Rey.. Available at http://www.projectcleanwater.org/html/watersheds.html Accessed on 11/3/09

Rainbow Municipal Water District, 2009. About Us. Available at http://www.rainbowmwd.com/aboutus.html Accessed on 11/3/09

RMWD—See Rainbow Municipal Water District

San Diego—See County of San Diego

U.S. Department of Agriculture, Animal and Plant Health Inspection Service, 2001. Fruit fly cooperative control program, final environmental impact statement—2001. USDA–APHIS, Riverdale, MD.

U.S. Department of Agriculture, Animal and Plant Health Inspection Service, 1998a. Human health risk assessment for fruit fly cooperative control programs. USDA–APHIS, Riverdale, MD.

U.S. Department of Agriculture, Animal and Plant Health Inspection Service, 2008. Mediterranean Fruit Fly Cooperative Eradication Program, San Diego County, California, environmental Assessment—November 2008. USDA–APHIS, Riverdale, MD.

U.S. Department of Agriculture, Animal and Plant Health Inspection Service, 1998b. Nontarget species risk assessment for fruit fly cooperative control programs. USDA–APHIS, Riverdale, MD.

U.S. Department of Agriculture, Animal and Plant Health Inspection Service, 1999a. Spinosad bait spray applications. Human health risk assessment, March 1999. USDA–APHIS, Riverdale, MD.

U.S. Department of Agriculture, Animal and Plant Health Inspection Service, 1999b. Spinosad bait spray applications. Nontarget risk assessment, March 1999. USDA–APHIS, Riverdale, MD.

U.S. Department of Agriculture, Animal and Plant Health Inspection Service, 2003. Spinosad bait spray applications. Nontarget risk assessment, October, 2003. USDA–APHIS, Riverdale, MD.

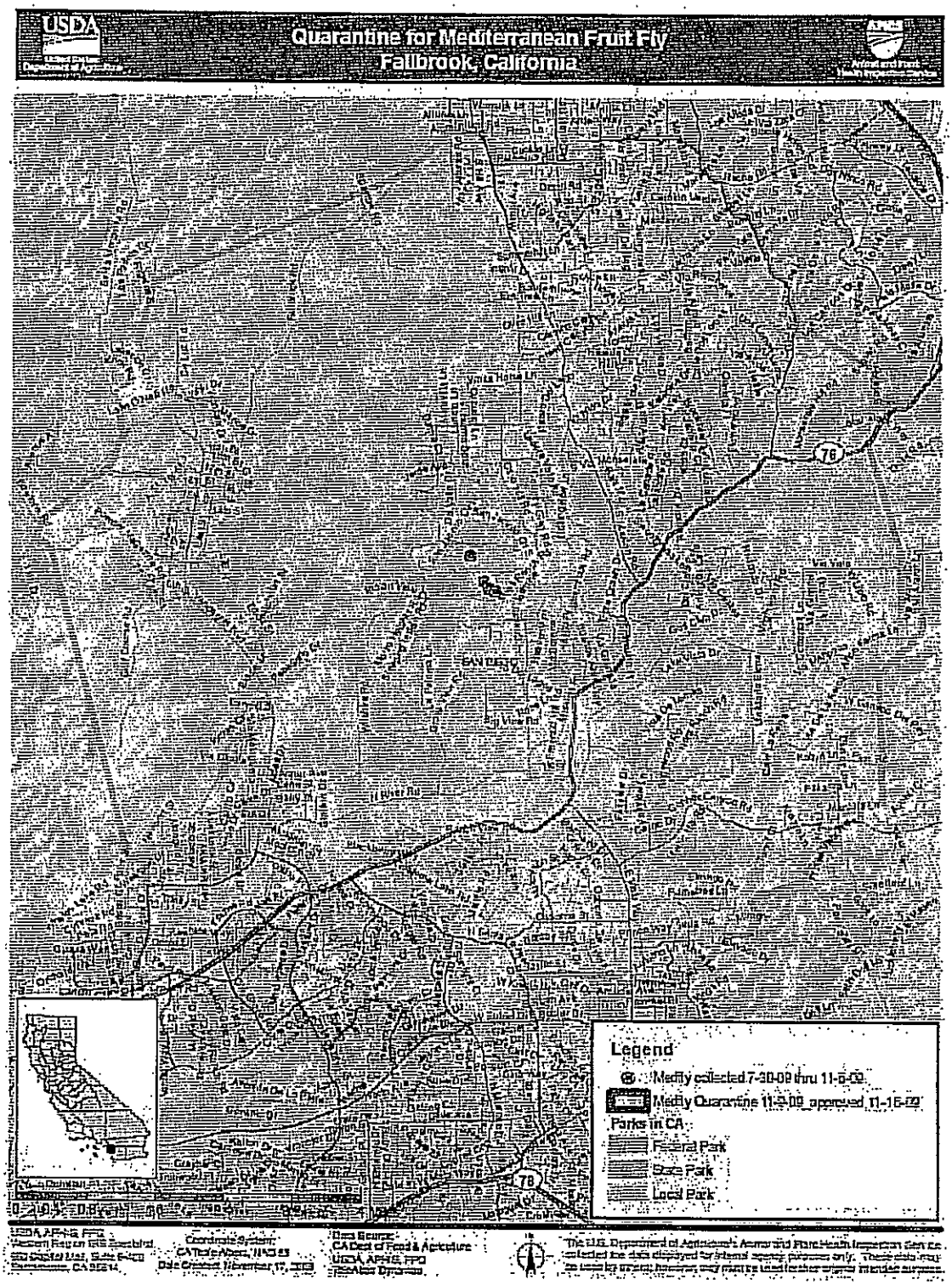
U.S. Environmental Protection Agency, 2008. 4-(or 5-)Chloro-2-methylcyclohexane-carboxylic acid, 1, 1-dimethyl ester (112603) Fact Sheet. Issued: 6/01.

USDA–APHIS—See U.S. Department of Agriculture, Animal and Plant Health Inspection Service

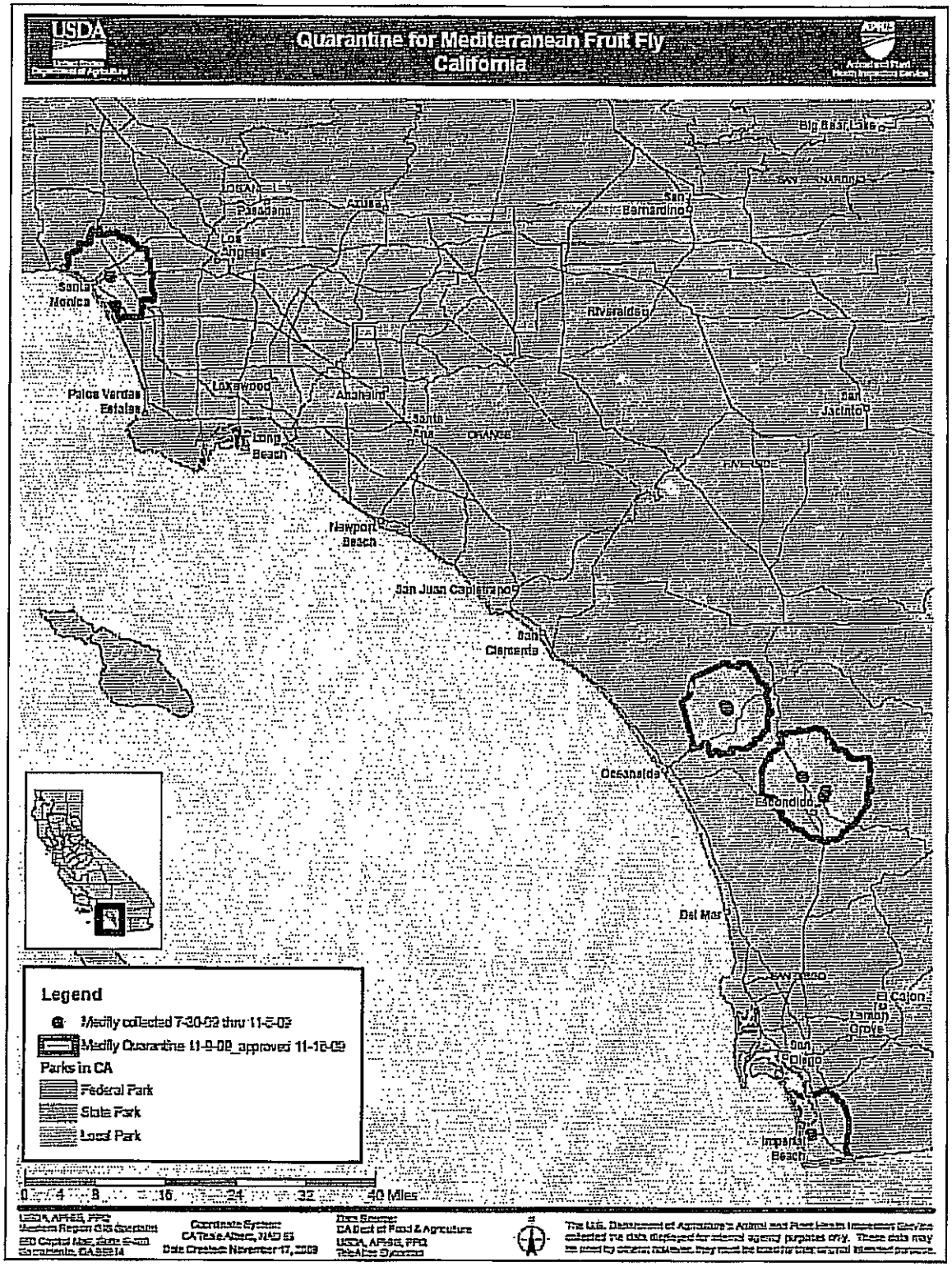
Water Education Foundation, 2006. Where does MY water come from? San Diego Region. [Online] Available at http://www.water-ed.org/watersources/region.asp?rid=10 Accessed on 11/2/09

WEF—See Water Education Foundation

Appendix A. Detection Sites and Eradication Zone for Mediterranean Fruit Fly—Fallbrook, San Diego County, California



Appendix B. Mediterranean Fruit Fly, California State Interior—November 2009



Finding of No Significant Impact
for
Mediterranean Fruit Fly Cooperative Eradication Program
Fallbrook, San Diego County, California
Environmental Assessment
November 2009

The U.S. Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS) has prepared an environmental assessment (EA) that analyzes alternatives for control of the Mediterranean fruit fly (Medfly), *Ceratitis capitata* (Wiedemann), an exotic agricultural pest that has been found in areas of Fallbrook, San Diego County, California. The EA, incorporated by reference in this document, is available from—

USDA, APHIS, PPQ
State Plant Health Director
650 Capital Mall, Suite 6-400
Sacramento, CA 95814

or

USDA, APHIS, PPQ
Fruit Fly Exclusion and Detection Program
4700 River Road, Unit 137
Riverdale, MD 20737–1234

The EA for this program analyzed alternatives of (1) no action, (2) quarantine and commodity certification, and (3) eradication. Each of those alternatives was determined to have potential environmental consequences. APHIS selected eradication using an integrated pest management approach for the proposed program because of its capability to achieve eradication in a way that also reduces the magnitude of those potential environmental consequences.

APHIS has consulted with the U.S. Department of the Interior, Fish and Wildlife Service's Carlsbad Field Office to ensure that all program treatments will not affect any listed species or critical habitat. In addition, APHIS, in cooperation with the California Department of Food and Agriculture, have determined that APHIS will employ a 100-foot buffer to all critical habitat of the Arroyo toad, Coastal California gnatcatcher and the Southwestern willow flycatcher should the treatment area and/or eradication zone expand in to critical habitat for those species to avoid any potential for impacts to those species and their critical habitat. A full administrative record for this consultation is available upon request.

I find that implementation of the proposed program will not significantly impact the quality of the human environment. I have considered and based my finding of no significant impact on the quantitative and qualitative risk assessments of the proposed pesticides, and on my review of the program's operational characteristics. In addition, I find that the environmental process undertaken for this program is entirely consistent with the principles of environmental justice, as expressed in Executive Order 12898, and the protection of children, as expressed in Executive Order 13045. Lastly, because I have not found evidence of significant environmental impact associated with this proposed program, I further find that an environmental impact statement does not need to be prepared and that the program may proceed.

Karl Maeda for Helene Wright

Helene Wright
State Plant Health Director, California
Animal and Plant Health Inspection Service
Sacramento, CA

11/18/2009

Date