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Inspection
Service



Mediterranean Fruit Fly Cooperative Eradication Program

**Escondido, San Diego County,
California**

**Environmental Assessment,
November 2009**

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Agency Contact

Wayne Burnett
Domestic Coordinator
Fruit Fly Exclusion and Detection Programs
Plant Protection and Quarantine
Animal and Plant Health Inspection Service
U.S. Department of Agriculture
4700 River Road, Unit 7
Riverdale, MD 20737-1234

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Table of Contents

I. Need for the Proposal	1
II. Alternatives 2	
A. No Action	2
B. Quarantine and Commodity Certification.....	3
C. Eradication (Preferred Alternative)	4
III. Potential Environmental Consequences	5
A. Human Health	9
B. Other Considerations.....	10
C. Nontarget Species	11
D. Environmental Quality	14
IV. Listing of Agencies Consulted.....	16
V. References Cited.....	17
Appendix A. Mediterranean Fruit Fly Detection Sites and Eradication Boundary—Escondido, San Diego County, California	20

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 September 9, 2009, a mated female Medfly was collected in a McPhail trap located in a peach tree on Rose Street, in Escondido, San Diego County, California (CDFA, 2009a). Confirmation of this finding has triggered Federal involvement in response to this outbreak. Three more Medflies were collected from traps in the City of Escondido between October 19 and October 25. These finds were approximately 3.3 miles outside the known infested zone for the September 9th detection, necessitating expansion of the eradication area from 27.3 square miles to approximately 71 square miles (CDFA, 2009b). The area surrounding the infestations is a mixture of developed urban and residential districts, agricultural acreage, 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 Escondido 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 habitat 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 eradicated by trimedlure attractant and sticky trapping; any quarantine program treatments will consist of ground-based applications of either spinosad bait or malathion formulations.

The current eradication zone involves parts of the City of Escondido and its environs (see appendix A). This zone covers approximately 71 square miles, 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, 2009b; CDFA, 2009c). 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, 2009b). 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, 2009b).

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, 2009b).

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.

The City of Escondido is located in Southern California in a long, shallow valley surrounded by rocky coastal mountains. Escondido occupies about 37 square miles with a population of approximately 135,000. Los Angeles is over 100 miles to the north, and downtown

San Diego is situated about 30 miles to the southwest. The climate is mild and favors the vineyards, avocado and citrus groves that surround Escondido's municipal district, with an annual average temperature ranging between 42 and 89 °F (City of Escondido, 2009a).

There are approximately 1900 acres of commercial grove production in the current eradication zone (see table 1) and some producers may opt for certification treatments to allow movement of their commodities out of the quarantine area. (Please see map in appendix A for outline 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 Escondido eradication zone are discussed specifically in this chapter of the EA.

Table 1. Commercial Groves in Escondido.

Commodity under Commercial Production	Acres within Escondido Quarantine Zone
Avocado	~1300.0
Citrus	~0147.0 (grapefruit)
	~0001.0 (kumquat)
	~0021.0 (lemon)
	~0007.5 (lime)
	~0113.0 (orange)
	~0002.5 (tangelo)
Other	~ 0271.0 (guava, peach, pear, persimmon, plum)

Source: Burnett, 2009

Dixon Lake, Lake Wohlford, and Lake Hodges are located in or near the City of Escondido. Each of these water bodies supports wildlife habitat and recreational uses, and may be affected by urban or agricultural runoff. Lake Dixon and Lake Wohlford provide about 30 percent of the city's water; about 70 percent of the City of Escondido's water supply is imported from the San Diego County Water Authority. However, water storage at Lake Wohlford at present is lower than usual because the dam that created the lake has deteriorated over the last century and needs to be upgraded or replaced (City of Escondido, 2009b). Lake Hodges serves as a water storage reservoir for San Diego County.

The Escondido region also obtains irrigation and drinking water from the California State Water Project, the Colorado River, and local streams and reservoirs (WEF, 2006). The city of Escondido has recently implemented a municipal compliance plan to minimize

impacts associated with urban runoff as part of the County of San Diego's Jurisdictional Urban Runoff Management Program. Three San Diego County watersheds supply and are impacted by Escondido regional water usage: Carlsbad, San Luis Rey, and San Dieguito. Urban and agricultural runoff are two of the major activities affecting these watersheds.

Per the 2006 Clean Water Act Section 303(d) list, the following waterbodies within the City of Escondido are listed as being impaired for the constituents shown:

- Escondido Creek... DDT, manganese, phosphate, selenium, sulfate, total dissolved solids (TDS)
- Felicita Creek... aluminum, TDS
- Lake Hodges... color, manganese, nitrogen, pH, phosphorous, turbidity
- Kit Carson Creek... pentachlorophenol, TDS
- San Marcos Creek... DDE, phosphorous, sediment toxicity
- Reidy Canyon Creek... phosphorous

Escondido Creek flows through the center of the city and is the largest and most complex system within the Carlsbad watershed, affecting over 54,000 acres and discharging into the Pacific Ocean via the coastal San Elijo Lagoon. Lake Wohlford and Lake Dixon are two of the three main reservoirs in this watershed. Within Escondido city boundaries, the landscape has been completely converted to an urban environment and Escondido Creek and portions of Reidy Creek, its primary tributary, are confined to concrete flood control channels. Figure 1 shows the Carlsbad watershed. Figure 2 illustrates environmentally sensitive areas (which include 303(d)-listed waters) within the city (City of Escondido, 2008).

In 2005, the City of Escondido identified a number of activities that have the potential to adversely affect local water quality, including residential septic facilities, highway runoff, and agricultural and recreational activities. Since 2005 there have been no contaminants detected in the water supply; however, it is still considered vulnerable to contamination from recreational and aquatic activities at Lake Dixon and Lake Wohlford. Direct management and surveillance at Lake Dixon and Lake Wohlford are provided by park rangers (City of Escondido, 2009b).

Urban 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 developed residential and business districts of Escondido. 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.

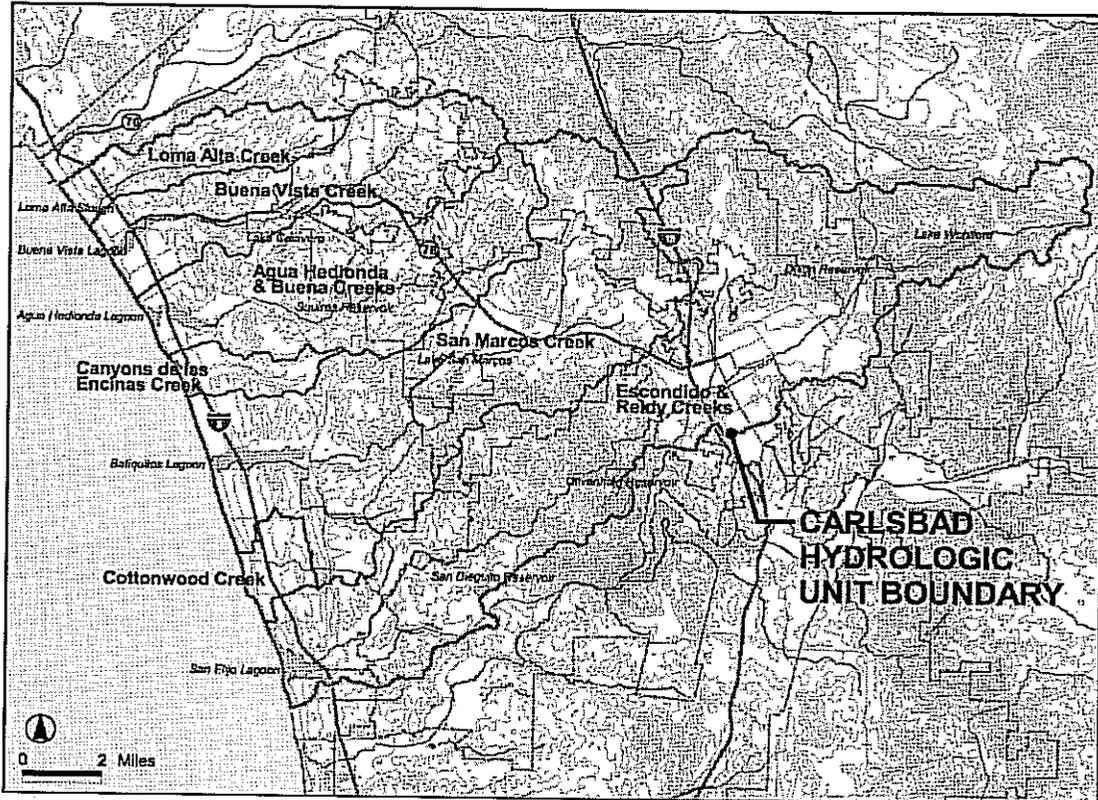


Figure 1. Carlsbad Watershed (outlined in green).
Source: Project Clean Water, 2005

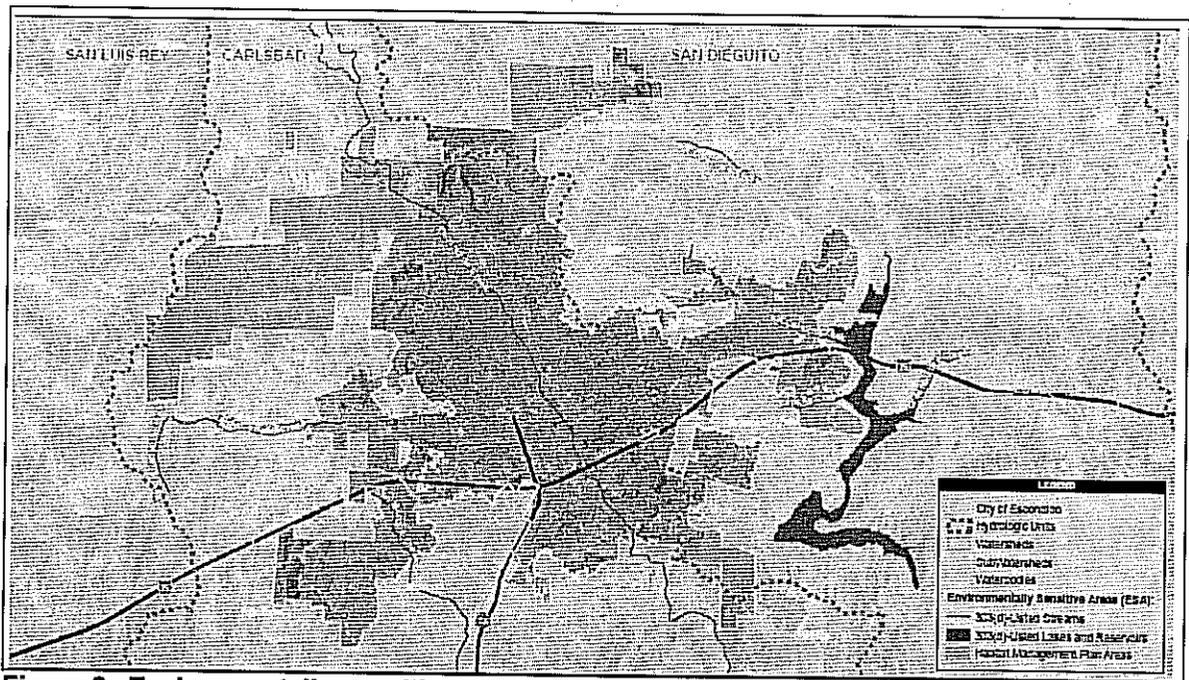


Figure 2. Environmentally sensitive areas and 303(d) Impaired Water Bodies.
Source: City of Escondido, 2008

Residents and visitors to Escondido lakes and waterways, recreation centers, parks, forests and mountain areas participate in numerous outdoor activities including golf, swimming, boating, fishing, hiking, biking, camping and mountain biking. The Escondido region is rich in historical and archaeological sites, and the city maintains a historic district of 900 homes (City of Escondido, 2009a). The San Pasqual Battlefield State Historic Park, San Diego Wild Animal Park, a Buddhist monastery, fruit orchards, farms and many wineries are among the region's popular tourist attractions and occupy rural land just outside the City of Escondido. San Diego County has more Native American reservations than any other county in the United States. Native American schools, businesses and other organizations operate on reservations nearby; see section B, Other Considerations, later in this chapter for further consideration of tribal lands.

The rural valley, lakes, riparian and upland areas around Escondido provide habitat for many species of indigenous vegetation. Two of the larger wildlife preserves in Escondido are the San Diego Wild Animal Park and Daley Ranch. Located to the east of the city, the San Diego Wild Animal Park is a 1,800-acre wildlife sanctuary and protected native species habitat that is home to more than 3,500 animals from 400 different species. Its botanical collection contains more than 1.5 million specimens. Conservation and habitat restoration of endangered native species, such as the light-footed clapper rail breeding and release program, are also conducted at the Park. Daley Ranch is a 3,058-acre conservation area that was purchased by the city in 1996, supplying a home to hundreds of regionally important plant and animal species in a variety of habitats (City of Escondido, 2009a).

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 Escondido 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 Escondido 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 Escondido 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...." There are a number of federally recognized tribes that govern reservation lands and operate properties in the vicinity of Escondido, including

- Cahuilla Reservation
- Campo Reservation
- Capitan Grande Reservation
- La Jolla Reservation
- Los Coyotes Reservation
- Pala Reservation
- Pauma Reservation
- Rincon Reservation
- San Pasqual Reservation
- Santa Rosa Reservation
- Santa Ysabel Reservation
- Sycuan Reservation

The preferred alternative for Escondido currently requires quarantine or treatment of commodities and premises only for those producers who decide to sell their produce outside the eradication zone. As seen in figure 3, tribal lands belonging to the San Pasqual Indian Reservation are within the current eradication zone. APHIS has confirmed that program officials are consulting with the San Pasqual tribal government to minimize potential impact from the Escondido program. Should future detections of Medfly warrant expansion of the current quarantine zone and eradication into additional tribal lands, program officials will initiate consultation with the governing tribal authorities before undertaking further action.

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

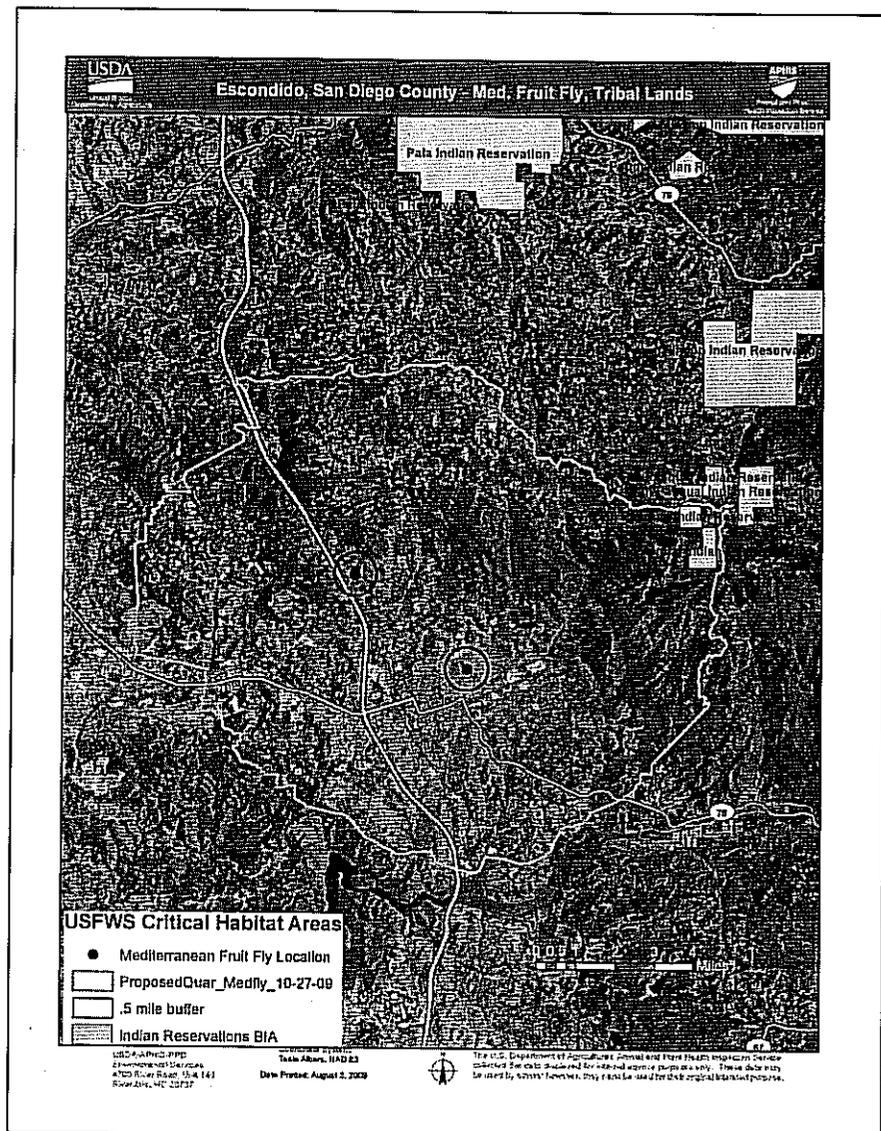


Figure 3. Proximity of Escondido Medfly program activities to tribal lands.

Source: USDA-APHIS, Environmental and Risk Analysis Services, 2009

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 Escondido eradication zone was considered with respect to special characteristics that could influence the implementation of program operations. Much of the eradication zone is developed residential and urban space, and program actions undertaken in these areas are expected to have no adverse affect on non-target species and habitats. There are other locations within the eradication zone, however, that consist of undeveloped and agricultural land, including a variety of aquatic habitats. Critical habitat Unit 3 of the Coastal California gnatcatcher occurs within the eradication zone, consultation with the Carlsbad Fish and Wildlife Service has occurred and APHIS has incorporated necessary buffers in to its program treatments to avoid impacts to the species and its critical habitat.

Daley Ranch is the largest conservation area within the Escondido eradication boundary, and nearest to the September 9, 2009 Medfly find. It is home to a variety of plant and animal species, including over 100 species of birds. Several diverse habitat communities dominate Daley Ranch and are representative of other local habitat communities:

- Stands of coast live oak and the endangered Engelmann oak are being preserved to provide woodland habitat utilized by over 300 species of animals in California, including raptors (birds of prey).
- Diegan coastal sage scrub is another threatened habitat found in several areas around the Ranch. A number of rare animal species, including the San Diego horned lizard and the California gnatcatcher, live in this type of habitat.
- Chaparral is the most prominent vegetation community – commonly found plants are chamise, mission manzanita, scrub oak, black sage, and ceanothus.
- Rocky outcrops provide homes for a variety of reptiles, including the southern Pacific, red diamond, and speckled rattlesnakes. Various raptors use these outcrops as nesting and perching sites. The outcrops provide denning sites for larger predators such as

the coyote, bobcat, and ringtail. Mountain lions have also been seen among the rocks on occasion.

- Three year-round ponds, several seasonal ponds, and a seasonal creek provide an important source of water for area wildlife. Many aquatic birds, including ducks, cranes, white pelicans, coots, and osprey can be seen on or around the ponds (City of Escondido, 2009a).

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 Coastal California gnatcatcher. APHIS, in cooperation with CDFG, has consulted with FWS regarding the potential impacts of program operations to affect Coastal California gnatcatcher and its critical habitat. After review of the proposed action, FWS has recommended that APHIS employ a 100-foot buffer to avoid impacts to critical habitat of the Coastal California gnatcatcher. The 100-foot buffer has been incorporated in to all program operations and 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. 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 developments and commercial groves (CDFG, 2009b). In the event that the eradication zone has to be expanded, APHIS, in cooperation with CDFG, 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 2, 2009 there are four eradication zones designated for Medfly in San Diego County: Fallbrook, Mira Mesa, Imperial Beach, and Escondido. One eradication zone is designated in Santa Monica, Los Angeles County. There is no double exposure or cumulative impact at present.

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
- LBAM outbreaks in 16 CA counties including San Diego County

No significant cumulative impacts are anticipated as a consequence of the program or its use of component treatment measures. There have been no residual impacts from previous Federal and non-Federal actions targeting fruit fly infestations in the Escondido 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

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**Finding of No Significant Impact
for
Mediterranean Fruit Fly Cooperative Eradication Program
Escondido, San Diego County, California
Environmental Assessment
October 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 Escondido, 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

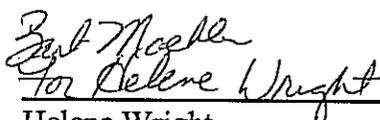
or

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.

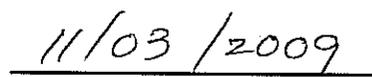
APHIS has consulted with the U.S. Department of the Interior, Fish and Wildlife Service's Carlsbad Field Office to ensure that all program treatments will not affect any listed species or critical habitat. In addition, APHIS, in cooperation with the California Department of Food and Agriculture, will employ a 100-foot buffer to all critical habitat of the Coastal California gnatcatcher to avoid impacts to that species and its habitat within the eradication zone.

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.



Helene Wright

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



Date