United States Department of Agriculture

Marketing and Regulatory Programs

Animal and Plant Health Inspection Service

Mexican Fruit Fly Cooperative Eradication Program

Hidalgo County, Texas

Environmental Assessment
March 2012

Mexican Fruit Fly Cooperative Eradication Program

Hidalgo County, Texas

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I. Need for the Proposal

The Mexican fruit fly, *Anastrepha ludens* (Loew), is native to central Mexico and is a major pest of agriculture throughout many parts of the world. Commercial and home grown produce that is attacked by the pest is unfit to eat because the larvae tunnel through the fleshy part of the fruit, damaging the fruit and subjecting it to decay from bacteria and fungi. Adults are long-lived (up to 11 months), highly fecund, strong fliers, and highly mobile (UFL, 2012). Because of its wide host range (over 40 species of fruits) and its potential for damage, a permanent infestation of Mexican fruit fly (Mexfly) would be disastrous to agricultural production in the United States. In the past, eradication programs have been implemented successfully to prevent the pest from becoming permanently established on the U.S. mainland.

From February 1, 2012 until March 13, 2012 five unmated adult females, one adult male, and 2 mated adult females were detected in the McAllen area of Hidalgo County, Texas. There are currently seven different detection sites which include both commercial and residential properties in a predominantly agricultural area. All of the detections were in McPhail traps with either torula yeast or 2-component lure as the attractant. The host trees in which the traps were placed include grapefruit, orange, and lemon (USDA–APHIS, 2012a). These detections have triggered the involvement of U.S. Department of Agriculture's (USDA)–Animal and Plant Health Inspection Service (APHIS) in the quarantine and control program for this outbreak.

A previous Mexfly quarantine for Hidalgo County was lifted on January 3, 2012, by USDA–APHIS) (USDA–APHIS, 2012b). An active Mexfly quarantine and eradication program is underway about 30 miles from McAllen in the adjacent county of Cameron, south of San Benito City (USDA–APHIS, 2012c). Apart from programs for the San Benito and McAllen infestations, there are no other Mexfly quarantine areas in the United States.

Mexfly has been introduced into the United States repeatedly since its first detection in Texas in 1927 (TDA, 2012a and 2011). The current Mexfly infestation represents a major threat to the agriculture and environment of Texas and other U.S. mainland States. APHIS and the Texas Department of Agriculture (TDA) are proposing a cooperative program to eradicate the Mexfly infestation and eliminate that threat.

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.

APHIS has cooperated with State departments of agriculture on a number of successful Mexfly programs in the past. Examples of such programs include the "Mexican Fruit Fly Cooperative Eradication Program, Brooks County, Texas" (USDA–APHIS, 2009), the "Mexican Fruit Fly Cooperative Management Program, Lower Rio Grande Valley, Texas" (USDA–APHIS, 2008), and the "Mexican Fruit Fly Cooperative Eradication Program, San Diego County, California" (USDA–APHIS, 2007).

II. Alternatives

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

A. No Action

The no action alternative would involve no Federal effort to eradicate Mexfly or restrict its expansion from the infested area. In the absence of a Federal effort, quarantine and control would be left to State government, grower groups, and individuals. Expansion of the infestation would be influenced by any controls exerted over it, by the proximity of host plants, and by climatic conditions. No action could be the only choice with respect to some sensitive sites; in such cases, lack of action could result in a continuing and expanding infestation. 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. Regulated commodities harvested within the quarantine area would be restricted to movement within that area, unless treated with prescribed treatments 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 Mexfly in

host plant materials outside the quarantined area; however, the infestation could remain established within the quarantine boundaries. Any Mexfly eradication efforts would be managed by, and wholly under the control of, TDA.

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 Mexfly. Control 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 include fumigation with methyl bromide, soil treatment with diazinon, and topical bait spray with a mixture of spinosad or malathion and a protein hydrolysate bait. (Refer to the environmental impact statement (EIS) (USDA–APHIS, 2001) for more detailed information about the chemicals and their uses.) Cold treatment, vapor heat treatment, or irradiation treatment of certain produce, as a requirement for certification and shipping, must be done in facilities that are inspected and approved by APHIS.

C. Eradication (Preferred Alternative)

APHIS' preferred alternative for the Mexfly program is eradication using an IPM approach. This alternative combines quarantine and commodity certification with eradication treatments. Eradication efforts may include any or all of the following: chemical control, sterile insect technique (SIT), physical control, cultural control, and regulatory control.

APHIS' Mexfly programs in Texas have well-established procedures and treatments. The McAllen program for Mexfly host plants will be conducted by APHIS-approved personnel on quarantined property, using chemical formulations and ground-based treatment protocols approved by APHIS.

Program officials have delineated the potential quarantine area (see appendix A) and are identifying regulated entities. Mexfly surveillance and trapping will be carried out over 81 square miles surrounding a detection site. Quarantine boundary lines may be expanded should a new Mexfly detection occur outside the established quarantine zone. Growers will be able to move their harvested fruit out of the quarantined area under a limited permit to enclosed facilities for processing into juice, or after methyl bromide treatment at the packing shed. Should the Mexfly quarantine spread to federally protected historical sites, wilderness or tribal lands, program treatments will be restricted to those approved for the type of site in question. SIT aerial release will continue; release densities will be increased to quarantine protocol levels.

The eradication program could include ground applications of either malathion or spinosad bait. Spinosad bait has been proposed for this program. Where Mexfly larvae are found, eradication treatments may also employ foliar sprays and soil drenches. Foliar applications, which are applied up to a 500-meter radius around an infested property, may consist of spinosad or malathion protein bait formulations which are applied with hydraulic spray or hand-spray equipment. The applications will be repeated at 6- to 14-day intervals. Soil drenches with a diazinon formulation may be applied to the drip line of hosts with fruit known or suspected to be infested with Mexfly eggs or larvae. (For more detailed information on the alternatives for Mexfly control and their component methods, refer to the earlier fruit fly risk assessments (USDA–APHIS, 2003, 1999a, 1999b, 1998a, and 1998b)).

Program officials will inform the public and impacted industry before taking action via press releases, meetings, and other forms of communication appropriate for the recipients. Notification letters will be sent to trading partners as they are identified. Grove owners and packing sheds in the program area have been notified of the Mexfly quarantine and treatment schedule.

III. Potential Environmental Consequences

This environmental assessment (EA) analyzes the potential environmental consequences of alternatives which have been considered for Mexfly control, and considers, from a site-specific perspective, environmental issues that are relevant to this particular program. The preferred alternative, eradication, would involve an IPM approach that uses 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 soil treatment), (5) cold treatment, (6) vapor heat treatment, and (7) irradiation treatment.

Alternatives for Mexfly control have been discussed and analyzed comprehensively within the “Fruit Fly Cooperative Control Program, Final Environmental Impact Statement—2001," which is incorporated by reference and summarized within this EA. The control measures being considered for this program 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). Those documents are also 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 (1) human health, (2) nontarget species

(including endangered and threatened species), and (3) environmental quality. In addition, potentially sensitive areas have been identified, considered, and accommodated through special selection of control methods and use of specific mitigation measures.

The current Mexfly infestation is located in the area of McAllen, Texas. The detection sites are located on commercial and residential properties. Texas Route 83 and local farm-to-market roads cross the current program area, and the McAllen-Miller International Airport is located inside the southeastern corner of the quarantine boundary. The McAllen program is designed to control the Mexfly infestation before it can expand beyond Hidalgo County into other parts of the United States.

Hidalgo County covers 1,569 square miles of the Rio Grande delta in southern Texas and reported a year-round population of 774,769 in 2010 (NACo, 2012). The county is bordered on the north by Brooks County, on the west by Starr County, on the east by the Cameron County, and on the south by the Rio Grande and Mexico. The county seat, Edinburg, is located about 10 miles from the city of McAllen, which has the highest recorded population in the county: 130,831 (City of McAllen, 2012).

The southern part of Hidalgo County where the current Mexfly program is located has moderately deep to deep loamy surfaces over clayey subsoils. Along the Rio Grande brown to red clays occur. Hidalgo County is in the South Texas Plains vegetation area, which features grasses, mesquite, live oaks, and chaparral. Irrigated agriculture, ranching, milk cows, and hogs are raised in the county. Natural resources include caliche, sand, gravel, oil, and gas. The climate in Hidalgo County is subtropical and subhumid. Temperatures range from an average low of 47 °F in January to an average high to 96 °F in July; the average annual temperature is 73 °F. Rainfall averages 23 inches a year, and the growing season lasts for 320 days of the year (Garza, 2012).

Hidalgo County has a fluctuating population due to the coming and going of migrant workers, tourists, and seasonal visitors. Many residential areas are below poverty level; there are 942 recorded colonias (Texas Secretary of State, 2012). Recreation facilities in the county include the Hidalgo County Historical Corridor which spans the southern portion of the county and various parks and wildlife refuges, including Santa Ana National Wildlife Refuge and the Las Palomas Wildlife Management area (Garza, 2012).

Hidalgo County is located within two watersheds: South Laguna Madre and Lower Rio Grande. The Rio Grande River is the county's main source of potable and irrigation water. McAllen's raw water supply is pumped from the Rio Grande via a network of canals and pipelines maintained by Hidalgo County Irrigation Districts 2 and 3, United

Irrigation District, and occasionally, Brownsville Irrigation District. The water is stored in reservoirs and then sent to our two water treatment plants for disinfection and purification (MPU, 2011). McAllen residents participate in an ongoing voluntary water conservation program; water use is restricted when occasions warrant (City of McAllen, 2012).

Ongoing drought, international treaty issues, and increased demand are impacting long-term water availability. The Rio Grande Regional Water Planning Group (RGRWPG) is one of 16 regional groups set up under Texas State law to conduct long-range analysis of water needs and develop water management strategies to meet those needs. RGRWPG covers eight counties along the mid and lower Rio Grande: Maverick, Webb, Zapata, Jim Hogg, Starr, Hidalgo, Willacy, and Cameron. Maintaining water quality standards is crucial for local communities dependent upon surface water (LRGVDC, 2009).

Urban and agricultural runoff may flow directly into local waters, picking up trash, dirt, chemicals, and other contaminants along the way. McAllen municipal regulations strictly prohibit allowing irrigation water to run off into a gutter, ditch or drain (City of McAllen, 2012). The Mexfly eradication plan calls for ground-based spray applications to host plants in commercial and residential districts of McAllen. As an added protection to local water resources, standard mitigation measures will be applied to protect marine and freshwater resources, as discussed in section C, Environmental Quality.

A. Human Health

The principal concerns for human health are related to the program use of chemical pesticides: malathion bait, spinosad bait, diazinon (a soil drench), and methyl bromide (a fumigant). Three major factors influence the human health risk associated with pesticide use: fate of the pesticides in the environment, their toxicity to humans, and their exposure to humans. Each of the program pesticides is known to be toxic to humans. Exposure to program pesticides can vary, depending upon the pesticide and the use pattern. Potential exposure is low for all applications except malathion and spinosad bait. The limited program use of malathion and spinosad bait is for regulatory treatments only, and these applications are primarily applied to commercial 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 pesticides from normal program operations are not likely to result in substantial adverse human health effects. (Refer to the EIS (USDA–APHIS, 2001) and the human health risk assessments (USDA–APHIS, 1999a and 1998a) for more detailed information relative to human health risk.)

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

B. Other Considerations

Potential environmental impacts of implementing the preferred alternative have been considered regarding historical and archeological sites in the McAllen region. No adverse effects are anticipated as a result of the surveillance trapping, SIT, malathion, or spinosad 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 no federally recognized tribal lands within the program area, and no expected impacts to tribal property from implementation of the preferred alternative.

The preferred alternative for the McAllen program currently requires quarantine and treatment of commodities and premises only for those producers who decide to move their regulated commodity outside the quarantine boundary. Should future detections of Mexfly warrant expansion of the current program area into Native American lands, program officials will initiate consultation with the governing tribal authorities before undertaking further action.

According to the Texas Historical Commission, if Mexfly quarantine boundaries or program activity occur on Federal, State, tribal, or public lands, or if the program requires funding, licensing, permitting, or other involvement by the Federal government, APHIS may have to consult with

Native American tribal governments and the State Historical Preservation Officer. Section 106 of the National Historic Preservation Act applies to Federal or federally assisted undertakings on Federal, State, tribal, public, and private lands where an undertaking has the potential to have an effect on historic properties. This includes, but is not limited to, districts, sites, buildings, structures, and objects. The Antiquities Code of Texas and the Texas Health and Safety Code apply to projects occurring on non-Federal lands in Texas. A project may also be subject to the jurisdiction of the Antiquities Code of Texas if it will have an effect on a State Archeological Landmark. A number of sites within the McAllen program area have been designated as local or Federal historic property (see figure 1 for locations).

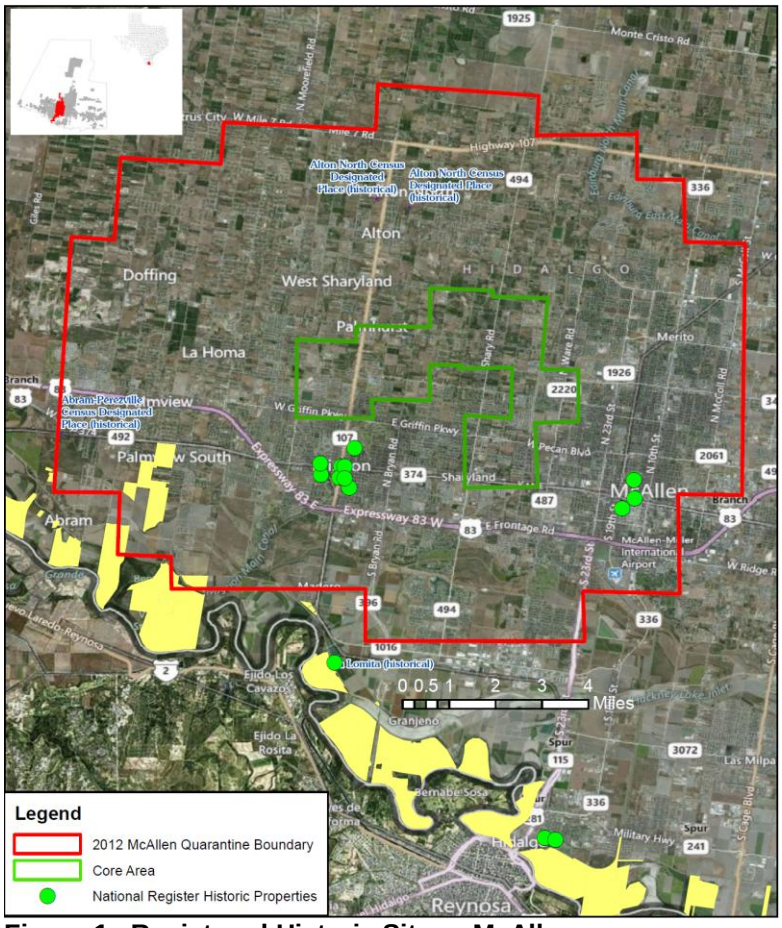

Figure 1. Registered Historic Sites—McAllen program area.
(Source: USDA–APHIS, 2012)

Implementation of the preferred alternative is not expected to have any adverse impacts on these sites. At this time, no other culturally sensitive sites have been identified within the program area; program officials will undertake consultation as appropriate when such a site is identified, and restrict program treatments and activities as necessary in order to protect the site (THC, 2012).

C. Nontarget Species

The conservation areas in the Rio Grande Valley in southern Texas provide important habitat for a wide variety of wildlife that cannot be seen anywhere else in the United States. Some wildlife refuges lie within or near Mexfly quarantine boundaries (see figure 2 and appendix A). The McAllen Mexfly program is designed to prevent the introduction of program chemicals into nontargeted areas. No program chemical applications will be permitted within refuge tracts or other protected areas.

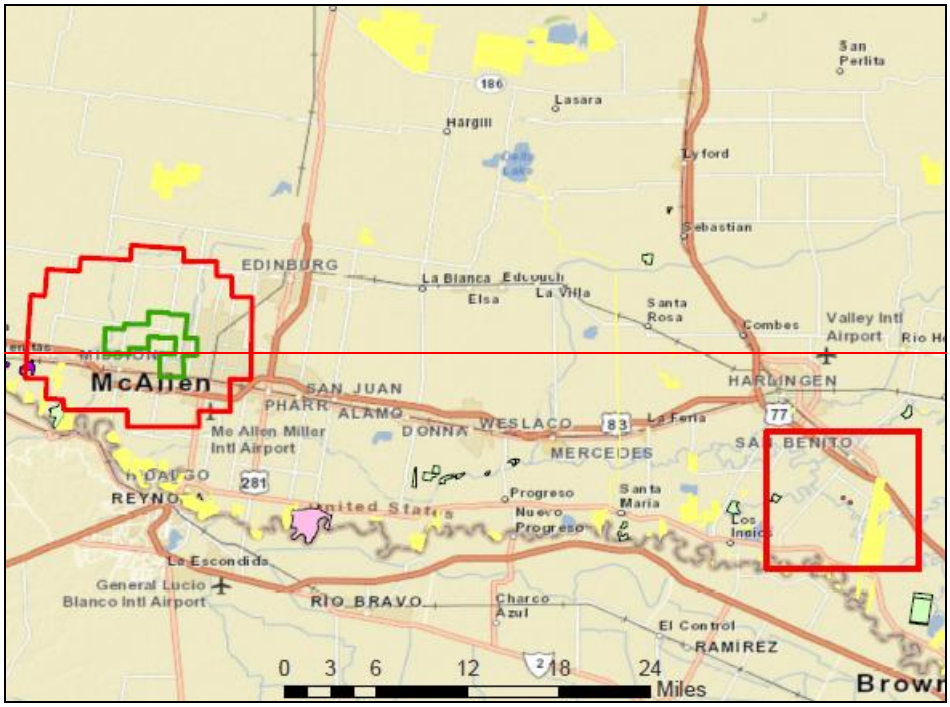

Figure 2. Conservation areas (shaded yellow, pink, or pale green) within 25 miles of March 2012 Texas Mexfly program areas (outlined in red). (Source: USDA–APHIS, 2012)

The principal concerns for nontarget species, including endangered and threatened species, also involve the use of program pesticides. Paralleling human health risk, the risk to nontarget species is related to the pesticides' fate in the environment, their toxicity to the nontarget species, and their exposure to nontarget species. All of the pesticides are highly toxic to invertebrates, although the likelihood of exposure (and thus, impact)

varies a great deal from pesticide to pesticide and with the use pattern. In general, a well-coordinated eradication program using IPM technologies would result in the least use of chemical pesticides, overall, with minimal adverse impact to nontarget species. The no action alternative and the quarantine and commodity certification alternative would be expected to result in broader and more widespread use of pesticides by homeowners and commercial growers, with correspondingly greater potential for adverse impact. (Refer to the 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.)

1. Migratory Bird Treaty Act

The Migratory Bird Treaty Act implements various treaties and conventions between the United States and Canada, Japan, Mexico, and the former Soviet Union for the protection of migratory birds. More than 500 species of birds have been documented in the Rio Grande Valley. Many of the birds breed and nest in the Mexfly program area while others migrate through the valley (Quinta Mazatlan, 2012). The Lower Rio Grande Valley is an important migration corridor that provides suitable habitat for many bird species. APHIS has evaluated the McAllen Mexfly program in terms of potential impact on migratory avian species. Implementation of the preferred alternative is not expected to have any adverse effect on migratory birds or their flight corridors.

2. Endangered Species Act

Section 7 of the Endangered Species Act (ESA) and ESA's implementing regulations require Federal agencies to consult with the U.S. Fish and Wildlife Service (FWS) and/or the National Marine Fisheries Service to ensure that their actions are not likely to jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of critical habitat.

There are six federally listed species in Hidalgo County: ocelot (*Leopardus pardalis*), Gulf Coast jaguarundi (*Felis yagouaroundi*), northern aplomado falcon (*Falco femoralis septentrionalis*), and the plants South Texas ambrosia (*Ambrosia cheiranthifolia*), star cactus (*Astrophytum asterias*), and Texas ayenia (*Ayenia limitaris*). APHIS prepared a programmatic biological assessment (BA) for program activities in Cameron, Hidalgo, and Willacy Counties that was submitted to FWS in 2008 (updated yearly) and received a concurrence letter dated July 31, 2008. No new species have been federally listed in the program counties since that BA was submitted to FWS.

APHIS determined that program activities in Hidalgo County will have no effect on the ocelot, jaguarundi, and south Texas ambrosia. FWS concurred with APHIS' determination of "not likely to adversely affect" with the implementation of the protection measures shown in table 1 for the northern aplomado falcon, piping plover and Texas ayenia. APHIS will continue to coordinate with the local FWS office to determine

locations of listed species, and will implement protection measures, if necessary.

Table 1. Protection Measures for Potentially Affected Species and Habitat.

Northern Aplomado Falcon	Star Cactus	Texas Ayenia
Contact FWS pre-treatment for nest and habitat locations. Malathion bait spray—No ground applications within ¼-mile of a currently occupied nest. Applicators should watch for falcons in the area of application and not make any pesticide application until after falcons have left. Spinosad bait spray—No ground applications within ¼-mile of a currently occupied nest. Applicators should watch for falcons in the area of application and not make any pesticide application until after falcons have left. Within the buffer zones, only release of sterile Mexflies will be used.	Contact FWS pre-treatment for locations. For ground application of malathion and spinosad in crop areas, an 80-foot ground buffer from occupied species habitat will be used during the flowering period (March to June) if the application is made in early dawn (no later than one hour after sunrise) or early evening (6 p.m. or later). For applications made in crop areas outside the flowering period, applications may be applied beyond the 80-foot buffer zone at any time during the day. If malathion or spinosad bait treatments occur in potential habitat areas (non-crop, non-residential, etc.) ½-mile ground buffers from occupied species habitat will be used during the flowering period (March to June) if the application is made in early dawn (no later than one hour after sunrise) or early evening (6 p.m. or later). For applications made in crop areas outside the flowering period, applications may be applied beyond the 80-foot buffer zone at any time during the day. Sterile Mexflies can be released within buffer areas.	Contact FWS pre-treatment for locations. For ground application of malathion and spinosad in crop areas, an 80-foot buffer from occupied species habitat will be used during the flowering period (year round with rainfall) if the application is made in early dawn (no later than 1 hour after sunrise) or early evening (6 p.m. or later). For applications made in crop areas outside the flowering period, applications may be applied beyond the 80-foot buffer zone at any time during the day. If malathion or spinosad bait treatments occur in potential habitat areas (non-crop, non-residential, etc.) ½-mile ground buffers from occupied species habitat will be used during the flowering period if the application is made in early dawn (no later than 1 hour after sunrise) or early evening (6 p.m. or later). For applications made in crop areas outside the flowering period, applications may be applied beyond the 80-foot ground buffer zone at any time during the day. Sterile Mexflies can be released within buffer areas.

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. The half-life of diazinon in soil ranges from 1.5 to 10 weeks; in water, at neutral pH, from 8 to 9 days.

Methyl bromide volatilizes into air from soil and water and is known to contribute to stratospheric ozone depletion. The volatilization half-life for methyl bromide from surface water ranges from 3.1 hours to 5 days. The degradation half-life of methyl bromide in water ranges from 20 to 38 days, depending on temperature and pH. Volatilization of methyl bromide from surface soil is rapid, with a half-life ranging from 0.2 to 0.5 days. The degradation half-life of methyl bromide in soil ranges from 31 to 55 days. Methyl bromide has a low affinity to bind to soils but is not considered a major contaminant of groundwater (NPIC, 2000). The small quantities used to treat for Mexfly disperse when fumigation chambers are vented. (Refer to the EIS (USDA–APHIS, 2001) for a more detailed consideration of the pesticides' environmental fates.)

The alternatives were compared with respect to their potential to affect environmental quality. Risk to environmental quality is considered minimal. Again, a well-coordinated eradication program using IPM technologies would result in the least use of chemical pesticides overall, with minimal adverse impact on environmental quality. The no action alternative and the quarantine and commodity certification alternative would result in broader and more widespread use of pesticides by homeowners and commercial growers, with correspondingly greater potential for adverse impact.

The proposed program area was examined to identify characteristics that would tend to influence the effects of program operations. Potentially sensitive areas were identified, considered, and accommodated, as necessary, through special selection of control methods and use of specific mitigation measures. Allowances were made for the special site-

specific characteristics that would require a departure from the standard operating procedures. The approaches used to mitigate for adverse impacts to bodies of water are described in the EIS (USDA–APHIS, 2001).

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 southern Texas. As of March 19, 2012, there is one other Mexfly quarantine and control program in Texas, in neighboring Cameron County.

APHIS determined on March 16, 2012, that no significant environmental impact was likely to occur as a result of the Cameron County program (USDA–APHIS, 2012c). No cumulative effects on the environment are expected to occur from the addition of the McAllen program. There are no other eradication zones designated for Mexfly in the entire mainland United States.

However, one of the program pesticides, malathion, is also a prescribed treatment for the Texas cotton boll weevil eradication program; use of malathion in the Mexfly program should therefore be monitored and adjusted, where necessary, to minimize environmental impact. Other treatments for potentially overlapping eradication programs in southern Texas target different insect species, and do not affect the same nontarget organisms.

Additional eradication and quarantine programs affecting Hidalgo County at the time of preparation of this EA (TDA, 2012b) have been designed to target plant pests including, but not limited to—

- Asian citrus psyllid
- diaprepes root weevil
- red imported fire ant
- nematode, mite, beetle and moth pests, and
- insect vectors of disease

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 Hidalgo County 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. Agencies, Organizations, and Individuals Consulted

U.S. Department of Agriculture
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Invasive Species and Pest Management
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Riverdale, Maryland 20737–1234

U.S. Department of Agriculture
Animal and Plant Health Inspection Service
Policy and Program Development
Environmental Risk and Analysis Services
4700 River Road, Unit 149
Riverdale, Maryland 20737–1238

U.S. Fish and Wildlife Service
Ecological Services
c/o TAMU-CC, Campus Box 338
6300 Ocean Drive
Corpus Christi, Texas 78412

U.S. Fish and Wildlife Service
Lower Rio Grande Valley National Wildlife Refuge
Route 2, Box 202A
Alamo, Texas 78516

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Appendix A. Wildlife Refuges in the Vicinity of the McAllen Mexfly Quarantine