



United States  
Department  
of Agriculture

Marketing and  
Regulatory  
Programs

# **European Cherry Fruit Fly Cooperative Control Program**

**Greater Niagara Region,  
New York State**

**Environmental Assessment,  
April 2019**

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April 2019**

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# Table of Contents

I. Need for the Proposal.....	1
II. Alternatives .....	4
A. No Action.....	5
B. Cooperative Control Program (Preferred Alternative).....	7
III. Affected Environment.....	9
IV. Potential Environmental Consequences .....	12
A. Potential Impacts to Nontarget Sites and Species.....	13
1. Human Health .....	13
2. Nontarget Species.....	13
3. Other Aspects of the Human Environment.....	17
B. Potential Cumulative Impacts.....	20
V. Agencies Consulted .....	22
VI. References Cited .....	23
Appendix A. Greater Niagara ECFF Cooperative Control Program as of April 1, 2019	
Appendix B. External USDA APHIS Spatial Data Resources Used to Prepare this Document	

# I. Need for the Proposal

The European cherry fruit fly (ECFF), *Rhagoletis cerasi* (Linnaeus, 1758) [Diptera: Tephritidae], is a destructive agricultural pest of cherry fruit (*Prunus* spp.) and honeysuckle plants (*Lonicera* spp. L.) (Daniel and Grunder, 2012). It is a regulated plant pest in Canada and the United States (USDA APHIS, 2001; Molet, 2011). Based on a June 2016 confirmation of the presence of ECFF in Canada, about 80 miles outside of Niagara County, New York (IPPC, 2016), the U.S. Department of Agriculture's Animal and Plant Health Inspection Service (USDA APHIS) issued a Federal order in May 2017. This order restricted the importation of ECFF host material from Ontario, Canada, into the United States (USDA APHIS, 2017a). Official confirmation of ECFF incursion into the United States was made on September 7, 2017, from August 5 trap collections along the Niagara River. By October 24, there were 51 adult ECFF confirmed from 26 sites under surveillance (USDA APHIS, 2019).

Due to the univoltine biology of ECFF, the efficacy of the 1-year control program can only be evaluated in ensuing years. Federal, State, Tribal, and industry cooperators conducted surveys, as well as preventative buffer and control programs, during ECFF's next emergence in 2018 (USDA APHIS, 2018a, 2018b). According to survey data collected during these programs, there were 5,113 ECFF captured in 2018 from 643 locations in Niagara County (USDA APHIS, 2019, 2018c). Figure 1 shows the survey grid pattern and ECFF find sites. ECFF was detected on cherry, honeysuckle, barberry, and dogwood (J. Stewart, personal communication, 02/06/19(a)). At-risk host species in the United States include black cherries, chokecherry, common barberry, common dogwood, common snowberry, coralberry, holly barberry, honeysuckle, mahaleb cherries, sweet cherries, and tart/sour cherries (USDA APHIS, 2018d). Based on the observed rate of ECFF population expansion, the widespread presence of potential ECFF hosts, the univoltine biology of the fly, and the commercial cherry industry that could be impacted, USDA APHIS and the New York State Department of Agriculture and Markets (NYSDAM) identified the need for additional program activities in 2019, to reduce the risk of ECFF incursion into non-infested areas of the United States.

USDA APHIS and the NYSDAM propose the implementation of a cooperative control program to control the spread of ECFF, and to assist commercial cherry growers in the greater Niagara region. (For the purposes of this document, the "greater Niagara region" denotes Erie, Genesee, Niagara and Orleans Counties.) The proposed ECFF program for 2019 (hereinafter referred to as "this Program") would extend the control and preventative buffer activities commenced in 2018 into the greater Niagara region. Under emergency conditions, the analysis in this EA would allow this Program to expand into any additional ECFF-

affected areas in New York and adjacent States experiencing ECFF outbreaks.

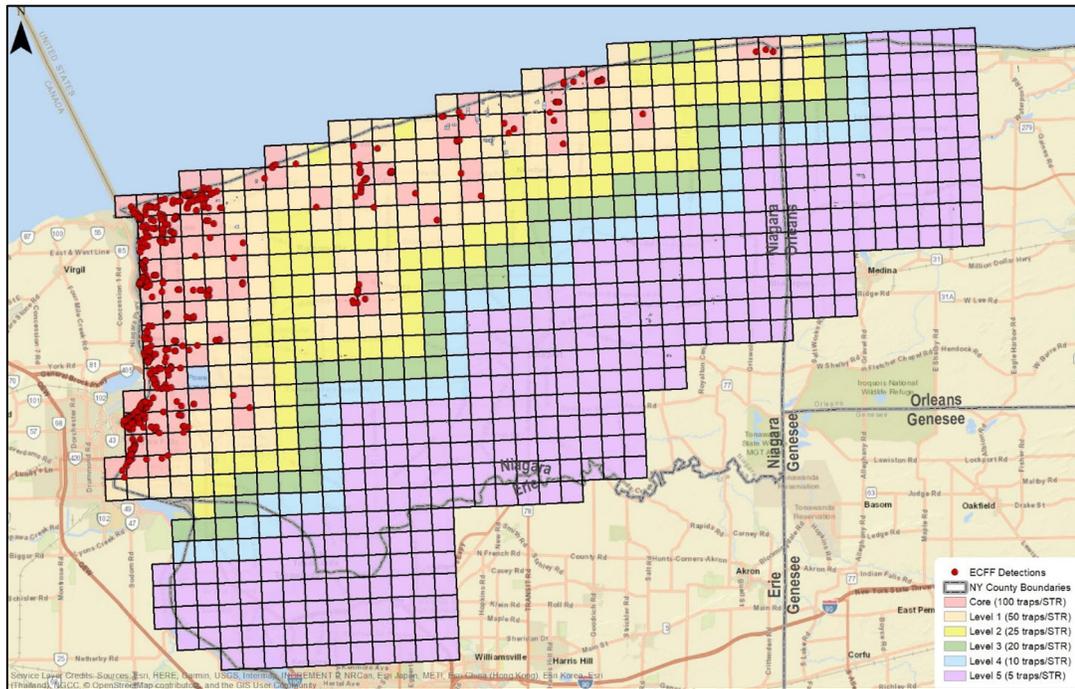


Figure 1. Potential 2019 New York ECFF Survey based on ECFF detected in 2018. (USDA APHIS, 2019)

USDA APHIS’ authority for pest control and grower support programs is the Plant Protection Act (Title 4 of the Agricultural Risk Protection Act of 2000, 7 United States Code (U.S.C.) §§ 7701–7786). Various sections authorize operations to control insect pests (§ 7714); conduct pest detection, surveillance (§ 7721), and inspections (§ 7731); compile information, conduct enforcement investigations (§ 7732), enter into agreements (§ 7752), transfer funds (§ 7772); and to use emergency measures to prevent the dissemination of plant pests new to, or not widely distributed throughout, the United States (§§ 7715, 7721). In particular, the Secretary of Agriculture may cooperate with State authorities or other persons in the administration of programs for the improvement of plants, plant products, and biological control organisms (§ 7751(d)). In connection with an emergency in which a plant pest or noxious weed threatens any segment of the agricultural production of the United States, the Secretary may transfer from other appropriations or funds amounts as the Secretary considers necessary to be available in the emergency for the arrest, control, eradication, and prevention of the spread of the plant pest or noxious weed and for related expenses (§ 7772(a)).

ECFF-host plant species occur naturally and are cultivated in the greater Niagara region, increasing the potential impact of ECFF incursion on the

environment and U.S. agriculture. ECFE host plants grow on public and private properties, including parks, nurseries, orchards, plant stock farms/dealer lands, and organic farms. There is transport of fruit from locations where ECFE hosts grow into commodity production and marketing pathways. All of these locations may have infested fruit or susceptible host plants. If infestation occurs, it is nearly impossible to sort or remove infested cherries prior to marketing. Consumers may or may not be able to notice larval holes in the surface of the fruit until after purchase. Consumers could dispose of infested fruit in compost piles where ECFE may survive as overwintering pupae, and emerge in the springtime to seek new hosts (USDA APHIS, 2017b). The presence of alternate hosts, such as honeysuckle, barberry and dogwood, in both developed communities and wilderness areas along the U.S.-Canada border is of concern to the U.S. cherry industry.

USDA APHIS and its cooperating partners discuss and comprehensively analyze alternatives for exotic fruit fly programs. USDA APHIS first evaluated the environmental impacts of fruit fly control technologies in the “Fruit Fly Cooperative Control Program, Final Environmental Impact Statement—2001” (EIS1) (USDA APHIS, 2001). USDA APHIS reexamined its findings and introduced an additional tool for programs in the “Use of Genetically Engineered Fruit Fly and Pink Bollworm in APHIS Plant Pest Control Programs, Final Environmental Impact Statement—2008” (EIS2) (USDA APHIS, 2008). Both EIS2 and EIS1 consider fruit fly risks and mitigations at the programmatic level for the Nation. This situation-specific environmental assessment (EA) incorporates the analyses in EIS2 and EIS1 by reference.

USDA APHIS analyzed potential environmental issues arising from last year's proposed program actions in two EAs, “European Cherry Fruit Fly Cooperative Control Program, Niagara Area, New York, Environmental Assessment—April 2018” and “European Cherry Fruit Fly Preventative Buffer Program, Niagara County, New York, Environmental Assessment—May 2018” (USDA APHIS, 2018a, 2018b); and reached a finding of no significant impact for both programs. This situation-specific EA for the 2019 ECFE program incorporates the analyses in those two EAs by reference. Treatments considered for the ECFE control and preventative programs were comprehensively analyzed in USDA APHIS’ fruit fly chemical risk assessments (USDA APHIS, 2018e, 2018f, 2015, 2014, 2003, 1999, 1998a, 1998b). These documents are incorporated by reference. Environmental documentation for USDA APHIS’ fruit fly control programs may be viewed online via the following links: [USDA APHIS fruit fly control program environmental documentation](#) and [USDA APHIS GE control applications for plant health](#).

The annual U.S. sweet cherry market value is about \$767 million, while the tart cherry crop is valued at \$106 million. The production value of sweet and tart cherry crops in New York was \$2.11 and \$1.43 million, respectively, in 2012 (USDA NASS, 2012). ECFF has the potential to infest 100 percent of cherry crops rendering the fruit unmarketable. Growers cannot sell infested cherries as fresh or processed fruit. Fruit must either be sold to distilleries at a financial loss, or disposed of as waste (Cornell CE, 2017). The European experience in ECFF control shows that, if left untreated, nearly 100 percent fruit damage can occur (Daniel and Grunder, 2012; AliNiazee and Long, 1996).

This Program would establish core areas for eradication treatment, a quarantine boundary, and a series of protective buffers to support cherry growers who wish to meet commodity certification requirements in order to send their crops to market. Delimitation trapping would be conducted to monitor ECFF population containment. The presence of ECFF in Niagara County, the potential for rapid expansion of ECFF in the greater Niagara region, and the risk of new ECFF introductions from Canada, are leading the States of Michigan, Ohio, Pennsylvania, and Vermont to plan surveys for the presence of ECFF (J. Stewart, personal communication, 01/30/19).

This EA complies with provisions of the National Environmental Policy Act of 1969, as amended (NEPA, 42 U.S.C. §§ 4321–4320m), the implementing regulations adopted by the Council on Environmental Quality (40 Code of Federal Regulations (CFR) parts 1500–1508), the Office of the Secretary of Agriculture’s NEPA regulations (7 CFR part 1b), and the NEPA implementing procedures specific to USDA APHIS (7 CFR part 372).

## **II. Alternatives**

Alternatives considered for the proposed program include (A) no action, and (B) a cooperative control program (the preferred alternative). Under both of these alternatives, ECFF exclusion, detection, and control methods would be as described in USDA APHIS’ previous EAs for ECFF management (USDA APHIS, 2018a, 2018b). The analysis in this document is substantively similar to those EAs, despite updated wording and site-specific considerations. Component methods for alternatives A and B were considered in EIS2 and EIS1 (USDA, 2008, 2001), and may include the use of regulatory controls, high-density trapping, host plant survey, and chemical pesticides to support the timely elimination of ECFF within New York State.

USDA APHIS considered and dismissed an alternative for the 2019 program where the ECFF pesticide control measures would change during

the year using an adaptive management approach. The ability to add other treatments for managing ECFF to those currently available increases program flexibility. However, added treatments must be EPA-registered or exempted for use on ECFF in the program area, and must pose no greater risk to human health and nontarget organisms than the risk posed by existing program treatments. At present, there are no new treatments registered or analyzed for potential risks.

Other alternatives considered and dismissed focused on deployment of certain control methods outside of the current ECFF protocol requirements. Such methods could include the use of aerial pesticide applications, host netting, and the sterile insect technique (SIT). These methods were dismissed because (a) to date, New York State has not approved these methods for use against ECFF, and (b) these methods would not help growers meet commodity certification requirements.

Consideration of two chemicals was eliminated based upon environmental concerns. Program use of malathion as an alternative bait spray was dismissed as likely to pose greater risks than the use of spinosad bait spray. The use of methyl bromide was dismissed because of this fumigant's potential to affect the properties and taste of the fruit. Also, there is no convenient facility where methyl bromide treatments could be applied to harvested fruit.

All pesticides considered for use in USDA APHIS programs are required to comply with the Federal Insecticide, Fungicide, and Rodenticide Act. To fulfill obligations under this statute, USDA APHIS ensures that a full pesticide registration (i.e., section 3 registration), a special local needs registration (i.e., section 24(c) registration) and/or an emergency quarantine exemption (i.e., section 18 exemption) are approved by the U.S. Environmental Protection Agency (EPA) for each pesticide use pattern in fruit fly program applications.

## **A. No Action**

Under the “no action” alternative, there would be no change in Federal action. USDA APHIS would continue cooperating with NYSDAM in ECFF exclusion, detection, and control. Efforts to eradicate and restrict expansion of ECFF from infested areas in New York State would adhere to the protocols established in 2018.

All component methods approved for the 2018 ECFF control program and preventative buffer program (PBP) (USDA APHIS, 2018a, 2018b) could be employed; they are summarized in table 1 and discussed further in chapter 2, section B, Preferred Alternative. NYSDAM would be wholly responsible for ECFF detection and control efforts in areas of New York

**Table 1. Potential Program Actions Under the Alternatives Considered for the 2019 ECFF Program in the Niagara Region.**

<b>Class of Action</b>	<b>No Action Alternative</b>	<b>Preferred Alternative</b>
	<p>“No action” for 2019 would involve the same Federal actions as those under the 2018 ECFF control and PBP programs. The 2019 program area would consist of Niagara County and a small portion of Erie County (Grand Island).</p>	<p>Program actions would be the same type as under “no action.” The program area could include portions of Erie, Genesee, Niagara, and Orleans Counties. Based on ECFF detections in 2018, the 2019 program would include survey, quarantine, and eradication actions; parts of the four counties could be zoned for preventative buffer actions.</p>
<b>Exclusion</b>		
ECFF host movement restriction	Potential program area: Western Niagara County and a small portion of Erie County, NY (i.e., the same boundaries defined for 2018)	Potential quarantine: Portions of Erie, Genesee, Niagara, and Orleans Counties, NY (with the option to expand into adjacent areas; expansion to other States on an emergency basis)
Host inspection and certification	Yes	Same as under no action
<b>Detection</b>		
Visual surveys	Of potential ECFF hosts within the quarantine, and in each preventative buffer	Same as under no action
Delimitation trapping	In prescribed densities that decrease the farther they are located outside the quarantine	Same as under no action
<b>Control</b>		
Physical control	<ul style="list-style-type: none"> <li>• Host removal</li> <li>• Ground litter removal</li> <li>• Mass trapping</li> <li>• Cold treatment of host commodities</li> </ul>	Same as under no action
Chemical control	<p>Ground-based host treatments for ECFF eradication, and for regulatory commodity movement</p> <ul style="list-style-type: none"> <li>• Spinosad bait spray as prescribed by EPA and New York State</li> <li>• Lambda cyhalothrin soil drench as prescribed by EPA and New York State</li> </ul>	Same as under no action

Sources: USDA APHIS, 2018a, 2018b; J. Stewart, personal communications, 02/06/19(b), 02/25/19

State outside the quarantine area and buffer zones defined in 2018. (For information on New York State's ECFF and other invasive plant pest programs, please use this link: [NYSDAM Division of Plant Industry](#).)

The size and growth of ECFF infestations in New York State depends on the proximity of suitable hosts, local weather conditions, site sensitivity (e.g., Tribal, ecological, historical, recreational), and the type and timing of control measures employed by USDA APHIS, NYSDAM, and other entities. Lack of cooperative and coordinated action is likely to lead to an ongoing infestation and establishment of ECFF, especially at sensitive sites that restrict trapping, fruit stripping, and eradication treatments. Expansion of the current infestation could lead to substantial economic losses for growers and associated businesses in the United States, as well as negative impacts to U.S. consumer and agricultural export markets.

Unchanged continuation of the 2018 ECFF Control and PBP programs would limit USDA APHIS' involvement to an area comprised of Niagara County and a small portion of Erie County. Based on the record of ECFF detections made throughout the 2018 season, USDA APHIS considers the no action alternative insufficient for long-term management of ECFF in the greater Niagara region.

## **B. Cooperative Control Program (Preferred Alternative)**

The component methods of the 2018 ECFF control program and the 2018 PBP program would be merged under the preferred alternative. Implementation of this alternative would be adjusted across the 2019 program area according to the number and type of ECFF detections. The preferred alternative offers a range of responses appropriate for ECFF quarantine or pre-quarantine situations. Implementation of this Program may be extended into 2020 based on need and the availability of Federal funding.

Preventative buffer actions associated with this Program can facilitate expansion of the ECFF quarantine boundary (should it become needed) while reducing the potential for economic hardship on growers and consumers. Such actions include delimitation trapping, host surveys, voluntary orchard treatment, and host certification in non-ECFF-infested areas of the proposed program area (USDA APHIS, 2018b). Under the quarantine, regulated commodities harvested within the quarantine area would be prohibited from moving outside the area unless they are treated and certified for movement. For a large infestation, intensive quarantine enforcement activities become necessary, including the safeguarding of local fruit stands, mandatory baggage inspection at airports, and judicious use of area survey and host movement restriction.

ECFF program actions paused in October 2018. The lack of late season detections reflects the univoltine habit of ECFF, and cannot be interpreted as eradication of the pest. USDA APHIS identified possible quarantine boundaries for the 2019 growing season; figure 2 shows the proposed minimum quarantine requirements. Once New York State quarantine boundaries are finalized, USDA APHIS will enact a parallel quarantine restricting interstate movement (USDA APHIS, 2019).

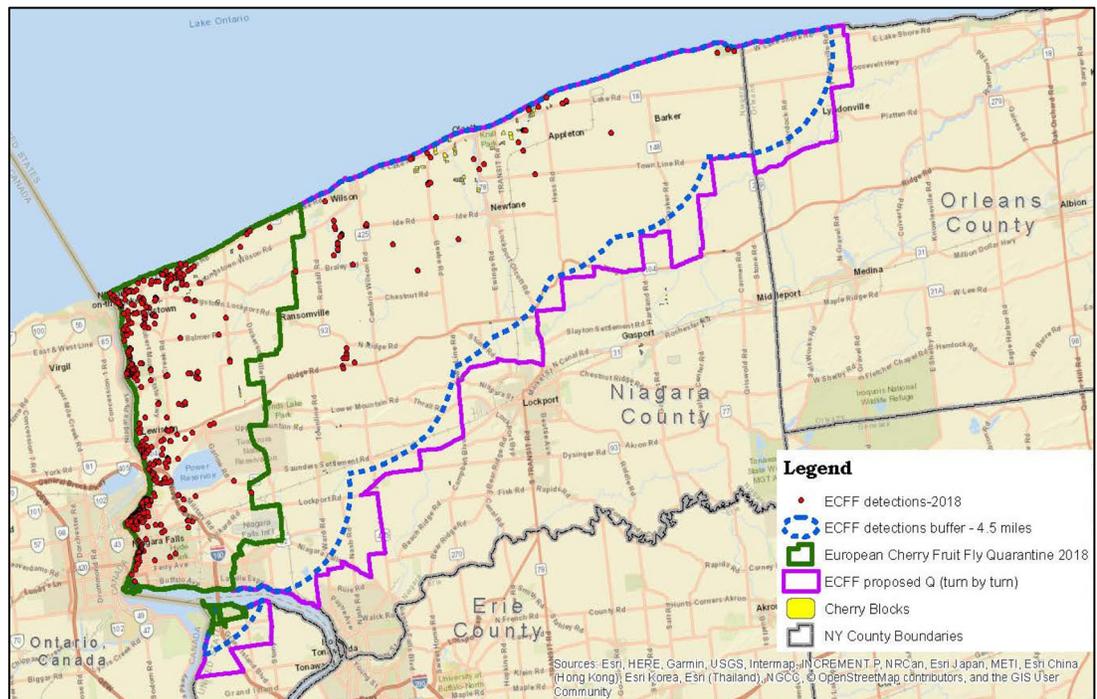


Figure 2. Minimum quarantine requirements proposed for 2019 ECFF Program. (USDA APHIS, 2019)

Plans for the 2019 program include trap placement at more than 9,000 sites. Some sites may prove to be untrappable. Trap placement is scheduled to begin mid-April to mid-May; priority will be given to host production areas. In addition to surveillance of potential host vegetation, surveys will be made along railroad lines and canals that may serve in the human-mediated transport of a host (USDA APHIS, 2019). If ECFF detections occur outside existing quarantine boundaries, this Program will employ the integrated pest management (IPM) strategy established in 2018 (USDA APHIS, 2018a) which involves host survey and fruit stripping, movement restrictions, commodity certification, mass fly trapping, and a variety of eradication treatments. USDA APHIS may, in cooperation with State agencies, undertake some targeted host removal of invasive *Lonicera* spp. or other invasive ECFF-host species. Treatment options for the pre-quarantine and full quarantine scenarios were selected for biological effectiveness, minimal intrusion on the public, cost, and minimal impacts to the environment.

Chemical treatments approved for this Program consist of ground-based foliar bait sprays, baited fly traps, and soil drenches. These treatments are indicated due to the confirmed ECFF incursions, and are outlined in table 2. (For further information on program chemicals refer to USDA APHIS, 2018a, 2018b, 2017b.)

Like other USDA APHIS programs for exotic fruit fly infestations in the United States, this Program would employ established procedures and treatments to address a critical life stage of ECFF. Participation in this Program does not preclude other actions by growers to manage pests in their orchards.

### **III. Affected Environment**

Cherry-producing regions in the State of New York include the counties of Chautauqua, Monroe, Niagara, Orleans, Schuyler, Ulster, and Wayne (Harrington and Good, 2000). The potentially affected environment under the proposed “no action” alternative would remain within Niagara County, and a small portion of Erie County. Under the preferred alternative, the potentially affected environment includes Erie, Genesee, Niagara, and Orleans Counties (collectively, “the greater Niagara region”). Table 3 contains a brief overview of these four counties.

Surveys for ECFF could occur throughout the greater Niagara region. Trapping for ECFF would occur in a range of prescribed densities within the program area; the program’s foliar bait sprays and soil drenches would be centered on ECFF detections, and restricted to pre-approved sites. (See map of the program area proposed for 2019 is in appendix A.) Federal actions would be limited to the greater Niagara region unless ECFF incursions warrant emergency program expansion into additional areas of New York or the United States.

Under the preferred alternative, activity would occur on public and private lands on an as-needed basis. This proposed Program would extend into federally or State-protected historical sites, wilderness, and Tribal lands on a site-specific basis only after appropriate consultation and agreement on the extent of activities. Each site may have a variety of soil types, geographical features, water drainage issues, air movement patterns, and air quality concerns. Commercial cherry growers have experience at managing their orchards, and know the history of cultivation, pesticide use, and age and phenology of their trees. This knowledge base will allow NYSDAM and New York growers to select the best practices for deployment of the program certification pesticide application in commercial cherry orchards. Managers of Tribal lands, registered historic sites, public lands, and private holdings will be invited to share similar information should ECFF program actions be needed on their lands.

**Table 2. Chemical Treatments for the Greater Niagara ECFF Program.**

Type of Treatment	Formulation	Application
<p>Targeted foliar bait spray.</p> <p>Chemical application to plant foliage that is made as soon as monitoring traps indicate ECFF are present.</p>	<p>Active ingredient: spinosad (0.02%). Other ingredients (99.98%) include water, sugars, plant proteins and extracts. Spinosad has been registered for use in pesticides by EPA since 1997.</p> <p>Preparation: Dilute with water just before use and according to pest pressure at treatment site.</p> <p>Rate: Maximum 21 fl oz of the solution per tree; solution application may not exceed 2,300 fl oz per acre. Repeat application recommended every 7–14 days, but may be as often as every 1–2 days if program monitoring indicates a need for more applications.</p>	<p>For eradication/suppression of Tephritidae including ECFF. Use as prescribed by EPA and only with the supervision of Federal/State cooperative program officials.</p> <p>Before treatment notify the public and all beekeepers operating hives in the treatment area.</p> <p>Aerial application is prohibited. Direct spray to undersides of leaves inside foliage canopy to reduce direct exposure to sun and rain and overhead irrigation.</p>
<p>Fruit fly trap.</p> <p>Polycon dispenser attached to yellow sticky card for surveillance trapping.</p>	<p>Inert ingredients: Protein food bait in the adhesive layer on the card; ammonium acetate, a synthetic pheromone.</p> <p>Preparation: Attach dispenser to card.</p> <p>Rate: Trapping density decreases as distance from ECFF detection increases. Replace dispensers every 14 days.</p>	<p>Added to enhance attractiveness of traps used to monitor ECFF. Use as prescribed by Federal/State cooperative program officials.</p> <p>Place traps and dispensers only on or near cherry trees and <i>Lonicera</i> spp. (the significant ECFF hosts).</p>
<p>Soil drench.</p> <p>Chemical application to soil under the dripline of fruit-bearing hosts.</p>	<p>Active ingredient: lambda cyhalothrin, a pyrethroid (22.8%). Other ingredients (77.2%) undisclosed. Registered by EPA in 2018 for restricted use on ECFF within New York State.</p> <p>Preparation: Dilute with water before use; no time restrictions on when solution must be used. Prepare only amount needed for use.</p> <p>Rate: A single maximum rate of 0.0092 lbs active ingredient per 1,000 sq ft of soil surface.</p>	<p>Use only with direct supervision of Federal/State cooperative program officials. For eradication/suppression of Tephritidae larvae dropping to the ground, pupae emerging from the soil, and adult fruit flies.</p> <p>Before treatment: notify public; remove fruit from host plants in treatment area and destroy. Isolate treated ground and monitor for safe re-entry.</p> <p>Keep solution out of sewers, drains, water bodies and aquatic habitat. Treat hosts growing within 200 meters of ECFF larval and/or adult female detection. Extend treatment up to 400-meter radius depending on hosts, terrain, pest risk, and other factors. Use as a regulatory treatment for soil around nursery stock, to allow the stock to move outside ECFF quarantine.</p>

Sources: Dow AgroSciences, 2018; Syngenta, 2018; USDA APHIS, 2018f, 2017b; CERIS, 2016; NPIC, 2014, 2001; US EPA, 2011, 2004a.

**Table 3. New York Counties in the Greater Niagara ECFE Program.**

Location	Description
Erie County	<ul style="list-style-type: none"> <li>• Erie County is a metropolitan center located on the western border of New York State. It is bounded by Lake Erie to the west, Niagara County and Canada to the north, Genesee County and Wyoming County to the east, and Cattaraugus and Chautauqua Counties to the south.</li> <li>• The county covers 1,058 sq mi, and consists of 3 cities and 25 town governments. Residents numbered almost 1 million in 2012.</li> <li>• The county seat is Buffalo.</li> <li>• There are 2 Indian reservations (Cattaraugus and Tonawanda), as well as many State parks and protected areas.</li> <li>• Erie County is a major New York industrial and commercial center. It is home to more than a dozen colleges and universities.</li> </ul>
Genesee County	<ul style="list-style-type: none"> <li>• Genesee County is located midway between the cities of Buffalo and Rochester. The county is bounded on the west by Erie and Niagara Counties, on the north by Monroe and Orleans Counties, on the east by Livingston and Monroe Counties, and by Wyoming County to the south.</li> <li>• The county occupies an area of 495 sq mi, and reported almost 60,000 residents in 2012.</li> <li>• The county seat is Batavia.</li> <li>• There is one Indian reservation (Tonawanda). The county also contains many State parks and part of the Iroquois National Wildlife Refuge.</li> <li>• The Darien Lake Theme &amp; Waterpark Resort is a major employer of Genesee County.</li> </ul>
Niagara County	<ul style="list-style-type: none"> <li>• Niagara County is located in the northwest corner of New York State. Lake Ontario lies on the county's northern border, and the Niagara River and Canada on its western border. Orleans and Genesee Counties border it to the east, and Erie County borders it to the south.</li> <li>• The county covers 1,140 sq mi; its resident population totaled more than 215,100 in 2012.</li> <li>• The county seat is Lockport.</li> <li>• There are 2 Indian reservations in the county: Tuscarora and Tonawanda. In addition to its many State parks, the county is known for its primary geographic feature, Niagara Falls.</li> <li>• Key industries include tourism, agriculture, and wine.</li> </ul>
Orleans County	<ul style="list-style-type: none"> <li>• Orleans County is bounded by Niagara County to the west, Lake Ontario to the north, Monroe County to the east, and Genesee County to the south.</li> <li>• The county occupies 817 sq mi, and reported a population nearing 43,000 in 2010.</li> <li>• Albion is the county seat.</li> <li>• The Erie Canal passes through the middle of the county. There are many parks, as well as part of the Iroquois National Wildlife Refuge.</li> <li>• Main industries include competitive sports fishing, agriculture, manufacturing, and commerce.</li> </ul>

Source: State of New York, 2018

## **IV. Potential Environmental Consequences**

The potential environmental consequences associated with the proposed “no action” alternative were analyzed in the 2018 ECFF control program EA (USDA APHIS, 2018a), and remain unchanged. The Program’s quarantine actions reduce human-mediated transport of ECFF in host commodities and host plant materials to areas outside the quarantine boundary. Program treatments are intended to control and ultimately eradicate ECFF within the quarantine.

The considerations for potential cumulative impacts under the 2018 ECFF control program and 2018 ECFF PBP apply to the no action alternative examined in this document, and are incorporated by reference (USDA APHIS, 2018a, 2018b). Land and water features in the program area, established in 2018, are not expected to experience adverse impacts due to ECFF control and preventative buffer actions, based on the relatively small scale of program actions in comparison to that area’s land and water features.

The types of environmental consequences resulting from implementation of the preferred alternative in the greater Niagara region during 2019 are expected to be similar to the types of potential consequences documented for the 2018 ECFF cooperative control program (USDA APHIS, 2018a). Adverse environmental impacts are not likely to occur in the greater Niagara region, based on program actions being carried out as proposed with chemical treatments adhering to EPA label requirements. Although activities during 2019 may occur at more locations (based on ECFF dissemination), the intensity of potential impacts at any specific location would not change. At the present time, conducting the Program over this larger geographical area is likely to lead to more effective ECFF containment, and potentially the eradication of ECFF in New York State. This would benefit both ECFF-host species growth and plant growers in the United States.

Direct and indirect consequences from the release of pesticides into the environment are likely to be negligible, based on the proper adherence by personnel to EPA label precautions and this Program’s operating procedures. Traps in this Program would employ pheromone lures and food baits, which are unlikely to adversely affect human health or the environment, based on the amounts used and methods of delivery (USDA APHIS, 2018f; EPA, 2015, 2004a, 2004b). Trapping and surveillance activities will be coordinated with railroad and canal operations in the program area so as not to affect their primary functions. Direct environmental consequences associated with the use of this Program’s

foliar sprays and soil drenches would be short-term and limited to application sites on private lands. Chemical drift is not expected to impact the environment because of the prescribed use of targeted delivery systems.

## **A. Potential Impacts to Nontarget Sites and Species**

The principal concern for the health of humans and other nontarget species arises from program use of chemical insecticides in foliar sprays and soil drenches. Health risks are associated with chemical toxicity and the potential for exposure. These factors are influenced by the environmental fate and use patterns for each particular insecticide.

### **1. Human Health**

The analyses and data of EIS2 and EIS1 and the associated human health risk assessments (USDA APHIS, 2018e, 2018f, 2015, 2014, 2008, 2001, 1999, 1998a) indicate exposures to pesticides from normal ECFF program operations are not likely to result in substantial adverse human health effects.

### **2. Nontarget Species**

The principal concerns for nontarget species, including threatened and endangered species, relate to the potential for harm from the use of program pesticides to control ECFF populations. Paralleling human health risk, the risk to other nontarget species is related to the fate of the pesticides in the environment, their toxicity, and exposure to the nontarget species. USDA APHIS' fruit fly programs are designed to prevent the introduction of program chemicals into nontarget areas.

All of the program pesticides are highly toxic to invertebrates, even though the likelihood of exposure (and any ensuing impacts) varies among the pesticides, and with the specified use pattern (USDA APHIS, 2018f, 2015, 2014, 2003). In general, a well-coordinated ECFF control program using IPM technologies would result in the least overall use of chemical pesticides, with minimal adverse impacts to nontarget species. The no action alternative is less likely to be effective at eliminating ECFF, and would be expected to result in broader and more widespread use of pesticides by homeowners and commercial growers, with a correspondingly greater potential for adverse impacts.

Trap placement and chemical applications may be rescheduled if strong winds and rain storms are forecast for the program area. Site inspections will continue to ensure existing program treatments are not likely to affect nontarget organisms. The destruction or relocation of traps and treatments, due to weather events, is unlikely to result in adverse impacts to animal species and their habitats, as the potential toxicity should be greatly reduced by dilution of the program materials in water and air.

The control program will apply a targeted foliar bait treatment using ground-based equipment where there are ECFE detections. Treatment of host and/or non-host plants within approximately a 200-meter radius of ECFE find sites occurs with a highly localized spray consisting of an organic formulation of the pesticide spinosad combined with a bait. The protein hydrolysate bait alone minimally impacts environmental quality and nontarget species because of its low toxicity and rapid degradation in the environment (EPA, 2004b). The small amount of bait used in traps is not expected to displace or supplement natural food sources for nontarget species. Ammonium acetate is not expected to be toxic to aquatic organisms, terrestrial mammals, or birds (EPA, 2015).

The pesticide spinosad has low to moderate toxicity to wild mammals and birds. Spinosad toxicity to fish is moderate, while aquatic invertebrates are more sensitive in acute and chronic exposures. Toxicity to terrestrial invertebrates is variable; spinosad is considered highly toxic to honey bees. However, bait spray applications are not attractive to pollinators and are only applied to host plants (not in flower); adverse exposures to honey bees and other pollinators are not expected from ECFE program spinosad applications. Risks to nontarget fish and wildlife, including beneficial insect species, are anticipated to be negligible based on the proposed use pattern that would result in a low potential for exposure to most taxa. A favorable environmental fate profile and low toxicity to most nontarget organisms further reduces the risk to terrestrial and aquatic animals (USDA APHIS, 2014).

Lambda cyhalothrin has low to moderate toxicity to terrestrial wildlife, such as birds and mammals (USDA APHIS, 2015). Lambda cyhalothrin is highly toxic to most terrestrial invertebrates, including pollinators. Soil drench applications could only affect pollinator species attracted to flowers underneath the canopy of ECFE host plants (most likely, very few flowering plants would be found there). Also, the method of application to soil at the drip line of select host trees within approximately a 200-meter radius of an ECFE detection minimizes the impacts to sensitive terrestrial invertebrates that may consume treated plant material, or occur in soil at the application site (USDA APHIS, 2015). The low frequency and method of these applications suggest that any impacts to sensitive terrestrial invertebrates would be localized to the treatment area, and would be transient (USDA APHIS, 2015).

The Migratory Bird Treaty Act of 1918 (16 U.S.C. §§ 703–712) established a Federal prohibition, unless permitted by regulations, to pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatever, receive

for shipment, transportation or carriage, or export, at any time, or in any manner, any migratory bird or any part, nest, or egg of any such bird.

Executive Order (EO) 13186, “Responsibilities of Federal Agencies to Protect Migratory Birds,” directs Federal agencies taking actions with a measurable negative effect on migratory bird populations to develop and implement a memorandum of understanding (MOU) with the U.S. Fish and Wildlife Service (FWS) which promotes the conservation of migratory bird populations. On August 2, 2012, USDA APHIS and FWS signed an MOU to facilitate the implementation of this EO.

The greater Niagara region is part of the Atlantic Flyway, an important migration corridor providing suitable habitat for many bird species (FWS, 2018). Table 4 lists migratory birds of conservation concern within the proposed program area. Birds of conservation concern are bird species, subspecies, and populations of migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under the Endangered Species Act.

**Table 4. Migratory Birds of Conservation Concern in the Greater Niagara Region, NY.\***

<b>Common Name</b>	<b>Scientific Name</b>	<b>Season Present in Program Area</b>
American bittern	<i>Botaurus lentiginosus</i> (Rackett)	Breeding
Black tern	<i>Chlidonias niger</i> (L.)	Breeding
Black-crowned night heron	<i>Nycticorax nycticorax</i> (L.)	Breeding
Blue-winged warbler	<i>Setophaga (Vermivora) pinus</i> L.	Breeding
Canada warbler	<i>Cardellina (Wilsonia) canadensis</i> (L.)	Breeding
Cerulean warbler	<i>Setophaga (Dendroica) cerulea</i> (A. Wilson)	Breeding
Common tern	<i>Sterna hirundo</i> L.	Breeding
Golden-winged warbler	<i>Vermivora chrysoptera</i> (L.)	Breeding
Least bittern	<i>Ixobrychus exilis</i> (Gmelin)	Breeding
Olive-sided flycatcher	<i>Contopus cooperi</i> (Nuttall)	Breeding
Peregrine falcon	<i>Falco peregrinus</i> Tunstall	Breeding
Pied-billed grebe	<i>Podilymbus podiceps</i> (L.)	Breeding

Common Name	Scientific Name	Season Present in Program Area
Red-headed woodpecker	<i>Melanerpes erythrocephalus</i> (L.)	Breeding
Short-eared owl	<i>Asio flammeus</i> (Pontoppidan)	Wintering
Upland sandpiper	<i>Bartramia longicauda</i> (Bechstein)	Breeding
Willow flycatcher	<i>Empidonax traillii</i> (Audubon)	Breeding
Wood thrush	<i>Hylocichla mustelina</i> (Gmelin)	Breeding

\* Based on Table 11 for Bird Conservation Region 13 (Lower Great Lakes / St. Lawrence Plain, U.S. portion only, in the Birds of Conservation Concern 2008 list.)  
Sources: Appendix B; FWS, 2008.

USDA APHIS evaluated the potential for impact on migratory bird species. Implementation of the preferred alternative is not expected to have any adverse effect on migratory birds or their flight corridors. The proposed program would not remove or disturb trees, shrubs, or other vegetation typically used by birds for food, habitat, or forage. The targeted nature of the program treatment applications preclude direct bird exposure to most program chemicals. Indirect exposure and cumulative impacts to birds are highly unlikely because of the low potential for dietary consumption of invertebrates containing lethal doses of the insecticides. Lambda cyhalothrin is not translocated to seeds or leaves likely to be consumed by birds.

Section 7 of the Endangered Species Act (ESA) and ESA's implementing regulations require Federal agencies to consult with FWS and/or the National Marine Fisheries Service to ensure that their 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.

In the greater Niagara region of New York (Erie, Genessee, Niagara, and Orleans Counties), there are four federally listed species: northern long-eared bat (*Myotis septentrionalis*), bog turtle (*Clemmys muhlenbergii*), eastern massasauga (*Sistrurus catenatus*), and Houghton's goldenrod (*Solidago houghtonii*) (FWS, 2019). No critical habitat occurs within the program area. USDA APHIS determined that this proposed Program will have no effect on northern long-eared bat, Houghton's goldenrod, bog turtle, or eastern massasauga.

USDA APHIS prepared and submitted a biological assessment (BA) to FWS on March 18, 2019; it is part of the administrative record for this EA.

After review of the BA, as well as additional information, FWS indicated that a “no effect” determination was appropriate for the four species (N. Brayman, personal communication, 4/12/19). USDA APHIS revised the BA on April 15, 2019 to reflect this determination; it is also part of the administrative record for this EA. Should the program area expand or further outbreaks be detected, USDA APHIS will reinstate consultation with FWS, as necessary.

### **3. Other Aspects of the Human Environment**

The National Historic Preservation Act of 1966, as amended (16 U.S.C. §§ 470 et seq.), requires Federal agencies to consider the impact of their proposed actions on properties included in, or eligible for inclusion in, the National Register of Historic Places (36 C.F.R. §§ 63 and 800). USDA APHIS restricts program treatments and activities to an as-needed basis, and modifies normal program activities at historically significant locations to reduce pesticide release, if necessary.

During 2018 consultations with both the New York State Office of Parks, Recreation and Historic Preservation and the New York State Historic Preservation Office (also known as New York State Parks, Recreation and Historic Preservation’s Division for Historic Preservation), these entities concurred with USDA APHIS on the lack of potential for impact to historic facilities. USDA APHIS submitted a project description on March 26, 2018; a second description for the expanded greater Niagara region was accepted by these New York offices on March 5, 2019.

Historic places in Erie County include 15 open or reopened sites; 218 are identified as closed. Genesee County identifies 2 sites as open and 21 as closed. Orleans County identifies one site as open and 28 as closed (Anon., 2019). The historic places identified in 2018 for Niagara County are unchanged (Anon., 2019; USDA APHIS, 2018).

Many of the open locations consist of buildings with landscaping, while some are associated with publically managed lands (Anon., 2019). In Erie County, the open historic listed sites include: Eden Mills Conservation Area, St. Mary of Sorrows Roman Catholic Church, Erie County Prospect Hill Historic District, New York Central Black Rock Freight House, North Park Branch Library, Fiddlers Green Historic District, Ingleside Home, Westminster House Club House, Buffalo General Electric Company Complex, Faith Mission Baptist Church, Colored Musicians Club, Buffalo Public Schools #57 and #44, and Chandler Street Industrial Buildings. In Genesee County, there is the First Presbyterian Church of Le Roy and the Le Roy Downtown Historic District. Open historic places may use landscaping as part of the area's viewshed (Anon., 2019).

The New York State Barge Canal Historic District (an open site) flows through both Erie and Orleans Counties. The Erie Canal segment forms a

direct, contiguous route for ECFF dissemination from Tonawanda, through Lockport, to Rochester and beyond, with a combination of landscaped and wilderness vegetation. Canal preservation focuses on historical and recreational purposes with limited transport of goods, therefore, surveys for potential ECFF-host plants would include this corridor. Survey traps would not affect or interfere with normal uses of the Erie Canal areas, and are unlikely to be observed by recreational users of the properties. If non-cultivated plants in these areas become infested with ECFF, USDA APHIS would experience challenges associated with survey and control activities. The consequences of this could include failure of the ECFF program, and establishment of ECFF in the remainder of the United States.

Program actions will not disturb historic places because there will be no application of pesticides to buildings, and the application methodologies minimize the potential for drift. USDA APHIS will discreetly integrate control activities into the site, and apply soil treatments that do not disrupt the viewshed or create fugitive dust. All Program treatments are targeted to landscape plants, and do not alter, change (restore or rehabilitate), modify, relocate, abandon, or destroy any historic buildings, edifices, or nearby infrastructure. If USDA APHIS discovers any archaeological resources, it will notify the appropriate individuals.

Federal agencies identify and address the disproportionately high and adverse human health or environmental effects of proposed activities, as described in EO 12898, “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations.” USDA APHIS engages locally impacted people in collaborative decisions on fruit fly trap placement, whenever possible, and considers the potential environmental impacts of implementing the action alternatives on minority and/or low-income communities, Tribal interactions, and historical and culturally sensitive sites in the program area.

Using 2010 U.S. Census Bureau data (USCB, 2018), county populations in the greater Niagara region reporting their race as Hispanic, Black, or Asian are substantially lower than the percentages of these minorities throughout the State of New York. Using 2013–2017 U.S. Census Bureau estimates, fewer than 10 percent of the population reported they spoke a language other than English at home. The percentage of high school graduates is at or slightly greater than the percentage of high school graduates in the State. In each county, the average value of houses is about one-third of the average value of houses in the State, while the number of persons per house is only slightly lower than in the State, at 2.4 versus 2.6 persons per house. In the greater Niagara region, the median income ranges around \$10,000 less per year than in the State as a whole, but only about \$5,000 per year less than the national average

(USCB, 2019, 2018). The percent poverty ranges from 10.5 in Genesee to 15.2 percent in Orleans County (USCB, 2018). This data suggests the greater Niagara region consists of a relatively poor, rural area with less diversity than the State. Failure to implement the preferred alternative is likely to have “disproportionately high and adverse” health and environmental impacts (EO 12898) on the rural population in these counties.

Residents of cities within the greater Niagara region are likely to pass through areas where fruit fly treatments occur without noticing the traps. Program workers will inspect produce at farmer’s markets; infested fruit may be confiscated and destroyed. Confiscation of infested fruit at farmer’s markets may be the only interaction between the public and program personnel carrying out program activities. USDA APHIS does not anticipate needing to provide advance notice of program activities and potential exposure hazards in other languages to meet the needs of the population in the greater Niagara region.

Federal agencies consider the needs of children to comply with EO 13045, “Protection of Children from Environmental Health Risks and Safety Risks.” The proposed Program does not pose any disproportionately high adverse effects to children because they are unlikely to be present when program workers apply treatments or maintain bait traps, and there is negligible exposure to pesticides once they are applied. The design of the traps allows placement beyond the reach of children, even though children are intermittently present at shelters, playgrounds, parks and picnic areas, religious centers, public/private campgrounds and trailer parks, athletic fields, bus depots, and outdoor community facilities where the program may place bait traps.

The number of schools within the quarantine areas and treatment zones will vary over time but, where possible, USDA APHIS will not apply control treatments on school property. USDA APHIS will maintain traps and apply any pesticide applications only when children are not present in the immediate area. When pesticide applications are essential, USDA APHIS uses either a bait trap or backpack sprayer. Any exposure of children to applied products is negligible based on the program’s application methods and the product formulations.

In the State of New York's 62 counties, there are more than 4,500 schools serving about 5,586,500 students. In the greater Niagara region, about 460 schools serve approximately 215,750 students.<sup>1</sup> In essence, 10 percent of the schools in the greater Niagara region serve about four

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<sup>1</sup> In Erie County there are 224 public and 114 private schools serving roughly 160,700 (137,000 + 23,700) students. In Niagara County, 59 public and 22 private schools serve about 36,700 (33,400 + 3,300) students. In Genesee and Orleans Counties, there are 21 and 14 public schools, and 6 and 1 private schools, serving roughly 10,700 (9,800 + 900) and 7640 (7,600 + 40) students, respectively.

percent of the student population in the State. From this data, USDA APHIS infers the rural nature of the school districts. This does not account for the more than 95 charter schools operating in New York State that serve more than 30,000 students (New York Schools, 2019).

EO 13175, “Consultation and Coordination with Indian Tribal Governments,” calls for agency communication and collaboration with Tribal officials when proposed Federal actions have the potential for Tribal implications. The Archaeological Resources Protection Act of 1979 (16 U.S.C. §§ 470aa-mm) secures the protection of archaeological resources and sites on public and Tribal lands. USDA APHIS determined there are four Tribal entities with land interests in the greater Niagara region (see appendix B for data source). The proposed action will not involve treatments that excavate soil or create fugitive dust, so program activities are unlikely to affect Native American artifacts. To the extent that treatments may occur on land where there are Tribal interests, USDA APHIS will contact representatives from the identified Tribes (Seneca Nation of Indians, Tonawanda Band of Seneca Indians, and Seneca-Cayuga Tribe of Oklahoma) to ensure adequate notification and consultation in a timely manner. USDA APHIS is already working closely with the Tuscarora Nation. The Program will not apply pesticides on public lands or where there are Tribal interests not represented by the participating cherry grower.

USDA APHIS considered the potential environmental impacts of implementing the alternatives listed in chapter 2 on minority and/or low-income communities, Tribal interactions, and historical and culturally sensitive sites in the program area. A lack of Federal action could result in adverse economic and health impacts on the affected producers and consumers, such as decreased harvests, higher consumer prices, loss of local employment, loss of market share, loss of property, reduced nutritional options, compromised mental and physical health, and so on. These indirect impacts may occur to a lesser extent under the quarantine and commodity certification alternative. USDA APHIS does not anticipate these types of adverse effects as a result of carrying out the preferred alternative’s surveillance activities, trapping, and program chemical applications. On a case-by-case basis, USDA APHIS accommodates special needs through the selection of specific control methods, or by modifying program operations. This minimizes the potential for impacts to those communities, locations, sensitive areas, or individuals.

## **B. Potential Cumulative Impacts**

In terms of Federal and State program activities in the greater Niagara region, there are no significant cumulative impacts anticipated as a

consequence of implementing the preferred alternative. Program use of spinosad foliar applications and lambda cyhalothrin soil drenches would be scheduled to avoid overlapping treatment, which reduces the potential for nontarget exposure as pesticide residues degrade. The use of spinosad and lambda cyhalothrin as prescribed for this Program is not expected to result in cumulative impacts to the human environment. Reasonably foreseeable occurrences were identified that could result in incremental increases in effects on the human environment (see table 5), however, it is uncertain how much impact such occurrences might have or the timeframes that may be associated with these events.

**Table 5. Future Occurrences and Their Potential Impacts.**

<b>Reasonably Foreseeable Occurrences</b>	<b>Potential Impacts of Unknown Degree</b>
Continued pesticide use in the program area	Increased pesticide resistance of target organisms in that area
Additional treatment areas and quarantines	Increased socio-economic disruption
Establishment of ECFE on wild hosts	Control becomes impractical; local ecosystems and agriculture altered by ongoing ECFE presence

If the ECFE infestation expands, additional actions may be implemented by USDA APHIS and NYSDAM, including additional quarantines and regulated treatments. Based on USDA APHIS’ review of the context and intensity of the existing, ongoing, and potential future ECFE cooperative control program treatments, there will be no cumulative impacts to the human environment resulting from proper implementation of the preferred alternative. ECFE program chemical treatments are considered to pose minimal risk to the human environment, as determined in EIS2 and EIS1 (USDA APHIS, 2008, 2001), and the nontarget species and human health risk assessments (USDA APHIS, 2018e, 2018f, 2015, 2014, 2003, 1999, 1998a, 1998b).

## **V. Agencies Consulted**

New York State  
Department of Agriculture and Markets  
Division of Plant Industry  
10B Airline Drive  
Albany, NY 12235

New York State  
Office of Parks, Recreation and Historic  
Preservation  
Albany, NY 12238

U.S. Department of Agriculture  
Animal and Plant Health Inspection Service  
Plant Protection and Quarantine  
Plant Health Programs–Pest Management  
4700 River Road, Unit 26  
Riverdale, MD 20737

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, MD 20737

U.S. Fish and Wildlife Service  
New York Ecological Services Field Office  
3817 Luker Road  
Cortland, NY 13045

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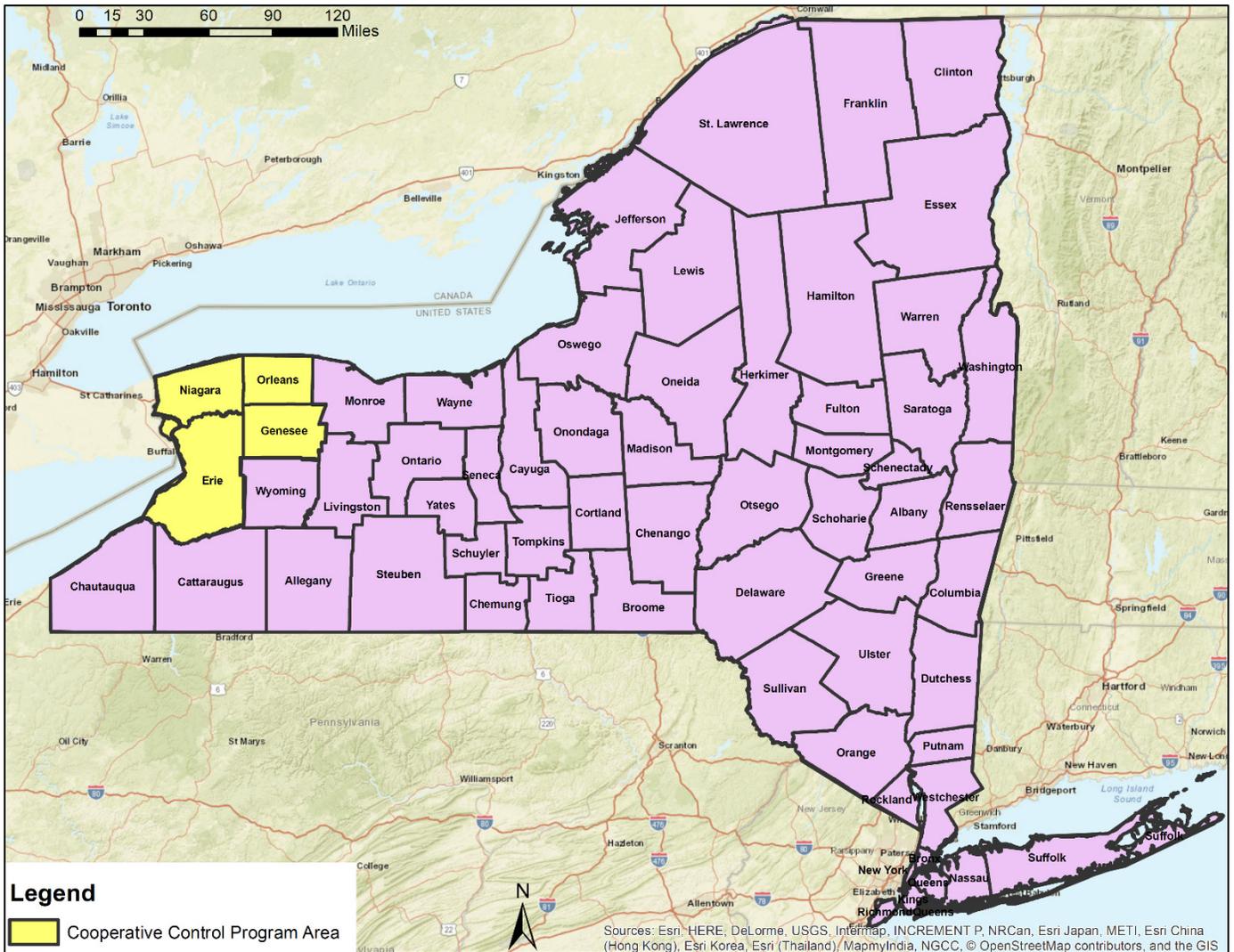
US EPA—See U.S. Environmental Protection Agency

USCB—See U.S. Census Bureau

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

USDA NASS—See U.S. Department of Agriculture, National Agricultural Statistics Service

# Appendix A. Greater Niagara ECFF Cooperative Control Program as of April 1, 2019



Map of New York State identifying counties in the proposed ECFF program area.  
 (Source: USDA APHIS)

## Appendix B. External USDA APHIS Spatial Data Resources Used to Prepare this Document

*USDA APHIS accessed the following websites on 12/15/2018.*

### Web-Based Mapping Application for Environmental Assessments

- **NepaAssist:** <http://nepassisttool.epa.gov/nepassist/entry.aspx>

For Information on—

- **Airports:** [www.googlemaps.com](http://www.googlemaps.com)
- **Bing Maps Road:** <http://www.esri.com/software/arcgis/arcgisonline/bing-maps.html>
- **Boundaries:** <http://epamap9.epa.gov/arcgis/rest/services/NEPAssist/Boundaries/MapServer>
- **Crop Data:** <http://nassgeodata.gmu.edu/CropScape/>
- **Historic Sites:** <http://www.nps.gov/nr/>
- **Land Use:** <http://nassgeodata.gmu.edu/CropScape/>
- **Local Parks:** [www.googlemaps.com](http://www.googlemaps.com)
- **National Wildlife Refuges:** <http://viewer.nationalmap.gov/>
- **Native American Areas:** <http://viewer.nationalmap.gov/> and <http://viewer.nationalmap.gov/>
- **Nonattainment Areas:** [http://geoplatform2.epa.gov/arcgis/rest/services/PM\\_Designations\\_Mapping/Nonattainment\\_Areas/MapServer](http://geoplatform2.epa.gov/arcgis/rest/services/PM_Designations_Mapping/Nonattainment_Areas/MapServer)
- **Nurseries and Garden Centers:** [www.googlemaps.com](http://www.googlemaps.com)
- **Organic Farms:** <http://www.ams.usda.gov/AMSV1.0/nop>
- **Places:** <http://epamap9.epa.gov/arcgis/rest/services/NEPAssist/Places/MapServer>

- **Seaports:** [www.googlemaps.com](http://www.googlemaps.com)
- **Transportation:** <http://epamap9.epa.gov/arcgis/rest/services/NEPAssist/Transportation/MapServer>
- **Tribal Ceded Lands/Tribal Connections:** <http://usfs.maps.arcgis.com/apps/webappviewer/index.html?id=fe311f69cbld43558227d73bc34f3a32>
- **USFWS (Threatened and Endangered Species, Critical Habitat, Migratory Birds):** <http://ecos.fws.gov/crithab> and <http://ecos.fws.gov/ipac/>
- **Water:** <http://epamap9.epa.gov/arcgis/rest/services/NEPAssist/Water/MapServer>
- **Wetlands:** <http://nassgeodata.gmu.edu/CropScape/>