

PPQ Deputy's Safeguarding Award Submission Form

1. Name, Address, Job Title, and Phone Number of Nominee (if a group is being submitted, provide the contact information for the group leader and the names and affiliation of all members of the group)

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Carolyn Cohen, Caribbean Area Director
Dr. David Robinson, National Malacologist
Dr. Charles Brodel, National Coleoptera Specialist
Fernando Lenis, Miami Identifier
Thomas Skarlinsky, Miami Identifier
William Tang, Miami Identifier
Frederick Zimmerman, Miami Identifier
Julie Aliaga, State Operations Officer
Paul Hornby, State Operations Officer
Gordon Muraoka, Director
Terry McGovern, Director
Loren Carpenter, Fruit fly Coordinator

2. Describe the action that enhanced safeguarding.

According with Dr. Waldemar Klassen from the University of Florida/IFAS/TREC, every country in the Greater Caribbean Basin is being over run by invasive species. For example, each year about 14 species of invasive insects, mites and ticks become established in Florida and the invasion by plant pathogens and harmful plants is similar in magnitude.

The approach rate of invasive species to ports of entry is closely correlated with trade and tourism, and these parameters are doubling about every five years. Thus it has been impossible to prevent the entry of invasive species solely by reliance on inspection and other actions at ports of entry. The most effective measures of pest exclusion are pest risk mitigation at the site of origin of an imported commodity coupled with pathway identification, surveillance and rapid response.

In the Caribbean Basin there are more and more countries that are falling prey to an ever increasing number of invasive species. These require basic resources to be in place to detect and prevent them from spreading from country to country. Climatological factors as well as trade and tourism places Florida at a great risk for any invasive pests that appear in the Caribbean. A proactive approach is required to minimize new pest

introductions.

The above named specialists and managers have consistently and proactively put resources and skills to work in a series of offshore activities to determine the presence of pests such as: the Giant African Snail, *Achatina fulica*, the Chili thrips, *Scirtothrips dorsalis*, the Citrus root weevil, *Diaprepes abbreviatus*, and other plant pests currently found in different islands of the Caribbean Basin.

In addition to these surveys, Miami Staff developed a series of offshore initiatives and presentations designed to educate foreign stakeholders abroad to highlight safeguarding measures at origin thus preventing the introduction of damaging pests into the highly susceptible Florida environment and enhancing informed compliance.

Florida managers played a key role in training of specialists from 15 Caribbean Nations for fruit fly detection, supplying manuals , forms , operational guidance, and needed supplies and materials, as well as conducting a feasibility assessment of management options for the fruit fly, *Anastrepha obliqua*.

Sphd staff, worked with Dr. Klassen of the University of Florida over the last few years to assess the risks in the Caribbean and strategies for managing them. This has evolved into a major initiative of UF and Caribbean organizations and nations. This Caribbean Basin Safeguarding Initiative is patterned after the concepts of the APHIS Safeguarding effort.

3. How did the action enhance safeguarding?

For the last century, pest exclusion programs have been reactive. Infested commodities at the port of entry were destroyed, disinfested, or re-exported. However, the explosive growth of shipments to be inspected and the numbers of harmful species arriving at ports of entry demonstrate the utter obsolescence of our reactive strategy of pest exclusion at the port of entry.

The National Plant Board indicated the need to shift much of the focus from pest exclusion at the port of entry to prevention at sites where the imported commodity is produced. Specifically the Boards stated: "pest risk mitigation, pre-clearance and certification at the point of origin are the most viable approaches to pest exclusion and mitigation". This activity is in direct support to the APHIS strategic goal of "Reducing domestic threats through increased offshore threat assessment and risk assessment-reduction activities." However, little in the way of direction on how to approach achievement of these goals has been forthcoming. Each of these individually and collectively are concrete evidence of responsiveness to these mandates as detailed below.

1) The Giant African Snail (GAS)

With the discovery in 2000 of the presence of the Giant African Snail, *Achatina fulica* Bowdich, on the islands of Saint Lucia and Barbados, it became imperative to raise awareness in the West Indies of the emerging agricultural pest threat represented by this snail, as well as its potential public health implications.

Dr. Robinson organized several visits to different islands in the Caribbean with the assistance of Miami Identifiers, Frederick Zimmerman and William Tang. This is an on going project. The main purpose of the visits is to identify the threats associated with the movement or spread of mollusks to other Caribbean islands and the US.

Furthermore, these specialists present to the island officials an overview of the agriculture inspection services and programs of the US and help to assess the risk of mollusks and other pest movement associated with trade and tourism.

In August 2003, Fred Zimmerman accompanied Dr. Robinson to Antigua and Barbuda and collected many mollusk specimens, taxonomically classified by Dr. Robinson at a later time. These found specimens were added to a final list of the terrestrial malacofauna of Antigua and Barbuda. No Giant African Snail was found during this trip.

In January 2004, Fred Zimmerman and Dr. Robinson went to Trinidad and Tobago to determine if GAS was present and to determine the terrestrial malacofauna of Trinidad and Tobago. No GAS was found on these islands.

In March 2004, Willie Tang and Dr. Robinson went to St. Kitts and Nevis to determine if GAS was present in these islands and to determine their terrestrial malacofauna. St. Kitts and Nevis are particularly susceptible to invasion of GAS because of its proximity to the GAS infested islands of St. Martin, Guadeloupe, Martinique, Barbados and St. Lucia. No GAS was detected during this survey.

In July, 2004, Fred Zimmerman and Dr. Robinson went to Domenica to determine if GAS was present and to determine the terrestrial malacofauna of this Caribbean island. Domenica had the greatest diversity of mollusk species found anywhere in the Lesser Antilles though no GAS was detected during this survey.

Although all these surveys produced negative results, an ongoing detection program for GAS in the islands is absolutely necessary for an early containment and eradication of this pest thus avoiding a possible spread throughout the Caribbean Basin.

2) The Chili thrips

In response to a significant interception in Miami of the Chili thrips in a commercial shipment of Capsicum sp. from St. Vincent, identifiers Charles

Brodel and Tom Skarlinsky contacted the Florida State Plant Health Director, Mike Shannon and the National Identification Services to alert them of this potential threat for American agriculture.

After a positive confirmation of the species, the Caribbean Area Director, Carolyn Cohen invited Tom Skarlinsky to start a survey in the island of St. Vincent to determine the presence and distribution of *Scirtothrips dorsalis*, the Chili thrips.

The purpose of the trip included a) surveying pepper-growing sites to determine the distribution of *S. dorsalis* in St. Vincent; b) collecting adult females and associated larvae from pepper plants to confirm the initial pest identification; c) observe and evaluate pepper packing houses; d) train St. Vincent quarantine inspectors and extension officers on the thrips collection process, slide preparation and identification of the collected specimens.

The survey revealed the presence of *S. dorsalis* throughout the pepper-growing areas of St. Vincent. The sales, marketing and export logistics of this commodity is at the hands of a government agency, which is an ideal situation for any pest control measures. Tom recommended a wash and treatment requirement for peppers prior to packing and shipping. An example of a treatment would be immersion of peppers in a bath of water with insecticidal oil or pepper wax.

More recently, Dr. Brodel sent a warning to the Florida SPHD, Mike Shannon, when the Netherlands intercepted *S. dorsalis* with shipments of *Momordica* and *Solanum* from Suriname. Caribbean Director, Carolyn Cohen has requested to know from Suriname officials whether they have knowledge of this thrips in their country.

3) The Citrus root weevil

The economically important root weevil, *Diaprepes abbreviatus* (L.), is native to the Caribbean region, and has existed in Florida since 1964. In 2001, larvae of this pest were found feeding on the roots of mature citrus trees in the Rio Grande Valley of Texas. Up to now, the species has never been reported from Central America.

In April 2003, a PPQ Officer at the Miami Inspection Station intercepted this weevil at the tailgate of a 40-foot container of live plants arriving by sea from Honduras. Being aware that *D. abbreviatus* does not exist there, Dr. Brodel speculated that a container previously used in the Caribbean region had not been properly cleaned out prior to loading and therefore, the weevil from the Caribbean had survived the trip to Central America and Miami.

A second such weevil arrived about a week later. Successive interceptions were made in May, July, September and October, for a total of six in seven months. Over time, Dr. Brodel noticed that all of the interceptions shared three key things

in common: 1) 40-foot containers of live plants were involved, 2) the country was always the same, and 3) the shipper and nursery names were always the same.

After taxonomic confirmation from Dr. Charles O'Brien of Florida A & M University, Dr. Brodel contacted the owner to obtain more details about his growing and packing operation. Dr. Brodel recommended the intervention of International Services for conducting surveys in this property. International Services, in conjunction with two agricultural agencies within Honduras, and in cooperation with the grower, conducted 3 surveys from March to April, 2004 with negative results.

During 2004, no interceptions of *D. abbreviatus* have occurred, possibly because the grower, upon learning of this problem, is fumigating maritime containers twice and placing phosphine tablets at the tailgate prior to shipping.

4) Offshore Outreach

Miami Identifiers Fernando Lenis and Tom Skarlinsky have been involved in a series of offshore mitigation seminars in Costa Rica, Guatemala, and El Salvador. The seminars covered all aspects of agricultural product regulations, and diverse inspection and identification procedures. Mr. Lenis is designing and conducting a one week training in August at the request of the FAS for 5 Andean nations which is aimed at improving their safeguarding programs, thus enhancing protection in the Basin and the biosecurity of the U.S.

These workshops have been a great opportunity to educate foreign stakeholders in all aspects of our service and regulations. Their efforts have resulted in clear understanding of the same and have avoided tremendous losses on their part due to erroneous understanding of the regulations and reduced risks to the US by enhancing compliance. Complimenting this is the system developed in Miami to report in a timely, complete way pest findings back to the Governments and production industries of countries exporting cut flowers and plants through the port to facilitate targeted pest management at origin to reduce risk.

By providing the major Caribbean Nations with the most up to date technology, information, guidelines, training and, in some cases, supplies, exclusion and early detection of fruit flies is enhanced thereby increasing the biosecurity of Florida and the US. Enabling a Caribbean Basin wide safeguarding system by facilitating multinational recognition of this as an area wide problem and causing commitment to region wide solutions by Basin members enhances protection of Florida and the rest of the U.S. from the significant pathway threat risk problems pose to us.

4. How does it demonstrate innovation or initiative?

All these projects share a common vision: the early detection and eradication of an agricultural pest at origin will do more to prevent its spread in a whole region than relying only on our quarantine protection programs at the ports of entry. The safeguarding instructions delivered to foreign stakeholders contribute to minimize the pest risk introduction through our ports. As far as we know, no other state in the country is doing any things like those described here. Individually, these acts represent personal initiatives of individual employees that as far as we know are not occurring else where in PPQ. Collectively, they represent a multi-pronged, strategic project that leads the way for PPQ to address the offshore goals of it's own and Aphis's strategic plans.

1. The Giant African Snail

This is an on going program, led by Dr. David Robinson of USDA APHIS PPQ National Identification Services. With the confirmed presence of the GAS in at least two islands of the Caribbean region, Florida agriculture remains in a constant threat of this pest invasion.

Due to favorable environmental conditions in Florida, it would be relatively easy for the GAS to get quickly established, as already seen in an early introduction to Miami in 1966, which produced more than 18,000 snails in a 7 years span. It took almost 10 years and more than 1 million dollars to eradicate this pest finally in 1983.

Many of the Caribbean islands lack the economic support or inspection techniques necessary to initiate an effective detection program for GAS. Through this offshore initiative, encouraging the continuation and expansion of the Caribbean islands detection programs is the best defense against GAS establishing in the region.

In addition to being able to confirm the presence/absence of GAS and other snails in the islands, the identifiers involved in this offshore mitigation plan are opening lines of communication with foreign officials who in the eventuality of a GAS invasion, will be ready to accept our advice and assistance to eliminate this agricultural threat from the region.

During the short visits to different Caribbean Basin islands, these identifiers have provided inspection training to officials and shared techniques to improve their survey, collection and identification skills.

1) Chili thrips

In response to a significant interception of this pest in Miami, Identifiers Charles Brodel and Tom Skarlinsky contacted the Florida SPHD and suggested a survey of pepper fields be done in the island of St. Vincent to confirm the Chili thrips presence in the Western Hemisphere. *Scirtothrips dorsalis* remains in the list of the 13 most unwanted pests in the state, as voted by the Florida Nurserymen and

Growers Association.

After Tom visited St. Vincent island and work with officials surveying farms and packing establishments, he was able to confirm the presence of the Chili thrips. A second survey was carried out by entomologists from the University of Florida and APHIS. They were able to confirm Tom's findings in St. Vincent and added positive findings in St. Lucia.

Back at the port of Miami, Tom contacted APHIS entomologist Charles Miller. Due to the thrips small size it is very difficult for officers in the field to find pest interceptions. At the direction of entomologist, Charles Miller, Tom constructed a shaker box and run a project for a month to see the efficacy of using this box for peppers inspection originated from St. Vincent and St. Lucia. With the shaker box method, reportable pests were detected 100% of the shipments, as compared to the 30% detected during regular inspections.

2) The Citrus Root Weevil

In 2003, Dr. Brodel suspected that *D. abbreviatus* might be established in a very restricted geographic area of Central America. After getting a taxonomic confirmation from Dr. Charles O'Brien of Florida A & M, Dr. Brodel contacted the owner of the farm in Honduras.

Out of this initial contact, he was able to dismiss his initial thought of hitchhiking insects from the Caribbean. Dr. Brodel also learned that this nursery was planted about 10 years ago on land originally devoted to upland sugarcane, another preferred host for *D. abbreviatus*, and sugarcane fields adjoin the nursery today.

Dr. Brodel, on his own initiative requested the assistance of the International Services program to confirm the presence of *Diaprepes abbreviatus* on a nursery farm in a Central American country. This project mobilized two agricultural agencies in the foreign country who worked in cooperation with the owner of the ornamentals farm.

So far, we have not been able to confirm this agricultural threat in the targeted farm in Honduras but more surveys are planned during the rainy season.

3) Offshore Outreach

Miami Identifiers Fernando Lenis and Tom Skarlinsky have accomplished in a very short time what the agency has been striving to do for many years: transparency in the deliverance of our services and safeguarding actions. In particular, the Miami identifiers provide prompt pest ID results to avoid unnecessary costs to importers due to the common practice of fumigating

shipments in lieu of pest identification. The Miami staff maintains an open door policy to share risk information with each grower and producer to facilitate offshore risk mitigation and enhance informed compliance. This and the training and strategic Caribbean Basin Safeguarding Initiatives have come totally about within the resources and initiative of the Florida Staff without direction or extensive involvement from higher levels of the organization. They demonstrate the principle of thinking Globally and acting locally that is critical to the success in managing the changing world around us.

5. Which of the four areas of the Safeguarding Review does the activity support?

Pest Exclusion and Mitigation at the point of origin. Activities include: proper identification of invasive pests, surveillance at origin in cooperation with foreign officials, development of a list of exotic snails in the Caribbean region, sharing expertise in pest identification, surveillance methods and exclusion strategies. In addition, sharing information with foreign stakeholders on safeguarding practices enhance our exclusion abilities at origin.

6. What recommendation or safeguarding principle does the action support?

59 Engage IS personnel in evaluating the risk potential of commodities with the focus on preventing invasive pests from entering the US. Assure involvement with IS field personnel in evaluating and eradicating pest populations in countries that pose a high risk to the US.

E-23. Expand the use of pest suppression efforts in areas particularly vulnerable to invasion.

E-25 Identify other pests in Canada, the Caribbean and Mexico that may migrate into the U.S. naturally and develop suppression strategies to prevent or postpone entry.

E-44. Begin to work towards a goal of establishment of a global list of pests and diseases with supporting pest risk analysis to drive exclusion regulations.

7. Provide any information that demonstrates the outcome/success of the activity.

This group of identifiers and managers strive to detect exotic pests at origin that could go undetected for long periods of time without proper surveillance. In turn, this gives USDA a chance to work on risk mitigation measures at origin, potentially saving us millions of dollars in pest eradications.

1) Giant African Snail

Dr. Robinson and the Miami Identifiers have been involved in the training of agriculture officers of the Caribbean Basin, strengthening the infrastructure and technical capabilities of the Caribbean islands.

To support their work offshore, the Florida SPHD, with the assistance of the International Service Caribbean Director, Carolyn Cohen, agreed to loan a number of computers and vehicles to island officials to help on the detection of exotic pests programs.

After the surveying work on these islands, the National Identification Services will have an updated list of the malacofauna that exists in the Caribbean Basin.

Recently, the USDA PPQ SITC program has collected almost 6,000 snails in eight northern states. None has been found in Florida.

2) Chili thrips

As a result of the chili thrips survey, it was determined that *Scirtothrips dorsalis* was spread throughout the pepper-growing areas of St. Vincent. A follow-up survey by specialist of APHIS and the University of Florida determined the presence of *S. dorsalis* also in the island of Saint Lucia.

During his visit, identifier Tom Skarlinsky trained St. Vincent quarantine inspectors and extension officers on the thrips collection process, slide preparation and identification of the collected specimens thus improving the detection and accuracy of identification in this island.

Because of the thrips small size and propensity to occur inside flowers and buds, *S. dorsalis* is easily missed during regular inspections. APHIS managers recommended that sampling and inspectional guidelines be reviewed.

Identifier Charles Miller suggested using a box with a hardware cloth base to shake the peppers to dislodge any associated thrips. The shaker box was a success and Port Operations is in the process to rewrite the F & V Manual to incorporate its use in ports where peppers from these two islands are imported.

3) Citrus Root Weevil

Diaprepes abbreviatus is a serious pest of citrus, ornamentals, sugarcane, and other plants. Although a native of the Caribbean region, no species of *Diaprepes* exist in Central America. This pest has been in Florida since 1964; however, it still requires quarantine action whenever it is found due to its very limited geographical distribution in the US and the existence of domestic quarantine regulations.

Given the importance of citrus, ornamentals and sugarcane to the Central America region and the possibility to be introduced into citrus producing states, such as Arizona, California and Texas, Dr. Brodel's initiative to continue surveying this area is very important.

So far, and after a series of surveys were conducted in an ornamental plants farm in Honduras during the season, no citrus root weevil has been detected. There are plans to start a new survey this year to determine if *Diaprepes abbreviatus* is established in this farm.

As a result of these surveys, the growers and shippers are aware of this potential problem for their ornamental plants. No interceptions of this weevil have occurred during 2004, possibly because the grower is fumigating maritime containers twice and placing phosphine tablets at the tailgate prior to shipping.

In this sense, we are receiving cleaner shipments of ornamental plants from Honduras at the Inspection Station, thanks to the diligent work and the awareness raised by this alert Miami identifier.

4) Offshore outreach

After hearing this presentation, the Costa Rican grower association was compelled to open a Trade Office in Miami to represent them and protect their interests against unscrupulous brokers and importers.

One grower in Latin America claimed that he had been charged 62 thousand dollars in a single year for fumigations. After hearing this presentation, he followed up with identifier Fernando Lenis, checking his records and as a result, it was determined that only a small fraction of his fumigated shipments were necessary as requested by USDA.

Many growers are under the impression that the USDA identification services take days to finish and that identifiers are not friendly and approachable. These presentations have been a great platform to remove all these misconceptions and show the transparency of our procedures. Direct lines of communications with foreign producers have been established.

These presentations are a great opportunity to educate foreign stakeholders in all

aspects of our service and regulations. Growers with many years of experience exporting to the US were not able to answer questions about USDA plant size requirements before the seminar. After the presentation, growers are able to send shipments that are more in compliance with our regulations.

The offshore mitigation seminars have been such a success that the host countries wish to hold them on a yearly basis and more countries are requesting such contacts as evidence by the upcoming sessions in 5 Andean nations.

Caribbean nations involved in the recent fruit fly detection training have all reported changes being made to enhance their programs.

A Caribbean Regional Invasive Species Strategy (CRISIS) document that describes the Regional nature of the problem and what actions Caribbean Nations need to take together to address it, is in final review by all ministries. The ministers have agreed to establish a Regional Organization that will fill the void left by the demise of the Caribbean Plant Protection Organization.