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Northwest
Region

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Forest Health Protection International Activities

Accomplishment Report for Fiscal Year 2010

Prepared by the FHP International Activities Team



Upper Right Photo: *Demonstrating the use of the digital aerial sketch mapping system during the Aerial Detection and Safety Training in Mexico*

Middle Left Photo: *Inspecting a light trap for the Asian Gypsy Moth Monitoring and Port Inspection Program in Russia*

Lower Right Photo: *Taxonomy and Identification of Scolytid Bark Beetles Training in Nicaragua.*

FOREST HEALTH PROTECTION INTERNATIONAL ACTIVITIES FOR FISCAL YEAR 2010

Summary

This report is a consolidation of the Forest Health Protection (FHP) international activities in FY 2010. Funding for these activities comes from a variety of sources including FHP staff units and FHP International Activity Team (IAT) funds, USDA Forest Service International Programs (IP), USDA Animal and Plant Health Inspection Service (APHIS), US Agency for International Development (USAID), Foreign Agricultural Service (FAS), United Nations Food and Agriculture Organization (UN/FAO), and support from hosting countries.

During FY 2010, FHP specialists were involved in approximately 50 international-related activities in 17 countries. These activities included: providing technical assistance and training, cooperating on projects and pest risk assessments, giving presentations, and participating in international meetings.

There are four FHP International Activity Goals. These goals are:

Goal 1. U.S. Forests are protected from exotic pests.

Goal 2. North American countries have strong forest pest management programs.

Goal 3. Biological control options are in place to protect U.S. forests from exotic pests.

Goal 4. Forest health technology and expertise are shared worldwide.

Highlights for 2010

Aerial Detection Survey and Safety Training in Mexico– In the past, FHP personnel have participated in, and provided training for, aerial detection survey to forest health protection specialists in Mexico. Since the last training session, almost 10 years ago, many personnel, survey methods, and technologies have changed. Participants included representatives from 17 States in Mexico. The objectives were to provide tools to enhance the aerial survey program, improve operational safety in all aviation activities, and increase the effectiveness of aerial treatments. The focus of classroom training was aviation safety, program management, and methods and efficiencies for both aerial application and aerial survey. Flight training routes were determined prior to the trip. They were designed to allow approximately one hour per leg, oriented in forested terrain with known pest problems, and located in an area to accommodate ground checks the following day.

Bark Beetle Management and Identification Training in Nicaragua– The southern pine beetle (SPB), *Dendroctonus frontalis*, has caused significant pine mortality in northern Nicaragua. FHP and the Texas Forest Service (TFS) worked with INAFOR (Instituto Nacional Forestal) to suppress the outbreak, and this cooperation among the agencies has continued. Training on forest management to mitigate future impacts of this insect was a natural extension to that assistance.

The taxonomy and identification portion provided training in bark beetle identification to foresters and taxonomists in Nicaragua and other Central American countries. It included identification of exotic scolytids that could potentially be introduced, as well as native bark beetles. There were approximately 15 attendees for this class. Participants were from Nicaragua, Panama, Cuba, and Honduras. Training consisted of a mix of presentations and instructions at the microscopes.

Asian Gypsy Moth & Other Lymantriinae Port Monitoring Program in Russia, Japan, South Korea and China– The Asian Gypsy Moth Port Monitoring Program is a cooperative effort involving the USDA Animal and Plant Health Inspection Service PPQ; USDA Forest Service, FHP; the Canadian Food Inspection Agency; and their respective counterparts in Russia, Japan, South Korea and China. The Russian program has been

in place for almost 15 years. The China program was added in 2010. Two additional ports were added to the Russian Far East program for a total of 11 ports with population monitoring and ship inspections. In South Korea, 11 ports monitored AGM populations, and ships are inspected on an as requested basis. In 2010, 5 ports were monitored for AGM populations in China, and in Japan, 53 ports were monitored for AGM populations, and ship inspections were conducted in those ports during the “high risk” period. All countries submit annual survey and ship inspection data to US and Canadian officials.

Two FHP personnel were involved in international relief and aid programs in 2010. Deb Allen-Reid served a 3 month detail for USAID providing support to efforts in Haiti following the earthquake in 2009; and Jim Hoffman served a year-long detail to Afghanistan for FAS providing support and assistance to Afghan residents in reconstructing their local agricultural and woodland base following years of war.

FHP was involved in support, development, and participation of all six of the UN/FAO Regional Forestry Commissions, and particularly in the invasive species subcommittees; these included international invasive species organizations and networks, such as the Insect and Disease Working Group of the North American Forestry Commission (NAFC); the Asia-Pacific Forest Invasive Species Network (APFISN), and the Forest Invasive Species Network of Africa (FISNA).

The attached table summarizes the primary FHP international activities in FY 2010, by country. Source of funding and participation are listed in order to show the cooperation and participation that goes to support FHP international activities.

Additional information can be obtained either through the IAT or the regional FHP international activity coordinators. Previous Activity Reports and many of the project and trip reports prepared by FHP specialists can be found on the FHP International Activities website:

http://www.fs.fed.us/foresthealth/forest_health_management.shtml and click on “International Activities”

IAT – Iral Ragenovich, Noel Schneeberger, Steve Clarke, Tom Eager, and Gary Man

Regional FHP IAT Coordinators

WO and FHTET – Gary Man

R1 and R4 – Dayle Bennett

R2 – Tom Eager

IITF – Christian Torres-Santana

R3 – Joel McMillin

R5 – Phil Cannon

R6 – Iral Ragenovich

R8 – Steve Clarke

R10 – Mark Schultz

NA – Noel Schneeberger

**FY 2010 FOREST HEALTH PROTECTION
INTERNATIONAL ACTIVITIES**

| | <i>ACTIVITIES</i> | <i>TECHNICAL SPECIALISTS</i> | <i>SOURCE OF FUNDING</i> |
|--------------------|---|----------------------------------|--------------------------|
| AFGHANISTAN | Detail to Foreign Agricultural Service for assistance in Afghanistan | Hoffman, R4 | FAS |
| BRAZIL | Continue cooperative project with the Universidade Federal de Vicosa to conduct studies on the genetic diversity of guava rust and determine the capacity of various strains of this rust to attack varieties of ohia in Hawaii. One graduate student spent a year working with the RMRS lab conducting DNA analysis on the different rust strains. | Cannon, R5 Klophenstein, RMRS | FHP RMRS |
| | Facilitate several month visit for graduate student from Universidade Federal de Vicosa to UC Davis lab to work on stream baiting samples for <i>Phytophthora ramorum</i> . | Cannon, R5 Rizzo, UC Davis | FHP UC Davis |
| CANADA | Attend the SERG-I Executive meeting to review proposals, and attend the SERG-I meeting to report on and provide an update on spray advisor. Give presentations at the meeting on projects supported by SERG-I. St. John's, Newfoundland | Thistle, FHTET Ragenovich, R6 | FHP |
| | Final delivery of Gypchek from Sylvar, a private Canadian forestry enterprise devoted to production of insect viruses. Award a new contract for production through 2010-2011. | Reardon, FHTET | FHP |
| | Informal and formal collaboration and discussion regarding Emerald Ash Borer survey and regulatory activities | Schneeberger, NA | FHP |
| | Share whitebark pine seedling protocols with Canadian counterparts to provide assistance in setting up trials. | Schwandt, R1 | FHP |
| | Work closely with BC pathologists in planning the 2010 Western International Forest Disease Work Conference. | Schwandt, R1 | FHP |
| | Host scientist from Canadian National Collection and provide Siricid specimens for his work in description and taxonomy of Siricids in Alaska. | Kruse, R10 | FHP |
| | Coordinate with University of Alberta to conduct DNA analysis for determining budworm speciation in Alaska. | Kruse, R10 | FHP |
| | Coordinate with Canadian Forest Service on yellow cedar decline, regeneration and genetics. | Hennon, R10 | FHP |

| | <i>ACTIVITIES</i> | <i>TECHNICAL SPECIALISTS</i> | <i>SOURCE OF FUNDING</i> |
|-----------------------------------|--|--|--------------------------|
| CANADA (continued) | Initiate a cooperative project with Forest Protection Limited to develop slow-release formulations for semiochemicals | Reardon, FHTET Thistle, FHTET | FHP |
| | Work on characterizing rotary atomizers with U. of New Brunswick and Forest Protection Limited. Develop an operational wind tunnel capable of yielding realistic DSD's, especially for fine droplets; and develop an international standard for characterizing rotary atomizers in terms of DSD. | Thistle, FHTET | FHP |
| | Work with Jacques Regniere in Quebec to develop an interface insect feeding model with AGDISP to allow estimation of efficacy in a spray operation. | Thistle, FHTET | FHP |
| | Help coordinate, contribute to content and discussions, and publish proceedings for international workshop on "Tale of Two Cedars" held in Vancouver, B.C. | Hennon, (R10/PNW) | FHP,PNW |
| | Attend the Western International Forest Disease Workshop in Valemount, BC | From all Western Regions | FHP |
| People's Republic of CHINA | Select site (Northampton, MA) and finalize agenda and arrangements for the 2nd International Workshop: Biological Control of Invasive Species of Forests. Provide assistance to attendees. And organize a session for Chinese attendees for potential cooperation. | Yun Wu, Reardon, FHTET Van Driesche (U of MA) | FHP, IAT |
| | Continue Sentinel Tree project with the Chinese Academy of Sciences. Identify insect species, and investigate evidence of insect infestation in Northeastern Area tree species. Develop a strategy and set-up activities for FY11. | Man, WO Clarke, R8 Eager, R2 | FHP, IAT |
| | In cooperation with Oregon State University, host a PhD student from the Chinese Academy of Forestry to learn techniques related to taxonomy and diagnostics of <i>Phytophthora</i> species. | E. Goheen, R6 E. Hansen, OSU Mangold, WO | FHP |

| | <i>ACTIVITIES</i> | <i>TECHNICAL SPECIALISTS</i> | <i>SOURCE OF FUNDING</i> |
|--------------------------|---|---|--------------------------|
| CHINA (continued) | Continue coordination with various organizations in China on biological control projects – these projects test natural enemies of invasive pests to determine their host range: <ul style="list-style-type: none"> • Continue host range testing for selective pathogenic fungi and herbivores of mile-a-minute weed and compare biotypes of the weevil released in the US. • Continue field studies on biology, life cycle, lab studies on host range, and ability to transmit pathogens of two species of weevils to control Tree of Heaven. • Continue effort with Southern Research Station and the Univ. of Georgia for natural enemies for biological control of Chinese privet. • Collect and test the host range for newly discovered natural enemies for hemlock woolly adelgid. | Reardon, Yun Wu, FHTET | FHP |
| | Continue cooperation on “Forest Insects of China” book. | Clark, R8 Eager, R2 | FHP, IAT |
| | Continue to work with Chinese to develop an Asian Gypsy Moth port monitoring and ship inspection program. Monitor 5 ports to determine flight periodicity. Plan for training and ship inspection of high risk ships for 2011. | Boade Wang, Mastro, Pfister, Miller and Elliston, APHIS Munson, R4 McMillin, R3 | APHIS FHP |
| ECUADOR | Provide consultation and assistance to Fondo para la Proteccion de Auga (FONAG) on plantations, hydrology, forest management to protect water resources and enhance water availability. | Cannon, R5 Hill, R5 McCarthy, WO | FHP, USAID, IP |
| | Host scientists from (FONAG) in reciprocal trip to observe potential management problems and opportunities in headwaters wetlands such as those in the Sierra Nevada. | Cannon, R5 Hill, R5 McCarthy, WO | FHP, USAID, IP |
| GEORGIA | In cooperation with Ilia University, initiate a survey for natural enemies of beech scale | Reardon, FHTET | FHP |
| GREAT BRITAIN | Collaborate and host visit from a Senior Research Scientist from the Forestry Commission, Survey to identify bacterial species in bleeding oaks, including oaks attacked by gold spotted oak borer. | Frankel, PSW Zambino, R5 | PSW FHP |

| | <i>ACTIVITIES</i> | <i>TECHNICAL SPECIALISTS</i> | <i>SOURCE OF FUNDING</i> |
|-----------------------------|--|--|---|
| GERMANY | Give a presentation on the various types of spray operations that we do, such as treating buffelgrass, and how our operations differ, in order to provide input into development of international spray operations standards. | Thistle, FHTET | FHP |
| GUATAMALA and BELIZE | Continue collection of specimens of a new species of <i>Dendroctonus</i> bark beetle from various locations for morphological and cuticular hydrocarbon analysis in Mexico, Guatemala and Belize | Clarke, R8 | FHP |
| HAITI | Detail to work on NEPA compliance for USAID projects in Haiti | Allen-Reid, R3 | USAID |
| ITALY | Attend 4th IUFRO International Rusts of Forest Trees Conference. Give presentations and provide posters on FHP white pine blister rust projects and discuss 100 years of efforts in dealing with white pine blister rust and its significance in North America. | Schwandt, R1 Bronson, R8 | IAT, FHP |
| JAPAN | Coordinate with Japanese on Asian Gypsy Moth port monitoring and inspection program. Japanese inspection companies monitored AGM populations and conducted ship inspections in 53 ports during the “high risk” period. Publish manuscript on the results of a survey for natural enemies of mile-a minute weed in Japan. | Mastro, Simmon, and Pfister, APHIS Munson, R4 Kummen, CFIA Reardon, FHTET | APHIS FHP CFIA FHP |
| MEXICO | Attend joint meeting between the Mexican Association of Forestry Professionals(AMPF), Chihuahua Chapter, and the Society of American Foresters, Southwest Section; prepare bi-lingual poster on cooperative Douglas-fir beetle/MCH work in Mexico. Continue Forest Health Monitoring collaboration for analysis and interpretation of databases of a suite of indicators, data interpretation of tropical and subtropical vegetation type ecoregion, and provide training and lab analysis. Identify pilot areas for insect and disease risk map and model development. In cooperation with the Comision Nacional Forestal, provide safety training, technical assistance and support to aerial application and aerial survey operations. Conduct survey of oak woodlands of southern Mexico and northern Guatemala for host information and natural enemies of the goldspotted oak borer, <i>Agrilus aueroguttatus</i> . | Allen-Reid, R3 Tkacz, WO Mai, FHTET Howell, R2 Coleman, R5 Hoddle, UC Riverside Reardon, FHTET | FHP FHP USAID IAT, FHP IAT, FHP |

| | <i>ACTIVITIES</i> | <i>TECHNICAL SPECIALISTS</i> | <i>SOURCE OF FUNDING</i> |
|---------------------------|--|---|--------------------------|
| MEXICO (continued) | Conduct a diagnosis and evaluation of insect and disease activity, and forest health in the Monarch Butterfly Biosphere Reserve. Provide preliminary training, comments on the importance of a holistic approach to bark beetle treatment, and recommendations on future actions and coordination. | Steed, R1 Willhite, R6 | IP, FHP |
| | In conjunction with the Southern Station, ECOSUR and Synergy, continue to gather information on the biological and ecological role of a new bark beetle species, <i>Dendroctenus woodi</i> | Clarke, R8 Sullivan, SO | IAT, FHP |
| NEW ZEALAND | Attend 5th meeting of IUFRO <i>Phytophthora</i> Diseases in Forests and Natural Ecosystems. Present papers and posters on FHP efforts with Sudden Oak Death, serve as a member of the scientific organizing committee, and share information on findings associated with <i>Phytophthora</i> diseases. | E. Goheen, R6 Oak, R8 | IAP, FHP |
| | Cooperate on a taxonomic revision of the genus <i>Laricobius</i> , of which many species are potential predators of the hemlock woolly adelgid. | Reardon, FHTET | FHP |
| NICARAGUA | Conduct a training session to approx. 30 students, in conjunction with Universidad Nacional Agraria on bark beetle management in Nicaraguan forests, including beetle identification, population dynamics, suppression and prevention. | Clarke, F8 Menard, R8 Billings, TFS | IAT, FHP |
| | Conduct training, in conjunction with Universidad Nacional Agraria on the identification of important species of bark beetles and other potential invasive insect pests, to taxonomists, port inspectors and forestry representatives from all Central American countries. | Rabaglia, WO Atkinson, St.EdU | IAT, FHP |
| RUSSIA | Continue cooperation on Asian Gypsy Moth port monitoring and ship inspection program in Russian Far East. Add 2 additional ports for a total of 11 ports that are monitored for AGM life stages, and conduct ship inspections during the 3 month high risk period. | Munson, R4 McMillin, R3 Mastro, Pfister, Miller, Wang, and Elliston | FHP APHIS |
| SOUTH KOREA | Coordinate with Korean Plant Quarantine on continued efforts in the Asian Gypsy Moth port monitoring and ship inspection program. Monitor 11 ports for AGM flight dispersal and conduct inspections as requested. | Minson, R4 McMillin, R3 Mastro, Pfister, Miller, Wang, and Elliston | FHP APHIS |
| | Attend and participate in the 23rd IUFRO World Forestry Congress | Rabaglia WO Cannon R5 | FHP |

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|--------------|---|-------------|-----|
| OTHER | Host International Tree Failure Database and arrange training through International Society of Arboriculturists. No new additions in 2010. | Jones, R8 | FHP |
| | Participate in the six UN/FAO Regional Forestry Commissions (commissions or sub-commissions): the North American Forestry Commission, the Asian-Pacific Forestry Commission, the African Forestry and Wildlife Commission, the European Forestry Commission, the Near East Forestry Commission, and the Latin American and Caribbean Forestry Commission. | Mangold, WO | FHP |



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