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Agriculture

Forest Service

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Northwest  
Region

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# Forest Health Protection International Activities

## Accomplishment Report for Fiscal Year 2009

Prepared by the FHP International Activities Team



Cooperative Douglas-fir Tussock Moth Low Dose Virus Project Kamloops,  
British Columbia, Canada.



# FOREST HEALTH PROTECTION INTERNATIONAL ACTIVITIES FOR FISCAL YEAR 2009

## Summary

This report is a consolidation of the Forest Health Protection (FHP) international activities in FY 2009. 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), United Nations Food and Agriculture Organization (UN/FAO), and support from hosting countries.

During FY 2009, FHP specialists were involved in approximately 43 international-related activities with 20 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.

## *FY 2009 Highlights*

**Brazil – *Ohia Susceptibility to Guava Rust Project*** – The objective of this project is to determine if there is variation in the susceptibility of different families of Ohia to the guava rust fungus *Puccinia psidii*, and determine if there are differences and variations in the pathogenicities of the different strains of the fungus. A graduate student traveled throughout Brazil collecting 300 isolate of the fungus, *Puccinia psidii*, which he then transported to Pullman, WA, where he is isolating, analyzing and identifying markers in the samples. Meanwhile, seeds were collected from 30 different Ohia families in Hawaii and shipped to Brazil, where they will be grown and inoculated with the fungus. Results will be of significant interest to all Pacific Rim countries with Myrtaceous species in their forests.

**Canada – *Douglas-fir tussock moth low-dose virus project*** – Douglas-fir tussock moth (DFTM) is a native defoliator of Douglas-fir and true fir forests in the western U.S. and Canada. Outbreaks occur on a periodic basis and can cause significant defoliation in only a few years. One management alternative is TM-BioControl-1, a registered pesticide formulation of the natural virus of the DFTM, produced by the USDA Forest Service. The objective of this project was to determine if a lower amount or dose of the virus could be applied and still achieve similar population reduction; thus extending the amount of available virus. The project, which was done in conjunction with an operational DFTM project near Kamloops, B.C., was a result of cooperation among the British Columbia Ministry of Forests, Southern Interior Forest Region; The USDA Forest Service, Pacific Northwest Region, Forest Health Protection; Natural Resources Canada, Pacific Forestry Centre; and the Spray Efficacy Research Group, International (SERG-I).

**China – *Sentinel Tree Project*** – North American tree species planted in other countries can be used as sentinel trees or indicators of host susceptibility to forest insects or diseases native to that country; thus potentially harmful forest insects or diseases can be identified before they are introduced into the U.S. The objective of the trip was to identify potential sites, such as botanical gardens and tree plantations with North American species in China that could be used as sentinel trees and to initiate coordination efforts for monitoring.

**Mexico – Forest Health Monitoring Training** – In a continuation of collaborative effort, 20 scientists and inventory specialists from Mexico (CONAFOR and Colegio de Postgradados) and the U.S. (Forest Service FHP and R&D, and Oregon State University) gathered in Guadalajara, Mexico to participate in a workshop on implementing forest health monitoring indicators in Mexico. Two days were spent in the forests near Guadalajara on demonstrations of data collection methods and protocols, and to discuss plans for implementing pilot tests of the indicators. Forest health indicators will provide information to decision makers and land managers on the status and trends of Mexico’s forests including information about tree vitality, biodiversity, soil conditions, carbon sequestration, fire risk, invasive species, and air pollution injury.

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 2009, 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](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	R3 – Debra Allen-Reid	R8 – Steve Clarke
R1 and R4 – Dayle Bennett	R5 – Phil Cannon	R10 – Mark Schultz
R2 – Tom Eager	R6 – Iral Ragenovich	NA – Noel Schneeberger

**FY 2009 FOREST HEALTH PROTECTION  
INTERNATIONAL ACTIVITIES**

<b>COUNTRY</b>	<b>ACTIVITIES</b>	<b>TECHNICAL SPECIALISTS</b>	<b>SOURCE OF FUNDING</b>
<b>BRAZIL</b>	Continue cooperation with the Federal University of Vicosa, Brazil to conduct a critical set of studies on the genetic diversity of guava rust ( <i>Puccinia psidii</i> ), and for determining the capacity of various strains of this rust for attacking varieties of ohia ( <i>Meterosideros polymorpha</i> ) in Hawaii.	Cannon, R5	FHP
<b>CANADA</b>	Attend the SERG-I Executive meeting: review proposals, and attend the SERG-I meeting and report on and provide updates on spray advisor. Give presentations on projects supported by SERG-I. Participate in annual executive meeting. Winnipeg, ON.	Thistle, FHTET Ragenovich, R6	FHP
	Contract with Sylvar, a private Canadian forestry enterprise devoted to production of insect viruses, to produce and provide 2 deliveries of Gypchek for 2009.	Reardon, FHTET	FHP
	Attend Yukon Invasive Species Symposium in Whitehorse and give presentations on invasive plants and USFS approach to managing invasive species; give presentations at Kluane NP on invasive plants.	Wurtz, R10	FHP
	Conduct Douglas-fir Tussock moth pheromone mating disruption project – partially funded by SERG-I.	Ragenovich,R6 Kohler, WDNR Johnson, WDNR	FHP SERG-I WDNR
	Conduct cooperative Douglas-fir Tussock moth low-dose virus project in conjunction with B.C. Ministry of Forests operational DFTM suppression project.	Ragenovich, R6 MacLauchlan, BCMF Otvos, CFS	FHP BCMF SERG-I
	Give presentation at the Canadian Forest Pest Forum in Quebec.	Mangold,WO	FHP
	Attend the Whitebark Pine Ecosystem meeting in B.C. and give presentation.	Schwandt, R1	FHP

<b>People's Republic of CHINA</b>	Continue development of a semiochemical based monitoring and control program for <i>Tomicus yunnanensis</i> in the People's Republic of China.	Clarke, R8 Eager, R2	FHP, IAT
	Meet with Chinese counterparts to develop strategies for continued work on "Forest Insects of China" book.	Clarke, R8 Eager, R2	FHP
	Coordinate logistics for a Chinese scientist to visit/work with OSU to learn SOD and POC screening techniques.	E. Goheen, R6 Hansen, OSU	FHP
	Publish the Proceedings for the 1st International Workshop on Biological Control of Invasive Species of Forests.	Yun Wu, Reardon, FHTET	FHP
	Select site (Amherst, MA) and develop and develop preliminary agenda for the 2nd International Workshop: Biological Control of Invasive Species of Forests in the United States.	Reardon, Yun Wu, FHTET Vandriesche, U of MA	FHP
	Initiate Sentinel Tree project with the Chinese Academy of Sciences. Develop a strategy and set-up activities for FY10.	Man, WO Clarke, R8 Eager, R2 Blodgett, R2	IAT FHP
	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"> <li>• Continue host range testing for selective pathogenic fungi and herbivores of mile-a-minute weed. □</li> <li>• Continue field studies on biology, life cycle, etc. of two species of weevils to control tree of heaven.</li> <li>• Complete project on biological control of kudzu project using imitation rust and herbivores.</li> </ul>	Reardon, Yun Wu, FHTET	FHP

	<ul style="list-style-type: none"> <li>• Complete project on natural enemies and host range studies for biological control of Japanese knotweed.</li> <li>• Continue effort with Southern Research Station: import 2 natural enemies to quarantine facility at the Univ. of Georgia for potential biological control of Chinese privet.</li> <li>• Collect and test the host range for newly discovered natural enemies for hemlock woolly adelgid.</li> </ul> <p>Co-sponsor, with Chinese Academy of Science, Asian-Pacific Forest Invasive Species Network, and other cooperators, an International Workshop/Training Course on Invasive Species in Wuhan - with over 100 participants from more than 14 countries.</p> <p>Attend International Workshop on Forest Restoration Following the Ice-Snow Disaster and Forest Health Recovery, Lijian, Yunnan, China. Co-sponsor event and moderate panel. Give presentation on the mountain pine beetle epidemic and how to engage the public and other partners.</p> <p>Continued cooperative negotiation efforts with China for Lymantriinae port monitoring.</p>	<p>Mangold, WO</p> <p>Mangold, WO Gray, R2</p> <p>Munson, R4 McMillin, R3 Mastro, APHIS Simon, APHIS Kummen, CFIA</p>	<p>FHP</p> <p>FHP</p> <p>FHP APHIS CFIA</p>
<b>FRANCE and GERMANY</b>	Attend “Management of Eastern Black Walnut” workshop. Visit walnut, beech, oak and other hardwood plantations in France and Germany to discuss management.	Mielke, NA	IAT, FHP
<b>GHANA</b>	Provide funding for attendees to Forest Invasive Species Network of Africa workshop held in Kumasi,	Mangold, WO	FHP
<b>GUATAMALA and BELIZE</b>	Collect specimens of a new species of Dendroctonus bark beetle from various locations for morphological and cuticular hydrocarbon analysis in Mexico, Guatemala and Belize.	Clarke, R8 Sullivan, SO	FHP, IAT SO
<b>INDIA and INDONESIA</b>	Sponsored two scientists from these countries to attend IUFRO meeting on Diseases and Insects on Forest Nurseries in Hilo, HI.	Cram, R8	FHP & Coop Forestry

<b>ITALY</b>	Present a paper entitled “Continuing Developments in Building a Nationwide 30-meter Forest Parameter Dataset for Forest Health Risk Assessments” at the 33rd International Symposium on Remote Sensing of the Environment in Stresa, Italy	Ellenwood, FHTET	FHP
<b>JAPAN</b>	Complete cooperative agreement with Dr. Kamata at Tokyo University-surveys and host range testing of natural enemies of mile-a-minute weed and kudzu. Paper published in Florida Entomologist—“ Herbivorous Insect Fauna of Mile-a-minute Weed, <i>Persicaria perfoliata</i> (Polygonaceae), in Japan”	Reardon, FHTET	FHP
	Continue cooperation in the joint far east Lymantriinae Port Monitoring program. Obtain agreement for sampling all ports during peak flight season.	Munson, R4 McMillin, R3 Mastro, APHIS Simon, APHIS Kummen, CFIA	FHP APHIS CFIA
<b>MEXICO</b>	Provide technical assistance in application of methylcyclohexenone (MCH) to reduce Douglas-fir beetle ( <i>Dendroctonus pseudotsugae</i> ) attacks on Douglas-fir trees in Mexico.	Mehmel, R6 Allen-Reid, R3	FHP, IAT
	Conduct Forest Health Monitoring Workshop and Training Session in Guadalajara as part of a collaborative effort for implementing status and trends of Mexican forests. Included 8 FIA and FHP participants as trainers.	Tkacz, WO	FHP
	Hosted nine foresters from Mexico for continued work in developing a forest health monitoring system using the FIA P-3 protocols.	Tkacz, WO	FHP
	Attend North American Forestry Commission meeting in Playa del Carmen.	Mangold, WO	FHP
<b>NEW ZEALAND</b>	Attend the International Union of Forest Research Organization meeting on Forest Biosecurity, Rotorua, New Zealand.	Ragenovich, R6	FHP, IAT
	Attend workshop on status of completed and ongoing biocontrol projects in the South Pacific. Increase networking capabilities among South Pacific countries.	LaRosa, R5	FHP

<b>NICARAGUA</b>	Provide support and technical assistance on insects and diseases associated with mortality of <i>Pinus caribea</i> and <i>P. oocarpa</i> in northern Nicaragua; establish Forest Health Monitoring plots to study pine root feeders and pathogens and collect samples from symptomatic pines.	Ward, R8 Mennard, R8	FHP, IAT
	Provide training to students from the Universidad Nacional Agraria to collect Forest Health Monitoring data. Provide assistance on an urban forestry project to improve the health of palms in Managua.	Ward, R8 Menard, R8	FHP
<b>PARAGUAY</b>	Provide technical assistance to Libertad del Sur reforestation project in southern Paraguay and conduct a workshop on reforestation techniques.	Cannon, R5	IP/USAID FHP
<b>RUSSIA</b>	Continue cooperation in the joint Russia/United States Lymantriinae Port Monitoring program.	Munson, R4 McMillin, R3 Mastro, APHIS Simon, APHIS Kummen, CFIA	FHP APHIS CFIA
<b>SOUTH AFRICA</b>	Attend 10th Annual Ecology and Management of Alien Plant Invasions Conference – Stellenbosch.	LaRosa, R5	IAT FHP
<b>SOUTH KOREA</b>	Continue cooperation in joint far east Lymantriinae Port Monitoring program.	Munson, R4 McMillin, R3 Mastro, APHIS Simon, APHIS Kummen, CFIA	FHP APHIS CFIA
<b>UNITED KINGDOM</b>	In cooperation with CABI-Bioscience – conduct survey and additional host range tests for a psyllid, a natural enemy of knotweeds.	Reardon, FHTET	FHP
<b>OTHER</b>	Host International Tree Failure Database and arrange training through International Society of Arboriculturists in various countries. Participation in database and training included adding Singapore in 2009.	Jones, R8	FHP
	Participate in the six UN/FAO Regional Forestry Commissions (commissions or subcommissions): 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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