

A vertical photograph of a dense forest with a waterfall. The waterfall is the central focus, cascading down a rocky ledge. The surrounding trees are vibrant green, with some leaves in the foreground showing a slight yellowish tint. The overall scene is bright and natural.

2003-2007 STRATEGIC PLAN

Forest Health Protection



USDA Forest Service
State and Private Forestry
Forest Health Protection

INTRODUCTION

Purpose

This strategic plan identifies how the Forest Health Protection (FHP) program will focus its efforts over the next 5 years. The last strategic plan was completed in 1993.

This plan differs from the 1993 plan in that it consolidates 12 strategic goals into 7 strategies, reduces the number of pages from 58 to 24, and incorporates the recommendations contained in the *Final Report of the Forest Health Protection Futuring Panel, January 2000*. The Futuring Panel's report was written by a team of representatives from FHP and partners, including U.S. Department of Agriculture (USDA) Forest Service Research and Development (R&D) and National Forest System (NFS), USDA Animal and Plant Health Inspection Service (APHIS), U.S. Department of the Interior (DOI) National Park Service, Intertribal Timber Council, National Association of State Foresters, and agriculture agencies. The team recommended several avenues of future work for FHP. This strategic plan is based, in part, on the team's ideas and recommendations.

Background

Many of America's forests continue to face serious threats to long-term forest health. Values that society desires—such as clean water, recreation areas, timber, and viable habitat for threatened and endangered species—may be jeopardized. Generally, the ecological conditions in some areas have been altered to such an extent that the forests are now highly susceptible to many disturbances; particularly insects, pathogens, and wildfires. In the West, periodic large outbreaks of insects or diseases frequently kill thousands of trees, setting the stage for catastrophic wildfires. For highlights of current forest ecosystem health concerns, see *America's Forests 2003 Health Update* (Agriculture Information Bulletin 776, May 2003) at <http://www.fs.fed.us/foresthealth/pubsindex.shtml>.

President Bush's Healthy Forest Initiative and the USDA/DOI National Fire Plan are two recently introduced programs aimed at reducing fire potential. Several strategies outlined in this strategic plan will contribute to the success of those two programs. Significant concerns addressed in the plan include reducing the potential for introduction, establishment, and spread of invasive species; identifying and rapidly responding to forest health threats; providing forest health information and expertise; reducing risk from potentially harmful organisms; and developing and using new technologies to enhance forest health.

FHP Organization

Nationwide, the FHP organization includes more than 250 specialists in the areas of entomology, plant pathology, pesticide use, survey and monitoring, technology development, and other forest health-related services. The FHP workforce is a diverse group of individuals who bring multicultural perspectives to FHP programs and activities. FHP personnel cooperate with a network of forest health specialists from other Federal agencies, as well as agencies in all 50 States and several U.S. territories, universities, and other countries.

FHP personnel conduct surveys for forest insects and pathogens and provide professional and financial assistance for management of these disturbance agents on all forested lands, including national forests, State lands, lands managed by the Departments of Defense and the Interior, other Federal forests, and tribal ownerships. Financial and technical assistance is also provided through State agencies to private forest landowners in all 50 States, the District of Columbia, and current or former U.S. Trust Territories.

FHP has primary responsibility for monitoring forest pests and providing financial and technical assistance for lessening pest-caused damages. Its personnel provide unique technical expertise in this area.

The FHP **MISSION** is to protect and improve the health of America's forests.

The FHP **VISION** is to work with partners to bring together all stakeholders to protect and improve the health of the Nation's forested lands.

FHP is committed to maintaining a diverse workforce and finding innovative ways to rapidly respond to forest health threats to avoid unacceptable loss of forest resources.

Strategies

To move toward the vision of improving forest health, FHP will focus on the following seven strategic areas:

- Risk Reduction***
- Invasive Species***
- Suppression***
- Survey and Monitoring***
- Forest Health Expertise***
- Technology Development***
- Information Management and Dissemination***

These seven strategies are equal in importance, but the prevention and restoration activities embodied in several of the strategies will receive priority.

FHP will try to predict potential problems so preventive actions can be taken.

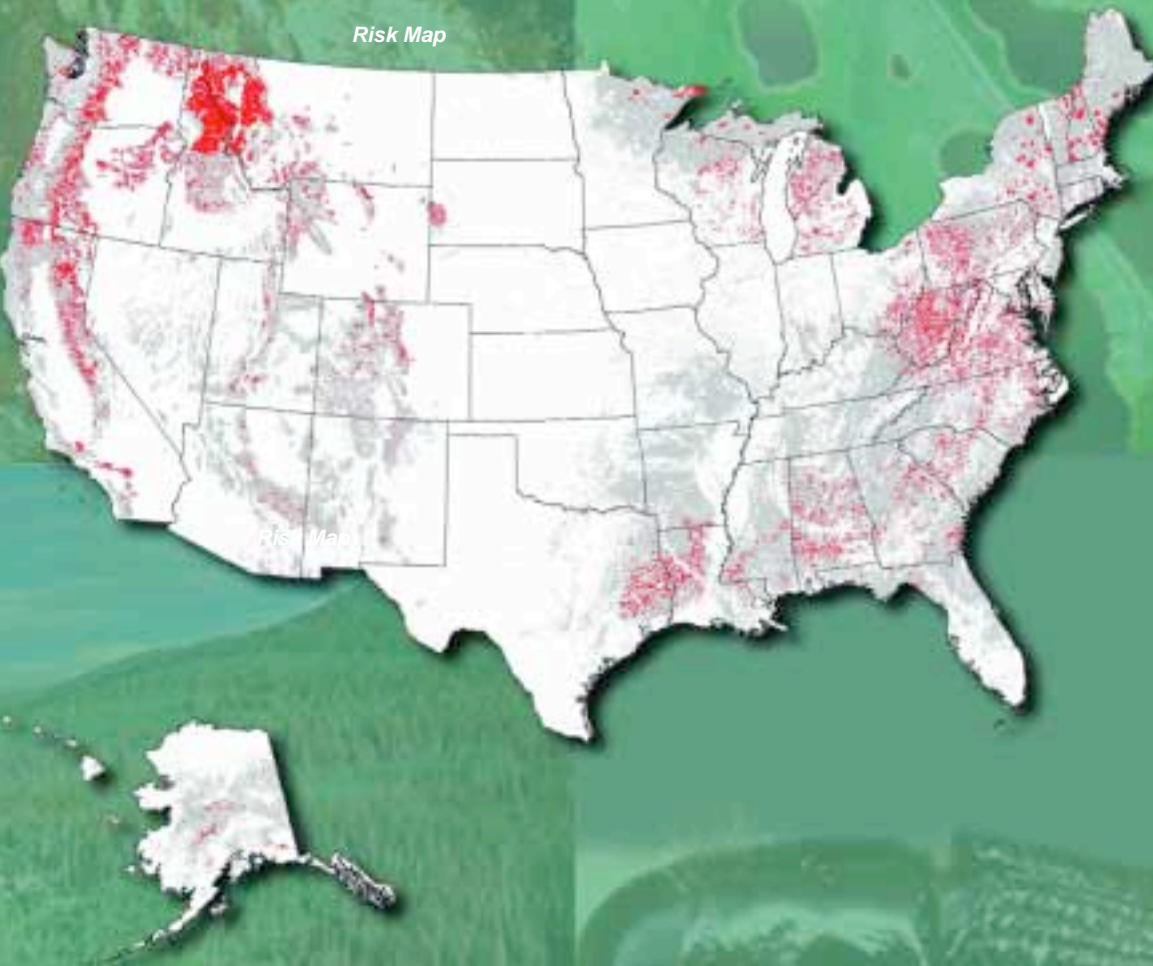


Armillaria Root Disease Damage



Gypsy Moth Larvae Feeding on an Oak Leaf

Risk Map



Risk Map



Mountain Pine Beetle Caused Mortality



Southern Pine Beetle

RISK REDUCTION

Issue: Approximately 70 million acres of the Nation's forests are at risk of extensive tree mortality from insects and pathogens. An area is considered to be at risk if it is expected to incur 25 percent or more tree mortality, above average levels, over the next 15 years.

Background: Many forested areas throughout the United States are at risk of extraordinary levels of tree mortality from insects and pathogens. There are many underlying reasons for this risk, including high tree density, unfavorable species composition, and imbalance of tree age distribution across the landscape. Timely preventive action to reduce this risk will minimize future adverse impacts and reduce pest suppression costs.

FHP recently conducted an effort to identify areas most at risk from insects and pathogens. From that effort, it is estimated that about 70 million acres (about 10 percent of the country's forested land) are at risk. Site-specific evaluations will indicate where prudent actions can be taken to reduce risk.

Goal: Achieve at least a 5 percent reduction in the number of acres at risk by 2006 as established by the Government Performance and Results Act.

Actions:

- Use the risk map, site-specific information, and other factors to help determine where treatments should take place.
- Develop integrated, effective prevention strategies to reduce risk.
- Implement, with partners, these strategies in an environmentally sensitive manner.
- Revise the risk map on an as-needed basis.

FHP will emphasize early detection and rapid response to avoid future problems.



Leafy Spurge



Asian Long-Horned Beetle



Hemlock Woolly Adelgid

INVASIVE SPECIES

Issue: The increasing potential for the introduction, establishment, and spread of invasive species (exotic insects, pathogens, and plants) threatens the integrity and health of the Nation’s rural and urban forests and trees.

Background: Throughout the world, there are many organisms that could cause ecological, economic, and social disruption if introduced into North American forest environments. Past introductions of invasive species have proven to be very costly in terms of ecological and economic damage and control/eradication costs. The rise in international commerce in recent years has substantially increased the potential for more introductions.

Invasive species are difficult and expensive to control because their natural enemies are not present in their newly adopted environments. Consequently, they are usually more disruptive than native species and, once established, they can permanently alter forested ecosystems, adversely affecting productivity and biodiversity. Controlling them costs millions of dollars each year. Preventing introductions of invasive species is much more cost effective than treating them after they have become established.

The best defense against introduction of exotic insects, pathogens, and plants is the vigilance provided by APHIS. The programs conducted by APHIS involve issuing regulations to prevent the introduction of invasive species, intercepting exotic organisms at ports of entry, and imposing quarantines when necessary.

When exotic organisms that pose threats to forests are discovered in the United States, FHP works closely with APHIS, State agencies, and other cooperators to implement eradication procedures in an expeditious manner. If eradication fails, FHP has the authority to limit the spread of exotics to the extent possible through monitoring, containment, and suppression programs.

Goal: Reduce the potential for introduction, establishment, spread, and impact of invasive species in forested environments.

Actions:

- Continue to work with cooperators to aggressively prevent, rapidly detect, and respond early to new invasive species.
- Cooperate with partners to develop survey systems and databases that will enhance early detection and tracking of invasive species.
- Work with cooperators to mitigate adverse ecological, economic, and social effects of established invasive insects, pathogens, and plants; and to slow their spread into new areas.
- Continue to work with cooperators to conduct pesticide risk analyses, evaluate and monitor pesticide use, and support additional forestry pesticide applications.

FHP will implement suppression activities when necessary to protect values.



**Removing
Infested MPB
Trees Reduces
the Risk of an
Outbreak**

**Mountain Pine
Beetle Damage**



Southern Pine Beetle Damage



**Prompt Treatment of
SPB Spots
Prevents Large-Scale
Outbreaks**



SUPPRESSION

Issue: Although native insects, pathogens, and plants are integral parts of forest ecosystems, they sometimes threaten the health of those ecosystems or values that humans deem important.

Background: Many forested areas are vulnerable to disturbances from insects, pathogens, and invasive plants. When infestations reach extraordinary levels that jeopardize management objectives, a management response is warranted. FHP provides technical assistance and funding to Federal and State agencies to minimize damages from forest pests. Usually, FHP efforts focus on areas of special concern, including watersheds, timber production sites, threatened and endangered species habitats, recreation sites, or other areas where resource values are threatened.

Goal: Ensure high-priority suppression projects are completed in an environmentally sensitive and economically efficient manner.

Actions:

- Maintain a strong technical and financial capability to anticipate suppression needs and implement projects effectively.
- Work with cooperators to determine suppression priorities.
- Continue to improve application technologies and test new biological and chemical pesticides and cultural practices.
- Conduct post-project reviews to determine if project objectives were met.
- Ensure that project contracts and plans include measures that adequately address security and safety issues.

FHP will use state-of-the-art systems to provide information on forest conditions.

Surveying and Monitoring



Remote Sensing Tools



SURVEY & MONITORING

Issue: Without continuous surveying and monitoring of rural and urban forests—as well as early detection of disruptive insects, pathogens, and invasive plants—that provides information to effectively respond to situations, the health of the Nation’s forests and trees is threatened.

Background: Survey and monitoring data provide a factual basis for resource management decisionmaking by public officials and private landowners. The USDA Forest Service, through the Forest Health Monitoring (FHM) program (a collaborative program primarily involving FHP, USDA Forest Service Research, and State Foresters) collects data on the condition of the Nation’s forests to assess changes over time. FHM uses systematic, nationwide approaches to data collection to ensure the accuracy, reliability, and credibility of the data. The forest health data collection effort is established on all national forests and in 50 States and several territories. In addition, aerial and ground surveys are conducted annually in support of resource management activities.

Goal: Identify changes and threats to rural and urban forests early enough to help resource managers implement appropriate responses.

Actions:

- Help target survey and monitoring efforts to areas where the most serious threats to forest health exist and where corrective action is feasible.
- Prepare timely analyses and reports on the health of the Nation’s rural and urban forests.
- Complete pilot projects on difficult to monitor forests, such as those in urban and riparian areas.

FHP will maintain high-quality technical assistance capability.



***USDA Forest Service Cooperators
Studying Port-Orford-Cedar Root
Disease***



***Tree Climber
Looking for Asian
Long-Horned Beetle***



***College Students Gaining Hands-On
Experience from a USDA Forest
Service Forester***

FOREST HEALTH EXPERTISE

Issue: Given the gradual decline in the number of USDA Forest Service researchers and the aging of the FHP workforce, there is concern that an appropriate level of forest health expertise may not be available to resource managers in the near future. Diligent workforce planning is necessary to ensure that FHP's cadre of specialists is maintained at a sufficient level to meet resource managers' needs.

Background: Since its beginning over a half-century ago as the U.S. Bureau of Entomology and Plant Quarantine, FHP has built an organization of specialists trained to provide technical assistance on forest health-related matters, particularly those related to insects and pathogens. These specialists are available to help resource managers incorporate disturbance considerations into plans and decisions.

State agencies, universities, and USDA Forest Service Research units also possess a great deal of expertise in forest health-related disciplines. FHP strives to work closely with these groups so that each entity complements the efforts of the others.

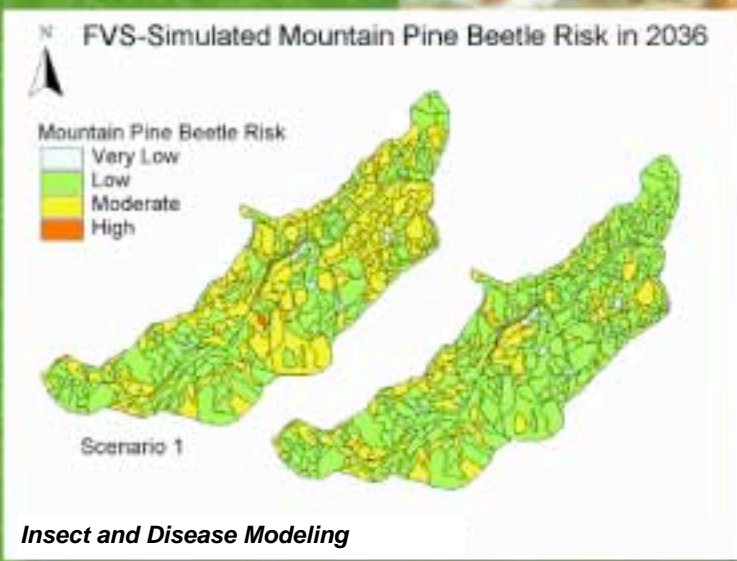
Goal: Maintain FHP's capacity to help resource managers understand the role forest insects, pathogens, and other disturbance agents play in the health of forest ecosystems so they can incorporate the likelihood of potential disturbances into their planning efforts.

Actions:

- Assess the technical assistance needs of USDA Forest Service resource managers, cooperators, and other customers, and adjust FHP's staffing levels, if possible, to meet identified needs.
- Encourage a high level of forest health expertise in State forestry and agriculture organizations.
- Build stronger linkages to USDA Forest Service Research and universities, and support their efforts.
- Encourage continuing education and experience-based learning for FHP specialists.

FHP will continue to develop and use cutting-edge technologies.

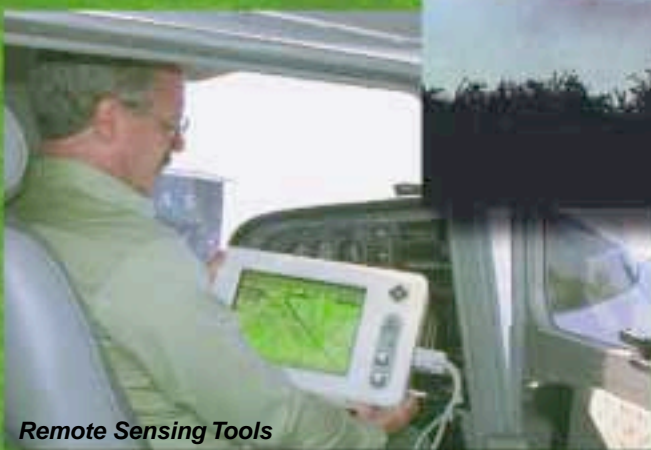
Biological Controls



Insect and Disease Modeling



Aerial Spray Technologies



Remote Sensing Tools

TECHNOLOGY DEVELOPMENT

Issue: Insects, pathogens, and invasive plants pose an ever-changing challenge to managers who are responsible for maintaining the health and productivity of the Nation's forests. These managers need new and improved tools and techniques to keep ahead of this challenge.

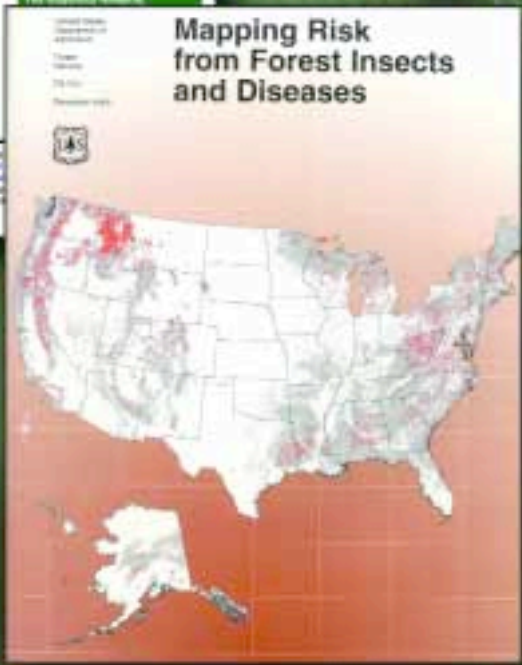
Background: Over the past 25 years, FHP has built an organization of specialists dedicated to developing, evaluating, and refining new technologies and approaches for addressing forest health management needs. These technologies include advanced aerial survey, remote sensing, modeling, data visualization, and geospatial tools, as well as improved pesticide application techniques, use of pheromones and other behavioral chemicals, and application of biological controls. FHP also established the Forest Health Technology Enterprise Team to manage the technology development program. The need to develop and use new technologies remains as strong or stronger today than it was 25 years ago. These technologies help FHP personnel do their job more effectively and efficiently.

Goal: Provide effective and economical technologies to assess and manage potentially damaging insects, pathogens, and plants.

Actions:

- Identify, develop, and refine effective biological controls for major insect pests and invasive plants.
- Develop, refine, and register pheromones and other behavioral chemicals.
- Make nationally operational the use of advanced remote sensing tools for early detection of insect, pathogen, and invasive plant infestations.
- Make nationally operational the use of enhanced prediction tools/models.

FHP will provide timely and accurate information to the public.



INFORMATION MANAGEMENT & DISSEMINATION

Issue: Without credible, accurate information about forest health conditions and the role of native and nonnative insects, pathogens, and invasive plants, managers cannot make well-informed resource management decisions.

Background: Much information pertaining to forest health exists in many forms at various locations. Natural resource decisionmaking is enhanced by a concerted effort to organize information contained in publications, computer files, databases, and other formats into a form that is easy to access and understand.

Goal: Provide customers with readily available and easily understood forest health information.

Actions:

- Efficiently organize forest health information on Web sites that are easy to navigate and contain information pertinent to forest health decisionmaking.
- Work with cooperators to emphasize conservation education and the forest health benefits to be gained from active forest management.
- Conduct regular symposia on the health of the Nation's forests.
- Continue to publish the annual insect and disease conditions report, the triennial forest health update, State forest health reports, and other relevant information for stakeholders and the general public.



CONCLUSION

The FHP organization will begin immediate implementation of the activities outlined in this plan. A great deal of coordination with partners will be necessary to achieve these goals.

The FHP Washington Office Staff will be responsible for tracking, monitoring, and accounting for planned activities over the next 5 years.

The following images were taken from the ForestryImages.org Web site at <http://www.forestryimages.org>

Page 4

Photo: Gypsy Moth Larvae Feeding on an Oak Leaf
Photographer: USDA APHIS PPQ Archives
Image Number: 2652051

Photo: Southern Pine Beetle
Photographer: Texas Agricultural Extension Service Archives, Texas A&M University
Image Number: 3225035

Page 6

Photo: Asian Long-Horned Beetle
Photographer: Kenneth R. Law, USDA APHIS PPQ
Image Number: 4798040

Page 8

Photo: Prompt Treatment of SPB Spots Prevents Large-Scale Outbreaks
Photographer: Ronald F. Billings, Texas Forest Service
Image Number: 3225041

Page 10

Photo: Surveying and Monitoring
Photographer: Ronald F. Billings, Texas Forest Service
Image Number: 3225018

All other photos: USDA Forest Service

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