

Title II – Biomass

This title provides the authority to obtain information that will help overcome barriers to the production and use of biomass and help communities and businesses create economic opportunity through sustainable use of the Nation's forest resources. Three programs will help achieve those goals.

Research to Improve Biomass Use

In HFRA Section 201, the Biomass Research and Development Act of 2000 was amended to focus research on overcoming barriers hindering the use of biomass. Emphasis areas are:

- Integration of silviculture, harvesting, product processing, and economic factors
- Decision support for production and management alternatives
- Tools for cost and stumpage analysis
- Development of light-on-the-land, cost-effective mechanical treatment systems
- Development of training materials

Funding authorization was increased by \$5 million for the new research emphasis.

The Fiscal Year 2004 solicitation for the Biomass and Development Initiative was modified to include competitive funding opportunities for feedstock development, new products, and forest management training, as identified in the HFRA. Other research activities will continue as part of the Biobased Products and Bioenergy program within the USDA and in collaboration with the U.S. Department of Energy, including some of the focus areas under this section. Depending on funding levels, additional research will be accelerated, expanded, or developed to implement the HFRA fully. USDA Forest Service Research and Development has a comprehensive research program that includes forest biomass assessment, management, harvesting and recovery, utilization, processing, and marketing.

Rural Revitalization Through Forestry

Section 202 of the HFRA amended Section 2371 of the Food, Agriculture, Conservation, and Trade Act of 1990 (7 U.S.C. 6601). This section essentially replaces the USDA Forest

Service State and Private Forestry Cooperative National Forest Products Marketing Program eliminated in 1990. The HFRA provides new authority, but in many ways, the policy and budget direction of the USDA Forest Service is in place and similar work is underway through a combination of different authorities. The efforts of State and Private Forestry Forest Product Conservation and Recycling utilization and marketing specialists, including the Technology Marketing Unit of the Forest Products Lab, USDA Forest Service Research and Development employees, and partnership coordinators in the NFS have had varying levels of success in assisting community-based enterprises over the years.

The HFRA provides direction to accelerate assistance to community-based enterprises and encourages the adoption of technologies that use biomass and small-diameter material. Success depends on the participation of State foresters' utilization and marketing specialists, Federal and State economic development assistance agencies, local nonprofit organizations, and businesses involved in collective efforts to build community-based forest enterprises. Some promising areas include:

- New emphasis to work with universities and the USDA Cooperative State Research, Education, and Extension Service
- Formalized procedures to access, select, fund, and monitor pilot or demonstration projects in targeted parts of the country

- Greater emphasis on adding value to small-diameter and underutilized forest material, particularly biomass removed during fuel-reduction and restoration projects

Funding authorization is \$5 million for each fiscal year from 2004 through 2008.

Biomass Commercial Utilization Grant Program

Section 203 of the HFRA contains the following language:

(a) IN GENERAL.—In addition to any other authority of the Secretary of Agriculture to make grants to a person that owns or operates a facility that uses biomass as a raw material to produce electric energy, sensible heat, transportation fuel, or substitutes for petroleum-based products, the Secretary may make grants to a person that owns or operates a facility that uses biomass for wood-based products or other commercial purposes to offset the costs incurred to purchase biomass.

(b) AUTHORIZATION OF APPROPRIATIONS.—There is authorized to be appropriated to carry out this section \$5,000,000 for each of fiscal years 2004 through 2008.

If funds for this program are requested and appropriated, further guidance on implementation will be developed.

Title III—Watershed Forestry Assistance

This title provides assistance to expand forest stewardship capacities and activities through forestry best management practices and other means to address watershed issues on non-Federal forested and potentially forested land (Section 302), including lands under Tribal jurisdiction (Section 303). The title's overall purposes include:

- Improving public understanding of the connection between forest management and watershed health
- Encouraging property owners to maintain tree cover and use tree plantings and vegetative treatments as creative solutions to watershed problems
- Enhancing forest management and riparian buffer use in watersheds, with an emphasis on community watersheds
- Establishing partnerships and collaborative watershed approaches to forest management, stewardship, and conservation

Watershed Forestry Assistance

This program, which is to be administered by the USDA Forest Service and implemented by the State foresters or equivalent State officials, authorizes an appropriation of \$15 million each fiscal year from 2004 through 2008. This section directs the USDA Forest Service, in cooperation with participating State foresters, to:

- Engage interested members of the public, including nonprofit organizations and local watershed councils, to develop a program of technical assistance to protect water quality

- Establish a watershed forestry cost-share program that provides for:
 - Awards to communities, nonprofit groups, and nonindustrial forest landowners for watershed forestry projects
 - Selection of priority watersheds by State forest stewardship committees or their equivalents to target funding for projects
 - Creation of State watershed forester positions

Tribal Watershed Forestry Assistance

This program, which is to be administered by the USDA Forest Service and implemented by participating Tribes, authorizes appropriations of \$2,500,000 each fiscal year from 2004 through 2008. This section directs the USDA Forest Service, in cooperation with participating Tribes, to:

- Develop a program to provide technical assistance to protect water quality
- Establish a watershed forestry program that provides for:
 - Annual awards to Tribes for watershed forestry projects
 - Selection of priority watersheds to target funding for projects
 - Opportunities to create Tribal watershed forester positions

Developing Program Guidelines

The guidelines for implementing Sections 302 and 303 will highlight the link between healthy forests, healthy watersheds, and clean water; encourage the use of forests and forestry practices in protecting and restoring watersheds; and promote

partnerships and collaborative approaches through community-based, watershed-scale planning and management of forested landscapes. The guidelines will provide information on the technical and financial assistance available; outline eligibility requirements for Tribes, landowners, and other entities; and discuss criteria for allocation of funds. Tables 1 and 2 provide timelines for developing the guidelines.

Table 1—The timeline for developing Section 302 guidelines during 2004 (Watershed Forestry Assistance Program).

Month	Task
January	Form a workgroup including representatives of State forestry agencies, the USDA Forest Service, and USDA Cooperative State Research Education and Extension Service.
February to September	Develop and implement a communication plan for public outreach.
March	Publish the <i>Federal Register</i> notice of intent to develop guidelines. A 30-day comment period will be provided.
March to September	Develop and refine drafts of the guidelines based on comments from the public, other agencies, and interested stakeholders.
October	Issue the final guidelines and publish the <i>Federal Register</i> notice of availability of the guidelines.

Table 2—The timeline for developing Section 303 guidelines during 2004 (Tribal Watershed Forestry Assistance Program).

Month	Task
January	Begin coordination with Tribes and Tribal organizations.
February to March	Request input from Tribes through a <i>Federal Register</i> notice and other means on Tribes' preferences for Tribal coordination, their need for technical assistance, and an overall approach for implementing Section 303.
March to September	Form a workgroup of USDA Forest Service and Tribal representatives to develop and refine drafts of the guidelines.
October	Publish the <i>Federal Register</i> notice of availability of the guidelines and distribute the final guidelines to the Tribes.

Title IV—Insect Infestations and Related Diseases

This title focuses primarily on developing an accelerated program of basic and applied research, development, and technology transfer to combat infestations by forest-damaging insects and associated diseases. The act notes the need for cooperation with colleges and universities, State agencies, and private landowners to carry out the program. Although healthier forests should be less susceptible to wildland fire, this title emphasizes methods to prevent and suppress infestations of insects and related diseases, utilization options for infested trees, and restoration of forest ecosystems.

In Section 402 of the HFRA, *applied silvicultural assessment* means “any vegetative or other treatment carried out for information gathering and research purposes.” *Applied silvicultural assessment* includes timber harvesting, thinning, prescribed burning, pruning, and any combination of those activities. Although applied treatments—including new insect attractants—are not specifically listed, they also will be of interest. Eight specific forest-damaging insects are listed, including: southern pine beetle, mountain pine beetle, spruce bark beetle, gypsy moth, hemlock wooly adelgid, emerald ash borer, red oak borer, and white oak borer. To address other species that might become serious forest pests, the title includes the language “and such other insects as may be identified by the Secretary.” The term *Secretary* refers to the USDA and DOI. Both departments are covered by Title IV.

Accelerated Information Gathering

Section 403 of the HFRA establishes an accelerated program to:

- Plan, conduct, and promote comprehensive and systematic information gathering on forest-damaging insects and associated diseases, including an evaluation of several factors:
 - Infestation prevention and suppression methods
 - Effects of infestations and associated disease interactions on forest ecosystems

—Efforts to restore forest ecosystems

—Utilization options for infested trees

—Models to predict the occurrence, distribution, and impact of outbreaks of forest-damaging insects and associated diseases

- Help resource managers develop treatments and strategies to improve forest health and reduce the susceptibility of forest ecosystems to severe infestations of forest-damaging insects and associated diseases on Federal, State, and private land
- Disseminate the results of the information gathering, treatments, and strategies

These activities will be conducted under the auspices of both the Secretary of Agriculture, acting through the USDA Forest Service for NFS land, and the Secretary of the Interior, acting through appropriate offices of the U.S. Geological Survey for Federal land administered by the DOI, in cooperation with colleges; universities; Federal, State, and local agencies; and private and industrial landowners.

Applied Silvicultural Assessments

Section 404 provides for information gathering and research. The language provides for field studies, or *applied silvicultural assessments*, on Federal land that is “at risk of infestation by, or is infested with, forest-damaging insects.” Within the USDA Forest Service, the applied silvicultural assessments may be conducted under the category of administrative studies (FSM 1991), research studies (FSM 4072.3), or special pest management projects (FSM 3440; FSH 3409.11, chapter 50). All three options provide the opportunity for collaboration among USDA Forest Service Research and Development, National Forest System, and State and Private Forestry. Within the U.S. Geological Survey, the applied silvicultural assessments occur under the auspices of research studies.

Each applied silvicultural assessment should be covered by a study plan, whether the assessment is a research study, administrative study, or special pest management project. Research personnel should be involved in study plan development, in any case. Table 3 includes the references for further information on the specific types of studies.

Table 3—References for research study plans, administrative studies, and special pest management plans.

Agency	Research study plans	Administrative studies	Special pest-management projects
USDA FS	FSM 4072.3	FSM 1991.05	FSH 3409.11, chapter 50
USGS	Department Manual, part 305, chapter 4		

Each silvicultural assessment authorized under this title must be peer reviewed by “scientific experts,” including non-Federal experts. Existing peer review processes may be used. Peer review is not specified under FSM 1991 for administrative studies. However, peer review is required to use HFRA authorities. Table 4 includes references for peer review of study plans for research studies.

Table 4—References for peer review of study plans for research studies.

Agency	Peer review references
USDA FS	FSM 4072.3
USGS	Draft (9/17/03) Department Manual, part 305, chapter 4 (Scientific Review) Peer Review Guidelines: http://biology.usgs.gov/intranet/science/science.html

Section 404 carries a requirement for public notice and comment and, “where significant interest is expressed,” for multiparty monitoring under Section 102(g)(5) of the HFRA. Persons using this authority must provide public notice of each proposed applied silvicultural assessment. For guidance on public notice and comment within the USDA Forest Service, refer to FSH 1909.15—*Environmental Policy and Procedures Handbook*, chapter 11: *Conduct Scoping*.

This section includes a provision for a categorical exclusion for certain applied silvicultural assessment and research treatments, with a limit of 1,000 acres for an assessment or treatment. This provision is the title’s major new authority. The assessment or research treatments may be categorically excluded from documentation in an EIS or EA under NEPA with the provisions that:

- The assessments or research treatments shall not be in an area that is adjacent to another area that is categorically excluded and is being treated with similar methods
- The assessments or research treatments shall be subject to the extraordinary circumstances procedures (40 CFR 1508.4)
- The total number of acres categorically excluded under Section 104(d) shall not exceed 250,000
- No additional findings are required to determine whether an assessment project, either individually or cumulatively, has a significant effect on the environment

Tracking acres under this title will be a joint effort for USDA Forest Service Research and Development and the U.S. Geological Survey.

Title V – Healthy Forests Reserve Program

Title V directs the USDA to establish a *Healthy Forests Reserve Program* to acquire short- and long-term agreements and easements on private land to promote the recovery of endangered species, improve biodiversity, and enhance carbon sequestration. It:

- Directs the Secretary of Agriculture, in consultation with the Secretaries of the Interior and Commerce, to designate rare forest ecosystems that are eligible for the reserve program
- Specifies lands eligible for enrollment and lists eligibility and enrollment requirements for program participants, including enrollment priorities for land with threatened and endangered species

- Allows lands to be enrolled based on a 10-year cost-share agreement, a 30-year easement, or an easement of not more than 99 years
- Specifies a maximum enrollment of 2 million acres
- Requires the Secretary to consider the cost effectiveness of each agreement and its restoration plans to maximize the environmental benefits per dollar expended

Title V does not designate an implementing agency. The USDA is conducting a detailed assessment to determine the capacities that are needed to deliver the *Healthy Forests Reserves Program*. Once the assessment is complete, the USDA will proceed with our ongoing assessment of the agency or agencies that would best be positioned to deliver this program.

Title VI—Miscellaneous

This title establishes a Forest Stands Inventory and Monitoring Program to improve the detection of environmental threats and the responses to them.

Section 601(a) instructs the Secretary of Agriculture to carry out a program to monitor forest stands on NFS lands and private lands (with landowner consent), authorizing \$5 million for each fiscal year from 2004 through 2008 to implement the program. Section 601(b) describes the issues to be addressed by this program:

- Early detection, identification, and assessment of environmental threats (including insects, disease, invasive species, fire, weather-related risks, and other episodic events)
- Loss or degradation of forests
- Degradation of the quality of forest stands caused by inadequate forest-regeneration practices
- Quantification of carbon-uptake rates
- Management practices that focus on preventing further forest degradation

As part of the program, Section 601(9)(c) requires the Secretary of Agriculture to develop a comprehensive “early warning system” that will enable resource managers to better:

- Isolate and treat a threat before the threat gets out of control
- Prevent epidemics, such as the American chestnut blight in the first half of the 20th Century, that could be environmentally and economically devastating to forests

Several existing USDA Forest Service programs are already addressing the issues in Section 601(b). These programs will be reviewed to determine the degree to which they meet the requirements of Title VI. Some of these programs are described below.

North American Exotic Forest Pest Information System

Forest insect and disease organisms introduced from other continents (exotic forest pests) pose an increasing threat to the forests of North America. Information on management of these pests often is not available readily to pest management spe-

cialists, regulatory officers, research scientists, and the general public. The Exotic Forest Pest Information System for North America (EXFOR) collects hard-to-find information assessing an exotic forest insect or pathogen’s risk of establishment and spread and on its management. EXFOR is a scientifically based Internet database including information on more than 100 exotic insect pests and disease pathogens. This information, which enables resource managers to design rapid detection systems for specific exotic organisms, is available at: http://www.fs.fed.us/foresthealth/briefs/EXFOR_database%20.htm.

Forest Health Protection

The Forest Health Protection (FHP) staff works to protect America’s forest and tree resources from damaging outbreaks of forest insects, pathogens, and invasive plants. FHP does this by providing survey and monitoring information, and technical and financial assistance to prevent, suppress, and control outbreaks of forest pests to Federal, State, and private resource managers. FHP also helps to maintain, enhance, and restore healthy forest conditions. FHP works in partnership with the USDA Animal and Plant Health Inspection Service and State agencies to detect and eradicate newly introduced exotic organisms. Information on FHP is available at: http://www.fs.fed.us/foresthealth/briefs/What_we_do_8_03.pdf and <http://www.fs.fed.us/foresthealth>.

Rapid Pest Detection Program

This program is designed to develop the framework for and implement a national interagency detection, monitoring, and response system for nonnative invasive species. Since 2001, the Exotic Pest Rapid Detection Team has coordinated pilot tests for the detection of nonnative bark beetles and nun moths throughout the United States. The team’s objective is to develop and test a prototype national survey, identify potential exotic pests and likely pathways of introduction and spread, identify detection and management guidelines, detect and monitor new introductions at selected high-risk sites, develop recommendations to address gaps in detection protocols and taxonomic resources, and use the information collected to set agency protocols and priorities (http://www.fs.fed.us/foresthealth/briefs/Rapid_dect_response_prg.htm).

Pest Suppression

The Pest Suppression Program of the FHP focuses on implementing efficient and effective treatments to reduce the impacts of forest pests. Forest health management specialists evaluate the risk for tree mortality and determine prevention, suppression, maintenance, and restoration treatments based on results of risk evaluations and surveys. Aerial and ground surveys for insects and diseases are conducted in areas of risk. The program also supports the agency initiative and focus items addressing invasive species on Federal and Tribal lands (http://www.fs.fed.us/foresthealth/forest_health_management.shtml).

Forest Health Monitoring

Forest Health Monitoring is a National program designed to determine the status, changes, and trends annually in indicators of forest condition. The monitoring program uses data from ground plots and surveys, aerial surveys, and other biotic and abiotic data sources and develops analytical approaches to address forest health issues that affect the sustainability of forest ecosystems. Forest Health Monitoring covers all forested lands through a partnership involving USDA Forest Service, State foresters, and other State and Federal agencies and academic groups. Major activities include:

- Detection Monitoring—Nationally standardized aerial and ground surveys to evaluate status and change in the condition of forest ecosystems
- Evaluation Monitoring—Projects to determine the extent, severity, and causes of undesirable changes in forest health identified through detection monitoring
- Intensive Site Monitoring—To enhance understanding of cause-and-effect relationships

- Research on Monitoring Techniques—To develop or improve indicators, monitoring systems, and analytical techniques
- Analysis and Reporting—Synthesis of information from various data sources to produce reports on status and change in forest health at National, regional, and State levels (<http://www.na.fs.fed.us/spfo/fhm/>).

Forest Inventory and Analysis

Forest Inventory and Analysis is the Nation's forest census. Forest Inventory and Analysis collects, analyzes, and reports information on status and trends, including:

- Forest areas and locations
- Species composition, size distribution, and health of forests
- Growth, mortality, and removals by harvesting
- Wood production and utilization rates, by various products
- Forest land ownership
- Various measures of forest health and sustainability

The program includes information relating to tree crown condition, lichen community composition, soils, ozone indicator plants, vegetative diversity, and coarse woody debris. The program is managed by USDA Forest Service Research and Development in cooperation with State and Private Forestry, the National Forest System, and the National Association of State Foresters. The program covers all public and private forest lands in the United States. The program is implemented in cooperation with a variety of partners, including State forestry agencies and private landowners who grant access to their lands for data collection (<http://fia.fs.fed.us>).

Glossary

At-Risk Community—In Title I of the HFRA, this term means an area comprised of:

- An interface community as defined in the notice *Wildland Urban Interface Communities Within the Vicinity of Federal Lands That Are at High Risk From Wildfire* issued by the Secretary of Agriculture and the Secretary of the Interior in accordance with Title IV of the U.S. Department of the Interior and Related Agencies Appropriations Act, 2001 (114 Stat. 1009) (66 FR 753, January 4, 2001)

OR

- A group of homes and other structures with basic infrastructure and services (such as utilities and collectively maintained transportation routes) within or adjacent to Federal land
- AND**

- In which conditions are conducive to a large-scale wildland fire disturbance event

AND

- For which a significant threat to human life or property exists as a result of a wildland fire disturbance event

Authorized Hazardous-Fuel-Reduction Project—In Title I of the HFRA, this term means projects carried out on the specific types of BLM and NFS lands authorized under HFRA Section 102 using various methods to reduce hazardous fuel, including: prescribed fire, wildland fire use, and various mechanical methods, such as crushing, tractor and hand piling, thinning (to produce commercial or precommercial products), and pruning.

Community Wildfire Protection Plan—In Title I of the HFRA, this term means a plan for an at-risk community that:

- Is developed in the context of the collaborative agreements and the guidance established by the Wildland Fire Leadership Council and agreed to by the applicable local government, local fire department, and State agency responsible for forest management, in consultation with interested parties and the Federal land-management agencies managing land in the vicinity of the at-risk community

- Identifies areas for hazardous-fuel-reduction treatments, sets priorities for treating them, and recommends the types and methods of treatment on Federal and non-Federal land that will protect one or more at-risk communities and their essential infrastructure

AND

- Recommends measures to reduce structural ignitability throughout the at-risk community

Condition Class 2—This term means the condition class description developed by the USDA Forest Service Rocky Mountain Research Station in the *Development of Coarse-Scale Spatial Data for Wildland Fire and Fuel Management* (RMRS-GTR-87, http://www.fs.fed.us/rm/pubs/rmrs_gtr87.html), dated April 2000 (including any subsequent revisions), under which:

- Fire regimes on the land have been moderately altered from historical ranges.
- A moderate risk exists of losing key ecosystem components from fire.
- Fire frequencies have increased or decreased from historical frequencies by one or more return intervals, resulting in moderate changes to:

—The size, frequency, intensity, or severity of fires.

OR

—Landscape patterns.

AND

—Vegetation attributes have been moderately altered from their historical ranges.

Condition Class 3—This term means the condition class description developed by the Rocky Mountain Research Station in RMRS-GTR-87 (see above) under which:

- Fire regimes on land have been significantly altered from historical ranges.
- A high risk exists of losing key ecosystem components from fire.
- Fire frequencies have departed from historical frequencies by multiple return intervals, resulting in dramatic changes to:

—The size, frequency, intensity, or severity of fires.

OR

—Landscape patterns.

AND

- Values of vegetation attributes have been significantly altered from their historical ranges.

Covered Project—This term means authorized hazardous-fuel reduction projects carried out on land described in Section 102(a) of the HFRA, except projects designed to reduce significant insect and disease threats (Section 102(a)(4)).

Glossary

Decision Document—In Title I of the HFRA, this term means:

- A decision notice (as that term is used in the USDA *Forest Service Handbook*)
- A decision record (as that term is used in the *Bureau of Land Management Handbook*)
- A record of decision (as that term is used in applicable regulations of the Council on Environmental Quality)

Fire Regime I—This term means an area:

- That historically has had low-severity fires every 0 to 35 years
AND
- That is located primarily in low-elevation forests of pine, oak, and pinyon-juniper

Fire Regime II—This term means an area:

- That historically has had stand-replacement-severity fires every 0 to 35 years
AND
- That is located primarily in low- to mid-elevation rangeland, grassland, or shrubland

Fire Regime III—This term means an area:

- That historically has had mixed-severity fires every 35 to 100 years
AND
- That is located primarily in forests of mixed conifer, dry Douglas-fir, or wet ponderosa pine

Hazard—This term means a set of conditions that make a forest stand vulnerable to significant damage (usually tree mortality) as a result of an insect or disease epidemic. Often,

this term is used with an assessment of pest populations (see *Risk*).

Implementation Plan—This term means *A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment: 10-Year Comprehensive Strategy Implementation Plan* (May 2002 and subsequent revisions, <http://www.fireplan.gov/reports/11-23-en.pdf>), developed pursuant to the conference report that accompanied the U.S. Department of the Interior and Related Agencies Appropriations Act, 2001 (House Report 106-64).

Interface Community—As defined in the Federal Register notice of January 4, 2001, an *interface community* is a community where structures directly abut wildland fuels. A clear line of demarcation generally exists between the wildland fuels and residential, business, and public structures. Wildland fuels generally do not extend into the developed area. The development density for an interface community is usually three or more structures per acre, with shared municipal services. Fire protection is generally provided by a local government fire department, which has the responsibility to protect structures from interior fires and from wildland fires. An alternative definition of the interface community emphasizes a population density of 250 or more people per square mile (66 FR 753).

Municipal Watershed—A community water system “that serves at least 15 service connections used by year-round residents of the area served by the system; or regularly serves at least 25 year-round residents” (Safe Drinking Water Act, Section 1401, 42 U.S.C.A. 300f.(15)).

Municipal Water Supply System—This term means the:

- Reservoirs, canals, ditches, flumes, laterals, pipes, pipelines, and other surface facilities

AND

- Systems constructed or installed for the collection, impoundment, storage, transportation, or distribution of drinking water

Old-Growth Management Direction—This term means definitions, designations, standards, guidelines, goals, or objectives established for an old-growth stand under a resource management plan developed in accordance with applicable law.

Resource Management Plan—This term means:

- A land and resource management plan prepared for one or more units of land of the National Forest System described in Section 3(1)(A) under Section 6 of the Forest and Rangeland Renewable Resources Planning Act of 1974 (16 U.S.C. 1604)
OR
- A land-use plan prepared for one or more units of the public land described in Section 3(1)(B) under Section 202 of the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1712).

Risk—This term expresses the likelihood that an insect or disease outbreak will cause significant economic or environmental damage to a stand or forest. Often, this term is used with an assessment of hazard (see *Hazard*).

Threatened and Endangered Species Habitat—In Title I of the HFRA, this term means Federal land identified in a:

- Determination that a species is an endangered species or a threatened species under the Endangered Species Act (ESA) of 1973 (16 U.S.C. 1531 et seq.)
- Designation of critical habitat of the species under the ESA
OR

- Recovery plan prepared for the species under the ESA

Wildland-Urban Interface—In applying Title I of the HFRA, this term means:

- An area within or adjacent to an at-risk community identified in recommendations to the Secretary in a Community Wildfire Protection Plan
OR

- In the case of any area for which a Community Wildfire Protection Plan is not in effect:

—An area extending ½ mile from the boundary of an at-risk community

—An area within 1½ miles of the boundary of an at-risk community, including any land that:

- Has a sustained steep slope that creates the potential for wildland fire behavior endangering the at-risk community

- Has a geographic feature that aids in creating an effective firebreak, such as a road or ridgetop
OR

- Is in Condition Class 3, as documented by the Secretary in the project-specific environmental analysis
AND

—An area that is adjacent to an evacuation route for an at-risk community that the Secretary determines—in cooperation with the at-risk community—requires hazardous-fuel reduction to provide safer evacuation.

When you are not using Title I of the HFRA, use the definition of wildland-urban interface community from the *Federal Register*, January 4, 2001, pages 752 to 753.

References

At-Risk Municipal Watersheds

A number of methods, protocols, or tools can be used to assess risks after a fire has burned in a municipal watershed. Some methods apply to a wider set of conditions or a broader geographical area than others. One method for assessing the risks is described in chapter 4 of *Mapping Wildfire Hazards and Risks* (Sampson, Atkinson, and Lewis 2000, see below). Field personnel should employ methods for which they have reliable data and confidence. Some local applications may provide the best estimates.

The erosion potential after a fire can be estimated by entering information on vegetation, soils, slope length and steepness, and fire severity in the *Disturbed WEPP* model, available online at: <http://forest.moscowfs.wsu.edu/engr/erodesw.html>

Slope stability can be estimated using the LISA model (assuming that 5 years after a severe fire, root strength and tree surcharge will be 0). This model is available at: <http://forest.moscowfs.wsu.edu/engr/slopesw.html>

Source Water Assessments, created at the State level, may be an additional source of data and information. About 40 States have completed their assessments (<http://www.epa.gov/safe-water/protect/assessment.html>).

Information on abandoned mines on DOI BLM lands is available at: <http://www.blm.gov/aml>

Publications

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Seaber, P. R.; Kapinos, F. P.; Knapp, G. L. 1987. Water-Supply Paper 2294. Hydrologic unit maps: U.S. Department of the Interior, U.S. Geological Survey. 63 p.

Threats of Insect or Disease Epidemics

A variety of risk- and hazard-rating systems and models have been developed for some of the most important insects and diseases that affect forests. Because of regional differences in forest types and associated insect and disease activity, the tasks of selecting an appropriate hazard rating system, choosing data collection methods, analyzing data, and interpreting the results will require consulting with professional pathologists and entomologists.

Outbreak factors, impacts, and management strategies for the West are described in *Assessment and Response to Bark Beetle Outbreaks in the Rocky Mountain Area* (RMRS-GTR-62, http://www.fs.fed.us/rm/pubs/rmrs_gtr62.html).

A listing of local forest health specialists is available at: http://www.fs.fed.us/foresthealth/regional_offices.html

The Forest Health Technology Enterprise Team supports a variety of forest pest extensions for the *Forest Vegetation Simulator* at: <http://www.fs.fed.us/foresthealth/technology/products.shtml>

Additional information on forest insects and diseases is available online at: <http://www.fs.fed.us/foresthealth/pubsindex.shtml> and <http://www.forestpests.org/>

Threatened and Endangered Species

Web Sites

Birds and Burns Network (fire effects on wildlife in ponderosa pine)
<http://www.rmrs.nau.edu/lab/4251/birdsnburns/>

Endangered Species Act net benefits and alternative approaches guidance
<http://www.fs.fed.us/projects/hfi/tools.shtml>

Endangered Species Consultation Handbook
<http://endangered.fws.gov/consultations/s7hndbk/s7hndbk.htm>

Endangered Species Consultation with Federal agencies
<http://endangered.fws.gov/consultations/consultations.pdf>

Fire Effects Information System (threatened and endangered species habitat and fire information)

<http://www.fs.fed.us/database/feis/index.html>

National Fire Plan Project Design and Consultation

<http://www.or.blm.gov/fcp/>

National Oceanic and Atmospheric Administration Fisheries (threatened and endangered species programs and information)

http://www.nmfs.noaa.gov/prot_res/overview/es.html

NatureServe Explorer (threatened and endangered species habitat and fire information)

<http://www.natureserve.org/explorer/servlet/NatureServe?init=Species>

Science Synthesis and Integration for Fuels Planning: Ecological Consequences

http://www.fs.fed.us/fire/tech_transfer/synthesis/synthesis_index

The Nature Conservancy Fire Initiative

<http://nature.org/initiatives/fire/>

The Nature Conservancy Conserve Online

<http://www.conserveonline.org/>

Threatened and endangered species habitat and fire profiles, listing rules, and recovery plans

<http://endangered.fws.gov/wildlife.html>

USDA Forest Service research publications

<http://216.48.37.142/>

U.S. Fish and Wildlife Service (threatened and endangered species recovery and recovery plans)

<http://endangered.fws.gov/recovery/index.html>

U.S. Fish and Wildlife Service (threatened and endangered species programs, information, and species searches)

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Wildfire, the Endangered Species Act, and human safety

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Regional Planning Direction

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Examples of management direction can be found in the *Northwest Forest Plan Standards and Guidelines*, available at: <http://www.reo.gov/library/reports/newsandga.pdf>

Review the sections on ecological principles (Pages B–1 through B–9), riparian reserves (B–12 through B–17 and C–31 through C–32), and late-successional reserves (C–9 through C–20).

Planners should consider the three-part *Arapaho-Roosevelt Land Management Plan Prototype* (<http://maps.fs.fed.us/fp/r2/arnf/>) as an example for addressing provisions of the HFRA.

Planners should consider the forest health language that applies in the USDA Forest Service Strategic Plan (2000 revision, <http://fsweb.wo.fs.fed.us/rpa/stratplan.pdf>) specifically, Goal 1, objective 1.c, and related strategies, measures, and milestones.

Project-Level Guidance

Brown, P. M.; Kaufmann, M. R.; Shepperd, W. D. 1999. Long-term landscape patterns of past fire events in a ponderosa pine forest of central Colorado. *Landscape Ecology*. 14: 513–532.

Forest Vegetation Simulator (FVS) and the *Fire and Fuels Extension* (FFE) are key tools for modeling the effects of proposed treatments to reduce the risk of wildland fire while achieving large-tree retention and old-growth stand conditions resembling those before fire suppression. More information is available at: <http://www.fs.fed.us/fmssc/fvs/index.php>

Kaufmann, M. R.; Huckaby, L. S.; Fornwalt, P. J.; Stoker, J. M.; Romme, W. H. 2003. Using tree recruitment patterns and fire history to guide restoration of an unlogged ponderosa pine/Douglas-fir landscape in the southern Rocky Mountains after a century of fire suppression. *Forestry* (UK). 76: 231–241.

General

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Library Card

U.S. Department of Agriculture, Forest Service; U.S. Department of the Interior, Bureau of Land Management. 2004. The Healthy Forests Initiative and Healthy Forests Restoration Act: Interim Field Guide. FS-799. Washington, DC: U.S. Department of Agriculture, Forest Service. 58 p.

Provides general guidance on implementing the Healthy Forests Initiative and Healthy Forests Restoration Act for resource managers and line officers in the U.S. Department of Agriculture, Forest Service and U.S. Department of the Interior Bureau of Land Management. The field guide addresses the

administrative and legal issues resource managers should consider when preparing fuel-reduction and forest-restoration projects. It includes three decision diagrams that are intended to help resource managers and includes references to Web sites and publications.

Keywords: collaboration, epidemics, fire management, fire suppression, forest health protection, Indian Tribes, old growth, planning, threatened and endangered species, watersheds, wildfire, wildland fire, wildland-urban interface