

## **Proposed Directive FSM 2020 - Ecological Restoration and Resilience**

### **QUESTIONS AND ANSWERS**

#### **How is ecological restoration defined?**

Ecological Restoration is the process of assisting the recovery of resilience and adaptive capacity of ecosystems that have been degraded, damaged, or destroyed. Restoration focuses on establishing the composition, structure, pattern, and ecological processes necessary to make terrestrial and aquatic ecosystems sustainable, resilient, and healthy under current and future conditions.

#### **Why is the Forest Service developing FSM 2020 - Ecological Restoration and Resilience?**

The need for ecological restoration is widely recognized, and the Forest Service has conducted restoration-related activities across many programs for decades. However, an internal agency study identified that the concept of ecological restoration has not been well understood nor consistently implemented within the Forest Service.

The Forest Service lacks a foundational, comprehensive policy and definitions to more effectively utilize ecological restoration as a tool for achieving land management objectives on national forests and grasslands.

This directive is needed to provide an overarching and unifying policy and definition of restoration for Forest Service employees and partners to more effectively communicate restoration needs at the local, regional, and national levels—all resource management programs have a responsibility for ecological restoration.

This directive will enable the Forest Service to more effectively address 21<sup>st</sup> century environmental issues such as climate change, water quality, and increasing threats from wildfires, insects, disease, and invasive species.

#### **What is the goal of ecological restoration?**

The goal of ecological restoration is to reestablish and retain the resilience of National Forest System lands and associated resources to achieve sustainable management and provide a broad range of ecosystem services. Healthy and resilient landscapes will have greater capacity to survive natural disturbances and large scale threats to sustainability, especially under changing and uncertain future environmental conditions, such as those driven by climate change and increasing human uses.

#### **What are the major changes in ecological restoration that are different from previous policy?**

This directive provides a foundational, comprehensive policy and definitions that previous policy lacks.

The new policy broadens the definition of ecological restoration beyond the traditional goal of reestablishing specific resource conditions that existed at some time in the past (such as those defined by historical range of variation, or HRV). The policy supports restoration of past conditions under certain circumstances (for example, by eradicating invasive species and reconnecting fragmented habitat of threatened or endangered species).

However, the objective of ecological restoration is to create a sustainable world for the future; so, it must also be forward-looking. To achieve this, the Forest Service definition of ecological restoration focuses on reestablishing the resilience or adaptive capacity of ecosystems. We believe this is the best approach for managing ecosystems in a world of changing and uncertain future environmental conditions, such as those driven by climate change and an increasing human population.

### **Is historic range of variation (HRV) no longer supposed to be considered in land management planning?**

Forest Service Handbook 1909.12, section 43.13 (Range of Variation) provides direction for determining the context to evaluate current conditions and establish desired conditions. Historical conditions, or HRV, have great value in helping develop restoration goals and objectives. Scientists and ecologists from several Federal agencies and NGOs, including three scientists who have authored documents issued by the Intergovernmental Panel on Climate Change, met in April, 2008, to build an understanding of the proper and scientifically sound use of historical ecological data in modern land management planning. Key conclusions from that workshop include:

- HRV is essential to understanding the past, especially in the face of climate change.
- HRV is information – not a target.
- Understanding historical ecosystem dynamics is critical to understanding potential future ecosystem behavior.
- HRV has proven to be essential to understanding fire ecology, watershed hydrologic function, and distribution of wildlife populations.
- HRV can tell us which ecosystems are more resilient or more vulnerable in the face of global climate change.

### **What difference will this policy make?**

This policy should help Forest Service employees and partners better understand, communicate, and collaborate to accomplish restoration needs at the local, regional, and national levels.

The policy will enable the Forest Service to more effectively address 21<sup>st</sup> century environmental issues associated with climate change; an increasing human population; and other threats to sustainability from wildfires, insects, pathogens, and invasive species.

### **Are the national forests and grasslands already actively engaged in ecological restoration efforts?**

Yes. The Forest Service has been accomplishing restoration-related activities since its inception in the early 20<sup>th</sup> Century. Most of those initial efforts were aimed at regulating overuse of resources to

ensure they were not irreparably harmed. Another focus involved acquisition of heavily cut-over and degraded private lands in the eastern United States to restore water quality, wildlife habitat, and timber resources.

Those early efforts have broadened over the ensuing years to address new and increasing threats to long-term sustainability and providing ecosystem services and benefits. For example, a successful wildland fire suppression program during the 20<sup>th</sup> century has now resulted in fire-adapted ecosystems that are overloaded with uncharacteristically large amounts of fuel. These hazardous fuels threaten the integrity of those ecosystems if they happen to catch on fire and so they are a key target for restoration through their removal. Every year, each national forest and grassland implements numerous other restoration-related projects. Examples include: invasive species eradication, revegetation of burned areas, abandoned mine land reclamation, reforestation, road decommissioning, wilderness campsite rehabilitation, and off-highway vehicle management.

### **What challenges does the Forest Service face in the ecological restoration effort?**

A major challenge facing the Forest Service is to understand and apply the concept of adaptive management to address climate change. This includes:

- Monitoring trends in key resource conditions and identifying approaching thresholds of ecological resilience.
- Projecting future climate scenarios and associated regional conditions.
- Understanding how, when, and where to plan for and implement management activities to maintain the resilience and adaptive capacity of ecosystems across broad geographic areas and elevations, while also providing ecosystem services critical to society.
- How to manage risk and make decisions on long-term land management investments in a world of uncertainty and rapid change.

### **How does ecological restoration relate to other Forest Service programs and efforts?**

The policy applies to all National Forest System programs that interact with the environment. The concept of ecological restoration is threaded throughout existing program directives and collaborative efforts such as the National Fire Plan *10-Year Comprehensive Strategy and Implementation Plan*.

Recent new laws identify ecological restoration as a means to address environmental threats. These include the Healthy Forests Restoration Act of 2003 and the Tribal Forest Protection Act of 2004.

Examples of national efforts already initiated and that are dependent upon or would greatly benefit from availability of this policy include: 1) the Woody Biomass Utilization Strategy; 2) new policy for large-scale event recovery to assist restoration efforts after events such as Hurricane Katrina; 3) the Forest Service Strategic Framework for Climate Change; and 4) development of proposed legislation, such as the Forest Landscape Restoration Act of 2008.

### **How does the new policy specifically apply to the Woody Biomass Utilization Strategy?**

The interim directive articulates foundational policy for restoring the resilience of national forest and grassland ecosystems, which is the primary objective of the Woody Biomass Utilization Strategy.

### **How does the new policy relate to the Farm Bill?**

The Farm Bill is focused primarily on private lands while the Restoration policy applies only to National Forest System lands. However, the new policy will provide support in implementing certain elements of the Forestry and Energy titles of the Farm Bill. It provides a basis to work across a broader federal, state, private landscape to conserve and restore ecosystems.

### **How does the new policy apply to existing reclamation requirements for mineral development activities?**

The policy requires that ecological restoration goals and objectives be established within the framework defined by laws and regulations, including those governing mineral resource use and development and requirements for resource protection and reclamation. See applicable law and regulation in FSM 2801.

### **How does the new policy apply to restoration of abandoned mines on National Forest System lands?**

Restoration of abandoned mine land should contribute towards achieving the national forest or grassland's land management plan desired conditions. When developing the site-specific (project-level) restoration goals and objectives for abandoned mine land, it should be noted that restoration of historical (pre-mining) conditions is often impossible to achieve due to technical or economic limitations.

### **How does the Forest Service plan to utilize partnerships to meet its ecological restoration goals?**

Partnerships can play several key roles in restoration:

- Successful restoration of landscapes involves collaborating with many partners such as adjacent landowners, stakeholders, Tribes, and other agencies to determine desired conditions in land management plans, restoration goals and objectives for a specific landscape, and appropriate management activities to accomplish them.
- Partners may assist with monitoring of restoration projects and resource conditions as a critical component of adaptive management to help identify when an ecosystem's resilience is reestablished.
- Partners may leverage funding, in-kind services, or other support needed to accomplish restoration projects.

### **Does the new policy provide the foundation for sustaining healthy, resilient forests and grasslands into the future, such as addressing climate change?**

The interim directive reinforces adaptive management, use of science, and collaboration in planning and decision making as a means of managing National Forest System landscapes to be resilient. These landscapes should have greater capacity to survive natural disturbances and large-scale threats to sustainability, especially under changing and uncertain future environmental conditions, such as those driven by climate change.

## **How will the restoration effort impact the workload of field employees?**

“Restoration” is a common way of describing much of the Forest Service’s work. The restoration policy provides an overarching and unifying foundation for Forest Service employees and partners to more effectively communicate restoration needs at the local, regional, and national levels. The policy articulates the overall objective of ecological restoration and defines key terms. Improved communication increases understanding, which should result in more support for restoration goals, objectives, and projects.

Our field employees have been planning and accomplishing restoration-related work for many years, although some may not have considered it as restoration. The Forest Service must continue accomplishing this critical work. Although the policy will not change that workload, it should help us and our partners accomplish it more readily.

## **What do I need to do as a Forest Service employee?**

All employees should become familiar with the overall objective, concepts, definitions, and principles of ecological restoration.

Employees should begin understanding how this foundational policy applies to their specific resource programs and management activities.

Employees should begin using these Forest Service-defined terms and concepts as soon as possible when communicating about restoration to partners and other stakeholders. This includes incorporating these terms into planning documents and other communications, as appropriate.