

# Forest Conservation and Restoration

## A DOI Nature-Based Solutions Roadmap Fact Sheet



**Forests** are essential ecosystems that provide critical services to people and nature, covering more than 750 million acres in the United States.<sup>1</sup> Forest restoration and forest conservation are critical strategies to restore degraded forests and sustainably manage forests so they can continue to provide those benefits.<sup>2</sup> Various approaches used for forest restoration and conservation depend on the goals (including environmental and socioeconomic outcomes) of the manager or managing agency.<sup>3</sup> Trade-offs between timber production and other ecosystem services are common and should be evaluated when developing a management plan.<sup>4</sup>

### TECHNICAL APPROACH

Commonly used approaches for forest restoration and conservation include:

- Fuels management, including thinning and prescribed burning, to reduce harmful effects of wildfires.<sup>5</sup>
- Reforestation of areas that were previously forested but have been cleared. This can occur through natural regeneration (allowing vegetation to regrow naturally), assisted natural regeneration (improving soil and removing competing plants to accelerate natural regrowth), or planting (using diverse native species is recommended).<sup>6</sup>
- Invasive species management via manual removal, prescribed burning, grazing, or other methods. Replanting with native tree species resistant to invasive pests can help to prevent reinvasion.<sup>7</sup>

### BENEFITS

#### Climate Threat Reduction

- Carbon storage and sequestration
- Reduced wildfire risk
- Heat mitigation
- Improved air quality
- Reduced flooding

#### Social and Economic

- Jobs
- Mental health and well-being
- Cultural values
- Recreational opportunities
- Reduced erosion
- Crop and timber yields

#### Ecological

- Enhanced biodiversity
- Supports wildlife
- Improved water quality
- Invasive and nuisance species management
- Supports native plants

## SITE SUITABILITY FACTORS

- ✓ Disturbed sites or areas prone to disturbance
- ✓ Areas conducive to natural regeneration
- ✓ Erosion-prone soils
- ✓ Riparian areas
- ✓ Habitat for key species
- ✗ Severely degraded sites

## EXAMPLE PROJECT

The Apache-Sitgreaves National Forest Restoration and Fuel Reduction project is thinning and restoring forests in areas affected by the Rodeo-Chediski fire, which burned more than half a million acres on the White Mountain Apache Tribe's reservation and the National Forest.<sup>8</sup> The project aims to reduce future wildfire risk, improve habitat for native species including the Mexican spotted owl and northern goshawk, and provide socioeconomic benefits to communities affected by the fire, via direct spending on the project, commercial thinning, and employment in the local wood products industry.



Trees marked for preservation during a thinning project on Apache-Sitgreaves National Forest. Photo credit: [US Department of Agriculture](#).

## REFERENCES

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## CITATION

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## KEY RESOURCES

Title and Link	Site Suitability	Design and Construction	Monitoring Guidance	Example Projects
<a href="#">National Forest System Reforestation Strategy: Growing and Nurturing Resilient Forests (USFS)</a>	✓	✓	✓	—
<a href="#">Implementing Forest Landscape Restoration: A Practitioner's Guide (International Union of Forest Research Organizations)</a>	✓	✓	✓	✓

## LEARN MORE

Visit the DOI Nature-Based Solutions Roadmap for more information on forest restoration and conservation, other nature-based solutions, and principles and considerations broadly relevant for nature-based solutions projects. The forest restoration summary includes additional details on each section included in this fact sheet, plus information on operations and maintenance, common barriers, and more resources and example projects.

### Explore the Roadmap



Full Roadmap Document



Forest Section

[www.nicholasinstitute.duke.edu/roadmap](http://www.nicholasinstitute.duke.edu/roadmap)