

Connecting the Dots: Moving Frameworks for Ecosystem Services from USDA Forest Service National Programs to Forest and Project Scales

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ABSTRACT.—The USDA Forest Service has been developing an ecosystem services framework to highlight forest values provided by public lands and to build partnerships with stakeholders to implement projects. In addition to describing ecosystem services provided by forest landscapes, this framework examines the potential tradeoffs among services associated with proposed management activities. This paper briefly describes results ranging from national programs to forest plan assessments to project scale applications that enhance the provision of ecosystem services and sustainable forest management at national to local scales.

OVERVIEW

Ecosystem services are increasingly recognized as a way of framing and describing the broad suite of benefits that people receive from forests. The USDA Forest Service has been exploring use of an ecosystem services framework to describe forest values provided by federal lands and to attract and build partnerships with stakeholders to implement projects. Recently, the agency has sought place-based applications of the ecosystem services framework to national forest managers to better illustrate the concept for policymakers, managers, and forest stakeholders. This framework includes describing the ecosystem services provided by forest landscapes, examining the potential tradeoffs among services associated with proposed management activities, and attracting and building partnerships with stakeholders who benefit from particular services forests provide. Projects that describe objectives and outcomes using an ecosystem services framework are quickly gaining support and could provide an optimal method of managing forests to better serve the needs of people while sustaining the integrity of ecosystems. We describe how project-scale guidelines can be designed to address commonly recognized products such as timber and clean water, as well as critical regulating, supporting, and cultural services. We present results from national programs, to forest plan assessments, to project-scale applications that enhance the provision of ecosystem services and sustainable forest management at broad to local scales.

NATIONAL PROGRAMS

Federal natural resource agencies are now required to address ecosystem services in planning and operations. The USDA Forest Service 2012 Forest Planning Rule now requires the agency to include ecosystem services in assessments and forest plan revisions. A 2015 Presidential memorandum directs all federal agencies in the USA to develop and institutionalize policies to promote consideration of ecosystems services in planning, investments, and regulatory

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policy. There is now a need to apply national policies and programs that integrate ecosystem services into local project implementation. We provide three examples that illustrate how ecosystem services can be integrated into current forest management and policy.

An example: How ecosystem services are incorporated into national USFS policy and operations was from the National Ecosystem Services Strategy Team (NESST). NESST was chartered by the Forest Service leadership to collaboratively develop national strategy and policy around ecosystem services and integrate them into Forest Service programs and operations. Major NESST objectives included articulating and demonstrating the relevance of an ecosystem services framework across the agency; developing formal policy and informal guidance to support an ecosystem services framework for federal, state, private, and tribal forest lands; building capacity and infrastructure across Forest Service Deputy Areas to manage forests for the enhancement of ecosystem service benefits; designing inventory methodologies and data management solutions to improve reporting and evaluating ecosystem service benefits; and fostering two-way communication inside and outside the Forest Service regarding how an ecosystem services framework can better support management objectives and improve outcomes.

NATIONAL FOREST PLANNING

A second example highlights how national forest plans can use an ecosystem services framework to both meet the requirements of the Forest Service planning rule and help the agency identify and clarify relationships between the conditions of forest ecosystems and the quality of services they provide. The Marsh and Drink project areas on the Deschutes National Forest (Oregon) and the Cool Soda Project on the Willamette National Forest (Oregon) are examples where an ecosystem services framework was used to consider a broad suite of values as well as tradeoffs resulting from management decisions. Silvicultural prescriptions are site-specific plans that describe a series of treatments in forested stands that are designed to meet specified management objectives. Prescriptions provide direction as how to move the current stand condition to some desired future condition which meets a predefined set of objectives, conditions, or outcomes. The ecosystem services framework could incorporate stand-level management prescriptions and may be a highly effective way to demonstrate the provision of important ecosystem services included in forest assessments and plans. We provide examples of a modified approach that integrates this concept with typical silvicultural guidelines.

PROJECT-SCALE IMPLEMENTATION

A third example illustrates how ecosystem services framework could be implemented into stand prescriptions at the project scale and how this framework can help the agency meet its mission at the national, forest, and local levels. The Forest Service has been exploring the use of an ecosystem services framework to describe the ecosystem services provided by forest landscapes, examine the potential tradeoffs among services associated with proposed management activities, and attract and build partnerships with stakeholders who benefit from particular services the forest provides. We describe how an ecosystem services framework can add value to agencies like the Forest Service to support management objectives while better connecting the agency to stakeholders and community members. We summarize applications of an ecosystem services framework from national policy to forest- and project-scale implementation including the modification of silvicultural prescriptions into ecosystem services prescriptions that include key ecosystem services that are a central part of forest plans and assessments. An ecosystem services framework will not only help transform the

agency into a more effective and relevant organization, but it will bolster external relationships by strengthening the public's investment in Forest Service activities and articulating a management vision in terms of social values.

For further updates, see "Integrating Ecosystem Services into Sustainable Forest Management of Public Lands" on page 83.

The content of this paper reflects the views of the authors, who are responsible for the facts and accuracy of the information presented herein.

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