



# NEPA for the 21st Century study summaries

The studies funded under the NEPA for the 21st Century Initiative address four areas: business processes, administrative processes, human capital management, and integration. We have created a coordinated mix of studies that combines in-house and extramural research to address a set of critical issues. Elements of these studies are being used by National Forest System staff to consider alternative organizational structures and management processes for the ways the Forest Service conducts NEPA.



## Study summary: New Institutional Economic Analysis of Forest Service NEPA responsibilities

Currently, the Forest Service business approach to NEPA allows for the devolution of responsibilities to a large number of NEPA practitioners. This approach raises serious challenges, such as disparities between the goals of the field staff and the larger organization, a lack of uniformity in products reaching the public, and difficulty in adapting to organizational changes.

This study applied the principles of New Institutional Economics to the overall design of the Forest Service’s NEPA process and focused on how organizations are designed to best execute cooperative activities under different conditions. We examined a variety of business models as alternative approaches to conducting NEPA within the Forest Service, and characterized the “transactions” involved in Forest Service NEPA activities.

This study reached several important conclusions:

- The decentralized nature of day-to-day NEPA compliance can facilitate tactical responses to local conditions. However, the level at which decentralization should be encouraged (district, forest, region, other) has not been addressed. The agency would benefit if Forest Service leadership found more effective ways to provide clear strategic guidance regarding the purpose and goals for the

Business processes

overall NEPA process.

- The NEPA process is, in fact, an aggregation of many different types of activities. Some of these activities may be amenable to being outsourced, while others are more effectively done by Forest Service staff.
- Taking an organizational psychology approach could help management understand some of the stresses the agency is currently experiencing.



A white paper describing concepts of NIE is currently being used by internal audiences, and several journal publications are in preparation.

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## Study summary: Comparing NEPA processes across federal agencies

This study identified and compared NEPA processes across four federal land management agencies (the National Park Service, Army Corps of Engineers, the U.S. Forest Service, and the Bureau of Land Management). We reviewed NEPA guidance documents at each agency and conducted interviews with process managers to uncover internal views of the benefits and disadvantages of different processes, successful and unsuccessful innovations, and a variety of definitions of success. We described the activities associated with each agency's NEPA processes, including the selection, articulation, and scoping of projects, staffing and organizational arrangements, public involvement, and document preparation. This study resulted in a list of common practices that were highly valued across agencies, as well as common inefficiencies and unresolved issues. Those practices that were consistently valued by each agency include having a dedicated ID team and staff writer, having interagency personnel on ID teams, and using informal and early public involvement. This study also highlights the necessity of understanding the purpose of NEPA and defining success in order to be effective. A final report, titled "Comparing NEPA Processes Across federal land Management Agencies," is available at: <http://www.fs.fed.us/pnw/about/programs/fsd/NEPA/index.shtml>. This report is being prepared as a PNW Station publication.

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## Study summary: Comparative analysis of NEPA process, organization, and personnel across Forest Service regions

Under its current practices, the Forest Service handles NEPA responsibilities in a highly decentralized manner with highly varied results. This project provides a side-by-side comparison of Forest Service Regions 1 and 6, which were selected for variation in characteristics and for accessibility of information.

We gathered information documenting NEPA practices and structures in the two regions, and characterized notable differences. We then examined possible links between these differences and project outcomes. This provided a sense of how uniform the Forest Service system is from one region to another, and how effective various approaches are.

Initial findings from this study suggest there is more within-region variation than between-region variation, which may be reflected in the attitude and relationship with the public at the forest level. Region 6 tends to provide more specific direction and guidance, and is more



process-oriented. The population density is dramatically different between the regions, and presence of urban centers may be correlated with the amount of controversy and intervention encountered during the NEPA process. This study indicates that a corporate strategy addressing risk associated with planning would be most effective if it acknowledges the divergent values held by various public interest groups, and incorporates local knowledge. A white paper is currently being drafted for internal agency use, and will likely result in journal publications.

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## Study summary: A protocol for the comparative analysis of environmental decision-making processes of other organizations

Many factors can shape an organization's NEPA process, including funding availability, standard procedures, regulations, sources of innovation, and legal challenges. This study examined how six different federal and state agencies carry out their environmental review and decision making under NEPA or comparable laws.

The findings from this study will allow the Forest Service to analyze its own NEPA process in relation to other organizations. The final report contains a pilot comparative analysis of NEPA processes and performances. This study outlined five factors that are key to NEPA efficiency:

- Commitment to change from top-level leaders
- Performance measures
- Open and accessible forums
- Systems for quality control, consistency, and competency
- Cultivation and maintenance of interagency relationships

The results from this study will be integrated with the findings from the other comparative studies (above) to more fully discuss the relationships the agency has with the NEPA process.



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## Study summary: Factors influencing line officers' decisions about NEPA project development

This study developed an understanding of how projects evolve and progress into formal NEPA analyses. Twelve district rangers were interviewed to gain perspective on their experiences navigating the NEPA process. They were asked things like how they identify projects, how projects are influenced by NEPA requirements, and what role the environmental analysis plays in their final decision.

The main finding from this study is that enormous variability is likely to exist in the district ranger

population—some due to context, some to individuals’ backgrounds and management styles, and some due to the complexities of resource management decision making. This variability influences how projects are conceived and how risk associated with planning is managed. By examining these differences in the district ranger population, it may be possible to take a cognitive psychology approach to improving the way we select, train, and assign line officers, so that they will be more effective in addressing the situations they are likely to face in specific postings. A research paper has been reviewed and is being finalized for publication through the PNW Station.

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## Study summary: Understanding NEPA’s legal structure

NEPA has been the source of some frustration for the agency, partly because over the years it has acquired a certain amount of fogginess that makes it difficult to sort out which requirements are relatively fixed and which ones are malleable. Forest Service management decisions are continually challenged in court, creating the impression that forest policy is being set by federal courts.



This study, led by a law professor who specializes in administrative and environmental law, examined how the Forest Service interacts with the legal requirements of NEPA, and clarified how much latitude is available under various judicial interpretations, CEQ regulations, agency regulations, and standard operating procedures. It also discussed how the courts have influenced policy, especially recently. The frequency of federal lawsuits against the Forest Service has increased dramatically since the inception of NEPA, particularly in recent years.

This project has revealed several factors at issue when the Forest Service struggles with NEPA:

- Inconsistent handling of cumulative effects
- Interest groups not kept up to date with recent policy changes
- Perception of “cutting corners”

The agency may be able to enhance its credibility by taking

a fundamentally new approach to NEPA with a greater emphasis on implementing the purpose of NEPA efficiently in the modern world of adaptive management and new decision models.

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**Study summary:** Assessing literature related to Forest Service NEPA and environmental decision processes

As NEPA nears the end of its fourth decade, we are examining how NEPA has operated at the project level by conducting an archival analysis of pertinent administrative findings, congressional studies, selected agency reports, unpublished literature, and other available information on Forest Service NEPA and decision making processes. The analysis summarizes important findings from the literature, synthesizes information on how Forest Service NEPA has operated at the project level, and discusses conclusions.

Several common themes have emerged in the literature, including the need for more effective public engagement throughout the process, the tendency for agencies to emphasize analysis outputs over process outcomes, and organizational inefficiencies in delivering information. This study addresses the current lack of empirical work in these areas and highlights the need to identify success from an agency viewpoint. It also validates the need to involve both managers and research in the development of a research agenda.

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**Study summary:** Survey of organizational change literature, including an analysis of systems change in the Forest Service

Organizations such as the Forest Service are steeped in tradition, and it is often difficult for them to make major changes in administrative or business processes. Fortunately, there is a large and rich literature on organizational change. This study summarized this literature, identified common themes, and highlighted the experiences of other agencies that have gone through substantial change. We found some common elements of success:



- Make a compelling case for change
- Have passionate leaders, from all agency levels, who are actively involved
- Encourage stakeholder participation
- Maintain active, two-way communications with employees and stakeholders
- Provide many ways for employees to be involved in the change

In addition, we produced a report on the approach the Forest Service could take to successfully manage systems changes, especially as they might relate to the NEPA process. We reflected on previous change efforts within the agency, analyzed what contributed to their success or lack thereof, and determined the factors that seem necessary for large-scale systems change to work in this agency. The final report includes a framework for leading large-scale systems change in the Forest Service that could be applied to the NEPA process. A workshop was held to introduce the concepts of managing institutional change to a representative group of Forest Service leaders. Summary results from this overview were also presented to a panel of NEPA experts, planners, and line officers, who found the results stimulating but too general.

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## Study summary: Evidence-based Management

Effective natural resource managers apply both their own personal expertise and the best available scientific evidence when making natural resource decisions. Alone, neither is enough. The integration of individual expertise with scientific research is called evidence-based natural resource management. To test and demonstrate the principles of this approach, we worked closely with several regional offices to identify a management issue that recurs through many environmental analyses. The topic we selected is outbreaks of mountain pine beetles in lodgepole pine in the Rocky Mountains of Colorado. Infestations currently cover approximately 650,000 acres, and mortality has been near 100 percent of lodgepole stands. This has resulted in loss of timber and recreational opportunities, and also in-



creased wildfire hazard. Management treatments to reduce the impacts of these outbreaks may or may not result in sustainable conditions, and industry currently lacks the capacity to deal with this event.

This topic was selected because there is a body of mature science associated with the phenomenon. Also, it is likely the agency will soon propose a range of activities to address the situation, yet there is not a high level of political controversy over what approach to take.

These factors make it reasonable to use this topic to demonstrate the concept of evidence-based management with the limited resources available. To review the latest science and debate the current body of knowledge about insect outbreaks, we will assemble an interdisciplinary panel of private and public sector experts. The panel will provide the best available research on the likely outcomes of various actions. The end result will be a comprehensive package of information on insect outbreaks that can be used as an unbiased decision support tool to inform the natural resource decisions of managers, the courts, and policy makers.

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## Project summary: Integration workshop

We developed a workshop that brought together the accumulated knowledge of the other studies in this project, so that we could share information and promote new ideas. The workshop encouraged interactive dialogue rather than presentations of papers to a passive audience. The primary focus of the workshop was how the research from the NEPA for the 21<sup>st</sup> Century Project could be used to devise new, more effective, and publicly responsible ways of fulfilling NEPA obligations.

The workshop tackled a classic dilemma in applying science to policy—the difficulties of connecting the work and culture of researchers with the work and needs of managers. Al-

though science applied to policy must begin with the policy problem, somewhere there needs to be room to challenge the agency's definition of the problem. This highlights the need for future science-management interactions to ensure integration of various information efforts that address existing management knowledge gaps.

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