National Science Forum Discussion Topics

March 31, 2010

This document was prepared by Booz Allen Hamilton, an independent facilitator, and captures some of the major themes and discussion areas covered during the USDA National Science Forum held March 29-30, 2010 in Washington DC.

The Science Forum was designed to ground the development of a new planning rule in science and open the collaborative dialogue. This document is an interim product provided to share some highlights of the science and viewpoints offered by Science Forum presenters, attendees and online participants with participants at the first National Roundtable. A more complete summary of the Science Forum will be available in coming weeks. Additionally, the panelists' presentations will be available online, and it is our intent to post video segments from the Science Forum on the planning rule web site.

The diverse viewpoints of the participants are reflected in this document and serve to provide information, increase future participation and promote collaboration. It is not intended to be an exhaustive, comprehensive transcript of the Forum proceedings.

No decisions regarding the eventual content of the draft environmental impact statement or draft rule were made during the Science Forum. Our collaborative process to develop the planning rule is in the early stages. Please remain engaged and assist us in developing a planning rule that will endure over time. Visit the planning rule web site for the latest information on how you can join the collaborative development of the next planning rule: www.fs.usda.gov/planningrule.

To view the schedule and watch selections of National Roundtables live:
http://www.fs.fed.us/video/live/

Current schedule of future National and Regional Roundtables:
http://fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5133652.pdf

National Science Forum Discussion Points

Restoration & Conservation to Enhance Resilience

- Consider "restoration" in terms of sustainability and resilience
  - Understand how to best use "historic range of variation"
  - Better define resilience
- Think about fire as a key ecological driver
  - Think about the effects of fire at various scales of time and space
  - Understand the complex roles of fire
- Define the role of uncertainty in decision-making
  - Focus on the metrics that can be measured
  - Minimize uncertainty through comparisons rather than absolutes
  - Don't let uncertainty lead to decision paralysis
  - Recognize the cultural divide between scientists and the public

Climate Change Addressed through Monitoring Mitigation and Adaption

- Consider the ways that climate change acts as an ecosystem driver
  - Examine climate holistically
  - Climate change is not just about greenhouse gases
  - Consider climate as a macro disturbance process
- Consider how actions occurring today can affect response to climatic conditions tomorrow
  - Explore effective use of models
- Refine the concept of adaptive management
  - Link monitoring to thresholds
  - Tie monitoring effort to risk and uncertainty

Watershed Health – Maintenance and Restoration

- Consider factors other than climate that control water availability at the landscape scale
  - Factor in multiple stress impacts
  - Consider conflicting interactions among ecosystem services
- Explore how to work across scales to quantify effects of management
  - Match the scale of analysis to the question
- Consider watersheds as logical boundaries for analysis
  - Understand that sometimes other boundaries (e.g. ecological units) may be more appropriate

Diversity of Plants, Animals, and Wildlife Habitat

- Recognize that restoration must provide for change
  - Make better use of recovery plans
  - Manage to avoid the need for recovery
  - Acknowledge that diversity is dynamic and depends upon disturbance
- Consider that traditional species monitoring and planning for biodiversity is not reliable
  - A combination of presence/absence and genetic sampling may be the answer
  - A coarse filter/fine filter approach is widely accepted by scientists
  - A well-distributed, well-connected population is likely to be viable
- Recognize that species and ecosystems cannot be sustained solely within administrative boundaries
  - Requires collaboration at local levels
  - May mean sharing decision-making

National Science Forum Discussion Points continued

Contribution to Vibrant Local Economies

- Recognize that sustainability requires on-going learning partnerships
  - Sustainability decisions are social decisions
  - Should be defined by the local context
  - Means balancing tensions in an iterative process
- Consider that ecosystem services may be the future focus of national forests
  - Can tie to carbon because it can be valued
  - Biodiversity is harder to value
- Consider how to balance local interests with national perspectives
  - Explore ways to consider local context
  - Don't confine thinking to administrative or jurisdictional values
  - Approach in a collaborative manner

Use and Enjoyment of Forest Service Lands

- Look for ways to connect people to nature while sustaining ecosystems
  - Elevate the focus on recreation
  - Conserve and respect natural and cultural heritage
- Recognize that recreation is not a choice between carrying capacity and ecosystem sustainability
  - Fully account for impacts of and on recreation
  - Recreation is one of many ecosystem services
- Focus on the unique niche of Forest Service lands
  - Acknowledge passive and active activities

Discussion Points Related to the Planning Process

- Figure out how to incorporate the best science
  - Define characteristics of best science
  - Encourage joint fact finding
  - Practice adaptive governance
  - Make process principles high priority
  - Define characteristics of best process
- Find ways to make forest plans more meaningful, financially realistic, and collaborative
  - Limit agency discretion *or*
  - Allow flexibility and avoid "rigidity traps"
  - Institutionalize collaboration
  - Use advisory committees
  - Establish a process to identify issues and affected parties
  - Establish a timeline and stick to it
- Consider the use of modern planning tools
  - Tools should be open, collaborative, practical, easy to use
  - Examples of tools:
    - Ecological Sustainability Evaluation Tool (ESE)
    - Template for Assessing Climate Change (TACCIMO)
    - Human dimensions toolkit
- Recognize that plans are a set of value judgments
  - Development assumes capability to implement
  - Implementation and development is a shared vision
- Understand what planning is / isn't
  - Primarily a process (not a science)
  - Focuses a vision, goals, policy (not regulation)
  - "End state" plans don't work
  - Not worth doing if not implementable
  - Doesn't always need to be collaborative

Key Points and Observations

- More/better science doesn't ensure better decisions
- Partnerships for recovering endangered species are more important than ever
- We can learn from other organizations and agencies
- Application of science should be collaborative
- It is important for the public to "own" the science and the data
- Science must be transparent, but robust
- Science should inform, not dictate decisions
- Things cross boundaries
- Scientists need to develop a collaborative relationship with the public
- Landscape ecology can help simplify management rather than confound
- Ecological flows can be quantified

- Predictive science is getting better
- The "precautionary principle" cuts both ways
- We can't afford to practice "random acts of restoration"
- Modeling an monitoring tools are evolving fast (and becoming less expensive)
- Disturbance is essential to species and ecosystems
- We can't defer action until we fully understand biological diversity (genetic, species, community)
- There is a need for a cadre of research/management "boundary spanners"
- Monitoring can be (should be) science
- Is fire suppression the de facto mission of the forest service?
- No amount of data is a substitute for good planning
- Be sure to clearly define terms

Important Terms to Define

- Implementable
- Durable
- Transparency
- Sustainability
- Landscape Level
- Collaboration
- Uncertainty
- Resilience
- Best Science
- Disturbance
- Thresholds

Questions Being Asked of the Forest Service

Overarching Questions

- Can we effectively apply science to the development of a planning rule in the absence of a clear consensus around the mission of the Forest Service, shared vision for the future of national forests, and shared agreement about what forest plans should do?
- Can new approaches to planning and monitoring biological diversity replace current approaches?
- Should recreational uses be a “substantive principle”?
- How much discretion should the rule allow?
- How much direction should the rule give on processes such as collaboration?

Rule Development Questions

- How can science continue to inform rule-writing throughout the process?
- What will the rule say about how science should best inform the development and implementation of forest plans?

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- Define and plan for the role of uncertainty in decision-making

Think about fire as a key ecological driver

- Consider the effects of fire at various scales of time and space
- Understand the complex roles of fire in ecosystems

Define and plan for the role of uncertainty in decision-making

- Focus on the metrics that we can measure
- Minimize uncertainty through comparisons rather than absolutes
- Don't let uncertainty lead to decision paralysis
- Recognize the cultural divide between scientists and the public

Climate Change Addressed through Monitoring, Mitigation, and Adaptation

Consider the ways that climate change acts as an ecosystem driver	• Examine climate holistically • Climate change is not just about greenhouse gases • Consider climate as a macro disturbance process
Consider how actions occurring today can affect response to climatic conditions tomorrow	• Make use of the most advanced models • Incorporate model projections into land use planning • Test model conclusions against actual results and adapt to improve
Refine the concept of adaptive management	• Link monitoring to thresholds • Tie monitoring effort to risk and uncertainty

Watershed Health – Maintenance and Restoration

Consider factors other than climate that control water availability at a landscape scale

- Factor in multiple stress impacts
- Consider conflicting interactions among ecosystem services

Consider how to work across scales to quantify effects of management

- Match the scale of analysis to the question being asked and develop appropriate metrics to quantify and measure results

Consider watersheds as logical boundaries for analysis

- Caveat: Understand that sometimes other boundaries (e.g. ecological units) may be more appropriate

Diversity of Plants, Animals, and Wildlife Habitat

Recognize that restoration must provide for change

- Make better use of species recovery plans
- Manage species and habitats to avoid the need for recovery
- Acknowledge that diversity is dynamic and depends upon disturbance

Recognize traditional species monitoring and planning for biodiversity is not reliable

- A combination of presence/absence and genetic sampling may be the answer
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Recognize species and ecosystems cannot be sustained solely within administrative boundaries

- Requires collaboration at local levels
- May mean sharing decision-making

Contribution to Vibrant Local Economies

Recognize that sustainability requires on-going learning partnerships

- Sustainability decisions are social decisions
- Should be defined by the local context
- Means balancing tensions in an iterative process

Consider that providing ecosystem services may be the future mgt. focus of National Forests

- Carbon sequestration can be quantitatively valued
- Biodiversity is harder to value quantitatively

Consider how to balance local interests with national perspectives

- Explore ways to consider local context
- Don’t confine thinking to administrative or jurisdictional values
- Approach in a collaborative manner

Use and Enjoyment of Forest Service Lands

Consider ways to connect people to nature while sustaining ecosystems

- Elevate the focus on recreation
- Conserve and respect natural and cultural heritage

Recreation isn't choice of carrying capacity or ecosystem sustainability

- Can be both
- Planning should fully account for impacts of and on recreation
- Recreation is one of many ecosystem services

Focus on the unique niche of Forest Service lands

- What are the unique attributes of National Forests and Grasslands
- Passive and active recreational activities will create different demands and impacts