United States Department of Agriculture
Forest Service
Region 1
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Route To:
Subject: Planning and Viability Framework
To: Regional Leadership Teams, Northern Region and Intermountain Regions

Viability is one of five areas identified by the Northern Region and Intermountain Region Leadership Teams in need of consistency for Forest Plan revisions. A 2-day workshop in Boise, Idaho, involving four Regions of the Forest Service, Fish and Wildlife Service, USGS Biological Resources Division, Idaho Fish and Game, and four leading experts in the field of population viability identified a set of key principles and a five-step process for population viability. The four leading scientists were Dr. Steve Beissinger, University of California, Berkeley; Dr. Barry Noon, Colorado State University, Fort Collins; Dr. Mark Shaffer, Defenders of Wildlife, Washington, DC; and Dr. Gary Roloff, Boise Cascade Corporation, Boise. They all support the principles and process developed through the workshop.

In addition, the workshop reviewed three case studies provided by Dr. Tom Quigley, Leader, Interior Columbia River Basin Science Team, Walla Walla; and by Dr. Fred B. Samson, Regional Wildlife Ecologist, Northern Region, Missoula; that provided additional and important background information on population viability. Two pre-Boise workshop meetings of biologists and ecologists were held to discuss definitions, goals and technical requirements or tasks that would contribute to consistency across the two Regions.

Results of the workshop are as follows:

The planning and viability framework is presented in five parts: (1) a definition for viability; (2) a three-part goal; (3) seven key principles based on the Committee of Scientists report; (4) a four-step process for viability; and, (5) the description of the relationship of the viability process to Forest Planning.

A. Definition

A viable species is defined as consisting of self-sustaining populations that are well distributed throughout the species' range. Self-sustaining populations are those that are sufficiently large, and have sufficient genetic diversity to display the array of life history strategies and forms that will provide for their persistence and adaptability in the planning area over time.

B. Goal

By the end of the planning period, (1) ecosystem sustainability will be enhanced or maintained by ensuring the viability of all native and desirably introduced plant and animal species, (2) measurable contributions are made to the recovery of federally listed plants and animals, and (3) there will be less need to designate sensitive species.

C. Key Principles

1. Use the Committee of Scientists Report as a starting framework.

The Committee of Scientists Report is viewed as a framework upon which to base the Forest planning process and Forest Plan.

2. Involve all agencies and incorporate all affected lands.

   Initial and upfront multi-level collaboration with the US Fish and Wildlife Service, National Marine Fisheries Service, Tribal Nations, and other federal and state agencies is essential.

3. Promote a Science/Management Partnership

   The best available ecological, economic, and social information must be the foundation for Forest Plans and the Science/Management Partnership is fundamental.

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4. Incorporate unique features and opportunities on NFS lands.

   The Forest Service should give high priority to maintaining viability by enphasizing the unique features and opportunities for maintaining viability on NFS lands. Also, the Forest Service should recognize that both public and private lands are required to recover and or achieve viability for many species, communities and ecosystems.

5. Support inter-generational equity.

   Preserve future options so that an acceptable range of choices will be available for future generations, and as a way to recognize our incomplete knowledge of ecosystems

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6. Independent scientific review of the planning products.

   Planning requires independent scientific review of assessments and plans before their publication, and any conservation strategies should be reviewed for accuracy and sufficiency by the Forest Service and other scientists before a plan becomes final.

7. There is no such thing as a "final" plan.

   Forest Plans are dynamic and adaptable so as to take advantage of new information and new approaches.

D. Viability Process

The viability planning process involves four steps.

1. Bioregional Assessments--to assess ecological sustainability (species viability and ecosystem integrity) under current policies and all ownerships to refine desired future conditions and pathways to those conditions.

   Technical elements may include the following.

   a. An ecological stratification. For example, the broad-scale may include the Colorado Plateau, Interior Columbia River Basin, Northern Rocky Mountain coniferous forests, Great

Basin shrub-steppe, Northern Great Plains, or the Upper Missouri River drainage. Such "bioregional boundaries" may need to be fluid in order to adequately address some species.

b. The basic elements in the bioregional assessment may include the description of:

- Historical conditions;
- Terrestrial and aquatic disturbance regimes (size frequency, and intensity);
- Current condition;
- Range of natural variation (RNV);
- Identification of focal species;
- Map land management status or use; and
- Establish or accept current criteria for identifying "species and risk" and other categories (unique habitats, communities, regional and other narrow endemics, etc.) considered in need of conservation.

Focal species may be based on disturbance regime models; on their role as ecological engineers, ecological links such as pollinators, keystone or umbrella species concepts; among others and may include medicinal plants, culturally important plant and animal species, and others suggested in the Committee of Scientists Report.

2. The Coarse Filter

The goal of the course-filter approach is to provide ecological conditions across multiple spatial and temporal scales to maintain or restore the productive capacity of ecosystems and the viability for the majority of all native and desirable non-native plant and animal communities. Success in the accomplishment of implementing the coarse filter strategy is achieved through development and implementation of conservation strategies for the systems (e.g., single-story ponderosa pine, larch, etc.) and the identification and monitoring of focal species. The key elements are:

- Use of the Range of Natural Variability as the context for management options;
- Use RNV as a decision framework for sustainable actions;
- Emulate natural disturbance regimes; and
- Use of focal species to represent health, trends and conditions for broad communities and or habitats.

Where possible, group plant and animal species by fire systems, ecological processes, or other disturbance regimes to improve the understanding and credibility of conservation strategies. The coarse filter should reduce the number of species at risk, and in some cases, may serve to conserve species and or communities considered to be at risk.

Incorporate available conservation strategies into Forest Plans and advocate completion of new strategies that address ecological functions, species assemblages, or multiple species as a proactive approach. This will avoid duplication and make the process more efficient.

3. Fine Filter

Those species for which the coarse filter will not result in a high likelihood of maintaining viability, must be addressed through the fine filter. The fine filter approach will assess species at

risk by identifying criteria and will provide recommendations for management direction. The fine filter provides specific direction for management of individual species not protected by the coarse filter through such activities as the development of conservation strategies and may influence human-related activities, emulation or restore ecological processes, and by conservation of fine-scale ecosystem components such as fens, pools, bogs, caves, etc. Conservation strategies represent a set of possible actions, coordinated across multiple scales and jurisdictions, needed to provide for species viability. All limiting factors--not just habitat--must be addressed for a species for which viability is a concern. Assessment methods may include population viability analysis (from deterministic demographic models to incidence functions) and by expert panels.

4. Monitoring--Implementation, Effectiveness, and Validation

Effective monitoring is essential to implementing the strategy to maintain viable populations and species. Monitoring needs to allow managers to assess the effectiveness of strategies and complex pathways of treatment actions and treatments in achieving the goals of viability in the Northern Region and Intermountain Regions. Ecosystem sustainability will be enhanced or maintained through ensuring the viability of all native and desirably introduced plant and animal species, admissible contributions are made to the recovery of federally listed plants and animals, and there will be less need to designate sensitive species, given viability is fully considered in the planning process.

Overall, organize monitoring by bioregion, consider the Northern Region and Intermountain Region Strategic Approach to Inventory and Monitoring, build on available approaches evident in the recent literature, and require the involvement of other federal and state agencies, Forest Service Research, The Nature Conservancy, industry, and universities.

E. Viability Analysis and the Planning Framework

It is important that viability be fully incorporated into the planning process at the appropriate planning step. The following table describes the relationship of viability to planning step by step for the viability process and the planning process.

Viability Step	Planning Step
Assessment	Assessment (information)
Coarse Filter Fine filter (i.e., Conservation strategies)	Recommendations Proposed action (to revise Forest Plan)
Coarse Filter Fine Filter (i.e., Conservation strategies)	Alternatives
Test viability	Effects
	Decisions (Management Direction)

Do viability framework/monitor	Monitor

F. Remaining Tasks

There are remaining tasks to complete in order to implement the bioregional viability process. They include the following.

1. Complete the Northern Region collaboration protocol but in cooperation with the Intermountain Region and the R-1/R-4 Threatened, Endangered and Sensitive Species initiative.

2. Ensure the broadscale viability strategy and identification of species at risk is adequate and independently reviewed. Identify tasks at the ecogroup or planning zone level if the broadscale viability framework is inadequate.

3. Develop an aquatic habitat classification system.

4. Develop the ability to use the most accurate and precise vegetation information by scale to ensure consistency across administrative borders to avoid multiple and differing maps. Minimum mapping level of classification accuracy is 70 percent based on recent literature.

5. Work with USGS Biological Resources Division GAP Wildlife Models to ensure consistency across administrative borders to avoid multiple differing maps of wildlife distribution at the ecogroup/planning zone.

6. Engage the network of State Natural Heritage Programs as the data base that will be important to assessing diversity and status of rare species and communities in the two Regions.

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