

**Bighorn National Forest Plan Revision
Existing Condition Assessment**

**Forest wide and
Geographic area
Assessments**

2003



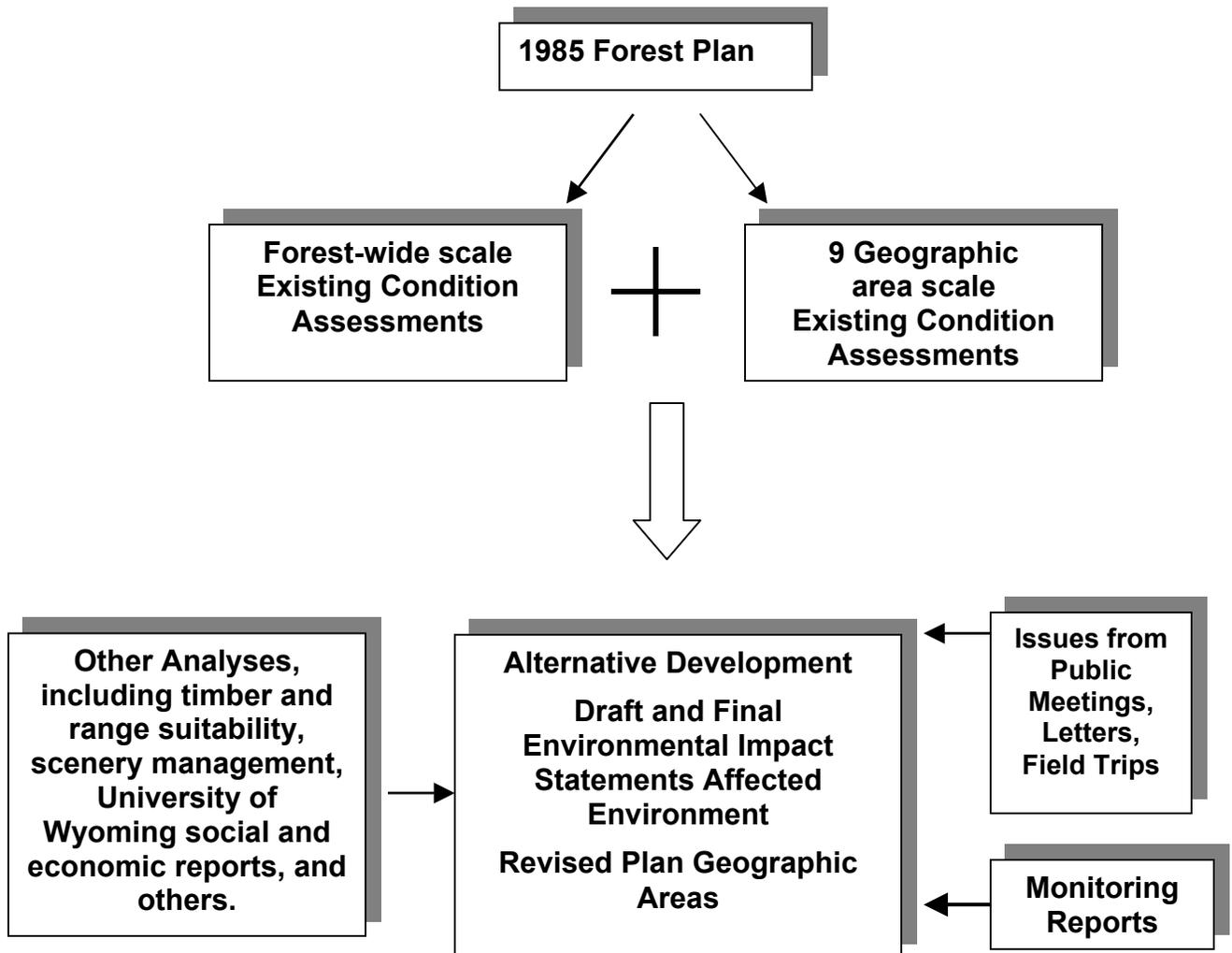
**Cloud Peak with Mistymoon
Lake in foreground**

Introduction

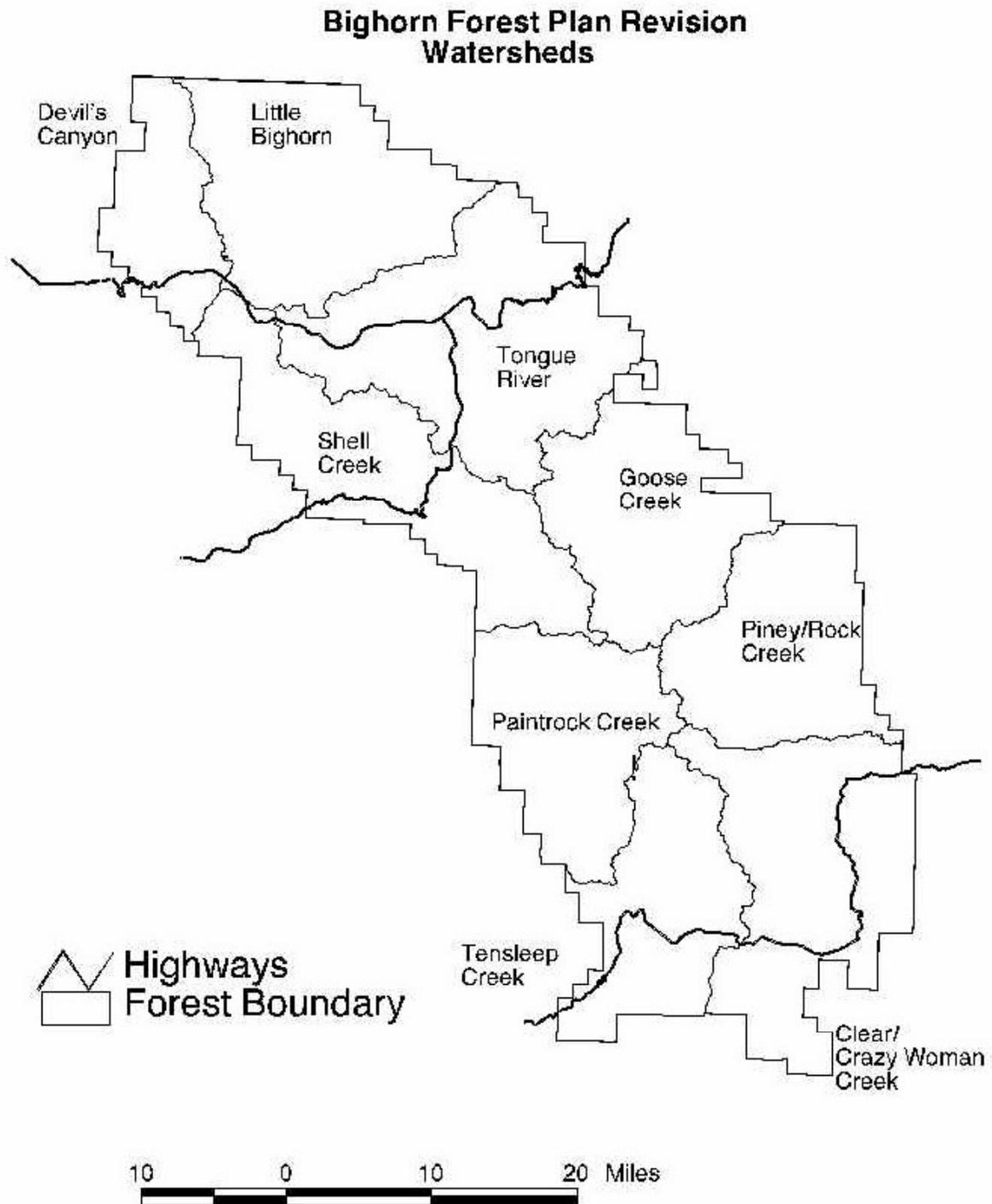
The Bighorn National Forest Plan is being revised, and the revision interdisciplinary team compiled existing condition assessments in 2001 and early 2002. The purpose of these existing condition assessments, compiled at the forest-wide and geographic-area scales, is to:

1. Provide existing condition information, at the two scales, that will be used to define the affected environment in the Draft and Final Environmental Impact Statements, and to help in the alternative development process.
2. Use the geographic area scale information descriptions in the revised Forest Plan. The nine geographic areas will be used to provide Forest Plan direction at an intermediate scale between the forest-wide scale and the management area scale.
3. Identify at the geographic area and forest scale parts of the current Forest Plan that need to be revised.

The following diagram shows the relationship of the existing condition assessments to other revision tasks.



A map of the Bighorn National Forest and the nine “geographic areas” in the revised plan:



The Existing Condition Assessment Process

The Bighorn NF initiated the concept of geographic area assessments in the mid-1990s, and originally envisioned that one of the nine geographic area assessments would be completed each year. This work would feed into site-specific National Environmental Policy Act (NEPA) project analysis, and would be used in Forest Plan monitoring and revision. Two assessments were completed, on the North Fork of Powder River and on Clear Creek/Crazy Woman Creek. The process was abandoned in about 1996.

Beginning in 2001, the Forest Plan revision interdisciplinary team re-initiated this concept for revision. *Ecosystem Analysis at the Watershed Scale*, a federal guide for watershed analysis, was used to develop a series of questions that form the organization for each assessment. Some topic/resource areas were determined to be better addressed at the National Forest scale, as opposed to the geographic area scale. For example, most wildlife species are not bound by geographic areas, and needless repetition in the document can be avoided by addressing such topics once at the National Forest scale. The topics analyzed at the National Forest scale are listed in the Table of Contents for the forest-wide assessment.

Besides the written assessments, the Forest Plan revision interdisciplinary team spent time sharing the results of their individual reports with each other in an effort to better identify resource relationships and issues.

The organization of each assessment is in the Table of Contents for the forest wide assessment and for each geographic area assessment.

Scale of Assessment and Relation to other Assessments

“It cannot be overemphasized that, depending on the issues or policy questions to be addressed, different scales of ecosystem characterization may be required.” (Jensen and Bourgeron, 2001) Resource analysis at different scales provides insights into the dynamics of complex ecosystems, and is important in determining the Bighorn National Forest’s role in issues such as species conservation.

The forested to non-forested cover type ratio is an important example on the Bighorn National Forest of the need to examine ecosystems at several scales. Table 1 indicates how the forest to non-forest vegetation relationship varies at the forest and geographic area scales. Geographic Areas were chosen as the intermediate scale of analysis for revision, as they are readily identifiable by people, and reveal information that is not readily apparent at the forest-wide scale.

Table 1. Forest to Non-Forest Ratio for the Bighorn National Forest and Selected Geographic Areas

Scale of Analysis	Acres	Percent Forested	Percent Non-Forest
Bighorn NF	1,107,670	66%	34%
Shell Geographic Area	140,130	49%	51%
Piney-Rock Geographic Area	110,255	79%	21%

Other large scale assessments have been conducted, either at the scale of the Bighorn mountains or larger. Some that the Forest Plan revision analysis will be tiered to are shown in Table 2.

Table 2. Other Large Scale Assessments Used in Bighorn National Forest Plan Revision

Assessment	Author	Scale and Subject Matter
Fine Filter Analysis of the Bighorn, Medicine Bow and Shoshone National Forests, Wyoming	Welp, et al. 2000	Assessment of species and vegetation communities of concern for the portion of Wyoming falling within the Southern Rocky Mountain Steppe-Open Woodland Coniferous Forest-Alpine Meadow Province (McNab and Avers 1994).
Wyoming Basins Ecoregional Plan	Freilich, et al. 2001	A fine filter approach to identifying important habitat reserves for plants and animals in the Bighorn Basin, Red Desert, Upper Green River, and Great Divide Basin.
A Biological Conservation Assessment for the Utah-Wyoming Rocky Mountains Ecoregion	Noss, et al. 2001	A fine filter approach to identifying important habitat reserves for plants and animals in the Greater Yellowstone Ecosystem, Big Horn Mountains, Wasatch Range, Uinta Mountains, and the mountains and valleys of southeast Idaho. It includes parts of Utah, Idaho, Montana, Colorado, and Wyoming.
Region 2 Species Conservation Project Terrestrial Assessment	Claudia Regan and others	Describe and analyze terrestrial ecosystem components that will be important in conducting species viability assessments. Scale is Bighorn Mountain section, table 3.

Finally on the issue of scale, Table 3 shows the relationship of the Bighorn National Forest to the ecological, terrestrial, scale hierarchy (NcNab and Avers, 1994). These units are used in various analyses, most notably vegetation and soils.

Table 3. Hierarchical Framework of Ecological Units

Ecological Unit	Map Unit
Division	Temperate Steppe
Province	Southern Rocky Mountain Steppe – Open Woodland – Coniferous Forest – Alpine Meadow
Section	Bighorn Mountains
Subsection	Sedimentary or Granitic
Landtype Association	There are eleven Landtype Associations on the Bighorn NF.

Table 4 lists the people that contributed to the Forest Plan revision existing condition assessment.

Table 4. Contributors to the Revision Existing Condition Assessment

Name	Resource Area(s)
Kurt Allen	Insects, Diseases and Disturbance Ecology
Deedee Arzy	Geographic Information Systems (GIS), databases
Ruth Beckwith	Scenery, Recreation, Wilderness
Bill Biastoch	Fire
Bryce Bohn	Hydrology, Soils, Air
Bernie Bornong	Forest Vegetation, Research Natural Areas, Rare plants, Social ¹
Trish Clabaugh	Recreation
Phil Fessler	Transportation Systems
Scott Gall	Range, Grass/Shrub Vegetation
Rick Laurent	Historic and Cultural Resources
Bill Mayer Dee Ann Burkes	Writer/Editor
Mike Scanlon	Analyst, Databases, GIS
Ron Stellingwerf	Range, Grass/Shrub Vegetation
Jon Warder	Wildlife

Bibliography

Freilich, Jerry, Bob Budd, Tom Kohley, and Bill Hayden. 2001. Wyoming Basins Ecoregional Plan. A report prepared by the Nature Conservancy, on file at Bighorn National Forest Supervisor's Office.

Jensen, Mark E. and Patrick S. Bourgeron, editors. 2001. A Guidebook for Integrated Ecological Assessments. Springer-Verlag, New York. 536 p.

McNab, Henry W., and Peter E. Avers, comps. 1994. Ecological subregions of the United States: Section descriptions. Administrative Publication WO-WSA-5. Washington, DC: U.S. Department of Agriculture, Forest Service, 267 p.

Noss, Reed, George Wuerthner, Ken Vance-Borland, and Carlos Carroll. A Biological Conservation Assessment for the Utah-Wyoming Rocky Mountains Ecoregion: Report to the Nature Conservancy. Report on file at the Bighorn National Forest Supervisor's Office.

¹ Bornong will compile the existing condition assessment social information from data and analysis provided by Dr. Audie Blevins and Dr. Katherine Jensen of the University of Wyoming Sociology Department, who are under agreement with the State of Wyoming to provide such input for the Bighorn NF plan revision. A draft of initial inventory data is scheduled to be delivered to the Forest in the fall of 2002. The existing condition assessment economic information data and analysis will be provided by Dr. Tex Taylor and Dr. Roger Coupal, University of Wyoming Cooperative Extension Service. Timber Demand information will be developed from a report on the Wyoming Timber Economy by Dr. Douglas Rideout of Colorado State University.

Welp, Laura, Walter F. Fertig, George P. Jones, Gary P. Beauvais, and Stephen M. Ogle. 2000. Fine Filter Analysis of the Bighorn, Medicine Bow, and Shoshone National Forests in Wyoming. Report prepared for the U.S. Forest Service, Region 2 by the Wyoming Natural Diversity Database. Unpublished report on file at Bighorn National Forest Supervisor's Office and the University of Wyoming.