United States Department of Agriculture

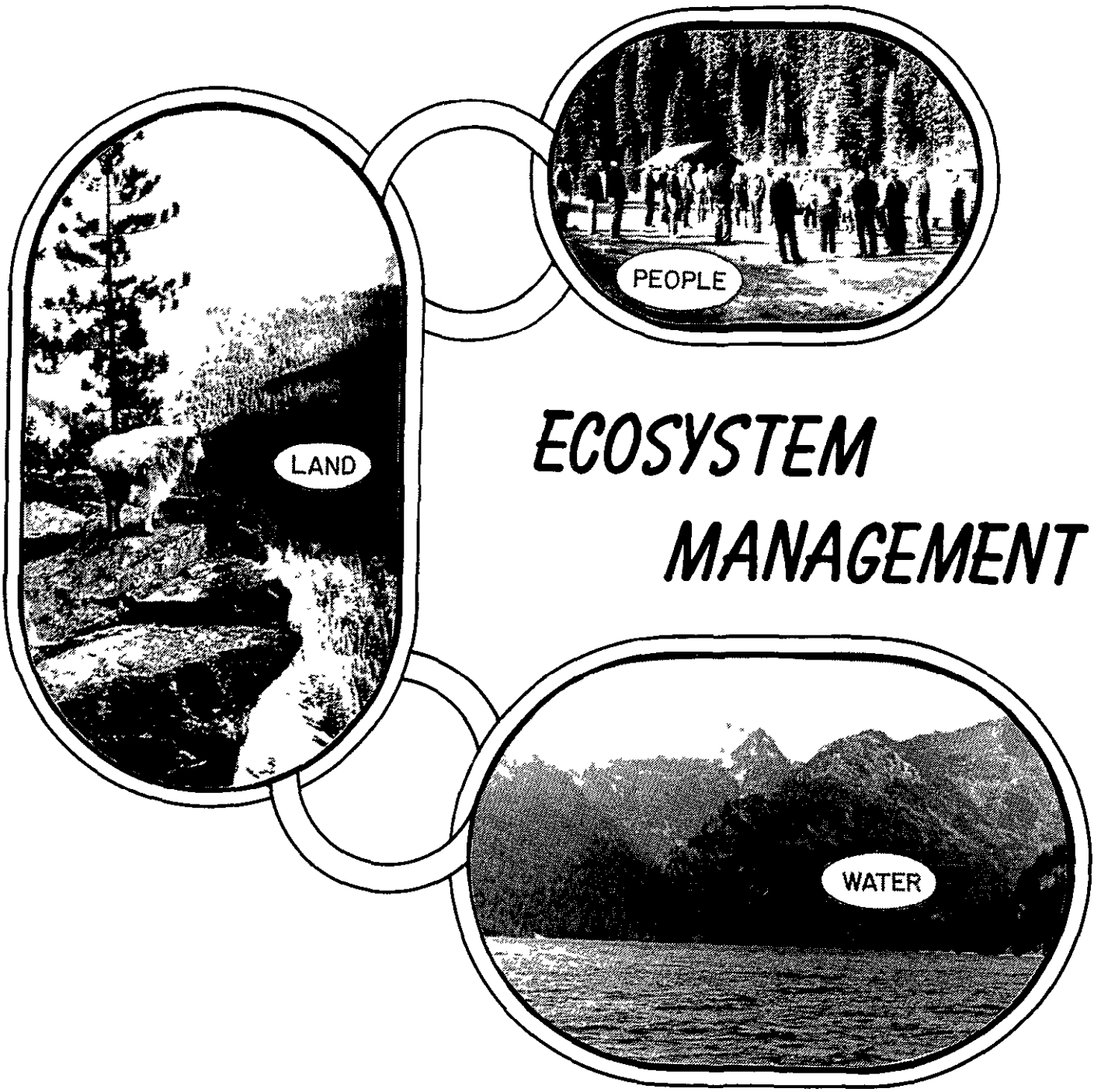
Forest Service

Northern Region

July 1994

FOREST PLAN FIVE YEAR REVIEW

Bitterroot *National Forest*



ECOSYSTEM MANAGEMENT

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PURPOSE

The purpose of a Five Year Review is:

"to review conditions on the land covered by the Plan to determine whether conditions or demands of the public have changed significantly " (36 CFR 219 10(g))

Does the Review make decisions? How will the Review be used to change the Forest Plan?

The Review of the Forest Plan does not make decisions about how land will be managed in the future, but provides an evaluation of the Forest Plan, conditions of the land, and public expectations The Review provides a framework for proceeding with amending and revising the Forest Plan, a compiled list of needed changes

"The process of reviewing our management efforts over the last five years will assist us in making the necessary improvements and adjustments in our work activities to guarantee these valuable resources are here for future generations. We must continually ask ourselves as Forest Service employees.. do our efforts add value or make a difference to the people we serve and the resources we manage?"

Thomas G Wagner Darby District Ranger

ECOSYSTEM MANAGEMENT

One of the most significant changes that has evolved from the first generation of Forest Plans is the idea of **Ecosystem Management (EM)** Ecosystem management is an ecological approach to how the needs of people and environmental values will be met in a way that our forests represent diverse and sustainable ecosystems It is a new framework to arrive at our decisionmaking for multiple-use EM is comprised of four main principles **considering ecological concepts; understanding natural variability; assessing and managing at various scales; and conserving diversity.**

Considering Ecological Concepts The composition of the land (what species and habitats are involved), it's structure (e g patterns of that habitat and how it is distributed) and function (the processes or changes within an ecosystem) are three ways to think about an ecosystem

Understanding Natural Variability As time passes there are natural and human-influenced changes in the abundance health or appearance of most natural resources Land managers are paying more attention to the range of changes within an ecosystem For example, the amount of old growth has varied over the past thousand years and in considering how much old growth to manage for, one consideration is how much was present over a long period of time

Assessing and Managing at Various Scales· Spatial or geographic scales of ecosystems can be thought of in terms of being as large as a global system, or as small as a spring or the underside of a rotting log Each of these extremes and the various spatial or geographic scales in between, defines within context of scale or size a community of biological social and physical components We must consider what we know about each of the resources at any specific scale

Conserving Diversity EM is a way of preserving biodiversity One definition of biodiversity is -- the variety of life and its accompanying processes In order to ensure healthy ecosystems for future generations we must protect the richness of physical cultural and biological diversity found in the current ecosystems

Current Actions: Several efforts are underway to provide the context for Ecosystem Management An Assessment for the Interior Columbia River Basin (eastern Oregon and Washington Idaho, and western Montana) will be completed in 1995 and provide an assessment of the ecosystem processes and functions, species, social systems and economic systems within the Basin This is a multi-federal agency effort affecting Bureau of Land Management and Forest Service public lands Concurrently two EISs are being developed (based on this assessment) and will also be available in 1995. Decisions will be made on management strategies for the Basin Regional Guides and BLM District and Forest Plans may be revised based on these decisions

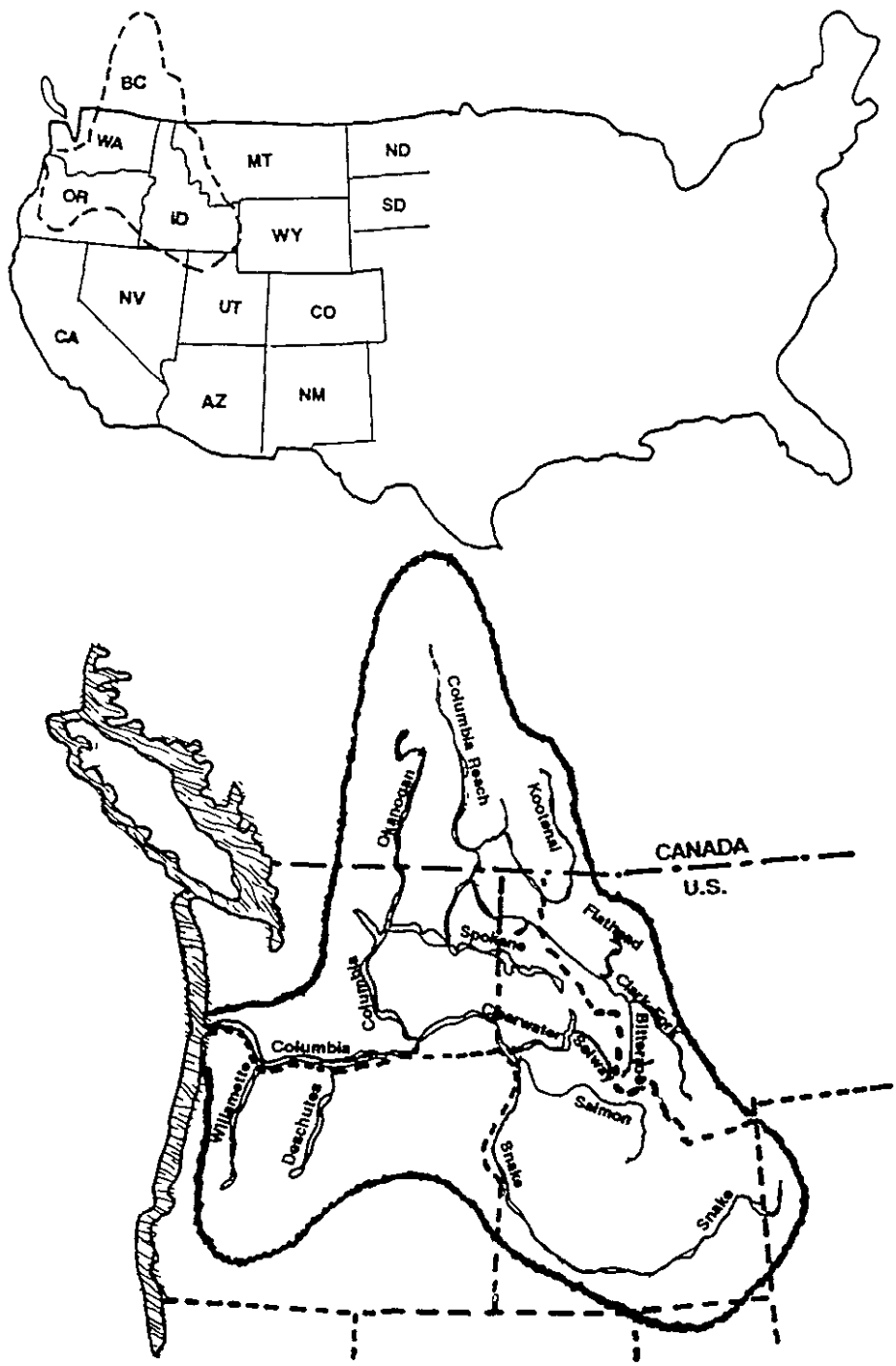
First, we must quickly and successfully implement ecosystem management. Successful implementation will affect more than how we manage National Forest and Grasslands. It will also change how the Forest Service interacts with other land owners; and how we request and allocate resources."

Jack Ward Thomas, Chief of the Forest Service

ECOSYSTEM MANAGEMENT

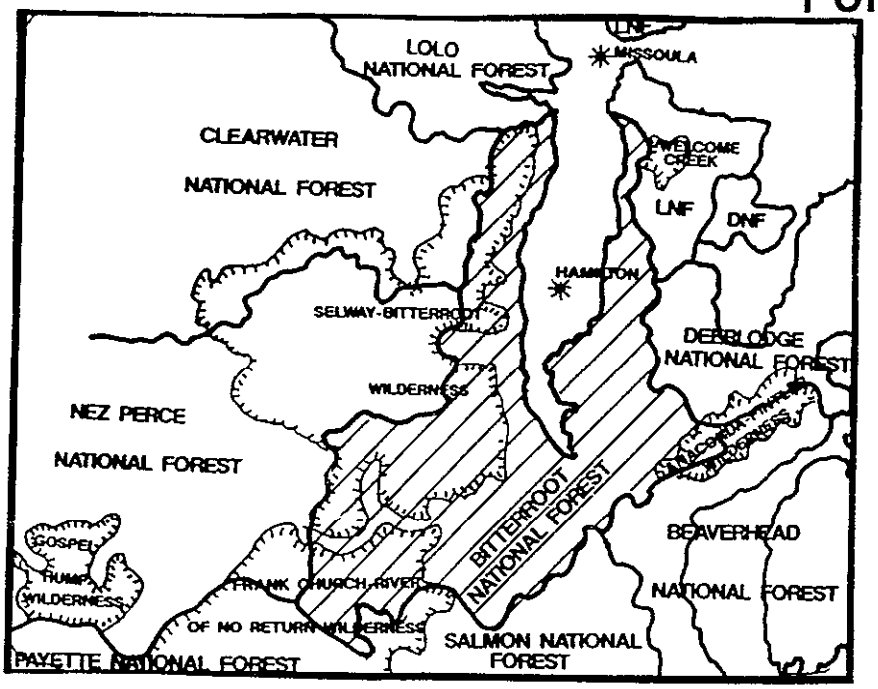
Regional Scale

(Columbia River Basin)

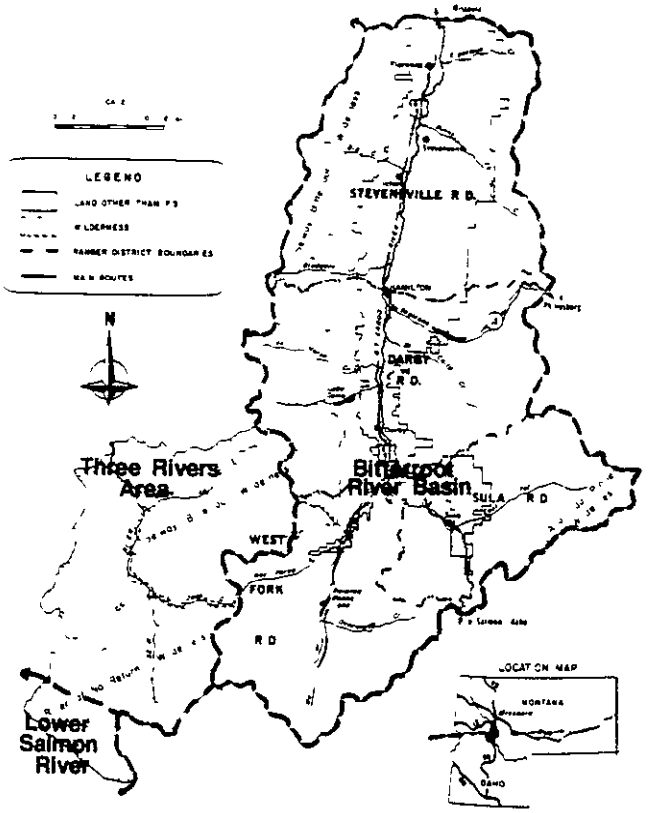


ASSESSMENT AND PLANNING SCALE

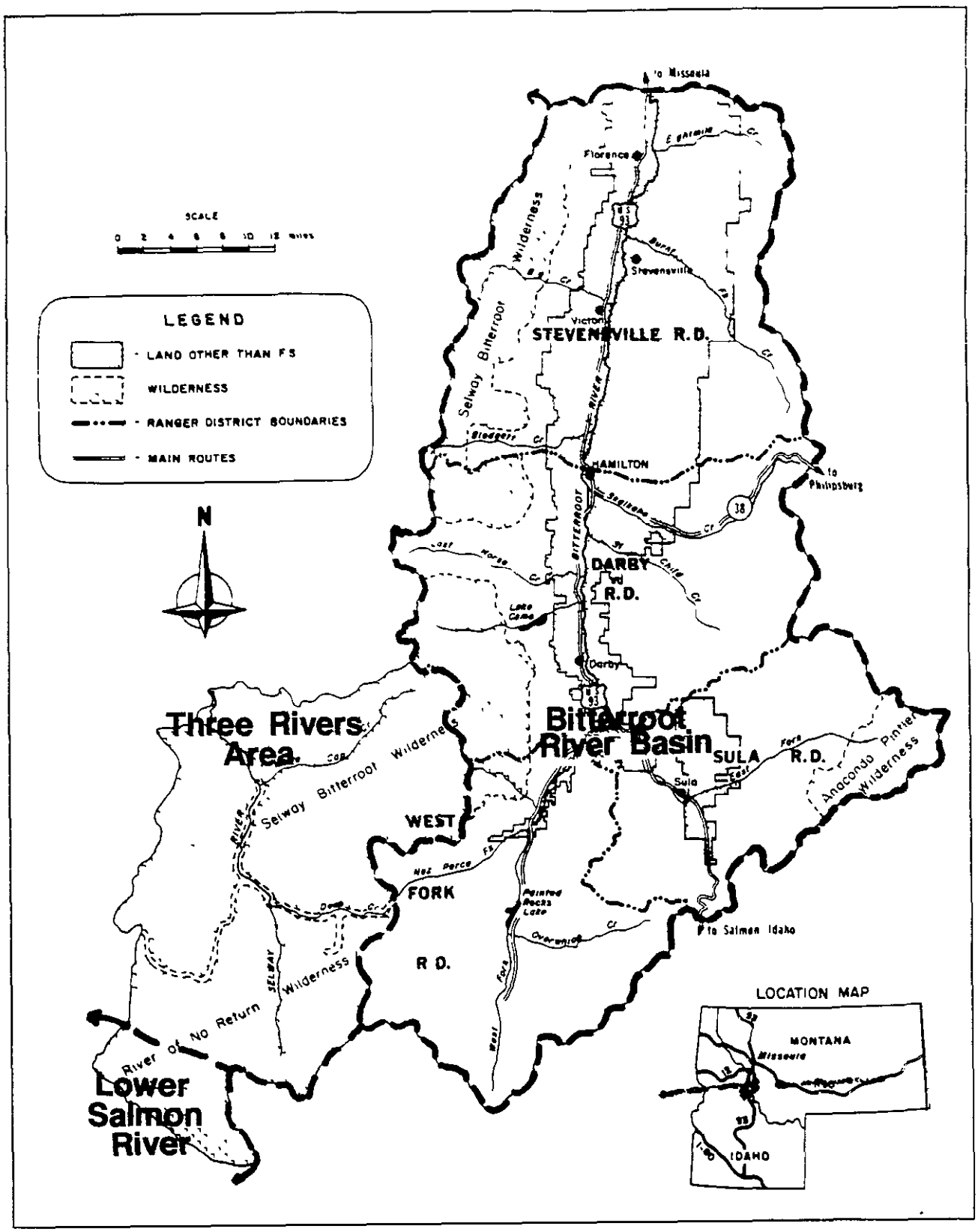
Sub-Regional Forest-Wide Scale



Geographic Area



GEOGRAPHIC AREAS



FOR THE BITTERROOT NATIONAL FOREST

The current Forest Plan prescribes Management Areas that tend to emphasize single resources With ecosystem management we are looking at whole ecosystems determined by social, biological and physical attributes Three Geographic Areas have been identified for planning purposes, and these areas represent an area of land with similar ecological and social management characteristics These are listed below, along with the attributes commonly associated with each

Bitterroot River Basin

The Bitterroot River Basin is similar in its boundaries to Ravalli County and encompasses the Bitterroot Valley National Forest System lands contribute to the scenic and economic elements of the Bitterroot Valley Approximately 73 percent of the land base in Ravalli County is National Forest System lands Major ecological subsections of the Bitterroot National Forest include the Bitterroot Mountain Range on the west-side of the Valley and the Sapphire Mountain Range on the east-side of the Valley The East Fork of the Bitterroot River and the West Fork of the Bitterroot River are two major subdrainages in the Basin Vegetation runs from open old growth Ponderosa pine, to mixed conifer Douglas fir-Lodgepole pine stands, to high elevation white bark pine/subalpine fir stands The Bitterroot Valley provides a home to more than 27,000 people who reside in or near its seven rural communities This land was once the homeland of the Flathead Salish people and served as travel routes for other Tribes

Three Rivers Area

The Three Rivers Area includes all lands tributary to the Middle Fork of the Clearwater River above the town of Kooskia, Idaho This includes the entire Selway River drainage (including the Bitterroot National Forest portion), the entire Lochsa River Drainage and streams draining directly into the Middle Fork of the Clearwater above Kooskia Public lands include the Nez Perce, Clearwater, and Bitterroot National Forests with minor inholdings of BLM lands The area is recreation oriented (hunting and river activities) with Highway 12 as the major travel corridor and wild and scenic river influences The area encompasses the Selway Bitterroot Wilderness in Idaho.

Lower Salmon River

The Lower Salmon River Area includes all lands tributary to the Salmon River between its confluence with the Snake River and the mouth of the Middle Fork of the Salmon River Public lands include the Nez Perce, Bitterroot, Payette and Salmon National Forests and some BLM lands Common ecological components include a canyon climate with adjacent uplands and an important anadromous fishery. The area includes portions of the Frank Church River of No Return Wilderness and the Wild and Scenic Salmon River

PUBLIC AND

Our approach to open communication and good working relationships with people continues to be a mainstay of Bitterroot National Forest management Partnerships, the Job Corps Community Council, public meetings, governmental coordination, and brown bag lunch seminars and field tours are all examples of these efforts Our hope is to build upon these relationships where we work jointly with other agencies, local, tribal and state governments, and interested citizens to enhance or maintain the quality of life and healthy ecosystems

We have begun to expand our relationships with interested governments, agencies, and local groups Much more will be done in this area as our Forest Plan is revised and further implemented

Trapper Creek Job Corps Center

The Trapper Creek Job Corps Center is expanding its relationship with the Forest and neighboring communities In 1994, the Center will celebrate the 30th Anniversary of the Job Corps Program During the nearly three decades that the Trapper Creek Center has been operating, there have been countless contributions made to the Forest and to local communities by the Center's job training programs, and through the corpsmembers' volunteer efforts Within the past two years the Center has expanded its program to include an Urban Forestry curriculum The Center's Community Council remains an important link between the Forest Service and the Center, and the communities we strive to serve

Relationship with Tribes

For the past four years, we have worked to strengthen our relationship with, particularly, the Confederated Salish and Kootenai Tribes The Bitterroot continues to be important to these people, the land once being the homeland of the Flathead Salish and travel routes for other Tribes We have learned a great deal about the resources, and the Tribes' cultures from the many tribal members who work with us Greater good will come from our continued emphasis on these relationships

GOVERNMENT RELATIONS

Cooperative efforts with Communities and Ravalli County
Our interaction with local communities and the County has changed significantly since our Forest Plan was first implemented We have expanded our efforts in working with neighboring communities, and in coordinating our activities with Ravalli County We entered this new program of rural economic development with the hope of contributing to the health and economic vitality of communities within Ravalli County, we have found that we have received more benefits than perhaps we have given to others through these efforts

Coordination with other Agencies
Our cost-shared Fishery Biologist position is only one, but perhaps the best, example of how we are trying to collaborate with other agencies to improve our knowledge of, and thus the quality of our decisions regarding, the resources we manage Chris Clancy's work has done much to expand our knowledge and awareness of issues pertaining to fish populations and habitat in the Bitterroot River system We also work closely with the Soil Conservation Service, other Fish, Wildlife and Parks representatives, the Bitter Root Resource Conservation and Development Organization, the Wildlife Refuge (U S Fish and Wildlife Service) and many other state and federal agencies.

Chris Clancy
Montana Department of
Fish Wildlife and Parks

Steve Powell
Ravalli County Commissioner

"There are basic policy questions we are going to have to face.... It's best to do it with coordinating goverments."

Steve Powell, Ravalli County Commissioner

EVOLVING FOREST PLANS

A COMPARISON ● ● ● ● ●

The Forest Plan will be revised to more fully incorporate new concepts such as Ecosystem Management and Collaborative Relationships The following comparison reflects some of the changes we anticipate in the revised Forest Plan

Current Forest Plan	Future Forest Plan
● Focus on National Forest lands and outputs to dependent communities	● Focus on how National Forest lands fit into the broader ecosystem of all lands within a geographic scale, and how our decisions might link with local, regional and national Visions and Goals ● Emphasis is on Community and County Relations, Coordination with other Governments including Tribal Relations, and Partnerships
● Geographic Scale Primarily looking at the Bitterroot National Forest	● Geographic Scale There are several important scales (as depicted on the previous pages) which will be considered as management options are explored and decisions are made
● Sustainability is focused on individual resources, e g , Timber	● Sustainability is focused on ecosystems Individual resources are considered in the context of what role they play in the ecosystem
● Output-oriented for both amenity and commodity resources, (e g , board feet, AUMs, catchable trout)	● Focus on ecological outcomes conditions of the land and public expectations (e g biological diversity, long term site productivity, health of local community).
● Focus on Species diversity at site or stand level.	● Focus on diversity within ecosystems at the geographic scales
● Analytic modeling of resource relationships to derive outputs (Objectives and Standards)	● Qualitative descriptions of a geographic area which mesh social needs and desires with land capability and health (Goals, Objectives, and Desired Future Conditions).

● ● ● ● COMPONENTS OF A FOREST PLAN

Certain components of a Forest Plan articulate decisions or direction which will influence all future decisions and activities guided by the Plan These decisions are entitled, "Goals", "Objectives", "Standards", "Management Area Direction" and "Monitoring" Changes in these Forest Plan decisions will require a Forest Plan amendment or revision and compliance with NFMA and NEPA Other components of the Forest Plan such as "Desired Future Condition" and "Guidelines" provide a long term vision and "how to" type of direction, respectively, and do not require amendments to the Forest Plan when they are updated or changed

The following paragraphs define these components of the Forest Plan

GOALS A goal is a concise statement that describes a desired condition to be achieved sometime in the future Goals are the "why" for an objective and subsequent management direction Goals can be made for any geographic scale but will be specific to the land area in which they relate (Past Forest Plan Goals tended to be general and not unique or specific to the Forest)

OBJECTIVES Objectives are developed from goals and are measurable changes necessary to meet a Goal Objectives are the "what" to achieve a goals Objectives can be made for any geographic scale, but will be specific to the land area in which they apply

STANDARDS Standards describe requirements which must be met

MANAGEMENT AREA DIRECTION Management Areas are distinctive subunits of Geographic Areas and contain direction specific to a subunit They will be defined on the basis of ecological and social characteristics that are logical for defining management outcomes (Current Management Areas are not based on Ecosystem Management principles, but rather are based on specific individual resources focusing on outputs rather than ecological outcomes)

MONITORING Monitoring will monitor whether Forest Plan Goals and Objectives are achieved and whether actions are in compliance with Standards Forest and other geographic scale assessments will monitor to determine how societal expectations knowledge or conditions of the land have changed

DESIRED FUTURE CONDITION A DFC (Desired Future Condition) describes a future condition to be achieved The desired condition is a long-term vision and may express, in detail, desired ranges of vegetative composition (for example) The DFC integrates the goals and objectives, and reflects social, economic, and environmental considerations The DFC is a component of the Forest Plan, but is not considered a Forest Plan decision

GUIDELINES Guidelines are "should" statements These are instructions to a manager of how to conduct a task, not the conditions to be achieved Guidelines are an important aspect of a Forest Plan but do not portray a decision

INTRODUCTION

This section includes a Summary of the Findings and a Table which lists more than 30 topic areas that identify needs to change the Forest Plan An Appendix to this report contains more detailed narratives on most of the findings

The purpose of the Summary is to highlight some of the overall findings The Table of Findings includes the following

Finding	A narrative description of the conditions of the land, public expectations and Forest Plan disposition that warrants change or updating The highlighted statements after the narrative describe the kinds of changes needed
References	A list of the sources of information used in forming the finding
Next Steps	Describes where we go from here In many of the cases, the ongoing Upper Columbia River Basin Assessment and EIS will be the next step towards revising the Forest Plan

Many of the findings will focus on the need to integrate ecosystem management more fully into the Forest plan As reported in the 1992 Monitoring Summary the Forest has been making significant strides in applying ecosystem management principles About four years ago we started this effort by applying ecological principles at a site or stand level At that level it meant keeping large ponderosa and other trees in cutting units This kept a variety of tree sizes in the cutting units and was one step in more closely reflecting what would have occurred naturally We moved from that to completely changing cutting prescriptions reflecting natural looking stands This dramatically reduced the amount of clearcutting done on the Forest

We have now entered a new phase of ecosystem management as we better consider how biological needs at the landscape level (e g west side of the Bitterroot valley) fit with public expectations The two are often inseparable and are both a part of ecosystem management To have a better understanding of this and how the findings fit into ecosystem management ecosystem management principles will be briefly discussed

Ecosystem Principles

First a definition is needed Simply put, ecosystems are any complex community of organisms that work together with their environment For the purpose of this definition, environment includes non-living factors such as climate water soils, etc So, the word ecosystem can be used to describe a number of different communities of various sizes For example it could be a pond, river basin, or the world as a whole.

As you can imagine, the relationships between organisms and their environment are extremely complex. Many organisms are linked and depend on other organisms or certain elements of their environment for survival Affecting one organism or its environment can affect many other organisms

These organisms are also affected by and often dependent on natural processes in the ecosystem. These processes drive cycles in the ecosystem In the nutrient cycle, plants take minerals from the soil and store these minerals in their vegetation The plants die and return the minerals to the soil Some processes which can accomplish this return to the soil are decay from fungus, insects, and fire

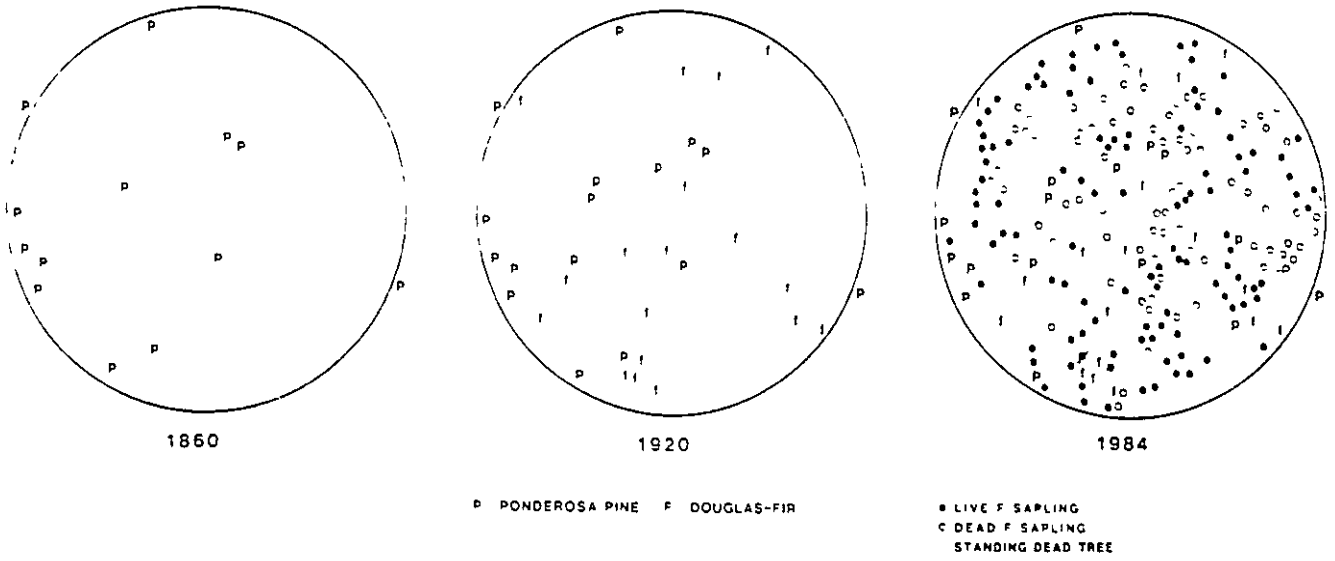
We know if we upset these processes we can affect the interactions between living organisms and their environment This can have a domino effect on other organisms, the full results of which are impossible for us to predict and fully comprehend However, we do know a species can become endangered if a process or interacting species is removed We also know if we remove a process for a period of time, pressures can build and when a disturbance occurs, it can be much more intense For example, if fires normally burn

five to ten years, the fire intensity is much less than if fuels are allowed to build up for sixty years The increased fire intensity when the area finally burns could then upset normal interactions between a number of species and their environment

We believe that we can sustain ecosystems if we can keep the processes working similar (but not necessarily identical) to how they work under natural conditions

Ecosystem Health (Conditions of the Land)

Unfortunately, a number of processes are not working at natural levels For example, fire suppression over the last fifty years has excluded fire from a number of ecosystems This has resulted in a significant change in those ecosystems The plot shown below illustrates what has happened from 1860 - 1984 on a typical dry ponderosa pine site



Reconstruction of the forest overstory (capital letters) and understory trees (lower case) in Pattee Canyon plot during three times periods, 1860 1920 and 1984 Pre 1900 fires maintained this warm, dry habitat type as a ponderosa pine parkland Post-1900 fire exclusion has favored Douglas-fir invasion
(Old-growth ponderosa pine-western larch forest in western Montana Ecology and Management - James R Habeck 1990)

Note how frequent ground fires kept the ecosystem in a parklike stand of scattered old ponderosa pine trees as illustrated in the 1860 depiction The vegetation gradually filled in over the next 124 years A fire in the 1984 plot during dry conditions will probably kill the entire overstory In addition to this, past harvesting that focused on cutting large ponderosa pine trees further reduced the number of large trees and may have upset other ecosystem linkages

At the same time, standards used to build roads to harvest this and other timber during the middle of the century were not adequate to prevent an upset of balances in our aquatic ecosystems While the standards have been corrected for newer roads, we have numerous aquatic ecosystems that need to be restored This restoration has been started and needs to continue

In addition to ponderosa pine, whitebark pine ecosystems are declining due to the interruption of the fire process Whitebark pine has also been impacted by an exotic species, whitepine blister rust.

Exotic species introduction can significantly impact the linkages in an ecosystem as they out compete and replace natural occurring species Our rangelands are especially susceptible to invasion and may be the most threatened terrestrial ecosystem in the valley

Implications of Land Conditions

Some changes can be made in ecosystems as long as they are along the line of natural processes Timber harvest, wildlife management, recreation, fire suppression and other management activities can occur if they fall within the range of natural processes If the activities fall outside of the range for a long enough period of time, they may affect the sustainability, productivity, and health of ecosystems (and the species within the ecosystems)

If the interruption of natural processes is severe enough entire ecosystems can break down and begin operating in ways very different from the way they naturally would For example, in the Blue Mountains of eastern Oregon fire suppression and possibly past logging practices changed open areas with large trees to very closed stands of dense foliage This has led to large scale epidemic insect and disease problems which killed the overstory Fire intensity and occurrence has dramatically risen These intense fire situations caused increases in water and sediment yield to the point the stream banks have broken down Just to the west of us, the Boise and Payette National Forests are undergoing a similar series of events On the Boise National Forest, 400 000 acres have burned in the last seven years

Past Monitoring

Our past monitoring has not been focused on evaluating the condition of our ecosystems It has instead examined specific management activities primarily recent timber harvesting and road building

However there are other events or actions that may have greater implications on ecosystem health than the levels of road building and timber harvest that have occurred in the past five years These trends are more unobtrusive and not necessarily within the control or management of the Forest Service Five such situations include

- Fire suppression activities for 60 years creating close stands with dense foliage and a resulting increase in the number and intensity of fires on the Forest
- Introduction and spread of exotic plant and animal species, e g "noxious weeds", which affect native species and ecosystems
- Water use and diversion from stream channels,
- Changing and conflicting social values concerning acceptance of natural processes (e g , fire/smoke) and human activities (e g , timber harvest) on the land

In addition to these trends, there are past problems to address Examples of current needs affected by past activities are

- Recovery of watersheds impacted by roads and other activities,
- Recovery of clearcuts and terracing that affects a natural-appearing Forest,
- Recovery of old growth ponderosa pine due to timber harvest emphasizing this specie;
- Recovery of partial cutting (timber harvest) that resulted in proliferation of dwarf mistletoe, and
- Riparian (streamside) impacts from management activities

The past and current trends mentioned above affect the various plant and animal species and vegetative communities differently Species vary in their ability to adapt to changes in the environment and some actions (either individually or cummulatively) Currently, potential habitat for five Threatened or Endangered species occurs on the Bitterroot National Forest

In addition forty-one species are listed as sensitive seven wildlife four fish, and 30 plant species These species are those for which the Regional Forester has determined there is a concern for population viability *A viable population consists of the number of individuals adequately distributed throughout their range* necessary to perpetuate the existence of the species in natural, genetically stable, self-sustaining populations

Of the sensitive species, bull trout have been considered by the U S Fish and Wildlife Service for listing under the Endangered Species Act, due to a decline in its distribution and abundance A variety of impacts have been attributed to this decline As a component of healthy ecosystems bull trout decline may reflect many of the conditions and trends described above Major impacts identified by researchers to date include loss of habitat quality, water diversions and dewatering competition with exotic species and loss of migratory corridors These influences on bull trout cross social political and physical "boundaries" -- illustrating that management and recovery of this and other native species will require a collaborative effort involving the public State local and Tribal governments and industry

Because ecosystems cross political and administrative lines, ecosystem management requires greater cooperative efforts with other governments communities and people It also means sharing information about the capability of the land so that choices in how land is managed will sustain both ecosystems and communities

Community and People's Well Being (and Relation to the National Forest)

People have long been a part of the Bitterroot National Forest ecosystems We have been dependent upon and influenced these ecosystems for thousands of years However, in the last 100 years, our interaction has rapidly increased

People continue to move to the Valley for the quality of life (rural lifestyle, lack of crime and the scenic beauty) In the 1990's Ravalli County is the fastest growing County in the State with a growth of 9 7 percent within the last two years Population is estimated at 27 450 and has doubled since 1960 Changes in the economy have continued from a primary reliance on ranching, farming, mining, and timber harvest to one that is more diverse and includes commuters who work in Missoula, businesses tied to tourism, and cottage industries and businesses tied to markets outside the Valley Land development patterns have incrementally resulted in more and more residents living next door to the National Forest The rural nature of the area is being significantly altered as the Valley becomes peppered with homes

Dealing with change in the Valley has been a focal point for local governments within the last five years The Bitterroot Forest has been part of a Rural Development program that provides support and leadership to local community or valley-wide organizations that are interested in improving the quality of life and the economic health of the Bitterroot Valley Forest employees have worked closely with the valley-wide Chamber of Commerce, city and county governments, civic clubs, and economic sector organizations to work towards these goals In addition, communities and groups are showing an increased interest and desire for natural resource information and education

The Bitterroot National Forest continues to work closely with the Confederated Salish and Kootenai Tribes and the Nez Perce Tribe The Bitterroot Forest and Valley is the traditional homeland of the Flathead Salish people The Forest has coordinated projects underway, and the Flathead Cultural Committee has continued to expand the cultural and historical awareness of employees and community members

A diversity of lifestyles and economic ties brings a host of residents with strong and conflicting opinions on how the Bitterroot National Forest should be managed From project plans, the Forest has heard a variety of environmental concerns How is the Forest Service managing to protect plant and animal species? How are biological corridors provided to ensure the movement of larger ranging animals and to ensure the genetic integrity of species? On the other hand comes frustration from those residents who have depended upon logging or milling for their livelihood over the time it takes for the Forest Service to make decisions to harvest timber These same residents also express concern with the increasing environmental safeguards that are applied to harvest units which result in less timber harvested per acre

The trends of population growth, settlement patterns, and economic change continue to modify the character of the Bitterroot Valley The five year review of the Forest Plan is timely to address several issues that are recurrent in project planning Community and County planning

- Is the Forest Plan adequate as an ecological framework with which to manage National Forest lands?
- What is the Forest Service's role as a neighbor and contributor to local communities and all people who enjoy and use the National Forest? How does the Forest reconcile a downtrend in providing wood products to dependent communities?
- How can the Forest Service share, cooperate and plan for the future by working closely with County Commissioners local and state governments and Indian Tribes?
- In what ways can the Forest continue and enhance our partnerships with the public?

Conclusion

Ecosystem management brings all of these components together We are dependent on the Forest for products to sustain our local economies, quality of life, scenic beauty recreation and spiritual revival As we work to reduce conflict and meet these needs we will need to do so in a manner that will sustain ecosystems so that future generations can also be assured the Forest will meet their needs

LAND

LINE #	ISSUE	FINDINGS
	Ecosystems	
1	Sustaining Ecosystems (incl Biological Diversity, Corridors, Fragmentation, Roadless/Wilderness)	Fires and other disturbances, like insects, pathogens and avalanches, create different vegetative patterns and mosaics on different areas or landforms in the Bitterroot Valley Past logging and fire suppression have changed these ecosystem patterns, changing natural levels of forest fragmentation, linking once separated ecosystems, and altering corridors Our ecosystems have responded poorly to effects of fire suppression introduction of exotics and some past logging methods Ecosystem health is threatened by changing natural succession pathways and forest structure We have increased the risk of fires and epidemics beyond what used to occur naturally Current Forest Plan direction contains little emphasis on ecosystem management (through goals and objectives) although Standards provide for protection of various resources Public awareness and concern about maintaining biological diversity has heightened in recent years Several conservationists recently outlined factors that they deem important to biological diversity These include maintaining roadless and Wilderness; biological corridors riparian areas, old growth, snags, and managing open road density and motorized travel **Research and assessments (Monitoring) are needed to gain a better understanding of ecosystems and the natural processes** **Forest Plan Goals and Objectives are needed to ensure and guide management of the land in sustaining ecosystems. (Findings specific to various ecosystems follow)**
2	Rangeland	Rangelands (grasslands and shrublands) are potentially one of the most threatened ecosystems on the Forest They are currently threatened by the spread of noxious weeds Currently, the "Range" objectives in the Forest Plan are commodity oriented and do not encompass the broader scope in term of the health of the rangelands Noxious weed objectives need to be updated **Coordination with the County Weed Board will continue.** **Forest Plan Goals and Objectives are needed which will provide for a systematic treatment of noxious weeds and enhancement of native species within grasslands and shrublands.**

LAND

LINE #	REFERENCES	NEXT STEP
1	Forest Project Analyses, FS Chief Direction in Ecosystem Management (1992), Monnig and Byler, USDA-FS 1993, Arno USDA-FS, Mutch USDA-FS 1993 Fisher&Bradley 1987 Brown & Bradshaw, 1983, Regional Fire Management 1994, Noss 1989 McClowsky, Public comment	The Interior Columbia River Basin Assessment will provide a scientific information base (July 1995). The Upper Columbia River Basin EIS will provide an ecosystem management strategy upon which Forest Plans will be revised (DEIS, Sept 1995) Project planning will continue to be ecosystem management based and will continue to contribute to the data base for the Bitterroot NF
2	Mack (1986), Losensky (1987), Research Natural Area Monitoring (1993)	Coordination will be ongoing (Next step is the same as Item 1)

LAND

LINE #	ISSUE	FINDINGS
	Ecosystems	
3	Ponderosa pine	An extensive belt of low elevation, park-like, old growth ponderosa pine has been changed by logging and fire suppression Now, these forests are dominated by Douglas-fir, multiple-storied and overstocked Disturbances have shifted from underburns and low levels of insect and disease activity to stand replacing fires and epidemics Private home development is occurring adjacent to many of these high risk wildfire areas The Forest Plan does not address the restoration of this ecosystem but monitors the harvest of ponderosa pine **Coordination with Ravalli County and Rural Fire Departments will continue.** **Continue to provide information to residents about fire risks and prevention and the need for allowance of fire in the ecosystem** **Forest Plan Goals and Objectives are needed to guide management of the ponderosa pine ecosystems and reductions of fuels in high fire risk areas.**
4	Mid-elevation Douglas-fir and Lodge- pole pine	Cycles of insect and pathogen activity followed by fires have been key agents of change in mid-elevation Douglas-fir and lodgepole pine forests Past timber harvest and fire suppression have altered landscape patterns With increasing portions of this ecosystem in older age classes, there is increasing potential for increasingly wide-reaching fires and insect and disease mortality The Forest Plan sets as a goal that "pest-caused losses are reduced to acceptable levels" However, objectives are not set nor are "acceptable levels" well defined, in relation to historical or natural processes **Research and assessments are needed to fully understand the natural ranges of insect and disease infestations as compared to recent trends.** **Forest Plan Goals and Objectives are needed to guide treatments within this ecosystem**
5	Whitebark pine	Whitebark Pine on the Forest is threatened by infestations of white pine blister rust, lack of fire and subalpine fir encroachment Some of the major occurrences of this habitat are in Wilderness where restoration (human activity) would be controversial The Forest Plan contains no direction for this ecosystem. **Forest Plan Goals and Objectives are needed to guide restoration and/or enhancement of Whitebark Pine.**

LAND

LINE #	REFERENCES	NEXT STEP
3	Forest Project Analyses, Research work-Arno, Losensky (1992)	Coordination will continue (Next step is the same as Item 1)
4	Losensky (1987), Forest Project Analyses	(Next step is the same as Item 1)
5	Forest Project Analyses Research-Keene	(Next step is the same as Item 1)

LAND

LINE #	ISSUE	FINDINGS
	Physical Structure	
6	Geology	Road failures or slumps have occurred in unstable geologic areas in the past For example the McClain Creek slide on the north end of the Forest occurred from a road failure and has resulted in the slide and erosion and deposition of material down slope and down stream The Forest Plan does not mention that consideration of geologic conditions is needed in resource and land management planning, e g , *integration of information on geologic hazards and special interest areas, ground* water, mass wasting, soil parent material, waste disposal, etc. **Assessments should include new or refined geologic maps at scales to match various levels of analyses as well as delineation of geologic conditions and resources described above.** **Forest Guidelines are needed to ensure that management activities are appropriate for the geologic conditions of the area or site.**
7	Soil Productivity	Ground-skidding and dozer piling have in several cases exceeded Forest Plan Standards and resulted in detrimental soil disturbance In addition, the amount of woody debris left on site after harvest is of concern and the Forest Plan does not specify an amount of ground cover desirable to retain Soil damage in the form of displacement compaction and puddling from timber harvest and from grazing in riparian areas has also been observed within the last five years The Forest Plan does not have soil quality standards or guidelines with regard to grazing **Forest Plan Guidelines and/or Standards may need to be modified to provide more specific guidance with regard to soil protection.**

LAND

LINE #	REFERENCES	NEXT STEP
6	FSM 2880 and FSH 28 09 14	Forest Guidelines will be formed Project plans will include appropriate geologic information.
7	Forest Plan monitoring	Forest Guidelines will be formed

LAND

LINE #	ISSUE	FINDINGS
	Communities/Habitats	
8	Old Growth	Assessing old growth on a landscape level and specific to various ecosystems may be more appropriate than the current Forest Plan Standard (old growth percentage required within a Management Area and third order drainage) The quantity and distri· ·on of old growth needs to be placed in the context of the range of natural variat to better ensure viability of old growth dependent wildlife species Current Forest Plan old growth definitions have been superseded by new Regional definitions **Research and assessment are needed to gain an understanding of the historic ranges of old growth by ecological type and current trends.** **Site specific amendments may be made for variance to the Old Growth Standard where project analysis show it to be ecologically sound.** **Forest Plan Standards and/or Guidelines need to provide an ecological base for assuring adequate amounts of old growth are restored or retained**
9	Stand Structure	The intent of the Forest Plan snag guideline was to retain some vertical structure within regeneration harvest units Retention of snags has not occurred to the degree planned because of safety hazards to timber fallers (State of Montana and OSHA standards) and the demands of the public for firewood Silvicultural prescriptions developed with ecosystem management principles will respond to the need for vert· versity across the landscape including the snag and dead tree component **For an Standards need to be clarified to provide for retention of vertical stru in regeneration harvests and/or Guidelines (how to) developed to assure provisions**
	Species of Con·	
10	Native Plants/Noxious Weeds	Land areas in the Bitterroot Valley and National Forest continue to change as exotic species spread, out compete native species, and dominate habitats Spotted knapweed is an example of a well established species, however, new species are taking hold, e g , sulfur cinquefoil and leafy spurge Blister rust is expected to significantly reduce whitebark pine populations Treatment strategies such as the use of herbicides or human ignitions of fire in wilderness areas continue to be controversial The Forest Plan needs to be updated to address the current trends and new knowledge Tribes are concerned about the diminishing rate of native plants that have been traditionally of interest **Coc nation needs to continue with the County Weed Board and Tribal entities.** **Gui es are needed to define how the Forest will proceed with implementing new - gional policy to revegetate disturbed sites with native species.** **Forest Goals and Objectives are needed to define provisions for native species/ habitats and control or reduction of noxious weeds or other exotic species.**

LAND

LINE #	REFERENCES	NEXT STEP
8	Forest project analyses (Stevi SW) Green et al USDA-FS 1992 Public comment	(Next step is the same as Item 1)
9	Forest Plan monitoring public comment	(Next step is the same as Item 1)
10	Use of Vegetative Materials, USDA-Region 1, 1993	Forest Guidelines will be formed for revegetating sites Coordination will continue. (Next step is the same as Item 1.)

LAND

LINE #	ISSUE	FINDINGS
	Species of Concern	
11	Threatened Endangered and Sensitive Species	The Forest currently has three Threatened and Endangered Animal Species (Peregrine Falcon Bald Eagle and Chinook Salmon) and contains potential habitat for the Gray Wolf and Grizzly Bear Sensitive species include 30 plant species seven wildlife species and four fish species Health of habitat or species is influenced by many factors (including off-Forest influences) Habitat and species relationships are *in many cases not well understood at this time The Forest Plan provides general* direction for the maintenance and enhancement of the habitat for these species, however conservation strategies for the Sensitive species have not been completed and incorporated **Research and assessments (Monitoring) are needed over time to improve understanding of particular species.** **Coordination with the U S Fish and Wildlife Service, Idaho Fish and Game, and MT Fish, Wildlife and Parks will continue** **Forest Plan Goals and Objectives are needed to address the conservation of Sensitive Species**
12	Management Indicator Species	The concept of "Management Indicator Species" was to ensure the viability of species (36 CFR 219 19(6)) Four species were selected for the Bitterroot Forest Plan, and populations were monitored The results have been less than meaningful The species approach does not adequately cover the health of the ecosystem and all components The presence or absence of the species from surveys does not necessarily indicate trends and is without assessments of natural ranges of variation **Through Guidelines, the Forest or Region should establish the role of Ecosystem Management and Assessment to ensure the biodiversity and ecological integrity of the National Forest The concept of Management Indicators may still be used, while ecological land types and rare habitats may also be monitored.**
13	Big Game	Big game habitat standards and guidelines (for winter range, security) are not *consistent with the most recent information this area The Forest Plan methods for* analyzing elk numbers and herd structure and resulting standards such as EHE (Elk Habitat Effectiveness) need to be updated to better reflect current research Winter range (amount and conditions) as used by big game animals (primary focus is elk) has changed and is changing Increasing human population and the subdivision of farm and ranchlands affect availability of winter range and elk migration Road access and hunting pressure also result in greater importance of hiding cover The MT Fish, Wildlife and Parks has issued a State Elk Plan which has not been addressed by the Forest Plan **Coordination with the Montana Fish, Wildlife, and Parks and Idaho Fish and Game will continue.** **Update Guidelines and change Standards to reflect most recent works of Hillis, Christensen, and Lyons, and tie to ecosystem management, including the concepts of corridors, fragmentation, and patch size and distribution.** **Forest Plan Goals and Objectives are needed.**

LAND

LINE #	REFERENCES	NEXT STEP
11	Lesica & Shelly 1991, Northern Region Sensitive Plant List 1991 Montana Natural Heritage Program publication and data	Coordination will continue (Next step is the same as Item 1)
12	Hunter 1990 Noss Monitoring	(Next step is the same as Item 1.)
13	Hillis et al , Christensen and Lyons, 1993, State Elk Plan-MT 1992	Coordination will continue (Next step is the same as Item 1)

LAND

LINE #	ISSUE	FINDINGS
	Species of Concern	
14	Neotropical Migratory Birds/ Raptors	Neotropical migratory birds attract national public attention due to a general decline that is well documented in the eastern hardwood forests So far the declines of the east have not been detected in the west (U S), but at least 7 species, 5 of the prairie grasslands have shown declines Although monitoring is occurring in the Bitterroot Valley Forest no conclusions or trends have resulted The Forest Plan currently does not provide guidance with regard to neotropical migratory birds. Raptors are another category of birds for which there is public interest Some are on the Threatened, Endangered or Sensitive list (See discussion above) **Research and assessments (Monitoring) are needed to make a better connection between habitat/community conditions and species conditions**

AIR

LINE #	ISSUE	FINDINGS
15	Air Quality	Smoke will continue to be of concern to residents S· ›ke levels may increase with emphasis on restoring fire as a natural process to so· ₹ Forest habitats and as well with more residents living in the Valley and some relying on wood-burning stoves for heat Nationally, there is a need to monitor the influence of air pollutants like sulfur (from power plants smelters autos etc) on air Currently, the Forest Plan does not set objectives for air quality or identify air quality as a monitoring item **(See Wildfire-Urban interface issue)** **Continue to cooperate with air regulatory authorities to prevent significant impact of air pollution and smoke.** **Forest Goals and Objectives are need to reflect Air Quality Related Values (AQRV) within wilderness areas and to control or minimize air pollutant impacts.** **Identify Forest Monitoring for the Air Resource and establish historical ranges of smoke levels with natural fire disturbances.**

LAND

LINE #	REFERENCES	NEXT STEP
14	Neotropical Migratory Bird Conservation Program monitoring	(Next step is the same as Item 1)

AIR

LINE #	REFERENCES	NEXT STEP
15	Clean Air Act (amendments of 1977 and 1990) Selway Bitterroot AQRV Plan 1992 Monitoring Report CO2 Monitoring Study	Coordination will continue The Monitoring framework will be adapted to recognize air resource (Next step is the same as Item 1)

WATER

LINE #	ISSUE	FINDINGS
	Ecosystem	
16	Riparian Systems	Riparian areas link water and land ecosystems providing key habitats for wildlife, fish and quality water for domestic use downstream The current Forest Plan distinguishes between fishery and nonfishery riparian areas, monitoring has shown that this is not a meaningful distinction In addition, standards for managing livestock grazing may not be adequate for protecting riparian areas Since the direction for managing riparian areas was written in the Forest Plan (1987) and Riparian Management Guidelines (Bitterroot Supplement No 1, 1988), the Streamside Management Zone Act has passed and ecosystem management poses different information about riparian area diversity, function, and management **Research and assessments (Monitoring) are needed over time to gain a better understanding of riparian ecosystems.** **Forest Plan Standards are needed to incorporate requirements from the Streamside Zone Management Act and/or Guidelines on how riparian areas will be evaluated**
17	Watershed Health and Restoration	Watershed conditions on the Forest are not recovering as quickly as assumed in the Forest Plan Current road standards and implementation of Best Management Practices have been effective in preventing impacts to streams However, many of the past system of roads were constructed for different purposes than they are being used for today (e g dry season versus all season use and temporary versus long term roads) Consequently these roads are contributing sediment to streams Lack of vegetative recovery in some areas have contributed to higher water yields and increased sedimentation In addition, storm events such as what occurred in Overwhich show that more understanding is needed with regard to storm events, risk of fire and fuel geologic conditions and flood risk **Incorporate as Forest Guidelines, the Bitterroot Watershed Evaluation Process** **Research, data collection, and Basin-wide watershed assessments (Monitoring) are needed to gain a better understanding of watershed conditions, prescribing treatments for ecosystem or watershed restoration, and determining water recovery rates.** **Complete a watershed fire risk coarse filter.** **Forest Plan Goals, Objectives, and Standards are needed to ensure an active water restoration program and ensure consistency with laws and regulations.**

WATER

LINE #	REFERENCES	NEXT STEP
16	Streamside Management Zone Act, Public Comment	(Next step is the same as Item 1)
17	Streamside Management Zone Act Bitterroot Watershed Evaluation Process Frissell et al, Overwich Monitoring 1992 Report Forest Data Base of Stream Conditions Stormwater Regulations, Decker April 1994,Public Comment	Forest Guidelines will be formed (Next step is the same as Item 1)

WATER

LINE #	ISSUE	FINDINGS
	Species of Concern	
18	Native Fish Species	As a part of aquatic ecosystems, maintenance and enhancement of native fish species is of concern Bull trout as an example, is designated as a sensitive species in Region 1 and considered by the U S Fish and Wildlife Service for listing as a Threatened or Endangered species Monitoring indicates that bull trout are more sensitive to sediment and changing watershed conditions than cutthroat trout. Bull trout would appear to be a better Management Indicator Species than cutthroat trout Other factors affecting bull trout are competition and hybridization with Brook trout, an exotic species and the limited distribution of Bull trout due to barriers such as water diversions from streams to the main stem of the Bitterroot River. On the other hand some public do not believe that bull trout are diminishing and fishing (catchable trout) is of interest Currently, the Forest Plan does not provide specific guidance for sensitive species such as bull trout nor specify provisions for the Threatened and Endangered Specie Chinook Salmon **Research and assessments (Monitoring) are needed for better understanding of existing habitat conditions and trends (Basin-wide information)** **Coordination with the U.S.Fish and Wildlife Service, Idaho Fish and Game, and Montana Fish, Wildlife, and Parks will continue.** **Forest Plan Goals and Objectives are needed to address the conservation of Bull Trout and other native species.** **Incorporate Standards for the T&E specie, Chinook Salmon.**

WATER

LINE #	REFERENCES	NEXT STEPS
18	Rieman and McIntyre 1993, Forest Plan Monitoring and Evaluation Report Forest project analyses, BNF Watershed Coarse Filter Analysis EA-Interim Standards for managing anadromous fish, March 1994 Public comment	Coordination will continue (Next step is the same as Item 1)

PEOPLE

LINE #	ISSUE	FINDINGS
	Social/Economic	
19	Communities Lifestyles, Vision of the Future	Significant population growth residential settlement along National Forest borders, and economic change continue to modify the character of the Bitterroot Valley Public expectations and values toward National Forest lands have changed since the Forest Plan was implemented e g , less clearcutting and timber harvest With 73% of Ravalli County in National Forest ownership, the Forest Service has an important role in working closely with the County, communities, and people to complement their goals and needs for economic sustenance and quality of life Likewise, the Forest Service needs to provide information about the conditions of the land, air and water so that choices about use of National Forest will sustain those ecosystems The Forest Service will also have a role in expressing National needs for the National Forest as well as the interests and values of the Confederated Salish and Kootenai Tribes, Nespelum of the Confederated Colville Tribes, and the Nez Perce Tribe for their aboriginal territories Currently the Forest Plan has a general orientation to emphasize commodity production while protecting amenity values Orientation today is ecosystem management, including provisions for people's needs This orientation requires more knowledge about the land and natural processes Products and uses are provided in ways that are compatible with these natural systems **Through implementation, the Forest will continue to work with Communities in obtaining grants for furthering their goals and objectives as well as working together on other cooperative efforts** ***Coordination with the Tribes will continue to be important to ensure that these* peoples interests and heritage are protected ar J provided for.** **Partnerships and other public participation efforts will continue to be important.** **Through an MOU with Ravalli County, the Forest Service will continue to work closely with the County** **Forest Plan Goals and Objectives need to reflect the Forest Service's role as a neighbor and contributor to local communities.**
20	Fire Management Wildland Fire-Urban Interface	Fire historically, has had a major role in the changes within the Northern Rocky Mountain ecosystems The Forest Service has maintained a successful fire suppression effort for the last 60 years Within the last five years, there has been an increase in acres burned and acres per fire which indicate increased fire intensities Since 1960, the population of Ravalli County has doubled and more residents are living next to National Forest borders Some of the greatest wildfire risk is along these borders and access to homes (bridges/roads) may be inadequate for fire trucks Currently, the Forest Plan does not specify goals for reduction of fuels in high wildfire risk areas nor incorporate ecosystem management and fire processes within overall direction **Coordination with Ravalli County and Rural Fire Departments will continue.** **Information will continue to be provided to residents and the public about fire risks, prevention, and the role of fire in the ecosystems.** **Forest Plan Goals and Objectives are needed to guide reductions of high fire risk areas.**

PEOPLE

LINE #	REFERENCES	NEXT STEP
19	Montana Futures Project Community Action Plan for Darby Bitterroot Communication Plan Study 1992 Monitoring Summary MOU with Ravalli County, Bitterroot Futures Study Montana Council for Rural Development paper Ravallic County Draft Comprehensive Plan, Public Comment	Coordination and Involvement will continue (Next step is the same as Item 1)
20	Research-Arno Fisher & Bradley, 1987, Brown & Bradshaw 1983 Forest Plan monitoring, Regional Fire Management paper Mutch, USDA-FS, 1993 County Planning and coordination	Coordination will continue (Next step is the same as Item 1)

PEOPLE

LINE #	ISSUE	FINDINGS
	Economic Ties to the Forest	
21	Timber Supply	Timber supply continues to be an important need for local communities and industry Although the local economy has diversified and overall health is less reliant on timber production the interest in this Forest's supply has expanded from the Bitterroot Valley to include Salmon Idaho, Missoula and outlying areas Some of the public continues to feel that the Forest Plan ASQ (Allowable Sale Quantity) exceeds the Forest's capacity to maintain or enhance other values (i e wildlife, pleasing scenery, clean water) Monitoring shows that the actual timber harvest level has been significantly lower than the ASQ level due to public opposition to clearcutting, harvest, and roading provisions for sensitive species, water quality, and other resource considerations, and lower budgets **Forest Plan Goals and Objectives need to provide the public and industry with *an estimate of future timber supply given land capability, implementation of* treatments designed to sustain ecosystems, and social and budgetary concerns. ASQ (a ceiling) is required by NFMA regulations and will need to be updated.**
22	Recreation/Tourism	The Forest Plan recognizes the outstanding recreation opportunities on the Bitterroot National Forest However because of its general guidance, there is not a common understanding of the Bitterroot National Forest recreation objectives and priorities and how these link with public demands and economic opportunities Public demands types of uses and expectations have also changed in five years, and the Forest Plan does not reflect these changing emphases The outfitting and guiding industry is also changing with public demands Requests for permits are increasing and reflect non-traditional uses Determining use days and responding to these requests consistently is of challenge Within the last year, a Forest task force has completed a Recreation Strategy to better portray the recreation program for the Forest **Forest Plan Goals and Objectives are needed to reflect current emphasis in recreation.** **Forest Guidelines are needed to deal with outfitter and guide requests in a consistent fashion.**
23	Dams and Water Use	Dams along the Bitterroot Range provide a critical water storage for irrigation and water use in the Bitterroot Valley Some of these dams are within Wilderness. Currently the Forest Plan does not recognize dams as existing facilities nor make *provisions for their maintenance and operation* **Coordination will need to continue with permittees, SCS, and the State.** **Forest Guidelines are needed to provide for the maintenance and operation of dams and water uses on the Forest.**

PEOPLE

LINE #	REFERENCES	NEXT STEP
21	Forest project analysis, FY 1992 Monitoring and Evaluation Report Summary, Chief's direction to implement EM Public Comment	(Next step is the same as Item 1)
22	Forest Recreation Strategy, Forest Service Rural Development program America's Outdoors Challenge Cost Share direction Watchable Wildlife Program	(Next step is the same as Item 1)
23	Dams Safety Act, Regional Wilderness Dam Policy Paper 1992	Forest Guidelines will be formed Coordination will continue.

PEOPLE

LINE #	ISSUE	FINDINGS
	Other Forest Uses	
24	Access and Travel Management	Most resource programs and services on the National Forest are directly affected by the level and type of access that the public has to National Forest lands Current approaches to travel management have generally been resource driven with little integration of public needs There is limited direction on travel management in the Forest Plan Travel management needs must be assessed and met within the context of the principles of ecosystem management This will require an approach which provides the level and diversity of access and travel on the national forests while sustaining ecological conditions over the long term **As a part of Implementation, the Travel Access Map needs to be updated to reflect project decisions over the last five years.** **Coordination on access and travel management will continue with Ravalli County, and MT Fish, Wildlife and Parks.** **Forest Plan Goals and Objectives are needed which will reflect where types of travel (motorized and nonmotorized) will be featured on the Forest.**
25	Visual Management	Visual management direction in the Forest Plan assumes clearcutting and regeneration harvests as primary harvest methods Ecosystem management, a more recent policy, reduces the use of clearcutting but also poses that if disturbance occurs, that it will resemble in pattern and process those disturbances (i.e , fire) that occurred naturally Efforts such as those to restore ponderosa pine ecosystems may warrant treatment over a landscape (selective type harvesting), but changes may be apparent to the viewer Visual management in the Forest Plan does not reflect these newer approaches nor have examples on the ground been implemented to get the public's opinion on acceptable visual changes **Forest Plan Guidelines need to reflect the use of other harvest method and application of ecological principles**

PEOPLE

LINE #	REFERENCES	NEXT STEP
24	Forest project analyses Monitoring, Road Management Proposal Christensen 1993, Public comment	The Travel Access Map will be updated (Next step is the same as Item 1)
25	Forest project analysis	Forest Guidelines will be formed

PEOPLE

LINE #	ISSUE	FINDINGS
	Other Forest Uses	
26	Oil and Gas Leasing	Regional Office direction requires that the Forest Plan "identify lands which have been found administratively available for leasing" (36 CFR 228 102 (d)) Administration of oil and gas must comply with NFMA, NEPA, and FOOLGRA (Federal Onshore Oil and Gas Leasing Reform Act of 1987), known as the Leasing Reform Act Currently, there is no demand for oil and gas leasing on the Bitterroot National Forest **National Forest lands need to be mapped to identify lands available for leasing. Forest Plan Standards would contain lease terms and resource protection provisions**
27	Non-traditional Forest Products	(This finding represents more of an "emerging" public use that perhaps demonstrates the need for continual monitoring of public expectations and land conditions) Recently the Flathead Culture Committee of the Confederated Salish and Kootenai Tribes raised the concern about whether the Forest is aware and monitoring public use or gathering (particularly for commercial purposes) of forest products such as Bear Grass (for floral arrangements) mushrooms, berries, seeds mosses, tree cones and other plants An adjacent Forest is currently considering proposals for "permits" to allow such products for harvest In April of 1994, a regional public conference (in part, sponsored by the Forest Service) was held to discuss the *opportunities for economic diversification of Forest products. Currently, public use* or requests on this Forest are low and the Forest Plan does not provide guidance in this area **Continued monitoring of this public interest and use is needed in order to provide opportunities (permitted use) to meet requests and ensure sustainable Forest resources** **Forest Plan Standards or Guidelines may be needed if demand and requests increase on this Forest**

PEOPLE

LINE #	REFERENCES	NEXT STEP
26	USDA-FS Region 1 1993 36 CFR 228 102	Incorporate maps when Forest Plan is revised
27	Tribal and public comment Public Conference Agenda 1994 Nez Perce Forest permit proposals memo 1994	Amend Forest Plan or form guidelines as needed

SPECIAL MANAGEMENT AREAS

LINE #	ISSUE	FINDINGS
28	Lost Trail Ski Area	Currently there is contradictory information in the Forest Plan concerning the possible expansion of the Lost Trail Ski Area The Forest Plan allows for expansion but the most logical area for expansion is in lands mapped as MA5 (500 acres) MA5 standards are not consistent with the level of development associated with a downhill ski area **Forest Plan Management Area boundary change is needed**
29	Wilderness	Forest Plan direction for Wilderness was general and not reflective of the complexity of Wilderness management Efforts ensued after the Forest Plan (e g , LAC & fire management plans) *and several appendices or Wilderness Plans have resulted Currently, the* Selway Bitterroot Wilderness is amending the Forest Plan for vegetative management The Anaconda Pintler Wilderness "Plan" is being updated and incorporated into the Forest Plan For the Frank Church River of No Return Wilderness, planning is is ongoing to address current issues and mesh 3-4 Wilderness plans into one **Forest Plan (Goals, Objectives, Standards, Management Area Direction and Monitoring) may be needed to fully reflect the management direction for Wilderness.**
30	Wild and Scenic Rivers	As a result of the American Rivers Forest Plan Appeal some eligible river segments were added for study as wild and scenic rivers Some segments still need to be added to complete the agreement The appeal resolution also agreed upon some new Forest Plan Standards which have not yet been incorporated into the Forest Plan **Forest Plan Standards from the American Rivers Forest Plan Appeal need to be added to the Forest Plan and segments of river for study added to the current listing.**
31	Research Natural Areas	The 1983 Northern Regional Guide developed a systematic framework for identifying and establishing a research natural areas (RNA's) network The objective was to assure that representative examples of forests, shrublands, grasslands, alpine areas and aquatic systems were protected as baseline areas for research and monitoring The Regional Guide assigned 34 vegetation and aquatic targets to the Bitterroot National Forest The Bitterroot National Forest identified 10 proposed RNA's to meet the assigned targets through the Forest Plan There are four Research Natural Area (RNA) issues that need to be addressed 1) *Not all of the areas proposed as RNA's in the Forest Plan have been designated,* 2) Specific management area direction for each RNA has not been developed; 3) Not all of the RNA targets have been filled, and 4) The RNA targets in the Forest Plan may not adequately represent all the significant natural ecosystems of the Bitterroot National Forest as baseline areas for research and monitoring Additionally, there is no recognition of special or unique sites on the Bitterroot National Forest that qualify and/or have been proposed as special interest areas (SIA's) **Examine the role of Research Natural Areas in a Forest monitoring system (see** Monitoring Finding) **Complete the designation of RNAs and form Forest Plan direction for each RNA.**

SPECIAL MANAGEMENT AREAS

LINE #	REFERENCES	NEXT STEP
28	Forest Plan, pg. III-70; Public Comment; Ski Permit Act of 1986	Amend Forest Plan or incorporate with Forest Plan revision.
29	Merigliano, 1993; Wilderness Plans	Amend Forest Plan for Vegetation for the Selway Bitterroot Wilderness. Amend Forest Plan direction for Anaconda Pintler Wilderness. Amend Forest Plan direction for Frank Church River of No Return Wilderness. (Next step is the same as Item 1.)
30	American Rivers Forest Plan Appeal and Settlement Agreement	Amend Forest Plan or incorporate with the Forest Plan revision.
31	USFS Northern Regional Guide, 1983; USFS Assessment of Representativeness of RNAs, 1993.	Amend Forest Plan or incorporate with the Forest Plan revision. Complete Monitoring Framework.

FOREST PLAN ASSUMPTIONS/FRAMEWORK

LINE #	ISSUE	FINDINGS
32	Monitoring	The current Monitoring and Evaluation for the Forest Plan is incomplete in its monitoring of the "conditions of the land" and in response to ecosystem management principles. As a part of this framework, the Bitterroot NF did receive a national grant to examine the role of Research Natural Areas in monitoring and is exploring other aspects of a monitoring framework with Research. Monitoring and Evaluation is key in communicating with the public about the land, public demand, and changes and ultimately in the credibility of the Forest Service as the land managing agency. **A new framework for Forest Plan Monitoring needs to be developed.**
33	Suitable Timber Land	The Forest Plan directed that only salvage timber harvest would take place on unsuitable lands and then only to meet the goals and standards of the Management Area. However, this direction or determination of suitability did not consider the use of vegetative treatments (including timber harvest) for the purpose of ecosystem restoration. Due to the lack of fire on some unsuitable lands, vegetative treatment (timber harvest) may be needed for site restoration purposes. Concern by some public is that ecosystem restoration is not well understood and that actions will be applied too broadly (affecting roadless areas). **Forest Plan Standards need to allow vegetative management (timber harvest) on unsuitable lands for the purpose of ecosystem restoration.** **Site specific amendments may be made in the interim where project analysis shows it to be ecologically sound.**

FOREST PLAN ASSUMPTIONS/FRAMEWORK

LINE #	REFERENCES	NEXT STEP
32	Chief's EM direction, Public comment: Landres, USDA-FS, 1993; Bitterroot RNA Grant, 1993	Form updated Monitoring Framework.
33	Forest project analyses, Public comment	(Next step is the same as Item 1.) Amend site specifically as needed.

FOREST PLAN ASSUMPTIONS/FRAMEWORK

LINE #	REFERENCES	NEXT STEP
32	Chief's EM direction, Public comment: Landres, USDA-FS, 1993; Bitterroot RNA Grant, 1993	Form updated Monitoring Framework.
33	Forest project analyses, Public comment	(Next step is the same as Item 1.) Amend site specifically as needed.

United States Department of Agriculture

Forest Service

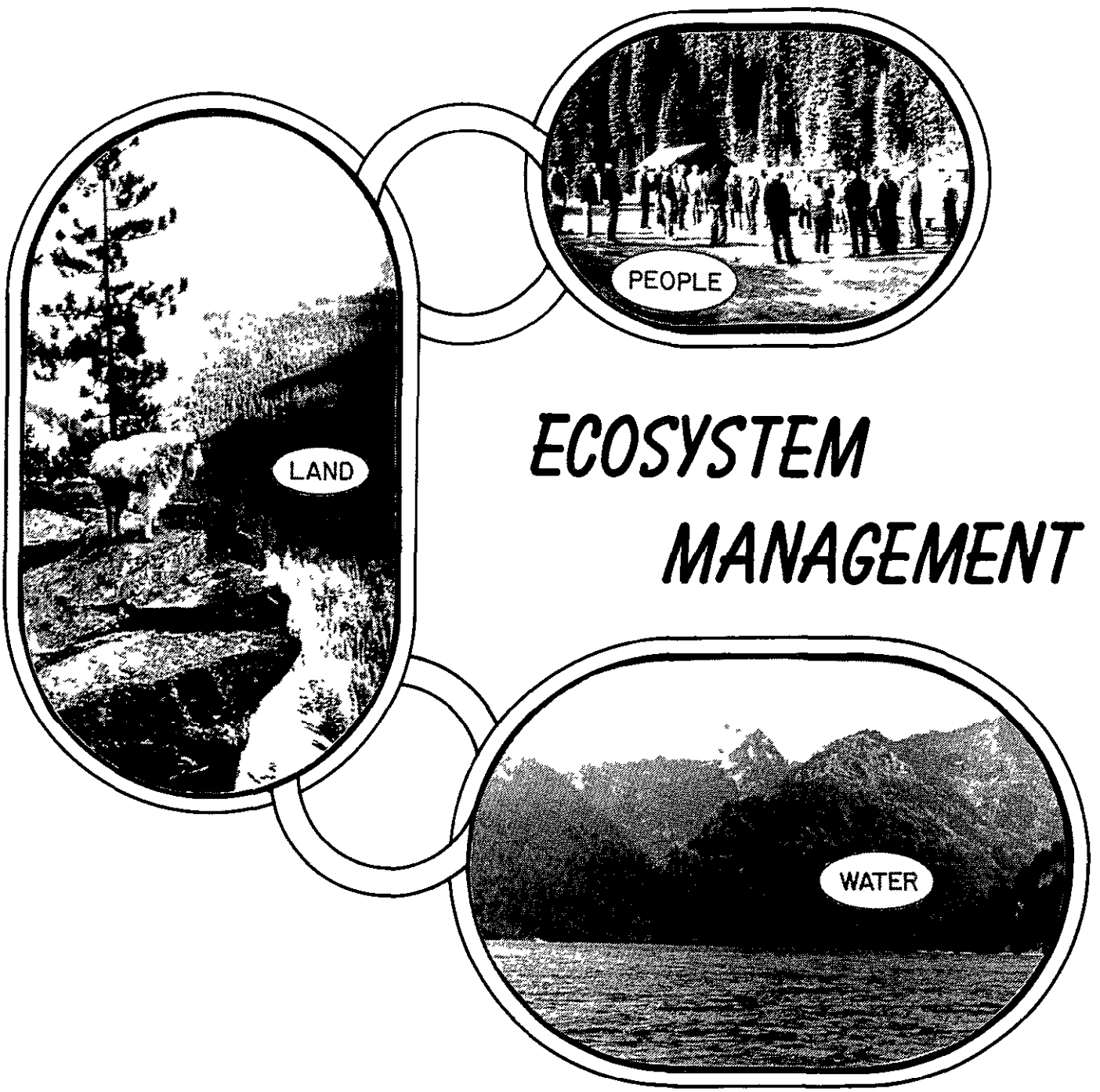
Northern Region

July 1994

FOREST PLAN FIVE YEAR REVIEW

Bitterroot *National Forest*

APPENDIX
Detailed Reports



ECOSYSTEM MANAGEMENT

Detailed Reports
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I. ISSUE/PROBLEM STATEMENT

Ecosystem Sustainability

The land and water ecosystems of the Bitterroot National Forest and adjacent lands are continually changing in response to variable climates and disturbances processes Species are adapting and evolving in response to these changes People have been dependent upon and have influenced the ecosystems of the Bitterroot Valley for thousands of years However, in the last 100 years, the tenure and land management activities of European settlers has altered the historic structure and function of land and water ecosystems in the Valley We are concerned that these changes may alter the sustainability, productivity and health of ecosystems as well as the species supported within them.

Sustainability of ecosystems is the foundation of ecosystem management. The focus is on conserving biological diversity at all scales (from species to ecosystems), long-term site productivity and the capacity of the ecosystems to provide sustainable flows of resources to meet human needs without reducing potential contributions to future generations

The management focus of the Forest Plan is on specific individual resources and their outputs The focus of management is at the site or stand level Lands allocated to produce commodities are managed intensively There is little recognition of the need to manage other lands.

As we shift from traditional management perspectives to an ecosystem management perspective, it becomes apparent that we need to increase our understanding of ecosystem function and the effects of our management on ecosystems.

Ecosystem Patterns

Sustaining ecosystems requires a larger ecological understanding than is provided by studying species and managing stands There are ecosystem patterns and processes occurring at larger scales than we have traditionally considered Landscape ecology is the study of these natural patterns created by the interaction between landforms, vegetation and disturbance.

We are beginning to understand that our management of individual timber stands may have had cumulative affects on larger scale ecosystem patterns, potentially increasing forest fragmentation and altering corridors Conversely, fire suppression has reduced natural levels of fragmentation, linking habitats once isolated by newly established corridors of increasingly homogeneous vegetation.

To maintain ecosystem sustainability, we need to understand how ecosystems function, and how our activities affect ecosystems Understanding ecosystem patterns provides insights on how ecosystems function

Ecosystem Health

Ecosystem health is the term used to measure how well ecosystems function. It has also been defined as an ecosystem in balance, where there is a fully functional community of plants and animals. Aldo Leopold defined health as "the capacity of the land for self-renewal", and said that "Conservation is our effort to understand and preserve this capacity" (Monnig and Byler 1992, USDA 1993b).

We have affected ecosystem health as we have altered ecosystem function. Our ecosystems have generally responded poorly to the effects of fire suppression, some selective cutting methods and introduction of exotics, such as blister rust, noxious weeds and alien fish species. In some ecosystems (for example, the Blue Mountains of Oregon), ecological limits were crossed, and severe outbreaks of insects and pathogens have been a signal (Mutch and others 1993) As in the Blue Mountains, by interrupting insect, disease and fires

cycles, we have altered natural succession patterns and changed forest structure We need a better understanding of the role and interaction of fire, native insects and pathogens in our ecosystems, so that we can assess the potential risks for epidemics and fires beyond natural ranges of variability that threaten ecosystem health

Public Views on Biological Diversity and the Importance of Roadless and Wilderness

Public awareness and concern about maintaining biological diversity has heightened in recent years, as expressed in a variety of appeals and lawsuits locally and nationally The value of roadless and Wilderness *is closely tied to these views on biological diversity As expressed by Reed Noss, noted* Conservation Biologist

> In the Pacific Northwest region of the United States, the biodiversity crisis centers around the conversion and destruction of natural forest ecosystems through human activity The primeval forests that once stretched from north of San Francisco into Canada have been reduced to a small fraction of their former extent Little (only about 10-15%) of the rich, biologically diverse old-growth which characterized at least two-thirds of this forest landscape is left What remains is distributed mostly as small, discontinuous fragments separated by clearcuts, monocultural tree plantations, roads, and development. (Declaration of Reed Noss, Marble Mountain Audubon Society v Robert Rice, pg. 12).

More locally to the Bitterroot National Forest, several Conservationists recently outlined the factors that they deem important to biological diversity

1) Roadless and wilderness play a big role in keeping species from being extirpated and is one of the critical elements of conservation biology.
2) Biological Corridors need to be covered and on the Bitterroot National Forest these include the Sapphire Range, Continental Divide, Allan Mountain roadless area, and links to the mid-Idaho wilderness and the Greater Yellowstone Area
3) Open road density and disturbance to animal species caused by motorized traffic on roads and trails is another factor of concern.
4) Riparian areas and fisheries are key areas to maintain in undeveloped states.
5) Restoration of old growth and a network is important
6) Snags are a key component in stands and there is a need for more provision or protection of this element (Conservation Group Meeting, 5/31/94).

II. WHAT INFORMATION HAS LED US TO ARRIVE AT THIS SITUATION?

Loss of biodiversity and the associated implications to ecosystem sustainability has become an issue internationally as well as locally (Hunter 1991, USDA Forest Service 1993a, FEMAT 1993) Information is accumulating from a variety of sources regarding threats to the sustainability of both terrestrial and aquatic ecosystems Some of the factors causing these threats include 1) alteration of disturbance regimes (fire suppression, water diversion); 2) introduction of exotic species (noxious weeds, blister rust, brook trout), and 3) change in landscape patterns (fragmentation and alteration of ecosystems).

As a result, new conceptual approaches to land management that are holistic and ecosystem based are developing both within the Forest Service and in other agencies (Keystone Center 1991, USDA Forest Service 1992, ECOMAP 1993) Although no recent laws have been developed that incorporate this new planning framework, there have been significant policy shifts that have directed a new approach The academic foundation for these new policies has developed in light of a growing body of literature on biodiversity, landscape ecology and conservation biology (Reid and others 1993). The increasing number of threatened and endangered species has factored into development of approaches to maintaining biological diversity.

Ecosystem Management is a philosophy and approach to land management that has been adopted by the Forest Service nationally (USDA Forest Service 1991, 1992 Robertson 1992, Unger 1993, Jolly 1993) It developed from a growing awareness that our natural resources are limited, that living things and their environments are connected, and that our quality of life depends on our ability to maintain the sustainability of these ecosystems

Following is a discussion of specific ecosystems in which alterations of patterns and process may have implications for ecosystem health It represents the findings of Forest level monitoring efforts and Integrated Resource Area analysis

Aquatic systems

The Bitterroot National Forest 1992 Monitoring and Evaluation Report concluded that as a result of management activities and natural occurrences that one-third of the drainages providing timber harvest opportunities exceeded Forest Plan standards for acceptable watershed conditions Management activities include road construction, timber harvest and livestock grazing.

The Streamside Management Act (1992) developed best management practices for timber harvest in riparian areas. These practices allow for harvest of half of each age class Although designed to maintain a range of size classes to provide large woody debris, another result of this type of harvest will be to advance vegetative succession in all forested riparian community types However, there is considerable diversity of riparian types on the Bitterroot National Forest Some low elevation riparian forests underburned frequently maintaining open stands dominated by large seral species In others, stand replacing fires were the primary disturbance Therefore, application of the best management practices without site specific considerations of riparian ecology is not appropriate Disturbance is an integral part of riparian systems, and deferring any management, or passively maintaining the status quo may be equally inappropriate Both restoration and management activities need to be guided by an understanding of aquatic ecosystem function

Rangeland ecosystems

The Bitterroot National Forest supports a variety of shrublands and grasslands collectively referred to as rangelands There is very little data that describes the current condition of these rangeland ecosystems Yet rangeland ecosystems may be the most threatened ecosystems in the Bitterroot Valley and even the Intermountain West Exotic species pose an immediate threat to rangelands, the ecosystem most susceptible to alien plant invasion (Mack 1986) The relationship of noxious weed spread, grassland or shrubland habitat type and past management practices is not well known Rangelands have been grazed by domestic livestock beginning with the acquisition of horses by the Salish, and then by livestock introduced by Europeans in the mid 1800's Fires suppression has also affected the health of rangelands, and has contributed to the loss of rangelands because of tree species invasion.

The extent of ecosystem alteration in rangelands is typified by the difficulties encountered in completing the Northern Region's Research Natural Area (RNA) program Suitable rangeland sites have been the most difficult vegetative type to include in the RNA program The Sawmill RNA on the Stevensville District includes some of the highest quality, low elevation bunchgrass meadows on the Bitterroot National Forest, and it is threatened by a variety of exotic weeds, including spotted knapweed, leafy spurge and sulfur cinquefoil

Ponderosa pine ecosystems

Throughout the United States, the long needle pine ecosystems (ponderosa pine, Jeffrey pine, longleaf pine and loblolly pine) are overstocked, plagued by epidemics of insects and diseases, and subject to severe, stand-destroying fires (Mutch 1993) These forests were once maintained by frequent, low intensity fire as open grown, resilient forests with low levels of insect and disease. The ponderosa pine ecosystem in the Bitterroot Valley has also been altered and reduced by timber harvest beginning in the late 1800's Alteration of function, structure and composition has occurred at both the stand and landscape level At the landscape

scale, the acreage of Bitterroot National Forest lands dominated by ponderosa pine have decreased as acreage of Douglas-fir has increased Patch size and connectivity have increased as Douglas-fir dominance created closed canopy stands that blanket lower elevation slopes and foothills. At the stand level, structure and composition has changed, with stands becoming dominated by Douglas-fir, densely stocked and multi-storied The potential for increased mortality because of spruce budworm, mistletoe and root pathogen has also increased, similar to the present situation in the Blue Mountains of Oregon

Mid-elevation Douglas-fir and Lodgepole pine

Early explorers to the Bitterroot Valley marvelled at open grown stands of old growth yellow pine They observed that fire maintained these stands (Goode 1898, Leiberg 1899). They also noted the prevalence of fire in the mid-elevation Douglas-fir and lodgepole pine ecosystems. Leiberg (1899) noted that fire had occurred in 50% of the Douglas-fir forests and 80% of the lodgepole forests Over 57% of the lodgepole pine forests in the Bitterroot and Blackfoot drainages in the 1930's were less than 60 years old Only 11% of the forests were older than 100 years (Losensky 1993) All types of fires occurred in these-mid elevations forests, *from stand replacing fires to underburning fires There were large stand replacing fires, but many fires were* small, creating small forest openings and leaving many live trees Even with much of the lodgepole forests in young age classes, an extensive mountain pine beetle epidemic outbreak caused widespread mortality in lodgepole and whitebark pine (Evenden 1921)

Each of our Integrated Resource Area analyses done over the past several years has shown that fire *suppression has changed the age structure of Douglas-fir and lodgepole pine ecosystems throughout the* Bitterroot River drainage Where we have conducted timber harvest in this ecosystem, we often created small units without recognition of how fire once created different landscape mosaics Where we did create large cutting units, we often terraced and left no standing trees By changing ecosystem patterns, we have also created new potentials for stand replacing fires, mountain pine beetle epidemics, and increased levels of spruce budworm, mistletoe and root rot activities Although mid-elevation forests evolved with these disturbances, we may have increased the likelihood that these disturbances will be more intense and wide-reaching

Whitebark pine

Whitebark pine is a long-lived, slow-growing tree of subalpine forests and timberline areas in the Bitterroot and Sapphire Ranges It has little commercial timber value, but is highly valued as a food source for wildlife and as cover for snow retention and watershed protection It is currently threatened by white pine blister rust, mountain pine beetle, and fire suppression that favors the increased dominance of shade tolerant subalpine fir Whitebark pine decline is most pronounced in northwestern Montana, with the southwestern spread of mortality centered along the Bitterroot Range and the Continental Divide

III. HOW DOES THE FOREST PLAN CURRENTLY ADDRESS THIS ISSUE? (Items with * and highlighted are FOREST PLAN DECISIONS (which if changed require Forest Plan Amendments))

ISSUE ECOSYSTEM SUSTAINABILITY

FOREST PLAN	PAGE	EVALUATION	CHANGE IN FP
Management Philosophy	I-2	manages for individual resources	YES
*** Forest-Wide Goals**	II 2-4	Goals are general, oriented to single resources They don't preclude an ecosystem approach, but they do not direct it	YES
*** Forest-Wide Objectives**	II 4-7	Objectives for Range and Timber are commodity oriented and limited in focus Noxious weeds objectives should be revised.	YES
Research Needs	II-11	None developed with an ecosystem focus Need to identify key biodiversity indicators	YES
Desired Future Condition *** Forest-Wide Mgmt. Standards**	II-13	DFC'S need to be re-examined from an ecosystem focus	YES
*** Management Area Direction**			
*** MA Goals**			
*** MA Standards**			
*** MA Schedule of Mgmt. Rx's**			
*** Monitoring/Evaluation Requirement**	IV 6-9	Focus on accomplishment and effects of management activities at the site level. Don't address "conditions of the land". No ecosystem/landscape scale monitoring	YES
Analysis of the Management Situation			
Glossary			

Ecosystem management provides an integrating, multiple scale (from species to ecosystem level) land management philosophy This philosophy was not the reflected in the selection of the 18 issues and concerns presented in the Forest Plan. Although the Forest Plan attempted to integrate social, economic and ecological realms, the integration was not based on several key ecosystem management principles 1) multiple scale approach, 2) an understanding of ecological functions, or 3) an understanding of ranges of natural variability

Forest-wide Management Goals

Some of the goals are written broadly enough to potentially incorporate an ecosystem management focus, such as Soil and Water--"Maintain soil productivity, water quality and water quantity Others are written focusing on sustaining individual resource outputs, not maintaining the sustainability of the ecosystem There is no goal for maintaining productive forests and rangelands, rather the goal statement is written for timber and livestock forage

Forest-wide Management Objectives

As with the goals, few of the objective statements are appropriate or specific.

Forest-wide Management Standards
Many of the Forest Plan standards reflect the absence of an ecosystem approach and are conflicting Many need to be revised so that they include standards with a sustainable ecosystem and not just a single resource focus

Monitoring and Evaluation Requirements

The Forest Plan monitoring items are limited with regard to many aspects of ecosystem management First, they are not effective at assessing/measuring "conditions of the land". Secondly, most monitoring items focus at the stand or species level Managing to sustain ecological systems includes a larger spatial perspective that is not reflected in current monitoring items

IV. IDENTIFY POSSIBLE PROCEDURES (OPTIONS) TO ADDRESS THE ISSUE.

Ecosystem management is a broad reaching philosophy that affects the general orientation of the Forest Plan Option for revising the Forest Plan are as follows

1) Conduct an Analysis of the Management Situation (AMS) and proceed with drafting a new proposed Forest Plan Complete the AMS within a year

2) Wait and incorporate the Columbia River Basin Assessments and EIS that are ongoing and will be available within a year. Refine Forest Plan direction through the EIS

V WHAT IS THE EFFECT OF CONTINUED IMPLEMENTATION (FOLLOWING FOREST PLAN DIRECTION) AND THE EFFECT OF THE OPTIONS?

Without clear purpose and direction from a Forest Plan that incorporates an ecosystem approach, many of our ecosystems may shift to states outside natural ranges of variability without our assessing the associated costs and effects. Without the context of an ecosystem approach, it will continue to be difficult to resolve *resource management conflicts These are some of the consequences of not updating the Forest Plan.*

Both Options 1 and 2 move towards revising the Forest Plan Since the Columbia River Basin Assessment is forthcoming, it may be wise to wait for these assessments and proceed once this information is available

VI. REFERENCES

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McClosky, Michael The Meaning of Wilderness.

Monnig, Edward and James Byler. 1992 Forest Health and Ecological Integrity in the Northern Rockies USDA Forest Service, Northern Region. FPM Report 92-7, Missoula MT. 19 pp.

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USDA Forest Service 1992 Taking an Ecological Approach to Management (Proceedings National Workshop), Salt Lake City, Utah, April 27-30, 1992 Watershed and Air Management, Washington, DC 241 pp

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USDA Forest Service 1993b Healthy forests for America's future - a strategic plan. MO-1513. 58 pp

I. ISSUE/PROBLEM

RANGE throughout the Forest Plan is narrowly defined as domestic livestock grazing This narrow interpretation of "range" as a use is limiting. In the broader context, "Range" is a type of land, normally dominated by grass or shrub vegetation, which provides a variety of benefits to people, including forage for livestock, water, wildlife habitat, recreation, open space, biodiversity, to name just a few

II WHAT INFO HAS LED TO THIS PROBLEM?

Forest Plan was approved in 1987 The next year, the Forest Service began its "Change on the Range" initiative, calling for management of rangelands in a manner that recognizes other rangeland values besides forage for domestic stock This initiative also recognized the potentials and limitations of ecological systems This way of thinking about rangelands is more in keeping with the concepts of ecosystem management

III. HOW DOES THE FOREST PLAN CURRENTLY ADDRESS THIS ISSUE? (Items with * and highlighted are FOREST PLAN DECISIONS (which if changed require Forest Plan Amendments.))

ISSUE RANGELANDS

FOREST PLAN	PAGE	EVALUATION	CHANGE IN FP
Management Philosophy			
*** Forest-Wide Goals**	II-3	Narrow interpretation of "range" as a source of livestock forage	YES
*** Forest-Wide Objectives**	II-6	"To provide 10,000 AUMS/year" Objective is limiting, narrowly focused	YES
Research Needs		None identified	YES
Desired Future Condition	II-14&16	Defined solely in terms of forage use by recreation stock and livestock	YES
*** Forest-Wide Mgmt. Standards** *** Management Area Direction**	II-29	Very general, limited to domestic livestock use	YES
*** MA Goals**		When included, discussed in terms of livestock forage	YES
*** MA Standards**		When included, discussed in terms of livestock forage	YES
*** MA Schedule of Mgmt. Rx's**			

FOREST PLAN	PAGE	EVALUATION	CHANGE IN FP
* **Monitoring/Evaluation Requirements** Analysis of the Management Situation	IV-8	Limited to livestock effects of land	YES
Glossary			

IV. POSSIBLE PROCEDURES TO ADDRESS THE ISSUE.

Deal with the issue of livestock grazing as a separate issue, or activity "Rangelands" would be treated as in the ecosystem approach, that is, a type of land, rather than as "Range" the activity

The majority of native rangelands are included in Management Area 2 If MA2 is kept as a prescription area, deal with it in terms of rangeland ecosystems, and prescribe management of them in relation to maintaining or achieving certain ecological condition in relation to the potential natural vegetation.

Reference to grasslands as "winter range" carries the connotation of a specific type of use (in this case winter big game use) similar to the term RANGE as used in association with domestic grazing Calling these areas grasslands, or rangelands would eliminate preconceptions about how we allocate the forage.

Desired Future Condition needs to be spoken of in terms of specific future desired ecological status, for a given habitat type.

V. EFFECT OF CONTINUED IMPLEMENTATION

Broadening the meaning from range as a type of use to rangelands as shrub and grass ecosystems will increase our awareness of the importance of these lands, and improve our abilities to manage them

I. ISSUE/PROBLEM STATEMENT

Current Forest Plan guidance does not provide for geologic technical support in management proposals. A study of all aspects of environmental geology should be an integral part of land-use planning Elements to be addressed include geologic hazards (e.g landslides, and in other parts of the state, earthquakes), waste disposal, groundwater, subsidence, foundations for dams and bridges, road construction, and mining Understanding the geologic framework is also essential for determining the full potential variety of ecosystem development and multiple uses of the land

II. WHAT INFORMATION HAS LED US TO ARRIVE AT THIS SITUATION?

A Academic, new laws, new policies, etc.

The Chief has directed all N F to begin planning, implementing, and monitoring based on ecological principles, processes and desired conditions A decision was made to use a chart entitled "Hierarchical Stratification of Natural Biotic and Physical Environmental Elements" Numerous geologic parameters are *listed throughout this chart, including lithology, structure, and physical processes.*

B Forest Plan or project monitoring information relative to the issue

Forest Plan Monitoring and Evaluation Report Summary, 1992, page 1, discusses the need to incorporate ecosystem management principles into BNF projects Page 112, Item 23A, Geologic Resources and Investigation, states "Geologic input to the decision process has helped in successful planning and execution of various projects This information will continue to help determine the cause and effect relationship of natural and man-caused events Much more remains to be done in depicting how an ecosystem relates to the geologic setting "

C Public input (5 year review concerns, appeal issues, etc)

Watershed options in the 5 Year Review, states "the DFC should incorporate natural variability for reference *streams by geomorphic setting" Individuals and agencies outside the FS are interested in how much* sediment is natural vs man caused. An analysis of the geologic setting (rock types and weathering products, and structure (faulting/folding) is essential to this study.

Concern has also been expressed for the viability of bull trout and other TES There appears to be a direct correlation between the bedrock and the quality of fisheries No doubt sedimentation is a factor, however the geochemistry may also be important

D Indications through project decisions.

There is a direct connection between the amount of sediment produced in a drainage basin and the rock types that comprise the basin. Numerous project decisions have been based on watershed considerations

Some areas are also much more prone to landslides or slumping; due to rock types, slope, aspect, tectonic weaknesses, and groundwater There is evidence that several road segments, built through areas which had been delineated previously as hazardous, did indeed fail in these areas.

III HOW DOES THE FOREST PLAN CURRENTLY ADDRESS THIS ISSUE? (Items with * and highlighted are FOREST PLAN DECISIONS (which if changed require Forest Plan Amendments.))

ISSUE GEOLOGIC CONDITIONS

FOREST PLAN	PAGE	EVALUATION	CHANGE IN FP
Management Philosophy			
*** Forest-Wide Goals**			
*** Forest-Wide Objectives**			
Research Needs	II-11	Include as a Research Need to develop the relationship between geologic parameters and aquatic and terrestrial ecosystems Include as a Data Need new or refined geologic maps at the appropriate scales	YES
Desired Future Condition			
*** Forest-Wide Mgmt. Standards**			
*** Management Area Direction**			
*** MA Goals**			
*** MA Standards**			
*** *Monitoring/Evaluation* Requirements**			
Analysis of the Management Situation			
Glossary			

IV. IDENTIFY POSSIBLE PROCEDURES (OPTIONS) TO ADDRESS THE ISSUE.

1 Include as a Guideline the need to design management activities that are appropriate for the geologic conditions of the area or site Such guidelines could be stated as:

> Geological technical support will be provided for all management activities that involve significant surface disturbance, such as dams, bridges, road construction, and mining related activities Geological technical support will also be used in an assessment of geologic hazards, groundwater, and earth materials and processes, as well as the abiotic component of the ecosystem(s).

2 Under the section entitled Additional Data Requirements (pg II-10), separate the need for a geologic mapping from a mineral potential inventory as the data level and information is different for the two components Under Research Needs (pg II-11), include the following

> Geology - Develop the relationship between geologic parameters such as lithology (rock type and formation) and structure, weathering products, watershed considerations, and aquatic and terrestrial ecosystems

V WHAT IS THE EFFECT OF CONTINUED IMPLEMENTATION (FOLLOWING FOREST PLAN DIRECTION) AND THE EFFECT OF THE OPTIONS?

Continued implementation of the Forest Plan, as is, does not incorporate the concepts of ecosystem management, which includes an "abiotic" component, as well as the biotic component Inaccurate conclusions concerning the existing and desired ecosystem will be made if geologic knowledge and principles are not an inherent part of both the aquatic and terrestrial ecosystem.

Other management activities that involve foundation or bedrock characteristics, such as road building, irrigation ditches, groundwater sources, etc., that have not utilized geologic input, have sometimes resulted in a wasted effort and expense, as well as damage to the watershed.

VI. REFERENCES

Forest Plan Manual 2880 and Forest Plan Handbook 2809 14

F
National Hierarchical Framework of Ecological Units

I ISSUE/PROBLEM STATEMENT

Ground-skidding and dozer-piling occasionally exceed Forest Plan monitoring "guidelines" relative to detrimental soil disturbance In addition, the amount of woody debris left on site after harvest is of concern, and the Forest Plan does not specify an amount of ground cover desirable to retain Soil damage in the form of displacement, compaction and puddling from timber harvest and from grazing in riparian areas has also been observed within the last five years The Forest Plan does not have soil quality standards and guidelines with regard to grazing

II. WHAT INFORMATION HAS LED US TO ARRIVE AT THIS SITUATION?

The ground-skidding alone generally can be conducted to stay within the Forest Plan-specified, 20% ground disturbance limits, but when tractor-piling is added as a practice there is a greater chance of exceeding the disturbance limits (displacement of soil is more the effect than compaction). It is not possible to predict exactly how much disturbance the tractor-piling will cause due to variability in site factors, amount of slash, equipment operator skills, and weather conditions Soil quality monitoring using intensive field assessments for the past two years has shown that overall, the amount of soil disturbance actually occurring quite variable At a minimum from 15 to 20% of the unit area is detrimentally affected but on some units soil damage has ranged up to 50 or 60%, well above Forest Plan guides

Field monitoring has shown soil damage occurring with dozer-skidding and piling on Unit 3 of the Upper Skalkaho Timber Sale The skidding alone detrimentally displaced about 34 percent of the surface soil, Subsequent dozer-piling added more disturbance in the forma of deep displacement so that a total of about 63 percent of the unit was detrimentally impacted This exceeded the Forest Plan guides of 20 percent and Regional standards of 30 percent Monitoring of some other units shows a correlation in the degree of soil disturbance from ground-based heavy equipment and steeper slopes. The Forest Plan encourages use of ground-based skidding and piling on slopes less than 40 percent.

Fall broadcast burning tends to be hotter and more impactive on soils than spring burning and may consume too much litter and large woody residue The Forest Plan does not specify amount of ground cover to be left following broadcast burning The only Forest Plan soil quality standards relates to amount of large woody residue on very dry sites and amount of severely burned soil (applies to large piles of slash) Extensive removal of the protective litter layer exposes too much of the soil to erosion on these steep slopes and hot burns volatilize too much organic nitrogen This nutrient is then lost from the system and soil productivity may be decreased Although the intensity of broadcast burns and objectives for woody material retention can be set by projects, Forest Plan direction could offer additional guidance

Several IDT field reviews a few years ago evaluated the conditions on some units broadcast burned in fall and spring on steep slopes This is documented in Norm Davis' report in which we recommended leaving 75% litter cover and 25 ton/acre of large woody residue, except on dry, harsh sites where adequate amounts of woody residue are not available to begin with

The Forest Plan does not contain soil quality standards for grazing in riparian areas Two allotments have been field reviewed for effects on riparian soils by cattle Both showed alteration in the surface soil layers in the form of detrimental compaction, puddling, and reduction in infiltration of water

III. HOW DOES THE FOREST PLAN CURRENTLY ADDRESS THIS ISSUE? (Items with * and highlighted are FOREST PLAN DECISIONS (which if changed require Forest Plan Amendments))

ISSUE **SOIL PRODUCTIVITY**

FOREST PLAN	PAGE	EVALUATION	CHANGE IN FP
Management Philosophy			
*** Forest-Wide Goals**	II-3	general intent to maintain soil productivity. This intent goes without saying - Broad goals need not be restated in Plan but referenced to the source of general policies	Yes
*** Forest-Wide Objectives**	II-6	"Design management activities to maintain soil productivity " May need to be more specific and measurable	Yes
Research Needs			
Desired Future Condition			
*** Forest-Wide Mgmt. Standards**	II-24-25	General standard (7 & 8) do provide for soil protection. Monitoring shows impacts exceeding in some cases May need further guidelines or standards No standards or guidelines exist with regard to skidding and piling on various slopes	Yes
*** Management Area Direction**	III-6	Specifics for retention of woody debris on dry sites but not amount of ground cover following broadcast burn	Yes
*** MA Goals**			
*** MA Standards**			
*** MA Schedule of Mgmt. Rx's**			
*** Monitoring/Evaluation Requirements**	IV-8	#28-31 - inclusive of monitoring soil impacts from activities	
Analysis of the Management Situation			
Glossary			

IV. IDENTIFY POSSIBLE PROCEDURES (OPTIONS) TO ADDRESS THE ISSUE.

Options are

1 Through additional Guidelines for treatment of slash, encourage the use of grapple-piling and other options (burning) instead of dozer-piling. Ensure that contracts contain appropriate mitigation measures If possible, provide a "picture" to the operator of what the site should look like when completed The prescriptions must also evaluate the cost effectiveness and the ability to implement the prescription

2 Consider a Guideline for clayey soils on Tertiary terraces, use ground-based skidding only on dedicated skid trails or solidly frozen ground Dozer-piling on these soils will not be used

3 Incorporate soil quality standards or guidelines Emphasize spring burning or other options that meet desired conditions (as identified in hazard reduction or site preparation prescriptions), especially on steep slopes with highly erosive soils. Encourage or specify use of "spider excavators" to pile and scarify on steep slopes, thus reducing the use of broadcast burning Base amounts of large woody residue to remain on site on habitat types, not by MA as in the Forest Plan (some concerns over the use of spider excavators are cost and the challenge of retaining woody material on site)

4 Change the Forest Plan to limit conventional skidding and piling to slopes less than 35 percent. Consider such options as use "spider excavator" for piling on steep slopes, encourage log-forwarding on top of "slash trails" on moderately steep slopes; operate over frozen ground; encourage use of excavator-piling instead of dozer-piling

5 Include soil quality standards for grazing impacts on riparian soils and add monitoring requirements Use data from the riparian site potential mapping as a benchmark against which to monitor effects of grazing on soil conditions and vegetation characteristics

6 Research or monitoring need - recovery rates on compacted soils within the Bitterroot soil types

7 Work w/contractors to provide new information and convey expectations (pictures, site visits, etc) regarding tasks

8 Make a better link between sale preparation people (including sale administrators) and the Interdisciplinary Team (planning) to ensure that the sale design and the timber sale contract fits the ground and specifies needed mitigation measures

V. WHAT IS THE EFFECT OF CONTINUED IMPLEMENTATION

Without the guidelines proposed above, monitoring completed for Forest Plan Monitoring Item #31 may show, on some projects, that standards have been exceeded (i.e more than 20% of the activity area detrimentally affected)

VI. REFERENCES

Forest Plan Monitoring

Davis, Norm Woody Residue Recommendations

Forest Service Handbook 2509 18 Soil Management Handbook W O. amendment 2509 18-91-1 9/3/91

Forest Service Handbook 2509 18 Soil Management Handbook Region 1 supplement (proposed 5/93)

Forest Service Handbook 2509 22 Soil and Water Conservation Practices Handbook.

General Technical Report (INT-225)

I. ISSUE/PROBLEM STATEMENT

Analyzing old growth on a landscape level may be more appropriate than the current method (old growth percentage within MA within third order drainage). The quantity and distribution of old growth needs to be placed in the context of the range of natural variability to better ensure viability of old growth dependent wildlife species Current Forest Plan old growth definitions have been superseded by new Regional definitions

II WHAT INFORMATION HAS LED US TO ARRIVE AT THIS SITUATION?

The following are new research, laws, or policies which have influenced thought on old growth

1 Old-growth Forest Types of the Northern Region (Green, et al. 1992) presents new old growth definitions based on capabilities of different habitat types which are more comprehensive than the definitions currently in the Forest Plan

2 The Chief's policy on ecosystem management (June, 1992) and implementing Ecosystem Management principles leads us to compare the extent and distribution of current old growth with historic conditions This comparison generally shows less existing old growth in low elevations than under historic conditions, and more existing old growth in higher elevations than under historic conditions

With regard to the Forest Plan or monitoring information, the Forest Plan Monitoring and Evaluation Report, 1992, shows that in general, old growth exceeds Forest Plan standards

Comment on the Five Year Review include:

whether the management area/third order drainage unit of measure for old growth is appropriate,

whether Forest Plan minimum amounts are adequate,

whether the current old growth definitions should be updated to match the more recent Regional definitions,

whether we can implement any management in old growth stands and retain old growth qualities; and

whether we should identify and retain old growth reserves

In addition, an appeal issue on the Stevensville SW project expressed concern about reducing old growth percentages below Forest Plan minimums This illustrates the problems with analyzing old growth based on percentages within relatively small, strictly defined areas which may have little ecological significance in a broader landscape context.

Project analysis shows that quantities of old growth in most management areas in most third-order drainages exceed minimum standards, but that a few do not There is no comparison with quantity and distribution of historic old growth

III. HOW DOES THE FOREST PLAN CURRENTLY ADDRESS THIS ISSUE? (Items with * and highlighted are FOREST PLAN DECISIONS (which if changed require Forest Plan Amendments))

ISSUE **OLD GROWTH**

FOREST PLAN	PAGE	EVALUATION	CHANGE IN FP
Management Philosophy			
*** Forest-Wide Goals**			
*** Forest-Wide Objectives**			
Research Needs			
Desired Future Condition			
*** Forest-Wide Mgmt Standards**	II-19	"The amount and distribution of old growth will be used to ensure sufficient habitat for the maintenance and viable populations of natives and desirable non-native vertebrate species, including two indicator species, the pine marten and pileated woodpecker "	
	II-20	Stand conditions that qualify as old growth are generally defined here	Yes
	II-20	"Long rotations will be prescribed to meet old-growth requirements on suitable timberland in MAs 1, 2, 3a and 3c "	
	II-20	"Old-growth stands may be logged and regenerated when other stands have achieved old-growth status " The "replacement" concept of logging old growth may need to be re-examined	Yes
	II-20	"Sanitation and salvage harvests may occur in stands classified as old growth if old growth characteristics are retained after logging "	

ISSUE OLD GROWTH cont

FOREST PLAN	PAGE	EVALUATION	CHANGE IN FP
*** Management Area Direction**		Old growth standards in individual MAs are described in:	
	III-4 III-10 III-16 III-24 III-31	MA 1, 3% MA 2, 8% MA 3a, 8% MA 3b, 50% in fisheries riparian and 25% in non-fisheries riparian MA 3c 8% As stated above, these calculations are not necessarily scientifically sound nor meaningful when applied in all site areas Natural ranges of variation of old growth have not been established for ecological types	Yes
*** MA Goals**			
*** MA Standards**			
MA Schedule of Mgmt Rx's			
*** *Monitoring/Evaluation* Requirements**			
Analysis of the Management Situation			
Glossary		*Definition of old growth needs to be* updated	*Yes*

IV. IDENTIFY POSSIBLE PROCEDURES (OPTIONS) TO ADDRESS THE ISSUE.

Options are

1 Replace existing old growth definitions in the Forest Plan with the new Regional old growth definitions (Green, et al 1992);

2 Identify processes that create and describe old growth patterns across the landscape Include potential EM treatments in existing old growth habitat designed to perpetuate old growth characteristics in the short term by reducing risk of loss to fire or insects and disease, rather than salvage treatments Use GIS to identify and track existing and future old growth stands over time to ensure progress towards historic ranges.

3. Replace old growth standards with more ecologically sound direction (Goals, Objectives or Standards) which will provide for old growth habitats Ensure that old growth is provided for

(public comment expressed concern that goals and objectives may not be as adequate as standards for old growth provisions)

V WHAT IS THE EFFECT OF CONTINUED IMPLEMENTATION (FOLLOWING FOREST PLAN DIRECTION)?

Continued implementation encourages reduction of old growth to relatively small, isolated patches which may not meet the needs of old growth dependent wildlife species, especially in lower elevations There is no direction to manage towards historical levels of old growth habitat Use of definitions currently in the Plan may be somewhat misleading, especially in lodgepole types

Implementing options would result in quantities and distribution of old growth habitat which more closely *resembles historic levels, and which would therefore provide more assurance of species viability for those* wildlife and plant species associated with old growth habitats

VI. REFERENCES

Green, P., J Joy, D Sirucek, W Hann, A Zack and R.Naumann 1992. Old-growth forest types of the Northern Region USDA Forest Service, Northern Region. Publication R-1 SES 4/92 Missoula, Montana 60 pp

I. ISSUE/PROBLEM STATEMENT

The intent of the Forest Plan snag guideline was to retain some vertical structure within regeneration harvest units Retention of snags has not occurred to the degree planned because of safety hazards to timber fallers (State of MT & OSHA standards) and the demands of the public for firewood Silvicultural prescriptions developed with ecosystem management principles will respond to the need for vertical diversity across the landscape (including the snag/dead tree component)

II WHAT INFORMATION HAS LED US TO ARRIVE AT THIS SITUATION?

We have recognized the need to retain snags in the managed forest because many species of birds and mammals either depend on roost and nest sites in excavated cavities or occupy cavities excavated by others Post-harvest surveys (subjective) indicate that most snags have been felled as a result of the timber harvest operation There is a noticeable lack of snags along open roads The public has recognized that snags have not been retained in harvest units and have suggested we retain large green trees as replacement snags for the future They believe the "snag management standard is outdated " One of the major contentions in the Castle II and Maynard Creek timber sales negotiated appeal settlements was how snags and replacements were to be managed We essentially "wrote off" existing snags and prescribed a generous distribution and population of green trees be retained for the future

The only standard in the Forest Plan which addresses retention of snags in timber harvest units is. All snags that do not present an unacceptable safety risk will be retained (II-20) Riparian area management guidelines, a Forest supplement to the Forest Service Manual, require retention of standing trees likely to fall into streams to provide organic structure Whether the trees are live or dead, they are desirable wildlife trees

Recent discussions with interdisciplinary teams in harvest units where snags have been retained have led to the conclusion that most or all the snags now standing in broadcast burn units will either be felled because they are a high safety risk to fire starters or will be burned with the unit. The intent of the snag guideline in the Forest Plan was to retain some vertical structure in the regenerated forest This structure, along with the large woody debris left on the ground, provide habitat for a wide variety of vertebrate and invertebrate wildlife species important to the maintenance of healthy, diverse ecosystems Retention of enough snags to make a difference now seems infeasible, except in tractor- or hand-piled units

In order to meet the intent of the Forest Plan to retain some large vertical woody structure, about two trees per acre are needed, as large or larger than the average stand diameter, that can be retained after slash piling and burning At least one leave tree per five acres should be as large as the largest trees in the stand Cull, diseased, and deformed trees are good candidates If they pose a silvicultural or genetic hazard to the new stand and are not killed during hazard reduction, they should be girdled Clumps of leave trees are better than even distribution and larger trees are much better than smaller.

A group of wildlife biologists, silviculturists, fire management officers and sale administrators should be assigned to research the vertical woody structure issue and write guidelines for management of this important forest component This issue has been expressed Regionally as well. Last year Regional USFS wildlife, timber and planning personnel met with OSHA and Montana Logging Association safety inspectors to discuss this issue The group agreed that there may be ways to retain snags and replacements in harvest areas, largely through sale design and sale administration

III. HOW DOES THE FOREST PLAN CURRENTLY ADDRESS THIS ISSUE? (Items with * and highlighted are FOREST PLAN DECISIONS (which if changed require Forest Plan Amendments))

ISSUE STAND STRUCTURE

FOREST PLAN	PAGE	EVALUATION	CHANGE IN FP
Management Philosophy			
*** Forest-Wide Goals**			
*** Forest-Wide Objectives**	II-5	Wildlife objective #4 (diversity) needs to be expanded to address diversity across landscapes	Yes
Research Needs			
Desired Future Condition	II-16	DFC could include reference to stand structure across landscapes	Yes
*** Forest-Wide Mgmt Standards**	II-20	Stand structure needs to be addressed, not just the dead tree component	Yes
*** Management Area Direction**	All MA's	Stand structure is not addressed	Yes, if not fully addressed above
*** MA Goals**	All MA's	Stand structure is not addressed	
*** MA Standards**	All MA's	Stand structure is not addressed	
*** MA Schedule of Mgmt Rx's**			
*** Monitoring/Evaluation Requirements**	IV-6	Not mentioned Need to monitor stand structure (snag retention)	Yes
Analysis of the Management Situation			
Glossary	VI-	Need definition of stand structure/vertical diversity	Yes

IV. IDENTIFY POSSIBLE PROCEDURES (OPTIONS) TO ADDRESS THE ISSUE.

1). Develop direction that recognizes the difficulty in retaining snags in managed stands but is responsive to the need to maintain a component of large tree vertical diversity as live trees in the short run and snags in the long run

V. WHAT IS THE EFFECT OF CONTINUED IMPLEMENTATION (FOLLOWING FOREST PLAN DIRECTION) AND THE EFFECT OF THE OPTIONS?

The current standard is ineffective in retaining a snag component in managed stands We have adopted interim snag management guidelines which are compatible with Forest Plan standards, but snag needs must be addressed in the Forest Plan

The option will assure retention of snags (vertical diversity) as a necessary component in the forest ecosystem

VI. REFERENCES

Guidelines for Selecting Reserve Trees

I. ISSUE/PROBLEM STATEMENT

Land areas in the Bitterroot Valley and National Forest continue to change as exotic species spread, out compete native species, and dominate habitats Spotted knapweed is an example of a well established species, however new species are taking hold, e g sulfur cinquefoil and leafy spurge

II WHAT INFORMATION HAS LED US TO ARRIVE AT THIS SITUATION?

The Forest has written a noxious weed environmental assessment (Bitterroot National Forest Noxious Weed Environmental Assessment) The Decision Notice was signed on July 12, 1994. Treatment efforts, results and infestation trends are documented in the 1993 Forest Plan Monitoring and Evaluation Report Major noxious weed species on the Forest are Spotted Knapweed, Goatweed, Sulfur Cinquefoil, Common Tansy, Leafy Spurge Dalmation Toadflax and Yellow Star Thistle The Forest Plan Management Goals, Objectives and Standards currently provide noxious weed direction

There is new Regional policy and guidelines for use of native plant materials in seeding and planting projects This policy stresses the importance of using genetically local plant material for revegetation projects.

In the 1992 Bitterroot Forest Plan Monitoring and Evaluation Report, there are references to reclamation projects in areas of mineral activity, seeding and revegetating areas impacted by off-road vehicle use, noxious weed inventory and control monitoring of biological diversity, seeding for fire rehabilitation, and application of grass seed and fertilizer to skid trails and other impacted timber harvest areas

The introduction of non-native species coincidentally with tree planting and through use of heavy equipment during firefighting have been noted during project monitoring or noxious weed inventories.

Hybridization of non-local native plant species introduced to areas with a distinct native gene pool may cause unforeseen problems with genetic variability Such species may be called "native" (ie, Idaho fescue), but could be quite different genetically These genetic differences are often adaptations of a species to the habitat, climate, insects or diseases of a particular area Introducing a genetically different species may mean this species won't be able to adapt to the new environment or it may hybridize with local species making them *more susceptible to insect and disease infestations Introduction of non-native species may also introduce* new insects and diseases to the area

Introduction of other exotic species may seem innocuous, but could have deleterious effects in the long term A plant native to the Rocky Mountains is not necessarily native to the Bitterroot Such introductions could result in hybridization with native plants of the same genus or competition for habitat with native plant species

Non-native species have routinely been used to reseed and revegetate road cuts, skid trails, grazed areas, cutting units, etc Existing Forest Plan standards do not address the use of genetically local native plant material for revegetation projects

III. HOW DOES THE FOREST PLAN CURRENTLY ADDRESS THIS ISSUE? (Items with * and highlighted are FOREST PLAN DECISIONS (which if changed require Forest Plan Amendments))

ISSUE NATIVE PLANTS/NOXIOUS WEEDS

FOREST PLAN	PAGE	EVALUATION	CHANGE IN FP
Management Philosophy			
*** Forest-Wide Goals**	II-3	OK, need to update w/reference to the use of native species	Yes
*** Forest-Wide Objectives**	II-6	OK, need to update w/reference to the use of native species	Yes
Research Needs			
Desired Future Condition			
*** Forest-Wide Mgmt. Standards**	II-29	OK, need to update w/reference to the use of native species	Yes
*** Management Area Direction**	All MA's	Not mentioned Is covered in Forest-wide Goals, Objectives, and Standards	No
*** MA Goals**		Same as MA Direction	
*** MA Standards**		Same as MA Direction	
*** MA Schedule of Mgmt. Rx's**			
*** Monitoring/Evaluation Requirements**	IV-6	Need item to monitor the use and effectiveness of non-native species for revegetation	Yes
Analysis of the Management Situation			
Glossary	VI-22	Definition of non-native species	Yes

IV. IDENTIFY POSSIBLE PROCEDURES (OPTIONS) TO ADDRESS THE ISSUE.

Continue to actively suppress known populations of noxious weeds.

Emphasize the use of genetically local native plant materials in revegetation projects, either through Forest Plan Standards or Guidelines

V. WHAT IS THE EFFECT OF CONTINUED IMPLEMENTATION (FOLLOWING FOREST PLAN DIRECTION) AND THE EFFECT OF THE OPTIONS?

Without controlling the plant species introduced on the forest irreparable damage may be done to the natural vegetative diversity of the area Non-native species often out-compete native plants for habitat. Native revegetation and noxious weed control programs are essential to maintain native plant diversity

VI. REFERENCES

Jolly, D F , Use of Vegetative Materials on National Forests, 6/8/93 2200/2470

Kelly, S K , Bitterroot National Forest Noxious Weed Environmental Assessment, 7/12/94

I. ISSUE/PROBLEM STATEMENT

The Forest has threatened, endangered and sensitive plant, animal, and fish species Health of habitat and species is influenced by many factors, including off-Forest influences Habitat and specie relationships are, in many cases, not well understood at this time Forest Plan direction for the management and conservation of sensitive species is needed

II. WHAT INFORMATION HAS LED US TO ARRIVE AT THIS SITUATION?

The current Forest Plan was being written when the Region issued the first sensitive species list Forest Plan standards provided for the sensitive species list in a general fashion by directing the forest to consider the habitat needs of sensitive species in all project planning and participate in threatened and endangered species identification, protection and recovery

Since then, new Forest Service Manual policy has resulted in an expanded Forest Sensitive Species Program and the preparation of guidelines for Bitterroot National Forest Sensitive Species This document supports the Forest Plan goals by providing guidance for analysis of sensitive species, however, the Forest Plan still needs to be updated with conservation strategies for the species

FSM 2670 22 (1990) directs the Forest Service to ensure that species do not become threatened or endangered because of Forest Service actions The agency is to maintain the population viability of all native and desired nonnative wildlife, fish and plant species in habitats distributed throughout their geographic range on National Forest System lands Third, the Forest Service is to develop and implement management objectives for populations and/or habitat of sensitive species

Additionally, FSM 2670 32 states that we should assist states in achieving their goals for conservation of endemic species As part of the NEPA process, we should review programs and activities, through a biological evaluation to determine their potential effect on sensitive species and avoid or minimize impacts to species whose viability has been identified as a concern If impacts cannot be avoided, the significance of potential adverse effects on the population or its habitat is to be analyzed Finally, the Forest Service is to establish management objectives with the state when projects on National Forest System lands may have a significant effect on sensitive species population numbers or distributions

FSM 2621 2 deals with conservation strategies, stating that "units must develop conservation strategies for those sensitive species whose continued existence may be negatively affected by the Forest Plan or a proposed project"

The 1992 Bitterroot Forest Plan Monitoring and Evaluation Report notes that more information is needed for the sensitive plant species *Allotropa virgata*, as well as all the other listed sensitive plants

Appeals of Buck Little Boulder, Bear and Tolan all dealt with the issue of maintaining population viability and protecting sensitive plant species and their habitat, referring to FSM 2670 Another issue appealed on all these projects was the lack of conservation strategies on sensitive species found in project areas, referring to FSM 2621 2, "Determination of Conservation Strategies"

Biological evaluations have been conducted for all forest projects since 1991 This usually involves a field survey for sensitive plant species, but may be done by habitat assessment The biological evaluation involves analyzing the effects of project activities on the population viability of sensitive plant, animal, and fish species present in the project area Without conservation strategies, managers are usually forced to avoid plant populations when conducting activities in these areas This could mean dropping units, changing unit boundaries, use of leave tree islands, flagging plants to avoid, or conducting activities over snow or frozen

ground More recent projects include extensive underburning to reintroduce fire This could improve the habitat of sensitive species adapted to fire, however, without monitoring, such conclusions are still theoretical

Monitoring is being implemented on almost all projects with sensitive plant, animal, and fish species Although this should improve our knowledge of effects of management activities on these species, there are budget and personnel constraints involved in additional monitoring Monitoring and evaluation and completion of conservation strategies could preclude listing of species as threatened or endangered

Ideally, extensive inventory work unrelated to project clearance surveys should be done for sensitive species Such information would help in the preparation of conservation strategies and biological evaluations and may even result in removing species from the list

III. HOW DOES THE FOREST PLAN CURRENTLY ADDRESS THIS ISSUE? (Items with * and highlighted are FOREST PLAN DECISIONS (which if changed require Forest Plan Amendments))

ISSUE TE&S SPECIES

FOREST PLAN	PAGE	EVALUATION	CHANGE IN FP
Management Philosophy			
*** Forest-Wide Goals**	II-3	T&E mentioned under FWL No mention of sensitive species; no mention of plants	Yes
*** Forest-Wide Objectives**	II-5	T&E mentioned under FWL No mention of sensitive species; no mention of plants.	Yes
Research Needs	II-11	No mention of TE&S species May need species specific research to develop conservation strategies	Yes
Desired Future Condition			
*** Forest-Wide Mgmt. Standards**	All MA's	Not mentioned Should cover w/updated Forest-wide goals and objectives	No
*** Management Area Direction**		Same as MA direction.	
*** MA Goals**		Same as MA direction	
*** MA Standards**			
*** MA Schedule of Mgmt. Rx's**			
*** Monitoring/Evaluation Requirements**	IV	Currently not effective. Need to reformat a TE&S monitoring item w/more realistic monitoring objectives	Yes

ISSUE TE&S SPECIES Cont

FOREST PLAN	PAGE	EVALUATION	CHANGE IN FP
Analysis of the Management Situation			
Glossary			

IV. IDENTIFY POSSIBLE PROCEDURES (OPTIONS) TO ADDRESS THE ISSUE.

Revise the Forest Plan to include Goals and Objectives for the conservation of sensitive species. Revise Forest Plan objectives to include plant species as well as fish and wildlife species Update the Sensitive Species Management Plan and utilize it as a guiding document to support the Forest Plan goals.

V. WHAT IS THE EFFECT OF CONTINUED IMPLEMENTATION (FOLLOWING FOREST PLAN DIRECTION) AND THE EFFECT OF THE OPTIONS?

Current Forest Plan direction is general in its direction for sensitive species. Continued implementation will avoid impact on TES species, however without conservation strategies, management may be inconsistent in its provision or enhancement of these species or their habitats

VI REFERENCES

Lesica, P. & Shelly, J S 1991 Sensitive, Threatened and Endangered Vascular Plants of Montana Montana Natural Heritage Program, Occasional Publication No. 1. Helena, MT. 88 pp.

USDA-FS, Region 1 Northern Region Sensitive Plant Species List Revised, 1991.

USDA-FS, Bitterroot N F Sensitive Species Guidelines

I. ISSUE/PROBLEM STATEMENT

Big game habitat standards and guidelines (for winter range, security) are not consistent with the most recent information for this area Winter range (amount and conditions) as used by big game animals (primary focus is elk) has changed and is changing Increasing human population and the subdivision of farm and ranchlands affect availability of winter range and elk migration Road access and hunting pressure also result in greater importance of hiding cover

II WHAT INFORMATION HAS LED US TO ARRIVE AT THIS SITUATION?

Applying ecosystem management and conserving biological diversity, are new policies and approaches which affect big game management

Traditional approaches have focused on maintaining static populations of elk with an emphasis on providing optimal levels of thermal/hiding cover and forage through one Forest Plan standard, while attempting to address security through Elk Habitat Effectiveness standards. Habitat goals focused on retaining thermal cover, and increasing available forage through a burning program. Big game needs have been addressed piece-meal, rather than from an ecosystem/ecological perspective. There is a need to address the habitat requirements of all big game not just elk

Recent research indicates that mortality during hunting season has the greatest impact on elk/big game numbers and herd structure A new method of analyzing elk vulnerability (Hillis, 1991) during hunting season is available Other recent publications define the proper use of Elk Habitat Effectiveness (EHE) and cover/forage analysis for managing elk habitat on both summer and winter range (Christensen, et al., 1993) Finally, the MT Department of Fish, Wildlife and Parks (MDFWP) published the Statewide Elk Management Plan for MT in 1992 (Youmans, 1992). Analysis methods, recommendations, goals, and objectives from these publications should be incorporated in the Forest Plan.

Several project decisions and analyses provide further background and monitoring results including Stevensville SW Bear Lick Creek Tolan, and travel management at Larry Creek (Brooks, Bass, Larry, Sweeney creek analysis), Sapphire Divide, and other areas

Public input has included concern about open road densities, inability to meet Forest Plan standards for big game management, loss of winter range on private land, and confusion about application of the EHE standard

III. HOW DOES THE FOREST PLAN CURRENTLY ADDRESS THIS ISSUE? (Items with * and highlighted are FOREST PLAN DECISIONS (which if changed require Forest Plan Amendments.))

ISSUE BIG GAME

FOREST PLAN	PAGE	EVALUATION	CHANGE IN FP
Management Philosophy			
*** Forest-Wide Goals**	1-2	General Output oriented - need to reflect bgi game habitat management w/tie to EM	Yes
*** Forest-Wide Objectives**	II-3	OK	No
Research Needs			
Desired Future Condition	II-14	DFC needs tie to EM	Yes
*** Forest-Wide Mgmt. Standards**	II-20-21	Some standards are OK Need to update w/most recent information and incorporate EM principles.	Yes
*** Management Area Direction**	All MA's	Need to update w/most recent information and incorporate EM principles	Yes
*** MA Goals**	All MA's	Need to update w/most recent information and incorporate EM principles	Yes
*** MA Standards**	All MA's	Need to update w/most recent information and incorporate EM principles	Yes
*** MA Schedule of Mgmt. Rx's**			
*** Monitoring/Evaluation Requirements**	IV-6	Some OK Need to establish a monitoring item that measures the effectiveness of implemented EM projects using the most recent information	
Analysis of the Management Situation			
Glossary	VI-	Include new terms that show up in goals, standards, etc	Yes

IV. POSSIBLE PROCEDURES OR OPTIONS TO ADDRESS?

Integrate big game habitat management with EM principles and address areas of potential conflict, such as thermal cover in winter range

Incorporate elk vulnerability analysis (Hillis) into the Forest Plan Revise cover/forage and EHE analysis methods based on the most recent information (such as Christensen)

Reference or include goals and objectives of the State Elk Plan in the Forest Plan Include reference to coordination with Ravalli County Comprehensive Land Use Plan.

V. WHAT IS THE EFFECT OF CONTINUED IMPLEMENTATION?

Continued implementation will produce conflicts between implementing EM and big game habitat management, especially in winter range Cover/forage analysis required by the Plan is very time consuming, and the need for it is not supported by recent research EHE analysis is confusing due to lack of good definitions

VI. REFERENCES

Christensen, A G , L G Lyon, and J W Unsworth 1993 Elk management in the Northern Region: considerations in forest plan updates or revisions Gen Tech. Rep. INT-303. Ogden, UT U S Department of Agriculture, Forest Service, Intermountain Research Station 10 p

Hillis, M.J , M J thompson, J E Canfield, L J Lyon, C.L. Marcum, P M Dolan and D W McCleerey. 1991. Defining elk security the Hillis paradigm Pages 38-43 in A.G. Christensen, L G Lyon and T.N. Lonner, comps , Proc Elk Vulnerability Symp , Montana State University, Bozeman, MT 330 p

Youmans, H B comp 1992 Statewide elk management plan for Montana Montana Department of Fish, Wildlife and Parks Wildlife Division Helena, MT 171 p

I. ISSUE/PROBLEM STATEMENT

Neotropical migratory birds have attracted national public attention due to a general decline that is well documented in the eastern United States The declines in the eastern United States have not been detected in the western United States but at least 7 species, 5 in the prairie grasslands, have shown declines Monitoring is occurring in the Bitterroot Valley and on the Bitterroot National Forest, no conclusions or trends have resulted to date Currently, the Forest Plan provides little or no direction with regard to neotropical migratory birds Raptors are another category of birds that have attracted a lot of public interest, some are on the TE&S list

II WHAT INFORMATION HAS LED US TO ARRIVE AT THIS SITUATION?

Since the Forest Plan, the Regional Forester named Sensitive Species for the Northern Region For the Bitterroot Forest the list includes Boreal and Flammulated Owls (raptors) Also since the Forest Plan, Peregrine Falcons have been introduced to the Forest and it appears that three pairs nested in 1993 In the Southwest Region the Northern Goshawk has attracted much controversy Goshawks inhabit the Bitterroot Forest, but know little about their population status or habitat requirements

All Forests in the Region will participate in neotropical migratory bird field studies in 1994

Public comment has indicated that the Forest Plan needs a standard for raptors, each of the appealed *environmental analyses have included a "laundry list" of species the appellants feel should be considered and* the list always includes neotrops and raptors

Project decisions often include provisions for activity timing to consider disturbance of breeding seasons of sensitive species, and (in one case) a timing consideration for peregrine falcons The Paint-Reynolds-Lick decision was heavily influenced by the presence of a breeding boreal owl in or in the vicinity of proposed *timber harvest units*

III. HOW DOES THE FOREST PLAN CURRENTLY ADDRESS THIS ISSUE? (Items with * and highlighted are FOREST PLAN DECISIONS (which if changed require Forest Plan Amendments))

ISSUE NEOTROPICAL BIRDS & RAPTORS

FOREST PLAN	PAGE	EVALUATION	CHANGE IN FP
Management Philosophy			
*** Forest-Wide Goals**			
*** Forest-Wide Objectives**	II-5	Not adequate Plan states that will participate and cooperate in T&E species identification, *recovery and protection* No mention of neotropical migrants or raptors	Yes
Research Needs			
Desired Future Condition			

ISSUE NEOTROPICAL BIRDS & RAPTORS cont

FOREST PLAN	PAGE	EVALUATION	CHANGE IN FP
*** Forest-Wide Mgmt. Standards**	II-21	T&E species are mentioned, but standards or guidelines for the management of neotropical migrants and raptors may need to be developed	Yes
*** Management Area Direction**			
*** MA Goals**			
*** MA Standards**			
*** MA Schedule of Mgmt. Rx's**			
*** Monitoring/Evaluation Requirements**	IV	Establish monitoring item for neotropical migrants and raptors	Yes
Analysis of the Management Situation			
Glossary	VI-30	Need to define neotropical migratory birds and raptors	Yes

IV. IDENTIFY POSSIBLE PROCEDURES (OPTIONS) TO ADDRESS THE ISSUE.

Neotrops The current state of our knowledge suggests the importance to continue to monitor populations and habitat changes that may be affecting certain species (as yet unknown) The case can be made that EM will result in landscapes that have provided habitat in which the desirable native species have evolved

Raptors Population monitoring will continue General sensitive species management requirements are documented in FSM (see technical report for TE&S for more detail) Conservation strategies for individual species developed by Regional task forces will become available

V. WHAT IS THE EFFECT OF CONTINUED IMPLEMENTATION (FOLLOWING FOREST PLAN DIRECTION) AND THE EFFECT OF THE OPTIONS?

Effect of continued implementation will be continued public criticism of non-management of neotrops and raptors

As monitoring provides more information about these species, habitat relationships can be defined and maintaining important components assured

I. ISSUE/PROBLEM STATEMENT

Smoke will continue to be of concern to residents of the Bitterroot Valley Smoke levels may increase with emphasis on restoring fire as a natural process to some Forest habitats There are also more residents living in the valley many who have definite concerns about smoke and some who rely on wood burning stoves for heat Nationally, there is a need to monitor the influence of air pollutants like sulphur (from power plants, smelters, automobiles etc) on air

II. WHAT INFORMATION HAS LED US TO ARRIVE AT THIS SITUATION?

Air resource management concerns include much more than smoke management Wilderness area air quality related values (AQRV's), like aquatic ecosystems (lakes sensitive to acid precipitation) and visibility, are to be protected and can be affected by air pollutants like sulfur which is emitted from power plants, smelters, automobiles and other sources Any decision to permit increased air pollution from industrial sources is made through a PSD (Prevention of Significant Deterioration) program involving public interaction with air quality regulatory agencies and the National Forest managers The firewood program, road construction and use, prescribed fire, wildfire, and other activities on National Forest lands could affect air quality Air resources management objectives are to protect area air quality related values within wilderness areas, to control and minimize air pollutant impacts from National Forest land management activities, and to cooperate with air regulatory authorities to prevent significant adverse effects of air pollutants and atmospheric deposition on National Forest ecosystems

The Clean Air Act amendments of 1977 and 1990 require management of public lands to protect or improve air resources The federal land manager complies with federal, state, and local air quality regulations. The federal land manager protects area air quality related values in wilderness areas The federal land manager consults with air quality regulatory agencies on potential impact of proposed major emitting facilities

Area air quality related values identified for the Selway Bitterroot Wilderness area are visibility, geology and soils, aquatic ecosystems terrestrial ecosystems, and odor/fragrance Lichens surveys, visibility monitoring at Hells Half Acre Lookout, lake surveys, and precipitation chemistry monitoring at Lost Trail Pass are early monitoring for the Selway Bitterroot area air quality related value management plan The Selway Bitterroot Air Quality Related Value plan is contracted with Montana Tech, in 1994, to be implemented in 1995 The Anaconda Pintler Air Quality Related Values plan is scheduled next year

Forest Plan Monitoring and Evaluation Report, 1992 Emerging Issues, page 82, discusses smoke management The 1992 Forest Plan Monitoring and Evaluation Report, Air Resources Monitoring, page 1, was first attempt to report on air monitoring Regional, state, and local personnel are hoping to establish a long term monitoring site in the Bitterroot Valley for smoke particulate matter A cooperative agreement has been developed for airshed protection of a long term CO2 monitoring study with research personnel in conjunction with the Stevi SW project NEPA documents for projects, beginning with Buck-Little Boulder, have EPA comments on air resources management requiring air quality assessment of activities Proposed Stansbury mining proposal EIS involved expensive study of the issue of potential air quality effects on human health

III. HOW DOES THE FOREST PLAN CURRENTLY ADDRESS THIS ISSUE? (Items with * and highlighted are FOREST PLAN DECISIONS (which if changed require Forest Plan Amendments.))

ISSUE AIR QUALITY

FOREST PLAN	PAGE	EVALUATION	CHANGE IN FP
Management Philosophy			
* **Forest-Wide Goals**	II-4	Not mentioned	No
* **Forest-Wide Objectives**	II-6	OK Expand to incorporate monitoring and Forest-wide air resources management plan	Yes
Research Needs			
Desired Future Condition			
* **Forest-Wide Mgmt. Standards**			
* **Management Area Direction**			
* **MA Goals**			
* **MA Standards**			
* **MA Schedule of Mgmt. Rx's**			
* **Monitoring/Evaluation Requirements**	IV	There is no monitoring item for air resources	Yes
Analysis of the Management Situation			
Glossary	VI	Does not describe the most recent terminology for the air resources program	Yes

IV. IDENTIFY POSSIBLE PROCEDURES (OPTIONS) TO ADDRESS THE ISSUES.

Refer to ecosystem and fire management issues for incorporation of smoke management issue Refer to Selway Bitterroot Air Quality Related Values plan due in July 1994, and Anaconda Pintler Air Quality Related Value plan due in 1995

Options are

1 Develop a Forest-wide air resource management and monitoring plan Install and operate an IMPROVE (Interagency Monitoring of Protected Visual Environments) station on Hells Half Acre Lookout Establish and operate a long term air monitoring site in Bitterroot Valley with local, State, and Regional cooperation

2 Cooperate with research in CO2 and other air resources monitoring

3 Implement air modeling in NEPA projects to estimate air quality effects for air resources management

V. WHAT IS THE EFFECT OF CONTINUED IMPLEMENTATION (FOLLOWING FOREST PLAN DIRECTION) AND THE EFFECT OF THE OPTIONS?

Air resources management, especially related to both wilderness air quality related values protection and ecosystem health restoration through fire management, needs specification and integration in the Forest Plan Air resources will be a rapidly growing issue The Forest can be a progressive manager of air resources, a Regional leader

I ISSUE/PROBLEM

Riparian area management has been a controversial issue on the Bitterroot National Forest Currently, the Plan prescribes different goals and standards for timber harvest in riparian forests along streams with and without fisheries Standards for managing livestock grazing may not be adequate for protecting riparian areas Since the direction for managing riparian areas was written in the Forest Plan (1987) and in the Riparian *Management Guidelines (Bitterroot Supplement No 1 1988), there has been new legislation and findings from* research and monitoring efforts about riparian area diversity, function and management

II. WHAT INFO HAS LED TO THIS PROBLEM?

1 Montana Streamside Management Zone (SMZ) Act (1991) includes Best Management Practices or standards for timber harvest and road construction activities in riparian areas We must comply with these standards which may or may not be compatible with our Forest Plan direction Best Management Practices for grazing livestock in riparian areas is currently being drafted

2 Management Area 3b developed different goals and standards for timber management and forage production depending whether or not streams supported fish This differentiation is artificial and inaccurate Surveys of stream channel conditions, fish habitat and fish populations show that many many headwaters or tributary streams classified as nonfishery streams in the Forest Plan do support fish More importantly, we've recognized that riparian area management in headwaters and other streams that do not support fish populations is critical to instream and downstream aquatic ecosystem integrity

3 The Forest Plan standards and guidelines for protecting riparian areas used by domestic livestock are conflicting, ambiguous and difficult to implement

4 The only quantitative guidelines developed for protecting grazed riparian areas are based on limiting forage use, which may not be the best criteria for protecting riparian areas (Bitterroot Supplement No 1 1988) No guidelines were developed for forested riparian types, which occupy large acreages on the Bitterroot National Forest

Numerous instances have shown the need to clarify these guidelines In one example, a 30% forage use limit was prescribed for the Little Threemile's "unnamed drainage" in 1992 In that particular situation, unacceptable stream impacts were already occurring when forage use by weight was measuring only 15-20%. Other riparian plant communities, like the sedge and bluegrass communities in Meadow Creek can tolerate grazing use that removes 50% of the forage

III. HOW DOES THE FOREST PLAN CURRENTLY ADDRESS THIS ISSUE? (Items with * and highlighted are FOREST PLAN DECISIONS (which if changed require Forest Plan Amendments))

ISSUE RIPARIAN AREA MANAGEMENT

FOREST PLAN	PAGE	EVALUATION	CHANGE IN FP
Management Philosophy			
* **Forest-Wide Goals**	II-1	General goals under Fish & Wildlife Indirectly addressed in Soil & Water	Consider adding riparian area goal
* **Forest-Wide Objectives**	II-5&6	General riparian habitat objectives in Fish, Water and Road objectives	Consider adding objectives specific to riparian areas
Research Needs	II-11	Need for info on large woody debris in forested riparian areas	YES
Desired Future Condition	II-14 & 16	Restricts harvest methods, maintains old growth at 50% and 25% respectively for fisheries and non-fisheries streams	YES
* **Forest-Wide Mgmt. Standards**		No standards developed; guidelines written 1988	YES
* **Management Area Direction**			
* **MA Goals**	III-22	General, different goals for streams with fish	YES
* **MA Standards**		III-Need review, some still appropriate and effective Don't reflect SMZ Act 1991 Guidelines need revision	YES
* **MA Schedule of Mgmt. Rx's**			
* **Monitoring/Evaluation Requirements**	IV-7	Has been interpreted to include effects of timber harvest/road construction, not grazing	YES
Analysis of the Management Situation			
Glossary			

IV. POSSIBLE PROCEDURES TO ADDRESS THE ISSUE.

Revise the management direction for MA3b.

Develop an aquatic ecosystem inventory beginning with existing data bases Structure the inventory using Land type associations (LTA'S), valley bottom types Collect additional resource inventory within this framework

V EFFECT OF CONTINUED IMPLEMENTATION

Without good inventory information and consistent management direction, we will probably continue to defer timber management activities in forested riparian areas

Without development of sound, consistent and pragmatic standards for managing livestock use of riparian areas, there may be conflict at a project level or it will be time consuming to set objectives for each activity

I ISSUE/PROBLEM STATEMENT

Watershed conditions on the Forest are not recovering as quickly as assumed in the Forest Plan Although current road standards and implementation of Best Management Practices have been effective in preventing impacts to streams, many of the past system roads were and are contributing sediment to streams. Lack of vegetative recovery in some areas have contributed to higher water yields and increased sedimentation In addition storm events such as what occurred in Overwhich show that more understanding is needed with regard to storm events risk of fire and fuel, geologic conditions, and flood risk

II WHAT INFORMATION HAS LED US TO ARRIVE AT THIS SITUATION?

Two new laws have been passed related to specifically to water quality and Best Management Practices that need to be incorporated The Montana Streamside Management Zone Act is discussed in the Riparian Issue (Management Area 3b) The new Stormwater Regulations (Section 404(p) of the Clean Water Act- added by section 405 of the 1987 Amendments) is another change. EPA was required to address "storm discharges associated with industrial activities", which means that NPDES permits would be required for the following activities on construction sites greater than 5 acres (excluding roads) or greater than 1 acre if within 100 feet of State waters. rock crushing and gravel washing sites, road construction (not associated with silvicultural work), permanent log sorting/storage facilities and active mines that are not patented.

New procedures have improved our ability to determine existing health of watersheds and aquatic systems (FEMAT, 1993, MacDonald 1991, Decker, et al, 1993) All approaches now use a watershed based approach to determine aquatic health (direction in letters and speeches on "Management by Watersheds") An analysis conducted to assess watershed conditions on a Forest-wide basis ("coarse filter", Decker, 1991) determined that about one third of the watersheds in the suitable timber base were probably not meeting aquatic health goals, another one third were probably near the limits of those goals, and the remaining third of the watershed were probably healthy Subsequent data collection and analysis has validated this assessment on about 35 to 40 percent of the watersheds evaluated (see below) Potts and Pfister (1991) estimated that hydrologic recovery is may extend up to 60 years following harvest Troendle and King (1985) estimated that over one half of the original water yield remained from harvesting in a sub-alpine forest 30 years after harvest

In addition, there is a growing body of knowledge of fire behavior and natural fire occurrence in the ecosystem, conservation biology, and how to establish priorities for restoration (example Frissell, et. al , 1993) The Bitterroot Watershed Evaluation Process (Decker, et al , 1993) documents the watershed improvement program and current criteria for prioritization of areas and projects

Forest Plan Monitoring Reports for FY 1991 and FY 1992 summarize some of the water quality data, stream reach data and analyses used to document this issue About 35-40 percent of the watersheds evaluated in the coarse filter analysis have been surveyed or sampled and compared to other undisturbed or "reference" stream systems of the same geomorphic type The results of this data collection indicate that the coarse filter analysis was accurate about 80 percent of the time. Of the remaining 20 percent of the sample, most of those drainages were in worse condition than predicted because of other cumulative effects that could not be taken into account at this level of analysis Specific conditions found in the field in watersheds with high road densities and a large proportion of the watershed harvested were increased deposition of fine sediment into the substrate wider shallower than normal channels, decreased woody debris, loss of pools, less macroinvertebrate habitat, and less stable channels

Water quality monitoring information from Sleeping Child Creek and Skalkaho Creek (summarized in the FY 1992 Report) indicate that the hydrologic effects of the Sleeping Child Burn (1961) may still be affecting streamflows in the Sleeping Child watershed

Watershed Improvement Inventories document numerous sediment sources in all drainages surveyed, usually associated with past road building practices This indicates that these road systems are still having

an effect on water quality and stream health even after 20 to 40 years The Forest's transportation system has had an effect on watershed condition There has been some increase in sediment coming from road surfaces as road maintenance budgets decline and maintenance isn't as timely as it should be Many of the roads constructed in the late 1970 s and 1980's were constructed as dry season use roads, today we are using the roads as all season roads and suffering some damage There are some "temporary" roads on our road system that have poor design characteristics, were never meant to be used as lon term roads, that are contributing sediment to our streams

Bull trout seem to be well correlated to watershed condition (FY1992 report), that is, healthy watersheds contain the majority of the strong bull trout populations

We now have a data base of stream conditions for over 200 stream reaches that includes about 60-70 reference (undisturbed) stream reaches covering a full range of ecological conditions This data base can provide the basic information needed for DFC components and also give a preliminary range of natural variability under a variety of conditions, including fire (Selway Tributaries)

The FY 1992 monitoring report describes the Overwhich Incident as being an example of what can happen when an ecosystem is out of balance (see Timber Management Issue) Also, there are data that indicate that the average size of fire and frequency of fires are increasing as fuels continue to build

Public input during the 5 year review indicate that watershed restoration should be a high priority in the overall Forest Program Recent appeals of timber sales exempts the proposed restoration projects All appeals have an issue related to water quality and existing health of stream systems. Also, "Clean water and protection of fish habitat from sediment emerged as the most important issue after the Proposed Forest Plan was issued" (Record of Decision, Forest Plan, pg 19)

Project decisions from the following projects all indicate that existing conditions were not as good as anticipated at the beginning of the analysis

> Moon Creek EA (implemented watershed improvements but deferred timber harvest until monitoring indicates improving stream health trends); Paint-Reynolds-Lick EA (implemented watershed improvements but deferred timber harvest indefinitely), Lick Creek EA, Calf Creek EA, Stevi SW EIS, Buck-Little Boulder EIS and the Bear EA all had reduced harvesting levels due to existing watershed conditions Grazing strategies were altered in riparian areas because existing conditions indicated non-compliance with Forest Plan goals in the Little Threemile Grazing Allotment EA and the Reimel Creek analysis

In addition, Integrated Resource Analysis documents for the Huck-Trap area, the Beaver Woods area, the Warm Springs area and Stevi West Central area all have existing watershed conditions that do not meet aquatic health goals

Most projects since 1989 have incorporated watershed improvements into the proposed action to rehabilitate watersheds. Most recent projects include prescribed fire for ecological restoration.

Most projects have been redesigned following a cumulative effects analysis since at least 1989, however, it is still difficult to link project effects analysis to Forest Plan direction (see Forest Plan Compliance sections of BLB and Bear EA's) It is also difficult to determine if State and Federal Water Quality standards are being met, and reliance is made on professional judgement

III. HOW DOES THE FOREST PLAN CURRENTLY ADDRESS THIS ISSUE? (Items with * and highlighted are FOREST PLAN DECISIONS (which if changed require Forest Plan Amendments))

ISSUE WATERSHED CONDITION

FOREST PLAN	PAGE	EVALUATION	CHANGE IN FP
Management Philosophy	II-1	Needs to be rewritten with emphasis on the fact that the purpose of the Organic Act of 1897 was to provide for water conservation	YES
*** Forest-Wide Goals**	II-6	Rewrite to ensure consistency with Streamside Management Zone Act, passed in 1991, the new Stormwater Regulations added to the Clean Water Act, and Best Management Practices.	YES
*** Forest-Wide Objectives**	II-6	Make sure that these reflect goals	YES
Research Needs	II-10	Complete Forest-wide watershed improvement needs inventory Use a watershed/GIS in evaluating cumulative *effects of proposed activities Include* Forest-wide watershed improvement needs inventory Overlay with watershed fire coarse filter	YES
Desired Future Condition	II-14	Rewrite to include ecological integrity and range of natural variability	YES
*** Forest-Wide Mgmt Standards**	II-23-27	Update hydrologic recovery to incorporate current findings on recovery time Use Bitterroot Watershed Evaluation Process The BWEP will be updated periodically.	YES
*** Management Area Direction**	MA 3b	Change as described in the Riparian Issue Statement	YES
*** MA Goals**	CH III	May be better to look at goals for an eco-region or landscape analysis area rather than integrating watershed goals within MAs	YES
*** MA Standards**	CH III	Need to revisit for completeness and accuracy	YES
*** Monitoring/Evaluation Requirements**	IV-3	Change to reflect BWEP	YES
Analysis of the Management Situation	V-1	Change to reflect Ecosystem Management	YES
Glossary	VI-1	Change to incorporate new terms and acronyms	YES

IV. IDENTIFY POSSIBLE PROCEDURES (OPTIONS) TO ADDRESS THE ISSUES

Complete a watershed fire risk coarse filter as described previously. Incorporate fire management expert's probability of hydrophobic soil condition occurrence on watershed areas with probability of intense rain shower on those hydrophobic soils Complete Forest-wide watershed improvement needs inventory overlaid with watershed fire risk coarse filter and incorporate into the ecological restoration process as described in the Ecosystem Management Issue

Incorporate the current watershed restoration program into the Forest Plan goals, standards and DFC sections Include watershed and ecosystem restoration needs into the budgeting process and display the impacts if this restoration is delayed Establish a way to prioritize areas for restoration based on the needs of all resources (establish criteria)

Establish a schedule for implementation of restoration, and alternatives for implementation including analysis of effects of delays in restoration

Adapt the Bitterroot Watershed Evaluation Process (BWEP), 10/93, Decker et al, to the Forest Plan BWEP documents the watershed tools used on NEPA project assessments, and includes watershed improvement inventory as well as BMP's and monitoring As part of the BWEP, the Forest Plan would· incorporate the coarse filter analysis and other project analysis findings in establishing existing watershed conditions, update hydrologic recovery to incorporate current thinking on recovery time periods as built into our Bitterroot WATSED version, and complete a Forest wide watershed improvement needs inventory for programming project implementation

As an alternative, establish the BWEP as the process and reference in the Plan, but develop the actual criteria for individual projects or area during the NFMA or NEPA process specifically for the area evaluated The advantages of documenting standards and criteria on a Project or area basis include 1) more flexibility to change the process and the criteria as knowledge improves and data bases grow; 2) keeps the plan more simple and more of an "enabling" or umbrella document, 3) more flexibility to take into account local conditions and anomalies The "Process" document also contains Forest BMP's and the BMP process used

Use a watershed/GIS approach in evaluating cumulative effects of proposed activities Do this on a prescription watershed basis and incorporate the longer recovery time periods

Continue monitoring on Laird Creek and Overwhich Creek to document recovery of degraded watershed conditions

Establish snow surveys on a variety of sites (elevation, aspect, harvest age and treatment) to determine snow deposition, redistribution, and melt rates to further refine our local understanding of hydrologic recovery

Continue comparisons of Sleeping Child and Skalkaho gage information and modeled outputs to further refine hydrologic recovery of a large burned area

Write goals and DFC in terms of Clean Water Act ecological integrity and Organic Act favorable conditions of streamflow (see Bear EA, BLB EA and Tolan EA for examples). Include language that follows the new MT SMZ law and Stormwater Regulations

Rewrite MA3b guidance with an interdisciplinary team to reflect SMZ rules (see riparian issue).

V WHAT IS THE EFFECT OF CONTINUED IMPLEMENTATION (FOLLOWING FOREST PLAN DIRECTION) AND THE EFFECT OF THE OPTIONS?

Continued delays in NEPA analysis and continued reductions in scheduled outputs from these project areas
Continued underestimation of actual recovery time frames and Forest Level analyses that underestimate long term cumulative effects of road networks and tractor skid trails on a watershed basis

Options would directly address all components of this issue, however, we do not currently have the hardware or software to do complete watershed analyses for the entire Forest (GIS) When Project 615 is implemented, we should have this capability

Continued piecemeal restoration of sore spots without an interdisciplinary look at total ecosystem restoration could occur Establishing priorities and budget for treatments will be difficult without a total look and incorporation into the Forest Plan

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I. ISSUE/PROBLEM STATEMENT

As part of aquatic ecosystems, maintenance and enhancement of native fish species is of concern Bull trout, as an example, is designated as a sensitive species in Region 1 and considered by the U S Fish and Wildlife Service for listing as a Threatened or Endangered species Monitoring indicates that bull trout are more sensitive to sediment and changing watershed conditions than cutthroat trout Bull trout would appear to be a better Management Indicator Species than cutthroat trout Other factors affecting bull trout are competition and hybridization with brook trout, an exotic species, and the limited distribution of bull trout due to barriers such as water diversions from streams to the main stem of the Bitterroot River On the other hand, some public do not believe that bull trout are diminishing and fishing (catchable trout) is of interest Currently, the Forest Plan does not provide specific guidance for sensitive species, such as bull trout, nor specify provisions for the Threatened and Endangered specie, Chinook Salmon, Chinook SAlmon habitat is located in the Selway and Salmon River drainages of the Forest

II. WHAT INFORMATION HAS LED US TO ARRIVE AT THIS SITUATION?

There has been a virtual explosion of new information related to aquatic ecosystem management, particularly as it pertains to biological components Some of the significant references are listed at the end of this section Essentially, this information involves two central concepts.

- **Integrity of Water Quality and Aquatic Habitat** Healthy watersheds and streams support productive, diverse, and stable populations of aquatic life and display a balanced range of habitat features such as depth of pools, composition of substrate, sequence of pools and riffles, and abundance of large wood, and

- **Integrity of Aquatic Gene Pools** Watershed and stream health should be maintained over *large contiguous areas in order to preserve evolutionary strains of fish and other aquatic life*

New laws include the Montana Streamside Management Act, amendments to the Clean Water Act and the *Endangered Species Act -- bull trout was petitioned for listing as threatened in 1992, a ruling is expected in* 1994 There have been several policies and initiatives which affect the fisheries issue These include the Chief's Ecosystem Management Approach, Change on the Range Initiative, Riparian, Recreation and Fisheries Initiatives and Rise to the Future

Forest Plan or project monitoring information relative to this issue includes the BNF Watershed "Coarse Filter" analysis -- See watershed/water quality issues, Status of fish populations in Bitterroot watersheds -- work done by Chris Clancy, MT Fish Wildlife & Parks, in connection with watershed coarse filter analysis Related to this is information currently being collected by Montana State University graduate students in cooperation with INT Research Lab, Boise, A monitoring report on the aquatic environment and fisheries of the Bitterroot National Forest by Clancy (1993) has also been prepared

The Forest is in the second year of a project using basin-wide survey techniques to inventory Chinook Salmon habitat in the Selway River drainage of the Selway-Bitterroot Wilderness Area This information will be used as baseline information for other anadromous drainages The Forest Plan does not provide any management guidance or direction for anadromous fish.

The following concerns were developed from the 5 year review comment database:

1 Potential fish barriers -- assessment of culverts and other man-made impacts needed

2 Opposition/disagreement over the fisheries/nonfisheries classification of streams and adjacent riparian habitat management

3 Bull trout viability.

4 Presence and impact of exotic fish (particularly brook trout)

5 Aquatic ecosystem health, including a basin-wide assessment of habitat conditions, limiting factors, and prescriptions for ecosystem restoration

D Indications through project decisions

Fisheries, through concerns of water quality, riparian management and sensitive species (bull trout), affect virtually all ongoing and planned activities on the Forest Appeals typically contain many issues related to bull trout impacts and fisheries habitat concerns

III. HOW DOES THE FOREST PLAN CURRENTLY ADDRESS THIS ISSUE? (Items with * and highlighted are FOREST PLAN DECISIONS (which if changed require Forest Plan Amendments))

ISSUE FISHERIES

FOREST PLAN	PAGE	EVALUATION	CHANGE IN FP
Management Philosophy		Integrate Ecosystem Management Direction	YES
*** Forest-Wide Goals**	II-3	Be more specific, follow Regional protocols Include anadromous fish	YES
*** Forest-Wide Objectives**	II-5	Change focus from "catchable trout" to look at overall ecosystem health Include anadromous fish	YES
Research Needs	II-11	Begin collection of basin-wide inventories as funding becomes available Link these to GIS for future planning and ecosystem restoration projects	YES
Desired Future Condition	II-16	Revamp outputs. Delete reference to non-fishery riparian areas	YES
*** Forest-Wide Mgmt Standards**	II-20	Make bull trout a management indicator species Include direction for aquatic TES Incorporate both the course filter and fine filter approaches as related to biodiversity	YES
*** Management Area Direction**	MA 3b	Riparian old growth should be coordinated with adjacent management area old growth to provide for adequate distribution and 40 acre or larger units.	YES
*** MA Goals**			

ISSUE FISHERIES cont

FOREST PLAN	PAGE	EVALUATION	CHANGE IN FP
*** MA Standards**			
*** Monitoring/Evaluation Requirements**		Review and change as needed to assess aquatic ecosystem health	NO
Analysis of the Management Situation			
Glossary			

IV. IDENTIFY POSSIBLE PROCEDURES (OPTIONS) TO ADDRESS THE ISSUE.

Change the Forest Plan to fully address aquatic ecosystem management. Follow regional protocols for assessing ecosystem health and integration of Ecosystem Management philosophy. Incorporate both coarse-filter and fine-filter approaches to determine Forest level conditions as related to biodiversity and TES species needs

Initiate integrated basin-wide inventories linked to GIS for future planning and ecosystem restoration projects

Continue to cooperate with Montana Dept of Fish, Wildlife, and Parks in monitoring, to determine both on and off Forest conditions and effects

V. WHAT IS THE EFFECT OF CONTINUED IMPLEMENTATION (FOLLOWING FOREST PLAN DIRECTION) AND THE EFFECT OF THE OPTIONS?

Continuation of management using fish/non-fish designations would allow for potential resource conflicts based on interpretation of generic standards.

Use of cutthroat trout as MIS would continue. Though we already monitor and evaluate status of bull trout in projects, failure to designate bull trout as MIS has led segments of the public to perceive this as a denial of the sensitivity of this species. FS Manual direction, though confusing, directs the preparation of conservation strategies for MIS species.

The emphasis on catchable trout is a main criteria for evaluating resource tradeoffs rather than emphasis on native fish species.

VI. REFERENCES

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In addition, the Forest Service Research branch has greatly expanded in the areas of fisheries and watersheds Nationally, the technology transfer products and capabilities have been expanded through the Fish Habitat Relationships and "Stream Team" programs

I. ISSUE/PROBLEM STATEMENT

Significant population growth, settlement along National Forest boundaries, changing public values and desires, and changing economy continue to modify the character of the Bitterroot Valley The five year review of the Forest Plan is timely to address several issues that are recurrent in project and community or County planning

- What is the Forest Service's role as a neighbor and contributor to local communities and all people who enjoy and use the National Forest? How does the Forest reconcile a downtrend in providing wood products to dependent communities?

- How can the Forest Service share, cooperate, and plan for the future by working closely with County Commissioners, local and state governments, and Indian Tribes?

- In what ways can the Forest continue and enhance our partnerships with the public and adequately respond to increasing needs for information and desire from a diverse public to shape forest management?

- How can the Forest Service ensure adequate access to National Forest lands; provide for rights of way, easements, and growing demands resulting from increased settlement along National Forest boundaries?

II. WHAT INFORMATION HAS LED US TO ARRIVE AT THIS SITUATION?

Population Growth and Projection

People continue to move to the Valley for the quality of life (rural lifestyle, lack of crime and the scenic beauty). In the 1990's, Ravalli County is the fastest growing County in the State with a growth of 9.7 percent within the last two years Population is estimated at 27,450 and has doubled since 1960 Changes in the economy have continued from a primary reliance on ranching, farming, mining, and timber harvest to one that is more diverse and includes commuters who work in Missoula; businesses tied to tourism, and cottage industries and businesses tied to markets outside the Valley Land development patterns have incrementally resulted in more and more residents living next door to the National Forest The rural nature of the area is being significantly altered as the Valley becomes peppered with homes.

The following are projections of growth from the Ravalli County Planning Office

A. Population Growth

Three sets of population projections have been prepared and used in the plan low, anticipated, and high The projections are included as Table 1 and graphically depicted in Exhibit 1

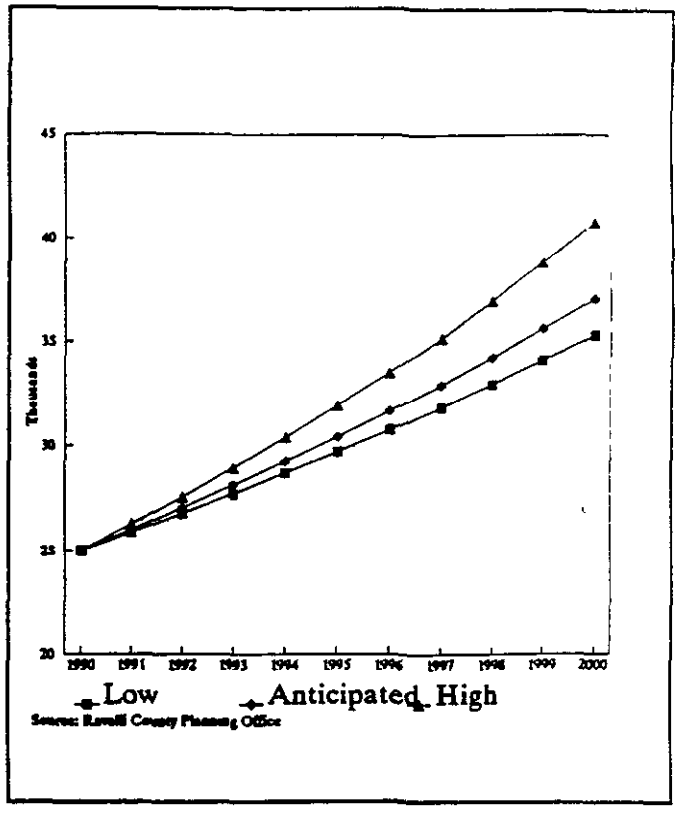
Table 1.
Projected Permanent Population; Ravalli County 1990 to 2005

Year	Growth Scenarios (1)		
	Low	Anticipated	High
1990	25,010	25,010	25,010
1991	25,900	26,000	26,300
1992	26,800	27,000	27,600
1993	27,700	28,100	29,000
1994	28,700	29,200	30,500
1995	29,700	30,400	32,000
1996	30,700	31,600	33,600
1997	31,800	32,900	35,300
1998	32,900	34,200	37,100
1999	34,100	35,600	39,000
2000	35,300	37,000	41,000
2001	36,500	38,500	43,100
2002	37,800	40,000	45,300
2003	39,100	41,600	47,600
2004	40,500	43,300	50,000
2005	41,900	45,000	52,500

Notes.
1. Annual Percent Growth – Low 3.5; Anticipated 4, and High 5

annually, resulting in an increase of 10,300 residents for a total population of 35,300

Exhibit 1
Projected Permanent Population, Ravalli County 1990 to 2000



Economy

Montana's economy (and Ravalli County) has been changing significantly over the last decade Perhaps one of the better summations of economy is contained in The Montana Futures Project a study commissioned by the Governor's Council for Montana's Future in 1992 Report One provides an economic analysis short-term trends and long-term structural change Some of the analysis and conclusions are reprinted here to provide a context in which to consider the situation in Ravalli County as well. The primary focus of the excerpted material here regards the long-term transformations in the economy More information on the short-term trends and forecast are contained in the report

Beneath Montana's characteristic boom-and-bust cycle there lie concealed some surprisingly consistent and large long-term transformations

1 Shifts in Employment Share

Since the end of World War II the Montana economy, like the U S as a whole, has moved from goods *producing toward service producing This movement has occurred for reasons, including global* competition, changing technology and changing consumer preferenc

- The percent of Montana's employment provided by mining, logging and lumber, and agriculture has been cut in half over the past fifty years.
- Finance/insurance/real estate, wholesale and retail trade, and general services have **tripled**, from 19% to 58% of all nonfarm jobs
- The traditional natural resource industries are shrinking in **percent share**, but no **absolute numbers** of jobs and income dollars. These industries will remain large, important and viable in Montana, and must have a central role in any realistic plan for the future.

5 Some Causes and Implications of Structural Change

Second, as to consequences: much of the data presented above illustrates the historical shift away from Montana's traditional resource-based, commodity-producing industries and toward a service and knowledge-based, specialty-production economy The income composition numbers highlight a powerful companion shift toward earnings derived from a new and unconventional "basic" industry: retirement

We [Governor's Council for Montana's Future - November 1992] want to emphasize that this information does *not* indicate that our traditional industrial base will shrink in numbers of jobs and dollars, or cease to play a main and essential role in Montana's future. The information at hand indicates only that the traditional industrial base is providing a smaller proportional *share* of incomes and employment in an expanding overall economy

Any realistic plan for the future must include a leading role for our traditional 'big three': agriculture, mining and lumber But at the same time, the historical record and global dynamics make it clear that these industries will *not* be the source of the next round of long-term growth

The big three can be viewed as a stepping stone to investment, diversification and growth in progressively more specialized, value-added and knowledge-intensive markets

In the future the natural resource sectors will also contribute a smaller share of *state and local taxes*, thus intensifying the erosion of Montana's already limited tax base Such shifts in the tax base, if we do not adjust our tax structure to draw on the more rapidly growing sectors, may make it extremely difficult for state and local governments to sustain the current level of services

As global structural transitions continue, their impacts will ultimately move the U S economy *beyond* mass production toward increasing customization, *beyond* mass marketing towards niches and micro-marketing, *beyond* the monolithic corporation to new forms of organization, *beyond* managed trade between nation-states to operations that are both local and global, and *away* from manual labor, toward mental labor

Montana's economy will be under pressure to respond in similar ways to the effects of these global changes

Picture of Ravalli County

As stated in the "Community Action Plan for Darby, Montana"

The unemployment rate for Ravalli County (May, 1993) was 8 4% compared to a state average of 5 7% The per capita income is $11,479 compared to a state average of $14,479 Despite these statistics, Ravalli County is often viewed as quite prosperous It was the fastest growing county in Montana in 1992 Sixty-six percent of the income of County residents is "non-earned" income, generated by investments, retirement benefits and out-of-area sources Land and housing prices are sky rocketing, schools are straining to meet the needs of expanding student populations, and there is a growing concern about the potential for conflicting needs and values of those who move here with solid financial resources and those dependent upon the local economy and related jobs, who struggle to remain here

In conclusion, what are the implications of the economic change on the management of the Bitterroot National Forest and impacts on government services?

1 There has been a downturn in the economy with regard to mining, logging, lumber and agriculture These industries will remain large, important and viable in Montana, and must have a central role in any realistic plan for the future (Montana Futures Project, 1992)

Forest Service Response· A timber harvest program on the Bitterroot National Forest will be an important component of the Forest's operations although not to the degree of that expected by the public from the ASQ of 33 4 MMBF (Forest Plan, 1987) See Timber Technical Report The timber program will provide benefits to the economy, and from the agency standpoint, vegetative treatment will be needed in some cases, for ecosystem restoration

Agricultural lands as open, relatively undeveloped areas will continue to be important in providing winter ranges and an important component to Forest wildlife.

Mining will continue to be accommodated as required by the 1872 Mining Law and these products can be used to fulfill National demands and provide some contribution to the local economy

2 Montana's traditional resource-based, commodity-producing industries have shifted towards a service and knowledge-based, specialty-production economy The income composition numbers highlight a powerful companion shift toward earnings derived from a new and unconventional "basic" industry retirement

Forest Service Response: The Bitterroot National Forest has experienced an increase in service-oriented and knowledge-based expectations Recreation use is increasing and diversifying. (See Recreation Technical Report) More emphasis has been placed on inventorying resources and project planning as demands increase (and the laws require) towards knowing more about the conditions of the National Forests and the health of the forests, water, wildlife and fisheries

3 In the future, the natural resource sectors will also contribute a smaller share of *state and local taxes* thus intensifying the erosion of Montana's already limited tax base

Forest Service Response: Returns to Counties (25% Fund) has decreased proportionately with the downturn in timber harvest The following are payments to Counties from 1988 to 1993

	RAVALLI COUNTY MT	MISSOULA COUNTY MT	IDAHO COUNTY IDAHO	TOTAL
FY 88	$383 274 72	$2 726 64	$160,547 86	$546,549 22
FY 89	$426 060 50	$3 031 02	$178,470 16	$607,561 68
FY 90	$268,298 51	$1,908 41	$112,369 86	$382,576 78
FY 91	$218 889 60	$1,556 96	$91,676 23	$312 122 79
FY 92	$151,713 70	$1,073 66	$63,541 35	$216,328 71
FY 93	$202,035 79	$1,429 43	$84,624 36	$288,089 68

The Bitterroot National Forest recognizes its tie to Ravalli County with 73% of the land base in National Forest ownership With the increase in population in the Valley and many residents preferring to settle in the rural areas, demands for services from the County (road maintenance, water etc) are increasing as well Likewise, increased demands for access, right of way, easements and road maintenance are increasing for the Forest Service at the same time budgets are decreasing from a decline in the timber harvest program

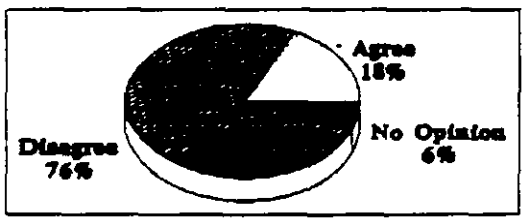
Social Values and Needs

A diversity of lifestyles and economic ties brings a host of residents with strong and conflicting opinions on how the Bitterroot National Forest should be managed From project plans, the Forest has heard a variety of environmental concerns How is the Forest Service managing to protect plant and animal species? How are biological corridors provided to ensure the movement of larger ranging animals and to ensure the genetic integrity of species? On the other hand, comes frustration from those residents who have depended upon logging or milling for their livelihood over the time it takes for the Forest Service to make decisions to harvest timber These same residents also express concern with the increasing environmental safeguards that are applied to harvest units which result in less timber harvested per acre (Project planning public comments)

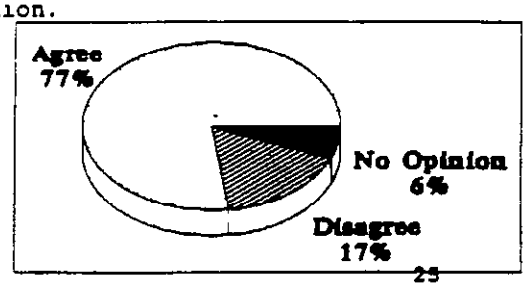
Several public surveys were conducted with regard to National Forest Management In a 1989 Public Perception Analysis for the Bitterroot National Forest, interviewed residents echoed the three top issues on the Bitterroot National Forest as Clearcutting, Timber Harvest Volume, and Wilderness A 1992 survey concluded similar results with respondents most frequently mentioning the issues as too much logging and clearcutting, management, and the need to preserve and protect what they have (A& A Research, 1992)

The 1992 survey (which included Missoula residents as well as Ravalli County) also provided the following insights

The Bitterroot National Forest should allow more timber to be harvested even if this means harvesting in roadless areas. Three out of four people disagree with this statement: 48% strongly disagree and 28% somewhat disagree; 18% agree with it (8% strongly agree); and 6% have no opinion.



The Bitterroot National Forest should be more concerned with the fish and wildlife within the forest. Three out of four people agree with this statement: 54% strongly agree and 23% somewhat agree; 17% disagree (1% strongly disagree)); and 6% have no opinion.



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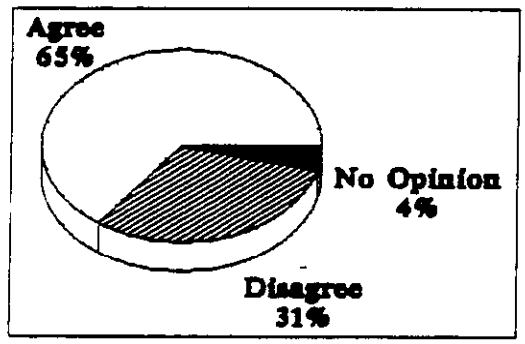
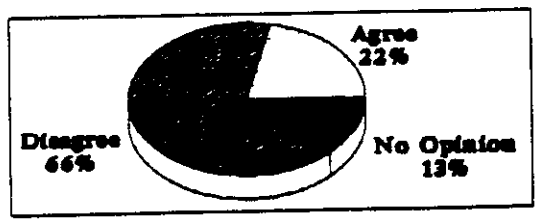
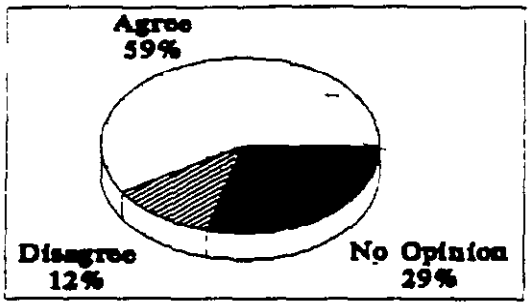
The Bitterroot National Forest should be managed more for wilderness values. Two-thirds of the adults agree with this statement: 40% strongly agree and 26% somewhat agree; 31% disagree (15% strongly disagree); and 4% have no opinion.



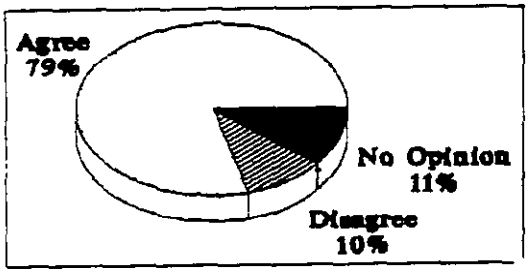
More roads should be available in the Bitterroot National Forest. Two out of three adults disagrees with this statement: 35% strongly disagree and 31% somewhat agree; 22% agree with it (12% strongly agree); and 13% have no opinion.



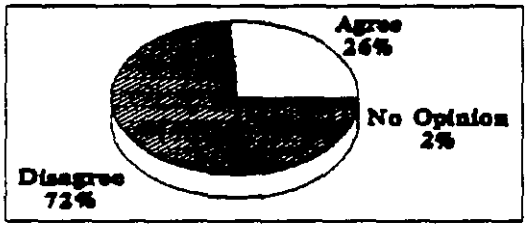
The Bitterroot National Forest is doing an adequate job of protecting endangered and threatened species. Nearly three out of five people agree with this statement: 24% strongly agree and 35% somewhat agree; 12% disagree with it (3% strongly disagree); and 29% have no opinion.



The Bitterroot National Forest has a good mix of uses. Nearly eight out of ten people agree with this statement: 32% strongly agree and 47% somewhat agree; 10% disagree with it (8% strongly disagree); and 11% have no opinion.



More areas of the Bitterroot National Forest should be available to motorized recreation, such as snowmobiling, motorcycling, and other off-road vehicles. Seven out of ten people disagree with this statement: 55% strongly disagree and 17% somewhat disagree; 26% agree (15% strongly agree); and 2% have no opinion.



In conclusion, the survey shows that people value the natural environment and have concerns about human activities like logging within the National Forest What the above does not provide is the qualitative description of why those attitudes, beliefs, or values exist or the significant changes that communities are incurring What is the Bitterroot Valley's cultural, historic and geographic unique sense of place? More of this essence can be found, perhaps by observing the efforts occurring within each community in the Valley

Forest Service Response. As a result, over the last five years of implementing the Forest Plan, the total harvest level of the Forest is about one half of the Forest Plan ASQ (Allowable Sale Quantity) Even though the total is only half, the selection-type harvest and salvage offerings exceed those anticipated in the Forest Plan by several times and the even-aged methods (clearcut, shelterwood, seed tree) are a fraction of the anticipated levels Specifically, the selection harvest method has been used in all Management Areas for implementing visual quality, wildlife, watershed, and soils concerns (Forest Plan Monitoring, FY1992)

In response to community upheaval from a downturn in timber supply, the Forest Service has been active with communities in local economic planning Since 1991, communities and the County have competed for and received $150,000 in economic diversification and community development grants These efforts are discussed more fully below

Community Leadership Through Local, State, and Federal Governments and other Organizations

Dealing with change in the Valley has been a focal point for local governments within the last five years The Bitterroot Forest has been part of a Rural Development program that provides support and leadership to local community or valley-wide organizations that are interested in improving the quality of life and the economic health of the Bitterroot Valley Forest employees have worked closely with the valley-wide Chamber of Commerce, city and county governments, civic clubs, and economic sector organizations to work towards these goals

The $150 000 grant monies (USDA-Farm Bill) received since 1991 have been for

Valley-wide economic diversification study $60,000	
Stevensville	$30,000 city park
	$10,000 timber bridge initiative program
Darby	$19,000 clubhouse
	$10,000 community forestry
	$ 5,000 conservation education
	$11,000 planning
	$ 800 tourism
	800 VIS
Sula	$ 1,000 rural tourism program

Ravalli County is currently drafting a County Comprehensive Plan As the Chairman of the County Commissioners, Steve Powell, stated at a recent Montana Council for Rural Development meeting, "There are basic policy questions that we are going to have to face It's best to do it with coordinating governments " In October, 1993, the Bitterroot National Forest and Ravalli County signed a Memorandum of Understanding to formalize their working relations The purpose of the MOU was to "establish a framework for mutual support and cooperation between the County and the Forest Service The County and the Forest Service propose to work together to achieve common goals of enhancing the economic social and natural resource conditions in Ravalli County " (MOU, 1993)

Communities within Ravalli County are also active in dealing with their issues of population growth and lack of adequate infrastructure to provide basic needs of water and sewage treatment Community leaders from Florence Stevensville, Victor Corvallis, Hamilton, and Darby, recently detailed their problems and how they are organizing and taking action at the Montana Council for Rural Development meeting

Tribal Interests in National Forest Lands and Management

The Bitterroot National Forest continues to work closely with the Confederated Salish and Kootenai Tribes and the Nez Perce Tribe The Bitterroot Forest and Valley is the traditional homeland of the Flathead Salish people The Forest has coordinated projects underway, and the Flathead Culture Committee has continued to expand the cultural and historical awareness of employees and community members

III HOW DOES THE FOREST PLAN CURRENTLY ADDRESS THIS ISSUE? (Items with * and highlighted are FOREST PLAN DECISIONS (which if changed require Forest Plan Amendments))

ISSUE **SOCIAL/ECONOMIC**

FOREST PLAN	PAGE	EVALUATION	CHANGE IN FP
Management Philosophy	I-2	Emphasis on supporting industry while protecting amenity values *Orientation today is ecosystem* management and providing for needs of people - neither philosophy can meet all needs and desires	Yes - new orientation
*** Forest-Wide Goals**	II-2	Goals are general - not specific to Bitterroot and are functional -- or do not express an integrated picture	Yes
*** Forest-Wide Objectives**		Objectives need to be measurable and tied to goals to more clearly express to the public what can be expected	Yes
Research Needs			
Desired Future Condition		In the future, dfc may need to be more specific in describing to people what conditions on the ground (ecologically) we are aiming to achieve as well as the health and well-being of communities	Yes
*** Forest-Wide Mgmt. Standards**			
*** Management Area Direction**		Less acceptance of goals to emphasize "*timber management, livestock and big* game productions" - for example, from MA 1 The public seems to be demanding that timber production be less of a driving force in management and that actions be in sync with ecological principles of the area.	

ISSUE SOCIAL/ECONOMIC cont

FOREST PLAN	PAGE	EVALUATION	CHANGE IN FP
* MA Goals			
* MA Standards			
* MA Schedule of Mgmt Rx's			
* Monitoring/Evaluation Requirements	IV-8	Monitoring specifies tracking emerging issues and changing social values toward Forest activities -- so OK	No
Analysis of the Management Situation		Needs updating	Yes
Glossary			

IV. IDENTIFY POSSIBLE PROCEDURES (OPTIONS) TO ADDRESS THE ISSUE

1 The Forest Service will exemplify its role -- as a good neighbor and contributor to local communities and all people who enjoy and use the National Forest -- through its **daily operations** (implementation) This management philosophy can be communicated in the Forest Plan as well

The Forest Service role is changing from one that can provide all to one that can provide given local expression of need and Regional and National support This effort calls for a more active working relation with other governments, landowners permittees, organizations, and citizens Partnerships the Rural Development program, and other initiatives or policies all help in achieving common goals and objectives

Forest Plan Goals and Objectives will need to reflect the Forest Service's role with the local communities and those who use the National Forest

2 The Forest Service has many opportunities to share, cooperate, and plan for the future with County Commissioners, local, state, and other Federal governments, and Indian Tribes The County Comprehensive Planning effort, Community Goal and Action planning, Forest Planning, and other efforts are examples of these opportunities

Forest **Guidelines** such as the 1993 MOU with Ravalli County Commissioners outline expectations and procedures for such efforts Additional agreements or guidelines may be set to further clarify working relations

V. WHAT IS THE EFFECT OF CONTINUED IMPLEMENTATION (FOLLOWING FOREST PLAN DIRECTION) AND THE EFFECT OF THE OPTIONS?

The main effect of continued implementation of the Forest Plan is that it may be misleading to the public and managers in the philosophy and expectations of goods and services Otherwise, the Forest Plan is permissive enough in its general goals and objectives to allow for shifts in management, e g less timber harvest

VI REFERENCES

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Ravalli County and US Forest Service. Memorandum of Understanding Between Ravalli County and the United States Department of Agriculture Bitterroot National Forest October, 1993

Ravalli County Planning Office "Demographic Summary", *Draft Ravalli County Comprehensive Plan*, March, 1994

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U S Forest Service 1992 Forest Plan Monitoring and Evaluation Summary, May, 1993

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I. ISSUE/PROBLEM STATEMENT

Fire, historically, has had a major role in the changes within the Northern Rocky Mountain ecosystems The Forest Service has maintained a successful fire suppression effort for the last 60 years Within the last five years there has been an increase in acres burned and acres per fire which indicate increased fire intensities Since 1960 the population of Ravalli County has doubled and more residents are living next to National Forest borders Some of the greatest wildfire risk is along these borders Currently, the Forest Plan does not specify goals for reduction of fuels in high wildfire risk areas nor incorporate ecosystem management and fire processes within overall direction

II. WHAT INFORMATION HAS LED US TO ARRIVE AT THIS SITUATION?

A myriad of ecological studies confirms that ecosystems change constantly as a result of plant succession and agents of disturbance Historically, fire has been one of the major agents of change in shaping the composition, structure and patterns on the landscape Refer to Ecosystem Management Problem Statement for additional citations

An equally important fact is fire cannot be completely removed from Northern Rocky Mountain ecosystems, but it can be modified through effective and efficient suppression and fuel management programs As the evolution of ecosystem management principles continues at varying scales and more information becomes available, the Fire Management process will remain flexible enough to allow for appropriate adjustments in response to accommodating biodiversity requirements, changes in public values and priorities (adaptive management)

Regional Fire Management has developed a Ecosystem Management Key Messages, 1993, for guiding Fire Management into the future The key messages are.

(1) Wildland ecosystems are always changing and fire is one of the major agents of change in the renewal of wildlands,

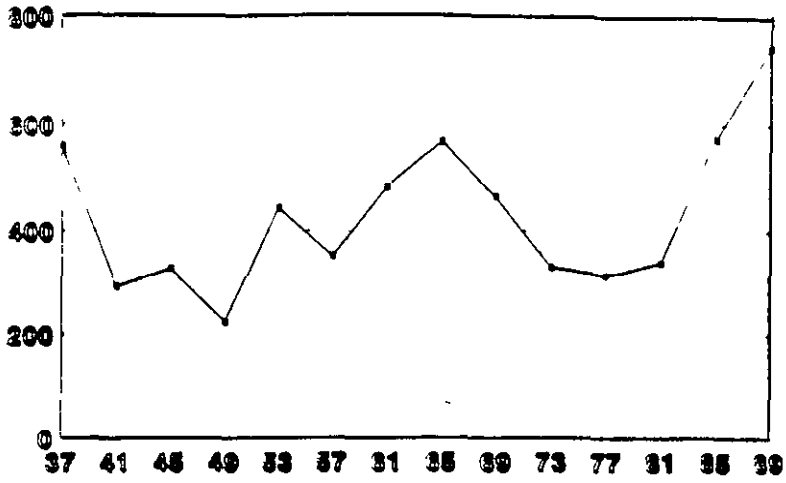
(2) Fire suppression will always have a place in wildland management,

(3) Fire exclusion has an environmental cost; and

(4) Achieving ecosystem management objectives through the use of fire generates social trade-offs

Analysis of contemporary fire statistics between 1937 and 1992 on the Bitterroot National Forest, shows some interesting trends associated with the magnitude and nature of fires Based on the average number of fires for the 1937-1992, fire occurrence during the eight years has increased 53 percent (Graph 1 - Number of Fires)

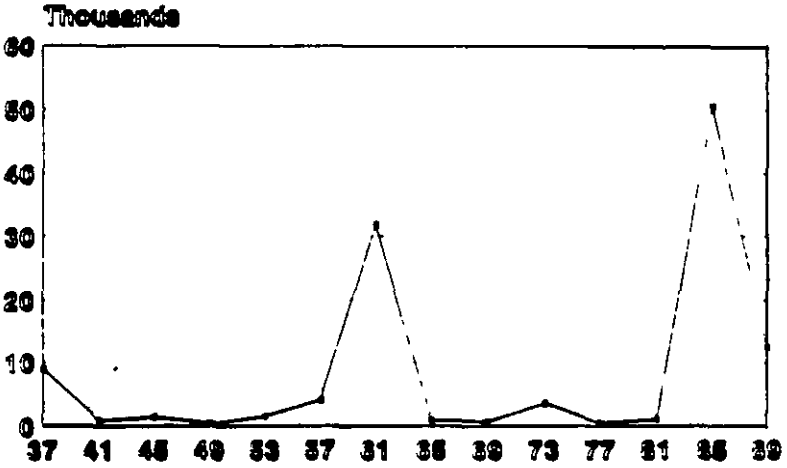
Graph 1
Number of Fires - 1937 to 1992



YEAR DESIGNATES THE FIRST YEAR A 4-YEAR PERIOD

During last eight years, the acres burned are roughly 25 times greater than those consumed in 1961-68 which includes the Saddle Mountain and Sleeping Child Fires (Graph 2 - Acres Burned). Although the acres burned fluctuates and are somewhat skewed by the last eight years, 1985 to 1992 accounts for nearly 53 percent of the total acres burned on the Forest over the 55 year time frame displayed on the graph

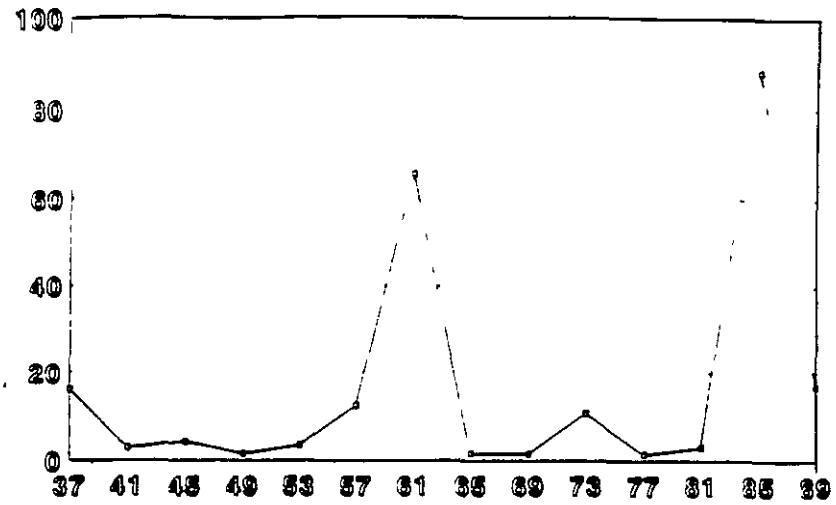
Graph 2
Acres Burned - 1937 to 1992



YEAR DESIGNATES THE FIRST YEAR A 4-YEAR PERIOD

During the 1988-92 period the acres per fire are nearly two times greater than those in 1961-68 (Graph 3 - Acres per fire)

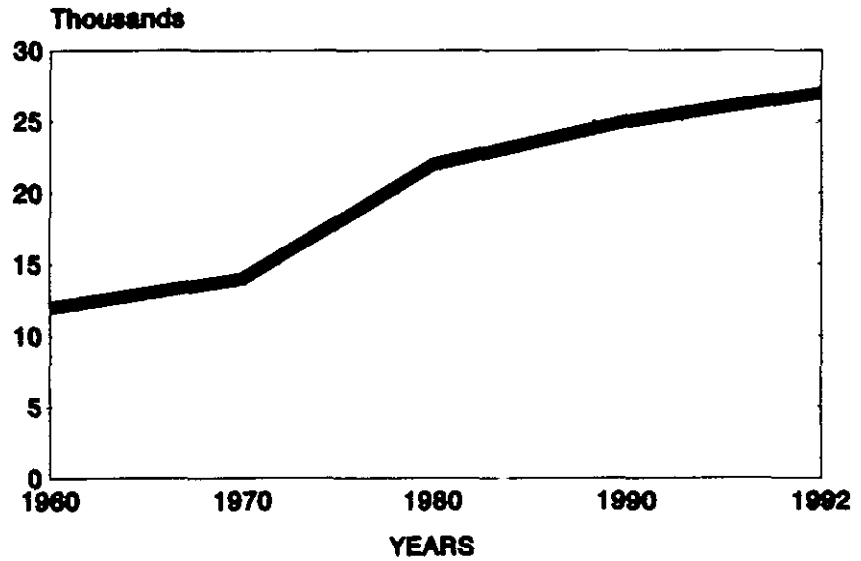
Graph 3
Acres Per Fire - 1937 to 1992



YEAR DESIGNATES THE FIRST YEAR A 4-YEAR PERIOD

Since 1960, the population of Ravalli County has doubled (Graph 4 - Ravalli County population), and many residents are choosing to live adjacent to National Forests Concerns with settlement are the fire risk of wood homes among fairly dense forests, lack of awareness of new residents to fire risks, potential lack of water at home sites for protection, and possible lack of access by fire trucks on low standard roads or bridges A fire prevention effort has been implemented since 1987 when Forest Service officials visited homes along borders extending from north of Stevensville to south of Darby A newsletter, On the Edge, has been used to keep homeowners informed

Graph 4
Ravalli County Population



Collectively, the graphs display an increased trend in number of fires, acres burned, acres per fire, and Ravalli County population The increase in acres burned and acres per fire are a clear indicator of increased fire intensities Subsequently, the fuel loading, arrangement, and continuity are the primary factors affecting fire intensity The open-space private land base is decreasing which further complicates the Forest Service and other agencies and fire departments ability to provide fire protection and prevention

In conclusion, the historic fire regimes on the Bitterroot National Forest have changed In part, some of the change can be attributed to our active fire suppression efforts By suppressing the fires, unnatural fuel accumulations are occurring Our suppression efforts have been less than adequate in the last eight years primarily due to increased fire intensities Therefore, we need to complement suppression efforts with fuel management efforts, and re-introduce fire on those sites which are outside the natural range of historical occurrence

III. HOW DOES THE FOREST PLAN CURRENTLY ADDRESS THIS ISSUE? (Items with * and highlighted are FOREST PLAN DECISIONS (which if changed require Forest Plan Amendments))

ISSUE FIRE MANAGEMENT

FOREST PLAN	PAGE	EVALUATION	CHANGE IN FP
Management Philosophy	K-1	Item 11, fire management action plan needs to be updated to incorporate EM principles	Yes
*** Forest-Wide Goals**	II-4	Forest Plan, Chapter II, Forest-wide Management Goals page II-2, discusses the goals developed to address the issue and concern comments on the Draft Environmental Impact Statement and Proposed Forest Plan No mention of fire and Ecosystem Management.	Yes
*** Forest-Wide Objectives**	II-7	No mention of fire and Ecosystem Management	Yes
Research Needs	II-11	OK	No
Desired Future Condition	II-13	DFC could be more complete Needs to include a description of the role of fire	Yes
*** Forest-Wide Mgmt. Standards**	II-27	Not adequate Need to incorporate EM	Yes
*** Management Area Direction**	All MA's	Not adequate Need to incorporate EM	Yes
*** MA Goals**	All MA's	May be better to describe observable conditions (structure & composition), patterns & functions at the landscape level	Yes
*** MA Standards**	All MA's	Need to incorporate EM & the role of fire	Yes
*** MA Schedule of Mgmt. Rx's**		Should be incorporated into the fire management action plan	Yes

ISSUE FIRE MANAGEMENT cont

FOREST PLAN	PAGE	EVALUATION	CHANGE IN FP
* **Monitoring/Evaluation Requirements**	IV	Need to monitor trends at the landscape level	Yes
Analysis of the Management Situation			
Glossary		Not adequate, need to update w/EM terms	Yes
Appendix	K-1	Forest Plan, Appendix K, page K-1, Bitterroot National Forest Fire Management Action Plan (FMAP) is currently being updated to incorporate the latest ecosystem management principles into fire management, specifically prescribed fire (management and natural ignitions) and fuel management programs	
		Forest Plan, Appendix K, page K-1, Selway-Bitterroot Wilderness Fire Management (Revised June 1990), and Anaconda Pintler Wilderness Fire Management (April 1993) provides direction for considering natural ignitions in these areas as prescribed natural fires, and the sequence of events which must be addressed	

IV. IDENTIFY POSSIBLE PROCEDURES (OPTIONS) TO ADDRESS THE ISSUES.

The Forest needs to develop a ecological classification system that recognizes the effects of fire disturbance This classification system should be designed so presettlement and existing conditions can be defined at the Forest level, and compared to the desired conditions This effort would frame the Forest's range of natural variation at the landscape level At the site level, this natural range of variation would be narrowed to an "acceptable range" which could be adjusted given social situations, e g , public acceptance, risk to residences, etc

The Forest needs to

1 Identify high risk areas and potential risk reduction methods which use a wide array of silvicultural treatments including mechanical, aerial, and fire use applications,

2 Form Forest Plan Goal and Objectives to allow low impact disturbances, such as fire, to occur where and when integrated resource objectives can be met;

3 Schedule and direct prescribed fire efforts to areas where risks are acceptable and ecosystem management benefits are high,

4 Form Forest Plan Goals and Objectives to prevent and suppress fire in areas where the ecosystem is approaching the desired condition, and

5 Identify Guidelines that assist in defining the economic viability and feasibility of fire use actions

6 Form the desired conditions and Objectives in the context of ecosystem management and fire behavior characteristics common to the Bitterroot National Forest fire regimes as they relate to sustainability It is paramount that desired conditions and objectives are attainable based upon the range of natural variability framed by fire regimes and fire dynamics

Fire Management throughout the Rocky Mountain area realizes that a major awareness effort is needed to communicate and develop an understanding of these issues To remedy this situation, the region formed a task force which developed four key messages A synopsis of the key messages are

1 **Wildland ecosystems are always changing and fire is one of the major agents of change in the renewal of wildlands** Essentially, this message is designed to provide a better understanding of the relationship of the historic role of fire, the existing and desired condition of the landscape based upon ecological principles while providing for the protection of life, property and adjacent resources.

2 **Fire suppression has a place in wildland management.** Fire Management will continue its efforts of providing effective and efficient wildfire protection commensurate with the threat to life, property, and potential resource and environmental damage based upon the associated hazard, risk and management objectives Continue inter-agency cooperative efforts to inform and involve the public in a proactive manner making them aware of the potential trade-offs and decisions to be made

3 **Fire exclusion has an environmental cost.** Increase public and agency understanding of the potential cost of fire exclusion based upon probable effects and consequences associated with particular ecosystems.

4 **Achieving ecosystem management objectives through the use of fire generates social trade-offs.** Readily disclose the overall positive effects of fire's role in shaping grassland, shrubland and forest ecosystems in the Northern Region

In addition to the awareness effort, Fire Management on the Bitterroot National Forest is currently involved in the following

1 The Bitterroot Forest is cooperating with Montana Tech to develop a Air Quality Related Values (AQRV) Management Plan for the Selway-Bitterroot Wilderness The AQRV plan will. (1) document Forest Service, State, and federal regulations/policy relevant to air quality, (2) identify air quality related values and specify sensitive receptors, (3) quantify and qualify existing and potential air pollutants using airshed dispersion modeling; (4) discuss direct and indirect effects resulting from pollutants of concern; (5) develop a monitoring and sampling plan; and (6) establish guidelines on the data collection, storage and interpretation.

2 Currently, the forest is doing a social analysis of relationship of ecosystem management and fire management The primary objective of this analysis is to determine how to better inform and involve the public in fire management Increase awareness of the role fire has played and will play in the future, and what some of the trade-offs are such as

smoke in the valley. Equally important, the analysis will determine the public's current attitude and understanding of the role of fire on the forest

3 *Move forward and update the Bitterroot's National Fire Management Analysis System* to address the Fire Management situation such as the kind amount and location of fire suppression resources

4 Continue efforts and cooperation in the Bitterroot Valley Wildland/Residential Task Force to educate homeowners the business community and local government officials in the Bitterroot Valley.

5 Begin developing a Forest fuels layer which can be used for analytical purposes when compared to a vegetative layer and desired conditions of a particular landscape

6 Continue on-going cooperative efforts with sister and neighboring Forest to ensure collaboration across boundaries when dealing with ecosystem management principles and fire management opportunities

7 Need to establish cooperative efforts with adjacent landowners because ecosystem management goes beyond forest boundaries.

8 Need to continue efforts with the Regional Office and Bitterroot Forest/Ravalli County *Working Group to establish a long-term air quality site for the Bitterroot Valley*

V. WHAT IS THE EFFECT OF CONTINUED IMPLEMENTATION (FOLLOWING FOREST PLAN DIRECTION) AND THE EFFECT OF THE OPTIONS.

Fire Management direction in the Forest Plan is flexible enough to incorporate the principles of ecosystem management and specifies the maintenance of healthy, dynamic ecosystems that meet land management objectives However, as previously stated,"There is an underlying concern that insignificant changes to the Forest Plan will not be sufficient enough to incorporate ecosystem management and implement fire management activities and practices "

VI. REFERENCES

"*Fire Ecology of Western Montana Forest Habitat Types*", *Fischer and Bradely, April 1987, summa*rizes available fire ecology and management information that applies to forest habitat types west of the Continental Divide, specifically on the Bitterroot, Flathead, Kootenai and Lolo National Forest The primary purpose of this report is to assist forest managers in understanding the role of fire in the western Montana forest

Comparing the Prescribed Natural Fire Program with Presettlement Fires in the Selway-Bitterroot Wilderness, Brown, Arno and Others, 1993, compares the severity and extent of recent fires (1979-1990) with that of presettlement fires (pre-1935)

Smoke and Particulate Emissions from Presettlement, Full Suppression, and Prescribed Natural Fire Periods in the Selway-Bitterroot Wilderness, Brown and Bradshaw, 1993, estimates particulate matter emissions from recent fires (1970-1990) and the presettlement period (pre-1935)

"*Fire Related Considerations and Strategies in Support of Ecosystem Management*", Washington Office Staffing Paper, January 1993, discusses the challenges, opportunities, and responses to ecosystem management

Forest Plan Monitoring and Evaluation Report Summary, 1992, page 1, discusses the need to incorporate ecosystem management principles into Bitterroot National Forest projects, and the concerns associated with whitebark pine and ponderosa pine ecosystems (fire dependent ecosystems)

Forest Plan Monitoring and Evaluation Report, 1992 Fire Management, page 44, discusses contemporary fire statistics on the Bitterroot National Forest and the need to complement suppression efforts with effective and efficient fuel management

Forest Plan Monitoring and Evaluation Report, 1992, Emerging Issues, page 82, discusses the need to continue to monitor smoke production and our abilities to meet land management objectives In addition, the Wildland/Residential development along the forest boundary and the potential conflicts are discussed, and the Bitterroot Valley Wildland/Residential Task Force was formed to educate homeowners in this area

I. ISSUE/PROBLEM STATEMENT

Timber supply continues to be an important need for local communities and industry At the same time the economy has diversified and overall health is less reliant on timber production Some of the public continues to feel that timber harvest (ASQ) exceeds the Forest's capacity to maintain or enhance other values (i e , wildlife, pleasing scenery, clean water) Monitoring has shown harvest levels at half or more below the ASQ of 33 4 Assumptions about timber production have changed or conditions were not fully accounted for Examples are that visual and hydrologic recovery of cutover lands is not progressing as fast as predicted and the assumption of using clearcutting as a primary harvest method has been affected by a change in Chief's policy and public concern over its use

II. WHAT INFORMATION HAS LED US TO ARRIVE AT THIS SITUATION?

The following are new policies or laws which have affected the timber supply·

1 The Chief's direction/policy and continued public concern over the use of clearcutting, has reduced the use of clearcutting (June, 1992) The Forest Plan assumed that 66% of the volume harvested would be by clearcutting, the FY 1992 Monitoring and Evaluation Report Summary (page 5) shows that the use of clearcutting has declined dramatically (FY 1988 - 60% to FY 1992 - 10%)

2 In June 1992, the Chief directed all National Forests to begin implementation of Ecosystem Management (EM) The timber volume yields from ecological approaches is uncertain at this time (although the Forest Service still has the responsibility to provide and estimate of future harvest levels)

3 The lack of conservation strategies for sensitive species has caused us to reduce harvesting in some areas in order to avoid impacts these species

4 The Montana Streamside Management Zone Act requirements does not allow the harvest systems and yields modeled by the Forest Plan

5 Recent (11/93) 9th Circuit Court of Appeals decision on the Flathead's ASQ The court found that proper determination of the ASQ, perhaps more than any other element of forest-wide planning, is critical in providing long term direction This decision was for the purposes of determining jeopardy, in accordance with the ESA, the court found the proper determination of ASQ to be crucial

In addition, monitoring information has also identified reasons for a reduced timber supply

Watershed Conditions: The effects of natural occurrences and management activities on watersheds are of special concern on the Forest As the 1991 Monitoring Report stated, a Forest-wide watershed analysis indicated

- One-third of the watersheds on lands providing timber harvest opportunities (suitable land base exceeded Forest Plan standards for acceptable watershed conditions,
- One-third were at or near Forest Plan standards or where the threshold level of acceptable watershed condition may have been reached; and

- One-third were within Forest Plan standards for acceptable watershed conditions

Watershed improvement inventories and monitoring during 1991 and 1992 validated the Forest-wide analysis Information gathered from about 40 percent of the watersheds indicates the Forest-wide analysis was accurate or conservative 95 percent of the time

Generally, areas that are near the threshold require more detailed analysis to specify watershed conditions and require watershed improvement activities to precede or occur concurrently with further road construction and/or timber harvest This is a change from what was believed during Forest Planning At that time, it was assumed most drainages had or would soon recover from past activities Approximately six MMBF (million board feet) was included in the ASQ and scheduled to be harvested from some of the more sensitive drainages containing decomposed granitic soils Instead of recovery, the Forest is finding that a number of watershed improvement activities need to be accomplished before the watersheds are further impacted

Clearcutting *Public involvement in project planning continues to reflect that people want to* minimize the use of this practice As a result, only 10 percent of the volume offered for timber harvest came from clearcuts in fiscal year 1992 This is well below Forest Plan projections that 66 percent of the volume harvested would come from clearcuts. The Forest has been able to a large extent meet the social concern while still using biologically appropriate harvesting systems The following table shows how clearcutting has been reduced since the plan was signed

Fiscal Year	Clearcutting as a % of Volume Offered
1988	60%
1989	54%
1990	65%
1991	11%
1992	10%

Visual Quality: Much of the public's concern with clearcutting deals with the impacts on scenery The Forest Plan responds to this concern in the goals, objectives, and designation of visually sensitive Management Areas 3a and 3c Visual quality objectives were established for these two Management Areas to preserve natural beauty Monitoring indicates that more trees are being left on harvest sites for these Management Areas than was projected by the Forest Plan to meet visual objectives As a result, available timber volumes are less than expected For example, the Forest Plan projected that approximately eleven thousand board feet (11 MBF) per acre would be harvested in Management Area 3a The average volume sold in this MA was a approximately 6 MBF/acre for the 1988-1992 period

Snags: While vegetative changes on a landscape must be considered, there are also some individual components of different vegetative types which are important to some species and must also be considered For example, snags exist in all forest types and are used by a number of species The Forest Plan requires retention of snags that do not present an unacceptable safety risk The intent of the plan was to have a few snags per acre left in timber sale areas Since almost all snags in harvest units are are now considered safety risks, very few dead snags are being left To compensate for this, the Forest began reserving green trees for snag replacements and vertical diversity The retention of these green trees was not modeled by the *Forest Plan and has reduced the volume of timber harvested*

Riparian: Forest Plan modeling indicated 3 6 MMBF per year could come from this Management Area In contrast, the Forest continues to offer well under 10 percent of that volume Best Management Practices and the recent State Streamside Management Act practices do not allow the harvest systems modeled by the Forest Plan However even without these standards, it appears that the Forest could not reach the Forest Plan goals and objectives or Clean Water Act requirements for water quality using the modeled harvesting techniques

Sensitive Species Efforts to learn more about Regional sensitive plants and animals continued through 1992 Information on the abundance and distribution of sensitive plants was collected during project analyses Population surveys and habitat inventories were also done for sensitive animals Project areas were evaluated for potential impacts on these species, and until conservation strategies are developed for each specie, impacts are avoided Since the Forest Plan modeling did not project any effect on timber harvest volumes from avoiding Sensitive Species habitat timber volumes identified in projects are often lower than expected

Roadless· Entry into roadless areas for timber harvest (and resulting road construction) continues to be controversial and ultimately affects timber volumes available for harvest. The Forest Plan projected up to an average of 4 MMBF/year would be available from roadless areas In actuality, instead of the projected 20 MMBF for a five year period, a total of 4 MMBF has been harvested from roadless areas since the advent of the Forest Plan Most of this volume was from the Rock Creek Fire Salvage Two recent timber sale decisions contain timber harvesting in roadless areas The St Joseph Timber Sale now contains harvesting prescriptions on 20 acres of roadless with no new system roads involved in harvesting this timber The White Stallion Timber Sale decision contains 68 acres of harvest in a roadless area although no roads would be constructed

MWSA· Approximately half of the Forest Plan projected harvest from inventoried roadless areas, i e , 10 MMBF for the five year period, was calculated to come from the Montana Wilderness Study Act (MWSA) areas These areas have not been released by Congress even though the studies have been completed, and the Forest Plan assigned the areas to various management areas No harvest has occurred in these areas.

Public comments received during Forest Planning, and is now receiving on project proposals, helps establish how the Forest will manage to sustain ecosystems while providing for social needs However, as pointed out above, trade-offs exist between and among social and biological needs The move away from clearcutting and toward visually sensitive management may reduce the public's concern with timber harvest, but it also reduces timber volumes available Less clearcutting as well as retaining green trees for snags and vertical diversity, have contributed to reducing the volumes on all Management Areas from a Forest Plan expected 9 MBF/acre to 5 MBF/acre for the 1988-1992 period

The cumulative effect of the changes in direction and information have significantly affected the amount of timber that is being harvested The Forest Plan predicted that up to 33 4 million board feet of timber could be harvested from the suitable timber base while meeting Forest Plan standards, goals, and objectives New regulations/policy, riparian management changes, watershed and fisheries conditions, sensitive species management and clearcutting reductions represent some of the *factors influencing the amount of timber volume actually harvested In addition, timber purchasers* have not been able to purchase some volume limited to helicopter harvesting due to the high costs and low values associated with these sales With recent increases in lumber prices, this may change Private harvesting activities in some areas have also limited volumes available from the surrounding National Forest lands As a result of these factors, annual Forest timber offer targets were lowered to 22 million board feet in Fiscal Year 1992 and are 16 million board feet in Fiscal Year 1993 Actual timber offered in Fiscal Year 1992 was 6 2 million board feet

After reviewing the trends portrayed above, the Forest assessed its capability to produce timber for the remainder of the planning period This assessment indicates the Forest could produce between 10-15 million board feet per year (Forest Plan Monitoring Summary, 1992)

During the Five Year Review of the Forest Plan, the concerns or issues raised by the public or Forest Service employees include

1 Clearcutting· use is valid in some ecosystems There is public pressure to reduce the use of clearcutting

2 The cumulative effects of the changes in direction or changes in on the ground conditions (SMZ Act, watershed condition, reduced clearcutting, TES management) have significantly effected the amount of timber that is being harvested

3 The Forest Service needs to take another look at vegetative management activities on unsuitable lands Timber harvest may be an effective means of implementing ecosystem management on those sites (unsuitable lands) to restore historic composition and structure

4 The ASQ presented in the Forest Plan appears higher than can be achieved.

5 A basic premise for suitable and unsuitable lands (publics perception of how we manage timber on unsuitable lands) is that traditional tree farming practices would be the standard operation

6 A belief that the Forest Plan is adequate in its guidance. Our outyear Congressional Budget request reflects the most accurate estimate of the amount of timber to be offered based on as assessment of on-the-ground conditions

7 The ASQ should be reduced to a level that can be sustained without damaging and/or destroying other resources

8 Long term targets should be eliminated from the Forest Plan

9 Look at larger "working circles" The importance of the Bitterroot National Forest timber lands are important to other communities, such as Salmon, Idaho.

Project Decisions have also indicated a lower timber harvest level than expected from the Forest Plan

1 The White Stallion R O D several items had an effect on the level of timber harvest including timber harvest activities on adjacent private lands, sediment and stream conditions, and wildlife security The effect was a level of harvest considerably lower than previously planned

2 The Moon Creek D.N deferred harvest in the planning area because of watershed condition that was effected by previous timber harvesting and road construction activities Harvest scheduling is contingent on watershed monitoring results

3 The Paint-Reynolds-Lick D N deferred harvest in the planning area because of conflicts with watershed and sensitive species management.

4 Several projects (Lick Creek, Stevi SW, Tolan Creek, Bear, and several small sales) have incorporated ecosystem management principles while still meeting the goals of the Forest Plan

III. HOW DOES THE FOREST PLAN CURRENTLY ADDRESS THIS ISSUE? (Items with * and highlighted are FOREST PLAN DECISIONS (which if changed require Forest Plan Amendments))

ISSUE **TIMBER PRODUCTS**

FOREST PLAN	PAGE	EVALUATION	CHANGE IN FP
Management Philosophy	I-2	General orientation is more towards timber harvest and then balance towards rest Now orientation is more towards ecosystem management timber volume is a product but within sustaining ecosystems	Yes
*** Forest-Wide Goals**	II-3	Goal to support local economy may still be accurate - the level *or objective is what may need to* be updated	
*** Forest-Wide Objectives**		Objectives (pg II-6) are not measurable and the outputs (II-8) (ASQ) has not been a reliable estimation of harvest levels	Yes
Research Needs			
Desired Future Condition		The DFC for timber is not one that appears to be accomplishable The DFC's seem to not be well integrated	Yes
*** Forest-Wide Mgmt Standards**			
*** Management Area Direction**			
*** MA Goals**		MA 1 Goals for example seem to be less meaningful in implementation when a greater integration of resource conditions is required	
*** MA Standards**			
MA Schedule of Mgmt Rx's		Not meaningful for projecting future projects/efforts	Omit
*** Monitoring/Evaluation Requirements**		Timber volumes and types of harvest are tracked	
Analysis of the Management Situation		Needs update	Yes
Glossary			

IV. IDENTIFY POSSIBLE PROCEDURES (OPTIONS) TO ADDRESS THE ISSUE.

1 Formulate a **Forest Goal and Objective** which would provide to the public and industry with an estimate of future timber supply given land capability and social and budgetary concerns.

2 Continue to formulate a **Forest Standard** which will provide the ASQ (ceiling) in which harvest will not be exceeded, as required by NFMA regulations

V. WHAT IS THE EFFECT OF CONTINUED IMPLEMENTATION (FOLLOWING FOREST PLAN DIRECTION) AND THE EFFECT OF THE OPTIONS?

Confusion over projections of future timber supply will ensue without establishing some meaningful estimate in the Forest Plan This confusion makes it more difficult to move ahead with project planning with some members of the public feeling that we are just "trying to get the cut out" with project proposals. Other members of the public and industry would not have some estimation of timber volume from Bitterroot National Forest, and this contributes to some uncertainty in the economy and businesses

VI. REFERENCES

The Chiefs direction/policy letter on clearcutting - 1330-1 letter 6/4/92, & Congressional direction in the FY 1991 Appropriations Act

U S Forest Service Bitterroot National Forest FY 1992 Monitoring and Evaluation Report Summary May, 1993

The Chiefs June, 1992, policy letter directing National Forests to implement ecosystem management

The Montana Streamside Management Zone Act

11/93 9th Circuit Court of Appeals decision on the Flathead NF ASQ

I. ISSUE/PROBLEM STATEMENT

The Forest Plan recognizes the outstanding recreation opportunities on the Bitterroot National Forest, however, because of its general guidance, there is not a common understanding of the Bitterroot National Forest recreation program objectives and priorities Public demands, types of uses, and expectations have also changed in five years and the Forest Plan does not reflect these changing emphases

II. WHAT INFORMATION HAS LED US TO ARRIVE AT THIS SITUATION?

Population within the Bitterroot Valley continues to grow and change in character The National Forest serves as the scenic backdrop to Valley residents as well as offering abundant recreation opportunities to a variety of Valley and Missoula residents According to a 1992 survey of these residents, slightly more than half (53%) used the Forest in the last 12 months. (Bitterroot National Forest Communications Planning Workbook, 1992)

Surveys also indicate that the type of use is diversifying For example, people are using road and trail systems for mountain biking Rock climbing is also a rapidly growing sport, and Watchable Wildlife and other interpretive programs are popular The outfitting and guiding industry is also indicating a change in public demand New applications and requests for permits are received by the Forest weekly, and the proposals are for non-traditional activities such as winter sports, photography, etc Determining use days and appropriateness has been difficult for recreation managers

Within the last year a Bitterroot NF task force was formed to strengthen the guidance and direction for the recreation program A Recreation Strategy was completed to help focus Forest efforts on achieving prioritized objectives Much of this strategy creates appropriate direction for the Forest Plan The strategy brings the Forest Plan closer to the "ground" with meaningful desired future conditions for the recreation resource on the Forest and more specific objectives and priorities to achieve those objectives

Possibly the "hottest" issues facing the Forest are determining how to provide quality recreation services to the public within budget constraints, dealing with outfitting and guide requests in a consistent fashion, and addressing conflicts in uses such as with motorized recreation and identifying where OHV use will be featured on the Forest

III. HOW DOES THE FOREST PLAN CURRENTLY ADDRESS THIS ISSUE? (Items with * and highlighted are FOREST PLAN DECISIONS (which if changed require Forest Plan Amendments.)

ISSUE **RECREATION**

FOREST PLAN	PAGE	EVALUATION	CHANGE IN FP
Management Philosophy	I-2	general - orientation is more towards timber harvest and then balance with rest	YES
*** Forest-Wide Goals**	II-2	The two goals are so general that they could be true for any National Forest	Yes - more specific
*** Forest-Wide Objectives**	II-4	Some objectives are appropriate and specific but others are not There are more objectives than listed and they need to be organized according to Developed, Dispersed and Wilderness Recreation.	YES
Research Needs	II-11	None are identified	NO
Desired Future Condition	II-13	DFC could be more complete The percentages of recreation use by recreation setting is not meaningful	YES
*** Forest-Wide Mgmt. Standards**	II-17	Some may be OK, but incomplete Need to insure that we monitor to insure compliance (haven't reviewed Travel Plan annually	YES
*** Management Area Direction**	MA 10	Deals with Developed sites specifically Need to update terms and incorporate Recreation strategy	YES
*** MA Goals**	CH III	May be better to look at goals for a eco-region or landscape analysis area rather than integrating recreation goals within MAs	YES
*** MA Standards**		Need to revisit for completeness and accuracy	YES
Schedule of Management Rxs		Put in an Operational Guide and not in the Forest Plan - will change and be evaluated yearly so not useful in this document	OMIT

ISSUE **RECREATION** cont

FOREST PLAN	PAGE	EVALUATION	CHANGE IN FP
* **Monitoring/Evaluation Requirement**	IV-6-9	(See below - this is crosswalk item) #1,2,28,29,#27,43	
Analysis of the Management Situation	V-3-6	Need to do more description of the situation other than supply and demand Not that meaningful to understand customer expectations and capability to provide	YES
Glossary	VI-9, 10, 17 22, 28-32, 35		

IV. IDENTIFY POSSIBLE PROCEDURES (OPTIONS) TO ADDRESS THE ISSUE.

Since a Recreation Strategy has been completed by the work of a task force, more specific guidance is available for incorporating into the Forest Plan Options are

1 Proceed with an amendment to the Forest Plan to update the recreation direction

2 Retain the Recreation strategy and incorporate further direction to the Forest Plan along with the overall Forest Plan revision process.

3 Keep Forest Plan direction as is and have a separate concept and report such as the Recreation Strategy

Discussion

Option 1 gets the Forest Plan updated as soon as possible and brings the public into the process Stronger direction in the Forest Plan with regard to recreation ensures emphasis and compliance and greater visibility for budget and public support.

Option 2 may be better if the recreation direction that is proposed has tradeoffs or conflicts with other direction or resources

Option 3 can be favored because it avoids the entanglement with NEPA and Forest Plan amendments It achieves a vision for the creators and does not require the extra time and money to achieve public involvement and formalizing it to the Forest Plan Contrarily, it creates another guiding document and weakens the idea of a Forest Plan being the primary plan

V. WHAT IS THE EFFECT OF CONTINUED IMPLEMENTATION (FOLLOWING FOREST PLAN DIRECTION) AND THE EFFECT OF THE OPTIONS?

See above Continuing with the current direction in the Forest Plan leaves alot to the managers for deciding where the Forest is headed as far as a recreation program

VI REFERENCES

A Academic laws policies, etc

America's Outdoors
Challenge Cost Share
Americans with Disabilities Act (renewed emphasis)
New orientation of the FS in service, e g , Rural Development
National emphasis on recreation as a National amenity
Watchable Wildlife Program

B Forest Plan or project monitoring information relative to the issue.

USDA Forest Service. Working Draft Recreation Strategy February, 1994

USDA Forest Service, Bitterroot National Forest. Monitoring Reports - Items 1,2, 28, 29 FY1988-1992

I. ISSUE/PROBLEM STATEMENT

Most resource programs and services on the National Forest are directly affected by the level and type of access that the public has to National Forest System lands Current approaches to travel management have generally been resource driven with little integration of needs There is limited direction on incorporating travel management planning into the planning process at the Forest Plan or project level Travel management needs must be assessed and met within the context of the principles of ecosystem management This will require an approach which provides the level and diversity of access and travel on the National Forests while sustaining ecological conditions over the long term

The level of existing access to National Forest lands is not a significant issue on the Forest The majority of forest areas have existing legal access

II WHAT INFORMATION HAS LED US TO ARRIVE AT THE SITUATION?

From **past decisions** and **past planning,** the following results are observed

1 The existing travel map for the Bitterroot National Forest represents a compilation of individual decisions on road and area restrictions that have been made across the forest Most of these decisions have been made through environmental assessments for timber sales The travel map does not assess the cumulative effect of travel restrictions on overall access to the forest The current trend in decisions has been to close additional roads with each project decision There is not currently a good understanding of existing access

2 Most of the recent project level analyses have had travel management as a main point of concern - the amount and type of access into NFS lands is directly related to achieving resource management goals. For example

Roads are needed to access areas for vegetative management Without them, *opportunities for achieving the desired future condition are sometimes reduced* or eliminated

The degree of roaded access directly affects the spectrum of available recreational experiences on the Forest Also affects "subsistence uses" such as firewood gathering, hunting,

The degree of roaded access directly and indirectly affects the security of wildlife and habitat effectiveness Our current approaches with big game management with MTFWP have focused more on restricting access than at options in hunting season regulation changes This has led to several of the existing road closures on the forest,

The degree of roaded access directly/indirectly affects watershed/aquatic ecosystem health, and

Continued development in the urban interface has complicated the relationship between the Forest Service and Ravalli County road responsibilities

Recent **literature, research, policies** affect how we think about and manage travel Examples are

Ecosystem Management policies and concepts for integrating travel management (see Christainsen 1993 and Chief's direction, 1992)

Ochoco National Forest Travel Planning Guide, and

National Access and Travel Management Report "Bringing People And Places Together, 1992)

Public Comments from five year review indicate that there is a need for a better link between the Forest Plan and access and travel management and that there is a need for better direction in recreation and travel/access management Public comments for the 5 year review also express concern regarding road densities, and road construction, location, maintenance, and rehabilitation standards as they relate to minimizing resource impacts

Public comments state a need for equal amounts of recreation and trails for off-road use and on-road use *There are areas on the forest where off-highway-vehicle use is a problem There is a concern* that off-highway-vehicle recreationists have no where to go on the national forest

III. HOW DOES THE FOREST PLAN CURRENTLY ADDRESS THIS ISSUE? (Items with * and highlighted are FOREST PLAN DECISIONS (which if changed require Forest Plan Amendments))

ISSUE **ACCESS/TRAVEL MANAGEMENT**

FOREST PLAN	PAGE	EVALUATION	CHANGE IN FP
Management Philosophy		The Forest Plan described additional levels of road construction but described very little direction on road access and travel management	
*** Forest-Wide Goals**		See above	Yes
*** Forest-Wide Objectives**	II-4	Forest Wide Management Objectives "Provide for the development and maintenance of at least two travel routes for winter activities " Location is not specific and no mention is made of other travel/ access provisions	
			Yes
Research Needs			
Desired Future Condition	II-13	1. Condition at the end of the first decade: "current hunting seasons will have been maintained as elk have been provided security in roadless areas, and roads have been closed seasonally in developed areas " Description is not inclusive of other aspects of travel management	Yes

ISSUE **ACCESS/TRAVEL MANAGEMENT** cont.

FOREST PLAN	PAGE	EVALUATION	CHANGE IN FP
*** Forest-Wide Mgmt. Standards**	II-18	a. Recreation "the Forest Travel Plan will be reviewed annually and revisions made to meet Forest Plan management direction Off-road vehicle use decisions will be incorporated into the Forest Plan as amendments The Mt. Fish and Game Commission road management policy will be considered in the annual travel planning process Off-road vehicle use will be controlled to prevent soil degradation " This direction has generally not been implemented, i e., Travel plan reviewed annually, although ORV use is monitored. Standard may be OK, but implementation needs correcting.	
	II-20	d. Wildlife and Fish: "Manage roads through the travel planning process to attain or maintain 50% or higher elk habitat effectiveness in currently third order drainages. Drainages where more than 25% of roads are in place are considered roaded. Maintain 60% or higher elk habitat effectiveness in drainages where less than 25% of the roads have been built " See Big Game finding for evaluation	
	II-26	i Minerals and Energy Resources· "Coordinate transportation system with mineral development " This guideline may not be needed since coordination does occur with any proposed activity	Yes
	II-27	j Road System· "Roads will be closed to public use if adequate road maintenance funds are not available "	
*** Management Area Direction**		Management Area Direction Where compatible with other uses, the direction in MA's referred to allowing recreation on roads and by using motorized equipment. Road access to fishing streams would also be maintained but limited to the current level	
*** MA Goals**			
*** MA Standards**			
MA Schedule of Mgmt Rx's			

ISSUE **ACCESS/TRAVEL MANAGEMENT** cont

FOREST PLAN	PAGE	EVALUATION	CHANGE IN FP
* **Monitoring/Evaluation Requirements**	IV-7,9	Monitoring standards 24 and 42 address road management issues Monitoring standards 28 and 29 address off-highway vehicle use	
Analysis of the Management Situation			
Glossary			

IV. IDENTIFY POSSIBLE PROCEDURES AND OPTIONS TO ADDRESS THIS ISSUE

Use of the existing road system needs to be examined at a "coarse filter" level to mitigate or prevent the most probable impacts to ecosystem health, and to design alternatives for overall travel on the forest Options are

1 Travel management decisions could be determined at the landscape scale (geographic area), rather by individual projects. Cumulative impacts of travel management and their effects on people must be displayed beyond the local users.

2 Forest-wide policy for access (closed unless designated open or open unless designated closed?) could be explored.

3 Guidelines including resource and social criteria for consideration when making travel management recommendations could be formulated

4 Through implementation, coordinate with Ravallic County with regard to subdivision in the urban interface and resolve common road use issues

V. WHAT IS THE EFFECT OF CONTINUED IMPLEMENTATION?

Effect of continued implementation is that there will continue to be travel management decisions made in a piecemeal fashion without attention to the cumulative effects of forest use across the forest Conflicting direction for some management areas (e.g., MA 3a which emphasizes dispersed recreation and high value winter range) will not be resolved

The need for further coordination with county with regard to subdivision in the urban interface will go unanswered and will result in future road use issues in these areas

Direct and indirect watershed/aquatic/terrestrial ecosystems would continue without a complete road impact assessment

VI. REFERENCES

Ecosystem Management policies and concepts for integrating travel management (see Christainsen, 1993 and Chief's direction, 1992),

Ochoco National Forest Travel Planning Guide, and

National Access and Travel Management Report "Bringing People And Places Together, 1992)

I. ISSUE/PROBLEM STATEMENT

Visual management direction in the Forest Plan assumes clearcutting and other regeneration harvests as primary harvest methods. Ecosystem management, a more recent policy, reduces the use of clearcutting, and also poses that if disturbance occurs, that it will resemble in pattern and process those disturbances (i e , fire) that occurred naturally Efforts such as those to restore ponderosa pine ecosystems may warrant treatment over a landscape (selective type harvesting), but changes may be apparent to the viewer Visual management in the Forest Plan does not reflect these newer approaches nor have examples on the ground been implemented to get the public's opinion on acceptable visual changes

II. WHAT INFORMATION HAS LED US TO ARRIVE AT THIS SITUATION?

Original formulators of the Forest Plan sought to stop the unsightly geometric clearcut units that were being laid out on the sensitive slopes of the mountain fronting the Bitterroot Valley floor

During implementation, several observations have been made·

> Efforts to ameliorate the harsh lines of clearcuts has limited success It was found that implemented treatments on a clearcut were not of sufficient size to make a noticeable difference from the viewed site (Tin Cup Modifications, Calf Creek, and Sharrot Modifications, 1991-1993)
>
> Ecologically based treatment proposals are different than traditional proposed "cutting units". In the Ponderosa pine-Douglas-fir stands, proposed treatments tend to be extensive -- landscape in proportion compared to the traditional smaller harvest unit Visually, these restoration efforts may be more noticeable on this broader scale, however, the visual effect may not be particularly obtrusive (Stevi SW, 1993)
>
> At the mid-elevation, in mixed conifer and lodgepole pine stands, the patterns most evident historically, were fire-disturbed mosaics This pattern is less observed today because of fire suppression and in some cases, the stands appear more homogeneous and continuous. (The clearcut patches of the recent past are not indicative of this historic pattern) Thus, treatments proposed from an ecosystem standpoint will be obvious to the observer since the mosaics or openings of fire were generally larger than 40-acre openings and the standing green trees may be burned to apply fire on the area We have planned prescriptions and treatment for Tolan, but as of yet, do not have on-ground examples (Tolan, 1993)

III. HOW DOES THE FOREST PLAN CURRENTLY ADDRESS THIS ISSUE? (Items with * and highlighted are FOREST PLAN DECISIONS (which if changed require Forest Plan Amendments))

ISSUE **VISUAL MANAGEMENT**

FOREST PLAN	PAGE	EVALUATION	CHANGE IN FP
Management Philosophy			
*** Forest-Wide Goals**	II-2	"Maintain high level of visual quality " This is a general goal that may need to be expressed more specifically for the Bitterroot NF or is one of those basic foundations referenced and not expressed as a goal	Yes
*** Forest-Wide Objectives**			
Research Needs			
Desired Future Condition	II-13	"On the Bitterroot Mountain face overlooking the valley, new road construction and timber harvest will not be readily visible because the size, shape and distribution of cutting units will be matched to natural landscape patterns." The intent is good but options are severely restricted	
*** Forest-Wide Mgmt. Standards**	II-19	#1 assumes that openings recover before further treatment, however, assumed harvest methods are not those used with ecosystem management	Yes
*** Management Area Direction**	III-3	MA-1 for example. VQO's need to be more reflective of being consistent with natural patterns and processes rather than only whether areas can be seen and how much modification to allow	Yes
*** MA Goals**			
*** MA Standards**			
MA Schedule of Mgmt Rx's			
*** Monitoring/Evaluation Requirements**	IV-6	Requires general review of achieving VQO's - measure may be different with Ecosystem management	Yes
Analysis of the Management Situation			
Glossary			

IV. IDENTIFY POSSIBLE PROCEDURES TO ADDRESS THE ISSUE

Options are·

1 Through the revision of the Forest Plan, perhaps on a geographic basis, design goals and objectives which reflect visual sensitivities, but may allow short term visual impacts Examples are to alter the DFC goal statement to read, "timber harvest will not be visible as management units because the size, shape etc " Necessary new road construction will not be readily apparent after a suitable time has passed for revegetation

V. WHAT IS THE EFFECT OF CONTINUED IMPLEMENTATION (FP DIRECTION)?

Needed silvicultural practices may either not be able to be done due to restrictions or DFC goals may not be met With options adopted, VQOs can be met and the forest can be actively managed to meet objectives

VI. REFERENCES

Bitterroot National Forest Plan, 9/87 Sec E 1 (b) p II-13

USDA Handbook, Visual Management System, Vol 462, Chapt 2

I. ISSUE/PROBLEM STATEMENT:

We have been given direction by the Regional Office that our next Forest Plan should "identify lands which have been found administratively available for leasing" (36 CFR 228.102 (d))

II. WHAT INFORMATION HAS LED US TO ARRIVE AT THIS SITUATION?

Administration of oil and gas must comply with NFMA, NEPA, and FOOLGLRA (Federal Onshore Oil and Gas Leasing Reform Act of 1987), known as the Leasing Reform Act, with the Forest Service implementing regulation at 36 CFR 228, subpart E

The decision to lease must be integrated with forest plan revisions Region 1 guidance is provided in "Our Approach to Oil and Gas Leasing Decisions". It states that FOOLGLRA gave the Forest Service the authority to determine which lands could be leased (available for leasing) New regulations, issued in 1990, require the Forest Supervisor schedule for analysis the lands under their jurisdiction A "programmatic" decision must be made regarding "availability", that ensures that environmental effects for projected oil and gas scenarios are documented. The following are required

1 Map lands the forest plan made open to leasing under standard terms and conditions

2 Provide a narrative explanation of standard lease terms and resources that would be protected

3 Map land the forest plan made open to leasing under stipulation constraints

4 Provide a narrative explanation of stipulations and resources that would be protected, including criteria for waiver, exemptions, and modifications.

5 Map lands closed to leasing, distinguishing between lands that are unavailable by law and land the forest plan made unavailable through management discretion

6 Provide a narrative explanation why lands were made unavailable

An Oil and Gas Activity Scenario must be part of the analysis. This will give the framework within which to estimate and disclose potential environmental effects Items to complete include the following

1 A geologic report and map which classifies "potential for occurrence"

2 If no wells are predicted, then you must assume 1 exploratory well and 1 discovery well for baseline NEPA analysis

3 What kind of surface use is forecast (oil well vs gas well, H2S or high pressure), and what the effects will be

The FP revision must also include an analysis of stipulations. Those stipulations must be regionally consistent The need for any stipulation beyond standard lease terms must be justified

Both the Regional Office and Washington Office have received letters and visits voicing concern over no leasing since 1987, with loss of revenue to government and communities and lack of opportunities to keep US production strong

III HOW DOES THE FOREST PLAN CURRENTLY ADDRESS THIS ISSUE? (Items with * and highlighted are FOREST PLAN DECISIONS (which if changed require Forest Plan Amendments))

ISSUE OIL AND GAS LEASING

FOREST PLAN	PAGE	EVALUATION	CHANGE IN FP
Management Philosophy			
*** Forest-Wide Goals**	II-3	OK	NO
*** Forest-Wide Objectives**	II-7	Make decision on which lands are available for O&G leasing	Possible to reaffirm current decision, but must include maps
Research Needs		No change	
Desired Future Condition		No activity expected, but for analysis purposes must predict effects of one producing well	
*** Forest-Wide Mgmt Standards**			
*** Management Area Direction**			
*** MA Goals**			
*** MA Standards** *** *Monitoring/Evaluation Requirements***		Look OK based on current management boundaries (mix). Match management area with appropriate stipulation in Appendix N.	
Analysis of the Management Situation			
Glossary			

The Forest Plan discusses leasing availability but needs to comply with 228E promulgated in 1990 If management area designations change, then the stipulations will have to follow suit Stipulations provided in Appendix N should be updated and changed accordingly. Examples are provided in "Our Approach to Oil and Gas Leasing". We will need to provide maps of the various stipulated areas, at least for the project file

IV. IDENTIFY POSSIBLE PROCEDURES (OPTIONS) TO ADDRESS THE ISSUE.

Ensure that leasing direction in current plan is current with new regulations and changes in the plan Clarify that the direction in the current plan is the "d" leasing decision (however maps will still be needed)

Do a new "d" decision for all legally open lands Would have to do individual EA's when offers to lease come in

Do the "d" and "e" decision in the Forest Plan. Theoretically, no more NEPA analysis would be necessary for development activity

Do the "d" decision for that area of the forest with potential, i e., the North Sapphires. No leasing decision would be made for the rest of the Forest due to lack of mineral potential

Do not make a decision in this Revision. Follow with a stand-alone document (WO is no longer funding leasing EIS's)

V. WHAT IS THE EFFECT OF CONTINUED IMPLEMENTATION (FOLLOWING FOREST PLAN DIRECTION) AND THE EFFECT OF THE OPTIONS?

Bitterroot National Forest lands will continue to be unavailable for leasing as the leasing decision will be postponed to a later date

I. ISSUE/PROBLEM STATEMENT

There is contradictory information in the Forest Plan concerning the possible expansion of Lost Trail Ski Area. The Forest Plan allows for expansion of the ski area, but the most logical area for expansion is in lands mapped as Management Area 5 (500 acres) MA 5 standards are not consistent with the level of development associated with a downhill ski area

II. WHAT INFORMATION HAS LED US TO ARRIVE AT THIS SITUATION?

The permittee who owns the ski area has begun to explore the possibility of expanding the ski area to the north (Camp Creek Ridge)

The Forest Plan states on page III-70 that we will " provide for expansion of the Lost Trail Ski Area " The only area suitable for expansion is immediately north of the ski area as it exists today This area, referred to as Camp Creek Ridge," is located within Management Area 5 (Roadless) Management Area 5 places emphasis on semi-primitive motorized and non-motorized recreation opportunities, and its goals and standards do not provide for the level of development associated with a downhill ski area

III. HOW DOES THE FOREST PLAN CURRENTLY ADDRESS THIS ISSUE? (Items with * and highlighted are FOREST PLAN DECISIONS (which if changed require Forest Plan Amendments))

LOST TRAIL SKI AREA

FOREST PLAN	PAGE	EVALUATION	CHANGE IN FP
Management Philosophy			
*** Forest-Wide Goals**			
*** Forest-Wide Objectives**			
Research Needs			
Desired Future Condition			
*** Forest-Wide Mgmt. Standards**			
*** Management Area Direction** *** MA Goals**	III-36, III-70(9) III-37, III-69	MA 10 direction conflicts with MA 5 direction re Lost Trail Ski Area	YES
*** MA Standards**	III-37, III-69		
*** Monitoring/Evaluation Requirements**			
Analysis of the Management Situation			
Glossary			

IV. IDENTIFY POSSIBLE PROCEDURES (OPTIONS) TO ADDRESS THE ISSUE

Options are

1 Proceed immediately with changing the Management Area designation in the Forest Plan (following appropriate NEPA procedures) Follow later with more specific NEPA project planning on the Master Plan and site specific changes for expansion.

2 Change Management Area when the Forest Plan is revised Follow later with more site specific NEPA project planning on the Master Plan and changes for expansion

3. Change Management Area when permittee has developed a Master Plan and write one NEPA document to cover both the site specific expansion development, and the MA change The NEPA document would also include the issuance of a new term ski area permit (for a term not to exceed 40 years) under the provisions of the Ski Permit Act of 1986

V. EFFECT OF CONTINUED IMPLEMENTATION OF FOREST PLAN DIRECTION AND EFFECTS OF THE OPTIONS:

1 Allows permittee to move forward with expansion plans with "knowledge" that the major social obstacle to expansion has been cleared Increases our partnership and credibility, and shows public we're active in developing winter sports opportunities This has a potential for the shortest completion date - possibly as early as 1995 if we begin now Simplifies issue to mainly social aspect However, it would require a specific NEPA document for ski area expansion at a later date.

2 This option does not give permittee any assurances of being able to develop the area. He must proceed with the master plan for expansion without any assurances that the plan can be achieved due to the uncertainty of roadless issues and wilderness status in the state This could delay any action on this issue until completion of entire Plan, and would "wash" this issue in with all the other changes/issues that will be addressed in the Forest Plan revision.

3 This option is the most efficient way to deal with this issue When the permittee produces a plan for expansion we (FS) must be ready to effectively deal with this proposal and complete the NEPA (project planning. This approach may encourage the permittee to move ahead with expansion plans more quickly so that the roadless issues don't become too entrenched before he is ready to move forward

VI. REFERENCES

Ski Permit Act of 1986

I. PROBLEM STATEMENT

Forest Plan Management Direction for Wilderness was general and not reflective of the complexity of Wilderness Management Efforts ensued after the Forest Plan (e g , LAC and Fire Management) , and several Appendices or Wilderness Plans have resulted Currently, the Selway Bitterroot Wilderness is amending the Forest Plan for vegetative management The Anaconda Pintler Wilderness "Plan" is being updated and incorporated into the Forest Plan For the Frank Church River of No Return Wilderness, planning is ongoing to address current issues and mesh 3-4 Wilderness plans into one

II. WHAT INFORMATION HAS LED US TO ARRIVE AT THIS SITUATION?

When Forest planning was underway in the 1980's, much of the focus (36 CFR 219 12 - 219 16) revolved around timber management and the effects of timber harvest Inventory and modeling also focused on nonwilderness lands The primary "wilderness" issue was an allocation question of wilderness designation of roadless lands The 749,762 acres of three Wildernesses on the Bitterroot National Forest (2 5 million acres with all National Forest ownership) were assigned to three Management Areas (one per wilderness)

The inadequacies of the first Forest Plans left many people dissatisfied with Forest planning and resulted in continuing efforts to create separate Wilderness Management Plans using a separate process, the LAC (Limits of Acceptable Change) process (Merigliano, 1993) The push for more planning was externally generated as well with the public and Congress challenged the Forest Service's ability to manage Wilderness, providing adequate protection and consistent and coordinated efforts among the Districts, Forests, and Regions that might share in the management of one Wilderness (e g , Frank Church River of No Return Wilderness) As Merigliano states

> It is now apparent that both Forest Planning and the LAC process have evolved so that the distinction between them is blurred As managers began applying LAC to all aspects of wilderness planning, the process was modified and broadened from its original concept LAC , was developed in response to failure of the carrying capacity approach and was intended to be used only for recreation issues where manager were trying to balance the conflicting goals of protecting wilderness character and allowing recreation use For many people, LAC has come to mean broadly defining desired future conditions and establishing standards that describe acceptable conditions (as opposed to standards which were procedural in nature)

More recently, the policy of Ecosystem Management and efforts to revise Forest Plans, provides Forests with an opportunity to better integrate Wilderness management with Forest Plans How Wildernesses fit within the ecological hierarchy (USFS-WO, 1993) and Forest planning are still questions to be resolved

Wilderness planning involving Bitterroot National Forest lands has followed a similar history as described above. The Selway Bitterroot Wilderness managers embarked upon an LAC process to develop management direction for recreation, trails and airfield management A public task force was formed to assist in that effort and is still active as a forum for exchanging information with groups and individuals interested in wilderness management issues Once they completed the recreation, trails and airfield direction, questions about other resource management direction arose They began to look at amending the Wilderness management plan (and Forest Plan) to include goals, objectives and standards for other resources such as for vegetation, wildlife, soil, air, and others An amendment to the Forest Plan to address some of the vegetation issues (e g., noxious weeds, site impacts, etc) is planned for 1994, and then wilderness planning will pause to be incorporated into the three Forest planning efforts (Meeting Summary, January 1994).

Planning for the Anaconda Pintler Wilderness has included amending the Wilderness Management Plan for fire management in 1994 An ID team has been formed and headed by a Wilderness Coordinator Data needs have been identified and an information base is being accomplished Some management concerns have been identified, and the direction currently, is to take an integrated planning approach (rather than resource by resource) and amend the Forest Plan

The Frank Church River of No Return Wilderness includes 6 National Forests and 6 Ranger Districts A Wilderness Coordinator and a LAC Planner head up efforts in wilderness planning The focus currently is what is termed "LAC planning", however, the concept that is being implemented is broader than the recreation orientation and more similar to Forest planning A public working group (open ended) has been created to participate in the planning efforts An ID team has yet to be formed (Meeting Summary, November, 1993)

III. HOW DOES THE FOREST PLAN CURRENTLY ADDRESS THIS ISSUE? (Items with * and highlighted are FOREST PLAN DECISIONS (which if changed require Forest Plan Amendments))

ISSUE WILDERNESS

FOREST PLAN	PAGE	EVALUATION	CHANGE IN FP
Management Philosophy	II-1		
* **Forest-Wide Goals**	II-2	Must resolve how Wilderness fits into ecological hierarchy and Forest Plan, e g , looking beyond the wilderness -- at a geographic area	YES
* **Forest-Wide Objectives**	II-5	Include latest plans and analyses	YES
Research Needs			
Desired Future Condition			
* **Forest-Wide Mgmt. Standards**			
* **Management Area Direction** * **MA Goals**	III-45-57	LAC, Fire Management Plans, and 3 separate wildernesses need to be included in FP goals and objectives.	YES
* **MA Standards**			
* **Monitoring/Evaluation Requirements**			
Analysis of the Management Situation			
Glossary			

IV. IDENTIFY POSSIBLE PROCEDURES (OPTIONS) TO ADDRESS THE ISSUE.

As discussed in Section II, each management team of the three Wilderness areas have different approaches in updating Wilderness Management Direction in Forest Plans We contend that different approaches or processes can work as long as various elements are consistently treated

V. WHAT IS THE EFFECT OF CONTINUED IMPLEMENTATION (FOLLOWING FOREST PLAN DIRECTION) AND THE EFFECT OF THE OPTIONS?

Management direction for the Wildernesses will continue to be fragmented into various documents unless a Forest Plan Revision pulls it together

VI. REFERENCES

Mergliano, 1993, Limits of Acceptable Change (LAC) Process

I. ISSUE/PROBLEM STATEMENT

The Bitterroot National Forest Plan decision of September 30, 1987 was appealed by American Rivers, Inc A settlement agreement was negotiated by Appellants and the Forest Service The appellants carried out their side of the agreement by withdrawing the appeal To date, the Forest Service has completed only part of their side of the agreement To be in full compliance with the agreement, the Bitterroot National Forest needs to amend the Forest Plan to (1) add the segment *of the West Fork Bitterroot River from the Nez Perce Fork to Painted Rocks Lake Dam to the list of* eligible river and steam segments for study under the National Wild and Scenic Rivers Act, and (2) modify Forest Plan, Forest Wide Management Standards for Wild and Scenic Rivers to provide additional protection for the eligible segments

II. WHAT INFORMATION HAS LED US TO ARRIVE AT THIS SITUATION?

On July 25, 1988, Forest Plan Appellant, American Rivers, Inc , withdrew their Bitterroot National Forest Plan Appeal based on the following settlement Agreement The appellant would withdraw their Forest Plan Appeal and the Bitterroot National Forest would amend the Bitterroot National Forest Plan to. (1) add two segments. Running Creek and a portion of the West Fork Bitterroot River, to the list of eligible segments for consideration for study under the National Wild and Scenic Rivers Act, and (2) expand the Forest Plan's management standards for such eligible streams On September 5, 1991, Bitterroot Forest Supervisor Bertha C Gillam, signed a Decision Memo for Forest Plan Amendment #6 This amendment added Running Creek to the list of streams eligible for study under the Wild and Scenic River Act and defined its corridor width The remainder of the Settlement Agreement has not been completed by the Forest Service

III. HOW DOES THE FOREST PLAN CURRENTLY ADDRESS THIS ISSUE? (Items with * and highlighted are FOREST PLAN DECISIONS (which if changed require Forest Plan Amendments))

ISSUE WILD AND SCENIC RIVERS

FOREST PLAN	PAGE	EVALUATION	CHANGE IN FP
Management Philosophy			
*** Forest-Wide Goals**			
*** Forest-Wide Objectives**			
Research Needs			
Desired Future Condition			

ISSUE WILD AND SCENIC RIVERS cont

FOREST PLAN	PAGE	EVALUATION	CHANGE IN FP
*** Forest-Wide Mgmt Standards**		The Forest Plan currently does not include the segment of the West Fork Bitterroot River from the Nez Perce Fork to Painted Rocks Dam as eligible for study under the National Wild & Scenic Rivers Act or include the Forest-wide Management Standards agreed upon for additional protection of eligible river and stream segments	Yes
*** Management Area Direction**			
*** MA Goals**			
*** MA Standards**			
*** MA Schedule of Mgmt. Rx's**			
*** Monitoring/Evaluation Requirements**			
Analysis of the Management Situation			
Glossary			

IV. IDENTIFY POSSIBLE OPTIONS TO ADDRESS THE ISSUE

1 Follow through with the Settlement Agreement by completing appropriate NEPA analysis, Decision documentation to amend the Forest Plan The proposed action would include the attached November 30, 1989 proposed amendment to the Forest Plan

2 Deal with this issue in the overall revisions of the Forest Plan.

V. WHAT IS THE EFFECT OF CONTINUED IMPLEMENTATION AND EFFECT OF OPTIONS?

The segment of the West Fork Bitterroot River from Nez Perce Fork to Painted Rocks Dam, would not be listed in Appendix O as eligible for study under the National Wild and Scenic Rivers Act, and Forest Plan Forest-wide Standards for Wild and Scenic Rivers would not be modified to provide additional protection. Since the settlement agreement, there has been no additional development on eligible streams or the segment of the West Fork Bitterroot River being proposed to be listed as eligible Without further action on this issue, additional develop-

ment that would affect the eligible rivers and streams ability to meet classification criteria, could occur

Option 1 would complete the Forest Service portion of the Appeal Settlement Agreement if a decision to implement the proposed action is made Implementation of the proposed action, would list a segment of the West Fork River as eligible and amend Forest Plan Standards to provide additional protection of eligible rivers and streams. An EA would have to be completed for the Forest Plan Amendment proposal

Option 2 would comply with the appeal settlement agreement and possibly complete the study as well The process would be slower than Option 1, but possibly more efficient than requiring a separate analysis and decision in the immediate future

VI. REFERENCES

Bitterroot National Forest Plan page II-29 and Appendix O; Forest Plan Appeal #2221; John Mumma June 27, 1988 letter to Mr Dreher, Sierra Club Legal Defense Fund Inc ; SIERRA CLUB LEGAL DEFENSE FUND, INC letter to John W Mumma July 25, 1988 and WITHDRAWAL OF APPEAL document, Forest Plan Amendment 6, November 30, 1989, proposed amendment to the Forest Plan

I ISSUE/PROBLEM STATEMENT

The 1983 Northern Regional Guide developed a systematic framework for identifying and establishing a research natural areas (RNA's) network The objective was to assure that representative examples of forests, shrublands grasslands, alpine areas and aquatic systems were protected as baseline areas for research and monitoring The Regional Guide assigned 34 vegetation and aquatic targets to the Bitterroot National Forest The Bitterroot National Forest identified 10 proposed RNA's to meet the assigned targets

There are four Research Natural Area (RNA) issues that need to be addressed

1) Not all of the areas proposed as RNA's in the Forest Plan have been designated,

2) Specific management area direction for each RNA has not been developed.

3) Not all of the RNA targets have been filled

4) The RNA targets in the Forest Plan may not adequately represent all the significant natural ecosystems of the Bitterroot National Forest as baseline areas for research and monitoring

Additionally, there is no recognition of special or unique sites on the Bitterroot National Forest that qualify and/or have been proposed as special interest areas (SIA's)

II. WHAT INFORMATION HAS LED US TO ARRIVE AT THIS SITUATION?

Establishment records have been written for all RNA's The six areas that had written establishment records prior to signing the Forest Plan Record of Decision were exempted from NEPA analysis and have been designated RNA's by the Chief of the Forest Service. In May 1994, RNA delegation authority was issued to Regional Foresters and Station Directors Designation of the remaining four areas must be accompanied by the appropriate environmental analysis Two of the areas, the proposed East Fork Bitterroot RNA and the Bass Creek RNA, are in recommended or existing wilderness areas Responsibility for establishing and administering the Salmon Mountain and Sapphire Divide proposed RNA's is assigned to the Nez Perce and Deerlodge National Forests

A draft management plan has been developed for Sawmill RNA Standards for RNA's (Management Area 9, page III-66) state that management plans will be incorporated as Forest Plan amendments as areas are designated The primary barrier to completing this task has been inadequate funding for the RNA program

A draft report assessing the the Northern Region's RNA system (USDA 1993, in draft) lists two targets unfilled on the Bitterroot National Forest the subalpine fir/sweet-scented bedstraw and Douglas-fir/ bluebunch wheatgrass habitat types The latter habitat type is present in the Sawmill RNA The appropriate corrections will be made in the draft report The Douglas-fir/Idaho fescue h t is incorrectly reported to occur in the Sawmill RNA This habitat type does occur on the Bitterroot National Forest, and is know on the West Fork Ranger District

The same draft report acknowledges that the 1983 Regional Guide matrix is out-dated It does not adequately identify the important components of biological diversity represented in the Northern Region or Bitterroot National Forest (USDA 1993 in draft)

Special interest areas (SIA's) are designated to protect and manage for public use and enjoyment areas with scenic, geological, botanical and zoological values There have been no special interest areas designated on the Bitterroot National Forest Members of the academic and Forest Service research community have proposed SIA designation for Lost Trail Bog. The Sula Ranger District is aware of the unique biological features of the site, and had taken measures to protect the site There has not been adequate funding to identify other sites, and designate Lost Trail Bog and other sites as SIA's

III. HOW DOES THE FOREST PLAN CURRENTLY ADDRESS THIS ISSUE? (Items with * and highlighted are FOREST PLAN DECISIONS (which if changed require Forest Plan Amendments))

ISSUE RNA'S/SIA S

FOREST PLAN	PAGE	EVALUATION	CHANGE IN FP
Management Philosophy			
*** Forest-Wide Goals**	II-2	Revise wording to include aquatic systems and purpose of RNA's. Link *RNA's/SIA's to recognition and protection* of biodiversity	Yes
*** Forest-Wide Objectives**	II-5	Revise statement to provide new measures of how RNA's/SIA's will be identified/designated to recognize/ protect biodiversity	Yes
Research Needs			
Desired Future Condition			
*** Forest-Wide Mgmt. Standards**	II-29	No change	No
*** Management Area Direction**	III-66	Developed specifically for Management Area 9 (RNA's) Apply to all RNA's Nothing developed for SIA's	No
*** MA Goals**	III-66	Revise to recognize importance for monitoring	
*** MA Standards**	III-66	Revise Recreation standard #3--delete "except trails"	
*** MA Schedule of Mgmt. Rx's**	III-66	Management practices to be developed from individual management plans	
*** Monitoring/Evaluation Requirements**	IV-6	Need to be developed as part of Forest-wide efforts to assess/monitor "conditions of the land"	Yes
Analysis of the Management Situation	V-1	Add representativeness assessment to address adequacy of *RNA/SIA system*	
Glossary	VI-1	Addd and define biodiversity, special interest area	Yes

IV. IDENTIFY POSSIBLE PROCEDURES (OPTIONS) TO ADDRESS THE ISSUE.

Funding is necessary to complete establishment records, conduct the appropriate NEPA analysis, and develop site-specific management plans

Assessing needs for additional RNA representation should be coordinated on a regional basis Other protected areas, like wilderness areas, should be included in the assessments Assessments could

be included in the Columbia River Basin-wide analysis Land classification hierarchies should be incorporated into the representation assessment

Special interest areas, together with with RNA's, should be linked to Forest-wide goals and objectives for protecting representative and unique examples of biodiversity

V. WHAT IS THE EFFECT OF CONTINUED IMPLEMENTATION (FOLLOWING FOREST PLAN DIRECTION) AND THE EFFECT OF THE OPTIONS?

Special interest areas often require special management. Formal recognition provides more secure long-term protection of resource values

With regard to RNA's, the most pressing need is better funding Direction in the Forest Plan is generally adequate Revisions that update the Plan, and make meaningful ties between Forest-wide monitoring objectives and RNA's would be beneficial

Without Forest Plan revisions the RNA network of Bitterroot Forest RNA's may not adequately encompass and protect the important ecosystem components neede for long-term baseline monitoring and research

VI. REFERENCES

USDA Forest Service, Northern Region 1983 The Northern Region Guide Missoula, MT pp 2-19 - 2-26

USDA Forest Service, Northern Region (draft) 1993. Representativeness assessment of Northern Region Research Natural areas and selected special interest areas Northern Region/Intermountain Station Missoula, MT 56 pp

I. ISSUE/PROBLEM STATEMENT

The current Monitoring and Evaluation Requirements for the Forest Plan is limited in focus. The monitoring framework needs to be expanded along three fronts

1 spatially (from monitoring sites to landscapes),

2 temporally (some items can be monitored on a before and after basis, others require long-term time frames), and

3 ecologically (recognize ecological organization spans several levels, from genetic, species, communities to ecosystems)

Monitoring has generally emphasized assuring that management activities complied with Forest Plan standards (implementation monitoring) Implementation monitoring focused on evaluating the effects of management activities on sites Monitoring items did not evaluate the effects of activities at larger spatial scales (plant communities, aquatic ecosystems, landscapes)

Less emphasis has been placed on monitoring to determine if our standards are effective in achieving their objectives (effectiveness monitoring), or if our Forest Planning assumptions were valid (validation monitoring)

Currently, no monitoring framework is in place for assessing the "conditions of the land" or ecosystem health, and yet there is a need to do so. Large-scale changes have been occurring in land and water ecosystems because we have altered natural processes (fire suppression, flood control, introduced exotics) There may be globally induced changes of ecosystems resulting from acid rain or climate change Not only do we lack a monitoring strategy to detect these changes, we lack a strategy to separate changes induced by global causes from those caused by management activities

Monitoring and Evaluation is one of the best ways we have to communicate with the public about the land and changing values and demands placed upon it As the Forest Service adopts an adaptive management strategy, the feedback information provided by a well thought out monitoring plan becomes more essential How we conduct and report our monitoring and evaluation efforts directly affects our credibility as a land management agency.

II. WHAT INFORMATION HAS LED US TO ARRIVE AT THIS SITUATION?

Simply the purpose of the five year review of the Forest Plan to "review the conditions on the land covered by the plan to determine whether conditions or demands of the public have changed significantly", led to a conclusion that we needed more information about the land than what was contained in our monitoring of 44 items for the Forest Plan. The 44 items for Forest Plan monitoring, in general, adequately monitor site impacts resulting from project level decisions and determine if the Forest Plan standards were achieved The monitoring also compiles the accomplishments of implementing the Forest Plan in relation to the goals and objectives

The primary aspect that the existing Monitoring approach misses is the view of the landscape and perhaps in light of a longer time frame; long term changes of patterns and processes (fire, insect/ disease, etc) on the land The landscape view also needs to vary in scale depending upon the questions posed

In addition, some monitoring should be compiled and assessed at larger than a National Forest level For example, species (threatened endangered and sensitive) should be monitored and evaluated

for each species range Ecosystem concepts such as biological diversity, biological corridors, etc also may need to be evaluated at Forest or larger levels. (See Chief's hierarchical proposal for ecosystem scales)

To address the "conditions of the land", the Forest has also included in their assessments the existing condition data that are compiled for each Integrated Resource Analysis Area What we have found here is that data are not consistently collected for each IRA as they are sequentially done, data standards are not set In some cases, the data are not adequate to answer broader landscape questions

Forest Efforts to Design a Monitoring Framework

Since 1993, the Forest has become increasingly interested in a monitoring framework The following are several efforts

> For FY 1993, the Bitterroot received a Washington Office grant to examine the role of Research Natural Areas in Forest Plan monitoring,
>
> The Wilderness Institute (FS-Research) has been working with the Anaconda Pintler planning to examine wilderness monitoring,
>
> *The Bitterroot Ecosystem Management Research Project (FS-Research, University of* Montana, and Bitterroot NF) among other efforts will be looking at the aspect of monitoring; and
>
> The Forest with its shared position with Montana Fish, Wildlife and Parks for Bitterroot River basin fisheries studies watershed monitoring; and bull trout and anadromous work is pursuing a pilot effort in the design of an aquatic monitoring system

Public Comment

Another critique of our Monitoring Framework is its credibility with the public As the Friends of the Bitterroot state

> We contend that the Bitter Root Forest monitoring plan and monitoring efforts are insufficient *and ineffective For example*
>
> - Variables to be measured and monitoring techniques and/or methods, lack credibility You should work with University research personnel and the public to devise a more credible and statistically sound Forest Monitoring Plan.
> - Satisfactory monitoring levels are not being achieved The only way to determine if you are conserving biological diversity is to monitor. Without studies and monitoring you cannot justify the assumption that viable populations of all species are assumed
> - There is documented evidence of a lack of on-the-ground compliance with the silvicultural prescriptions, snag and snag replacement requirements, timber sale contract requirements, travel plan requirements and the laws and regulations The violations are not being reported in the Forest Plan Monitoring and Evaluation Report

On the other hand the Ravalli Republic's editorial on the 1992 Monitoring Report claimed.

> When you get to the end of the latest John Grisham novel I'd like to suggest some reading material -- the Monitoring and Evaluation Report for fiscal year 1992 by the staff of the Bitterroot National Forest

It should be required reading for anyone living in the Bitterroot Valley.

This is the best report -- though not as complete as I'd like to see -- since the forest plan was adopted here in 1987 You can learn about trout populations, weed infestation, elk hunters, watersheds, law enforcement Trapper Creek Job Corps' contributions to the valley, economic development and forest health

In essence given the above two comments, the Forest needs to recognize the Monitoring and Evaluation Report as a key communication tool and ensure that it's complete and user friendly In addition, the Forest needs to explore ways to improve monitoring completeness and credibility by involving the public and scientific community in updating the design of the monitoring framework and in the actual monitoring itself

III. HOW DOES THE FOREST PLAN CURRENTLY ADDRESS THIS ISSUE?

See Attachment 1 for an evaluation of the existing monitoring items (NOTE: We have not completed this evaluation)

IV. IDENTIFY POSSIBLE PROCEDURES (OPTIONS) TO ADDRESS THE ISSUE.

1 *Identify a monitoring framework which addresses ecosystem principles Work with University* and Research scientists and the public to design and review Incorporate ways to use natural areas (both Research Natural Areas and Wilderness Areas) to provide baseline data and long-term monitoring sites Where monitoring items are broader in scope than the Forest, identify how efforts can be coordinated across Forests and other ownerships.

2 Continue to explore ways to make Monitoring and Evaluation Annual Reports user friendly and communicative (such as the use of photo points so people can see the results or the items being monitored update old photo points and establish new ones).

3 Identify ways to involve the public and University and Research scientists in monitoring

V. WHAT IS THE EFFECT OF CONTINUED IMPLEMENTATION (FOLLOWING FOREST PLAN DIRECTION) AND THE EFFECT OF THE OPTIONS?

Continued implementation will result in a monitoring system which is incomplete or piecemeal in the resulting data

VI. REFERENCES

Landres, Peter, David Cole, and Alan Watson. A Monitoring Strategy for the National Wilderness Preservation System Aldo Leopold Wilderness Research Institute. 1993

Landres, Peter, David Cole, and Alan Watson A Strategy for Improving Wilderness Monitoring Aldo Leopold Wilderness Research Institute, 1993

Reid, Walter et al Biodiversity Indicators for Policy Makers World Resources Institute, 1993

USFS-FS, Bitterroot National Forest Integration of Research Natural Areas with Forest Plan Monitoring, 1993

USFS-FS, Bitterroot National Forest. Monitoring and Evaluation Summary for 1992 May, 1993.

USDA-FS, Washington Office National Monitoring and Evaluation Strategy July 22, 1993.

USDA-FS, Washington Office Action Plan for M&E Implementation (Draft) January, 1994.

USDA-FS, Region 1 Forest Plan Monitoring and Evaluation Desk Reference July 1992

I. ISSUE/PROBLEM STATEMENT

The Forest Plan directed that only salvage timber harvest would take place on unsuitable lands and then only to meet the goals and standards of the Management Area However, this direction or determination of suitability did not consider the use of vegetative treatments (including timber harvest) for the purpose of ecosystem restoration Due to the lack of fire on some unsuitable lands, vegetative treatment (timber harvest) may be needed for site restoration purposes

II WHAT INFORMATION HAS LED US TO ARRIVE AT THIS SITUATION?

The NFMA regulations, 36 CFR 219 27(c)(1), specify that no timber harvest shall occur on lands not suited for timber production "except for salvage sales, sales necessary to protect other objectives on such lands if the forest plan establishes that such actions are appropriate "

The current Forest Plan does not give the flexibility necessary to practice ecosystem management on unsuitable lands Vegetative management can only be practiced if the goals and standards of the Management Area will be met Ecosystem/site restoration/sustainability is not a goal or standard of any of the management areas

Project decisions have identified vegetative management options on unsuitable land for ecosystem sustainability purposes

Public concern has been expressed, however, that ecosystem management is relatively new and should not be blanketly applied to unsuitable lands, particularly roadless lands A "take it slow" approach was encouraged with the focus to be on the intermingled unsuitable lands where a landscape view makes sense

III. HOW DOES THE FOREST PLAN CURRENTLY ADDRESS THIS ISSUE? (Items with * and highlighted are FOREST PLAN DECISIONS *(which if changed require Forest Plan Amendments)*

ISSUE SUITABLE TIMBER LAND

FOREST PLAN	PAGE	EVALUATION	CHANGE IN FP
Management Philosophy			
*** Forest-Wide Goals**			
*** Forest-Wide Objectives**			
Research Needs			
Desired Future Condition	II-14	Not mentioned Need to address in ecosystem management context of the need to restore ecosystems	Yes
*** Forest-Wide Mgmt. Standards**	II-23	Need a standard that allows for vegetative treatment on unsuitable lands for the purpose of ecosystem restoration	Yes

ISSUE SUITABLE TIMBER LAND

FOREST PLAN	PAGE	EVALUATION	CHANGE IN FP
*** Management Area Direction**	All MA's	Need to incorporate ecosystem management concepts in conjunction w/vegetative treatment on unsuitable lands	Yes
*** MA Goals**	All MA's	Currently emphasizes single resources Need to emphasize ecosystem management and the importance of all lands and their condition in ecosystem management goals	Yes
*** MA Standards**	All MA's	Currently only allows vegetative treatment on unsuitable lands if the treatment will help meet MA goals and objectives. Change to allow vegetative treatments to benefit ecosystems.	Yes
*** MA Schedule of Mgmt. Rx's**			
*** Monitoring/Evaluation Requirements**	IV-8	Establish a monitoring item to measure the effectiveness of vegetative/fire treatments on unsuitable lands	Yes
Analysis of the Management Situation			
Glossary	VI-43	Expand the current definition to include ecosystem management rationale for vegetative treatments on unsuitable lands	Yes

IV. IDENTIFY POSSIBLE PROCEDURES (OPTIONS) TO ADDRESS THE ISSUE.

Modify Forest Plan standards that will allow vegetative treatments on unsuitable lands for the purpose of ecosystem restoration and sustainability for appropriate Management Areas. Maintain the integrity of the Management Area, such as roadless or unroaded for MA5 areas

V. WHAT IS THE EFFECT OF CONTINUED IMPLEMENTATION (FOLLOWING FOREST PLAN DIRECTION) AND THE EFFECT OF THE OPTIONS?

Current Forest Plan direction requires site specific Forest Plan amendments to do vegetative treatments for ecosystem restoration purposes This is a time consuming process that delays treatment

END
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