USDA FOREST SERVICE
BITTERROOT NATIONAL FOREST
WEST FORK RANGER DISTRICT
RAVALLI COUNTY
MONTANA

DECISION NOTICE
FINDING OF NO SIGNIFICANT IMPACT
DETERMINATION OF NON-SIGNIFICANT FOREST PLAN AMENDMENT

FOREST PLAN AMENDMENT 11
BUCK-LITTLE BOULDER PROJECT - UNITS 9 AND 10

THE DECISION

It is my decision to amend on a site specific basis the Bitterroot Forest Plan's Management Area 1 Standards, as found in Chapter III-5, 3.e. The amendment will add the following standard:

> (9) Lands unsuitable for timber management will not be scheduled for timber harvest except for salvage sales, sales necessary to protect other multiple use values, or activities that meet other objectives on such lands if the Forest Plan establishes that such actions are appropriate. (NMFA 36 CFR 219.27(C)(1)). The Forest Plan establishes that such actions are appropriate for Units 9 and 10 of the Buck Little Boulder Project located within the proximity of Sections 19 and 20, T1S, and R20W on the West Fork Ranger District.

The amendment will allow an individual tree selection improvement cut by helicopter harvest on Unit Numbers 9 and 10 of the Buck-Little Boulder Timber Sale. In making this decision I incorporate the environmental analysis and the accompanying documentation in the Final Environmental Impact Statement for the Buck-Little Boulder Timber Sale (August 13, 1993).

RATIONALE FOR THE DECISION

In meeting the purpose and need for action developed in the Buck Little Boulder Final Environmental Impact Statement, the selected alternative will help satisfy the demand for timber, contribute to the local and national economy, help maintain and create healthy stands of timber while increasing the natural diversity of the area. This activity will occur in proposed harvest units that have a mix of suitable areas interspersed in lands categorized by the Bitterroot Forest Plan and designated by project level planning as unsuitable for timber management.

These activities will occur in Management Area 1, which has Forest Plan direction stating that unsuitable lands will not be scheduled for timber harvest, except for salvage harvesting that is needed to meet management area goals and standards(Forest Plan, pg. III-5). This guidance in the Forest Plan was predicated on the assumption that scheduled timber harvest silvicultural prescriptions would be for even-aged management and that approximately 70 percent of that harvest would occur through clearcutting. These unsuitable lands are tree covered, but due to rockiness and soil productivity conditions (difficult to successfully plant) would not meet the criteria for even-aged management restocking, as required under 36 CFR 219.27. Additionally,

lack of roaded access to these units makes intensive timber production uneconomical on the portions of them that would otherwise be suitable.

The current Forest Plan standard provides for salvage of dead and dying trees but it does not provide for improvement cutting in these unsuitable areas through individual tree selection followed by prescribed fire. An improvement cut will be implemented since it not only provides for the opportunity to salvage dead and dying trees, but it also permits the removal of competing overstories, diseased trees, and commercial thinning. The improvement cut combined with underburning best meets the management area objectives by increasing forage production, harvesting a limited amount of green trees and improves the chances of establishing and maintaining ponderosa pine as a component of the stand. Without treatment, the combination of successful fire suppression and natural succession will result in stands dominated by Douglas fir and the associated insects and diseases. Helicopter yarding followed by underburning is designed to insure that soil and water resources will be protected.

This decision is premised on the finding that the treatments are "necessary to protect other multiple use values or activities that meet other objectives...on such lands" (not suitable for timber production)...." (36 CFR 219.27(c)(1)).

Timber production, as defined in the NFMA regulations and the Forest Plan, is not proposed to occur in units 9 and 10. The need to address vegetation species composition and stand structures in the ponderosa pine/Douglas-fir forest type, conditions resulting from decades of fire suppression, has been established for the lands occurring in units 9 and 10. The prescribed treatments were designed to address those needs. Those treatments fall in the category provided in the NFMA regulations which would allow for "sales necessary to protect other multiple use values, or activities that meet other objectives on such lands..." This Forest Plan amendment recognizes that such an action is appropriate in this area and should be allowed by the Forest Plan.

The option to modify the proposal to make it consistent with the Forest Plan, only salvage harvest, is addressed in the silvicultural diagnosis for stands 9 and 10 (BLB FEIS Appendix F). That option would not fully meet the stated management objectives or target stand conditions. Therefore, the proposed treatments were not modified for the sake of Forest Plan consistency.

Rejection of the proposal to treat units 9 and 10 was considered as part of four alternatives considered in the BLB Environmental Impact Statement and in Alternative A of the Forest Plan Amendment 11 EA. The purpose and need for action was established for the prescribed treatment. The consequences of not implementing the prescribed treatments have been described and have some adverse effects. The option to reject the proposal was considered in the decision at hand, but that option would not address the shift in species composition and stand structure that has occurred in units 9 and 10.

The prescribed timber harvest will reduce stand density and competition between trees and also reduce the threat of a "fuel ladder" from Douglas-fir trees that have grown to commercial size. The absence of periodic ground fires that were common historically has allowed the more shade tolerant Douglas fir trees to become established and grow. Following the improvement cut, prescribed understory burning will be carried out. The prescribed timber harvest and understory burning will achieve the target stand conditions; an open and more park-like stand with a higher component of ponderosa pine and a multi-storied structure. The treatments will also create conditions more favorable for the natural establishment of ponderosa pine; the tree species which dominated these sites prior to the period of modern fire suppression. The target stand will meet Management Area objectives by providing forage for big game and a higher proportion of ponderosa pine for wildlife species that prefer this tree species.

ALTERNATIVES CONSIDERED

The environmental analysis for Forest Plan Amendment 11 focused on a specific request by the West Fork District Ranger to amend the Forest Plan to allow timber harvest on unsuitable lands in Units 9 and 10 of the Buck-Little Boulder Project. The Environmental Assessment for Amendment 11 identifies two alternatives: Alternative A - No Action, and Alternative B - The Proposed Action.

The activities in Alternative B were initially developed as one of seven action alternatives (Alternative 5) in the Buck-Little Boulder Environmental Impact Statement (BLB EIS). The West Fork District Ranger selected Alternative 5 in the Record of Decision for the BLB EIS and requested a site-specific Forest Plan amendment to allow timber harvest on unsuitable lands for resource values
other than timber production.

The Buck-Little Boulder EIS identified and evaluated eight alternatives. In addition, alternative silvicultural treatments for each unit (stand) were considered in the silvicultural diagnosis.

The alternatives are further discussed in the Amendment 11 Environmental Assessment and in the Buck-Little Boulder EIS and ROD. Other alternative treatment methods and approaches were not studied in detail and are discussed in Appendix A of the EA.

PUBLIC INVOLVEMENT

Public Involvement for Forest Plan Amendment

The need to amend the Forest Plan to implement the proposed activities was identified in the Record of Decision for the Buck-Little Boulder EIS on August 13,1993 by the West Fork District Ranger. On August 30, 1993, the Bitterroot Forest Supervisor signed a Decision Notice to amend the Forest Plan on a site-specific basis and to implement an improvement cut by helicopter harvest on Units 9 and 10 of the Buck-Little Boulder Project. The decision to amend the Forest Plan was appealed. On February 18, 1994, after administrative review of the Forest Supervisor's Decision, the decision was reversed to the Forest because the public was not adequately notified of the amendment earlier in the project planning process.

The Forest decided to pursue the amendment and on April 12, 1994, a Legal Notice was published in the Ravalli Republic newspaper in Hamilton, Montana, announcing that the Forest Supervisor proposed to amend the Bitterroot Forest Plan to allow timber harvesting activities for other multiple use values on unsuitable lands in Units 9 and 10 of the Buck-Little Boulder Project. Letters concerning this proposal were also sent to over 300 people who had commented on the BLB Draft EIS. The proposed amendment also appeared in the Forest's quarterly schedule of projects which is distributed to several hundred people and organizations.

Ten written responses were received during the comment period for the EA and the during the proposed action's scoping period. Several people discussed the proposed activities with the West Fork District Ranger. The issue of harvesting timber on unsuitable lands was also discussed at a meeting between local Conservation Group members and the Forest's Five-year Review Team.

The Environmental Assessment for Amendment 11, the proposed Finding of No Significant Impact, and the proposed Determination of Non-Significance for the Site-Specific Forest Plan Amendment, were mailed to all people who had provided comments during the scoping period and to everyone on the Forest's Forest Plan mailing list. Five letters were received during the 30 day EA comment period.

Comments received during the scoping period and the 30 day EA comment period are included in Appendix A. The comments were considered in the decision making process and are responded to in this Decision Notice and in Appendix A.

Public Involvement for the Buck-Little Boulder EIS

Public involvement for the Buck-Little Boulder Project began in the fall of 1987, after the initial notice and request for comment were provided to the public. Nearly 200 comments, issues, and concerns were received in late 1987 and early 1988. More than 30 of the comments were written and the rest were verbal. A field trip was held on September 28, 1989. A public meeting was held on April 12, 1990. On May 21, 1991, an open house was held at the Ravalli County Courthouse. Another open house, for this and other project proposals on the West Fork District, was held on December 13, 1991, at the Bitterroot National Forest Supervisor's Office.

At the request of a local citizens' group, Friends of the Bitterroot (FOB), the West Fork District met with the FOB Steering Committee on March 12, 1992, to present project work for fiscal year 1992. District personnel presented the Buck-Little Boulder analysis, including the proposed action and the other alternatives. From that meeting, another was scheduled and completed with FOB on April 8, 1992.

The Notice of Intent of the Buck-Little Boulder Draft EIS was published in the Federal Register on March 12, 1993. Comments received on the Draft EIS were due on April 26, 1993. A Notice of Availability also appeared in the legal notices of the Ravalli Republic newspaper, Hamilton, Montana, on March 8, 1993. Short news articles appeared in the Ravalli Republic and the Missoulian newspaper, Missoula, Montana, on March 10, 1993.

Copies of the Draft EIS were mailed to over 160 individuals, agencies, and organizations on February 26, 1993. Additional copies were mailed to individuals requesting a copy as a result of newspaper articles and notices. The Draft EIS was available at the Bitterroot National Forest Headquarters and the West Fork Ranger District offices. The District Ranger met with several interested individuals between the Draft and Final EIS.

Fifty-one responses to the Draft EIS were received. A list of the respondents, comments, and responses to comments are in Chapter V of the Buck-Little Boulder Final EIS. The comments were reviewed by the Buck-Little Boulder Interdisciplinary Team and the District Ranger. As a result of the comments, a new alternative was developed and other changes were incorporated into the Final EIS.

The Record of Decision for the Buck-Little Boulder EIS was signed on August 13, 1993 by the West Fork Ranger District. The decision was appealed and, after administrative review, upheld by the Bitterroot Forest Supervisor and the Regional Office.

COMPLIANCE WITH THE NATIONAL FOREST MANAGEMENT ACT

This decision will be implemented in compliance with the Forest Plan for the Bitterroot National Forest. The National Forest Management Act and accompanying regulations require that several specific findings be documented at the project level. These findings are as follows:

A. FOREST PLAN CONSISTENCY

The selected alternative is consistent with the Forest Plan standards, goals and objectives, as amended.

B. SUITABILITY FOR TIMBER PRODUCTION

As discussed in the rationale for my decision, Units 9 and 10 have a mix of suitable areas interspersed with areas of land categorized as unsuitable for timber production that will be treated under the selected alternative. My decision to allow the prescribed treatments to proceed will not change the determination that those lands are unsuitable for timber production. The treatments prescribed are not those which would be prescribed if timber production were the objective on these sites. Managing for timber production would involve practices designed to maximize timber growth and yield; even-aged regeneration harvest, reforestation and

ensuing cultural treatments such as release from competing vegetation and precommercial thinning. The prescribed treatments are designed for the benefit of native wildlife; to maintain and restore ponderosa pine and to increase forage. One of the primary purposes for identifying lands that are unsuitable for timber production is to ensure that lands can be restocked with in 5 years after final harvest (CFR 36 219.27(c)(3). The actions proposed in this decision are improvement cuts, not final harvest cuts. The implementation of the improvement cuts will not result in the lands being unstocked or needing to be planted.

C. CLEARCUTTING AND EVEN-AGED MANAGEMENT

When timber is to be harvested using even-aged management system, a determination that the system is appropriate to meet the objectives and requirements of the Forest Plan must be made, and where clearcutting is to be used, it must be determined to be the optimum harvest method (16 USC 1604(g)(3)(F)(i).

Even-aged management, including clearcutting is *not* proposed for Units 9 and 10.

D. VEGETATIVE MANIPULATION

All proposals that involve vegetative manipulation of tree cover for any purpose must comply with the seven requirements found in 36 CFR 219.27(b).

(1) Management prescriptions shall be best suited to the multiple-use goals established for the area with impacts considered in the determination.

An improvement cut, yarded by helicopter, followed by prescribed fire is the best suited treatment to accomplish the purpose and need as documented in the Buck-Little Boulder Environmental Impact Statement

(2) Management prescriptions shall ensure that the lands can be adequately restocked as provided in 36 CFR219.27(c)(3)"...assure that technology and knowledge exist to adequately restock the lands within 5 years after final harvest" (16 USC 1604(g)(3)(E)(ii).

The management prescription for the lands affected by this decision are designed to leave the stands stocked. Regeneration harvest is not planned. The introduction of fire will provide an increase in forest health. Biological diversity will be enhanced as outlined in item 6 below.

(3) Management prescriptions shall not be chosen primarily, because they will give the greatest dollar return or the greatest output of timber.

The proposed management activities do not have the highest economic value or the largest timber volume. This alternative was chosen based on its ability to meet the goals, objectives and standards of the Forest Plan and be responsive to site specific issues and denied conditions.

(4) Management prescriptions shall consider the effects on residual trees and adjacent stands.

The silvicultural prescriptions for Stands 9 and 10 prescribe the site-specific details for vegetative treatments and schedules that are to be implemented to protect the residual trees and surrounding stands. The overall forest health will be improved and residual trees and surrounding stands will be protected from losses to insect or disease epidemics and stand replacing fires. Those disturbances would result in much more dramatic and adverse effects than the treatments proposed.

(5) Management prescriptions shall avoid permanent impairment of site productivity and ensure conservation of soil and water resources.

The effects of the selected alternative activities and practices and mitigation measures are disclosed in Chapters II and IV of the Buck-Little Boulder Environmental Impact Statement. The activities proposed in conjunction with the soil and water conservation practices planned will avoid impairment of site productivity and ensure conservation of soil and water resources. Helicopter yarding followed by underburning provides for nutrient recycling while ensuring conservation of soil and water resources.

(6) Management prescriptions shall provide the desired effect on water quality and quantity, wildlife and fish habitat, regeneration of desired tree species, forage production, recreation use and aesthetic values.

The desired effects are identified in the standards for Forest Plan Management Area 1 as amended. The selected alternative will enhance the development of a diverse vegetative community, reserve trees for vertical diversity, snags, woody debris recruitment, wildlife habit, and shade for natural regeneration. The silvicultural activities to be implemented will have the desired effect on the water, wildlife, fish, recreation, and aesthetic resources.

(7) Management prescriptions shall be practical in terms of transportation and harvesting requirements, and total cost of preparation, logging and administration.

The BLB Environmental Impact Statement discloses on pg. IV-56 "The estimated stumpage values for each alternative indicate that with the current strong market conditions, brought on in part by high finished product values and limited supplies of stumpage, each alternative would be a viable timber sale offering." Current and past experience indicates that the prescribed silvicultural prescriptions and other activities proposed are practical to accomplish.

FINDING OF NO SIGNIFICANT IMPACT

The direct, indirect, and cumulative impacts of the management activities on Units 9 and 10 have been reviewed as documented in the Environmental Assessment for Forest Plan Amendment 11. The FEIS, ROD and Project File for the Buck-Little Boulder Project are also fully incorporated by reference. Consideration of the proposed action and the amendment is based on their impacts on the ecosystem, local communities, county, and at the project level. They do not have any large or lasting effect on society as a whole, the Nation, or the State.

Based on this review, I have determined that there are no significant impacts on the physical, biological, or social portions of the human environment. Implementation of management activities after adoption of the site-specific Forest Plan Amendment will be consistent with the management direction, standards and guidelines outlined in the 1987 Bitterroot Forest Plan.

The determination of no significant impact (for implementation of management activities on units 9 and 10) is based upon criteria found at 1508.27, National Environmental Policy Act. The following factors were used to determine significance:

Significant impacts that may be both beneficial and adverse:

Impacts associated with the management activities are discussed in the Environmental Assessment for Amendment 11 and in Chapter IV of the BLB FEIS. These impacts are within the range of those considered acceptable in the Forest Plan. The actions would not have significant impacts on other resources identified and described in Chapters II and III of the BLB FEIS.

The degree to which the management activities affects public health or safety:

Significant issues regarding public health and safety were not raised by members of the public. Nevertheless, logging truck traffic on roads, dust, smoke pollution in the Bitterroot Valley, and the risk of escaped prescribed fire have been analyzed and the effects disclosed in the BLB FEIS.

It is my determination that the management activities will have no significant effects on public health and safety.

Unique characteristics of the geographic area, such as proximity to historic or cultural resources, park lands, prime farms, wet lands, wild and scenic rivers or ecologically critical area:

Timber harvesting and prescribed fire will occur in the Allan Mountain Roadless Area. The lands are located in MA-1 which allows timber harvest. An improvement cut, followed by an underburn is planned for Units 9 and 10 to maintain and enhance these ponderosa pine stands. The trees will be removed by helicopter. Because of the type of harvest and the lack of road construction, no acres will be removed from the Roadless Area inventory. Evidence of human activity in the 92 acres of improvement cuts will be minimal. In the short term, sights and sounds of human activity will affect opportunities for solitude and remoteness in the Little Boulder Creek drainage. There will be no long-term effects on remoteness and solitude.

The Allan Mountain Roadless Area will remain in essentially the same condition. The roadless/ wilderness characteristics that may cause Congress to designate the Allan Mountain Roadless Area as Wilderness will not change as a result of this proposal.

The project area does not contain, nor is it in the immediate proximity to, unique historical or cultural resources, prime farmlands, wetlands, or ecologically critical areas.

Based on these factors, I have concluded that the management activities will have no significant effects on unique resources or characteristics.

The degree to which the effects on the quality of the human environment are likely to be highly controversial:

The effects of this action on the quality of the human environment are not highly controversial. Past monitoring has determined that actual effects of similar projects are consistent with estimated effects of the proposed activities. The Environmental Assessment for Amendment 11 and the BLB FEIS disclose the effects of these activities.

The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risk:

The management activities are low impact, have previously been experienced, and do not involve unknown risk. Underburning is consistent with historical natural processes. Caution, in the form of mitigation measures, page II-12, BLB FEIS, is taken to lower the risk of escaped fire.

It is my conclusion that there are no unique or unusual characteristics of the area which have not been previously encountered, that would constitute an unknown risk upon the human environment.

The degree to which the action may establish a precedent for future actions with significant effects or presents a decision in principle about future consideration:

The management activities are not setting a precedent for future actions with significant effects. The areas that will be harvested under this site-specific Forest Plan amendment are suitable for the management practices that will be implemented. If similar activities are to be implemented on similar lands in other geographic areas of the forest, further analysis and further site-specific Forest Plan amendments would be required.

I find these management activities are not precedent setting and do not present a decision in principle about future management activities on other areas.

Whether the action is related to other actions with individual insignificant but cumulatively significant impacts:

The combined effects of past, other present, and reasonably foreseeable actions are disclosed in Chapters III and IV, BLB FEIS. I find there is no indication of significant adverse cumulative effects to the environment.

The degree to which the management activities may adversely affect Districts, sites, highway structures, or objects listed in or eligible for listing in the National Register of Historic Places, or may cause loss or destruction of significant scientific, cultural, or historic resources:

There are no features in the area that are listed or are being considered for listing on the National Register of Historic Places. A cultural resource inventory has been completed in the area, and all known cultural resources are protected, pg III-28, BLB FEIS.

The degree to which the management activities may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973:

I conclude that the management activities would not likely affect any sensitive or candidate fish, wildlife or plant species which may occur in the area. Biological evaluations were prepared for threatened, endangered and sensitive wildlife and fish species. The U.S. Fish and Wildlife Service (USFWS) reviewed the Biological Evaluations and concurred with the Forest Service determination that the management activity is "not likely to adversely affect" the endangered peregrine falcon, bald eagle, gray wolf or the threatened grizzly bear. The USFWS's concurrence with the determination that this proposed project will not be likely to affect peregrine falcons is contingent upon the full implementation of all mitigation and monitoring measures indicated in the Biological Evaluations.

Sensitive plant surveys were conducted in the Buck-Little Boulder analysis area. While plants were not found in Units 9 and 10 they were found in the project area. Biological evaluations were prepared for sensitive plant species, including hollyleaf clover, Rocky Mountain paintbrush, Idaho goldenweed, northern golden carpet and candystick. With implementation of the mitigation measures described in Chapter II, BLB FEIS, species viability would be maintained.

Whether the management activity threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment:

The activity meets Federal, State, and local laws for air and water quality, streamside management, riparian areas, cultural resources, and Threatened and Endangered species, and meets National Environmental Policy Act disclosure requirements.

Based on these considerations, I conclude that the proposed management activities will not have a significant impact on the human environment and that an environmental impact statement is not required.

DETERMINATION OF NON-SIGNIFICANCE FOR THE SITE-SPECIFIC FOREST PLAN AMENDNMENT

Based on my review of the following factors, I have determined that the Proposed Action (Site Specific Amendment to the Forest Plan) is not a significant change in the Forest Plan. The determination that the Proposed Action (Site Specific Amendment to the Forest Plan) is not significant has been made in accordance the requirements of 16 U.S.C. 1604 (f)(4), 36 CFR 219.10 (f) and FSM 1922.5, National Forest Management Act.

The following factors were used to determine whether the proposed change to the Forest Plan is or is not a significant change:

Timing of the Proposed Action:

The Proposed Action (Site Specific Amendment) will become effective following appropriate public notification and completion of procedures for administrative review of the decision. The management activity that will occur as the result of this amendment is planned for the fall of 1994 or during 1995.

The timing of the proposed action is compatible with the treatment of other lands in the Buck-Little Boulder area, which were all analyzed in detail in the Buck Little Boulder EIS. This amendment is not significant in terms of the timing of overall changes in the Forest Plan. Revision or changes to the Forest Plan are anticipated to proceed over the next several years. This amendment is not significant or incompatible with those efforts at the Forest Plan level. This amendment does not change the managment area allocation or the suitable land base. It allows for ecosystem restoration for these two units.

Location and Size:

The Proposed Action (Site Specific Amendment) affects approximately 92 acres of a mixture of suitable and unsuitable acres in the Buck Little Boulder project area.

Specifically, it affects an estimated 60 acres of unsuitable lands interspersed within a larger block of suitable lands at the project scale.

For Management Area 1, it will affect approximately 60 acres of approximately 31,000 acres of unsuitable land in MA-1.

At the Forest Plan scale it will affect approximately 60 acres of 94,000 acres of unsuitable lands interspersed in the suitable lands.

Goals, Objectives and Outputs:

Because of the very small amount of land affected upon implementation of management activities permitted by the Proposed Action, no discernible changes in the levels of goods and services projected by the Forest Plan will occur.

As disclosed in the Environmental Assessment, the Proposed Action will assist in meeting Bitterroot Forest Plan Goals and Objectives.

Management Prescription:

The Proposed Action (Forest Plan Amendment) is site specific to Units 9 and 10 in the Buck-Little Boulder Project Area (See Map Attached to Environmental Assessment). It does not apply to other decisions. The Proposed Action does not change the Desired Future Condition of the Forest or anticipated goods and services to be produced as described in Chapter II of the Forest Plan.

Based on these determinations, I conclude that the Proposed Action (Alternative B) is of minor consequence when considered in the context of the Forest Plan and does not constitute a significant change.

FINDINGS REQUIRED BY OTHER LAWS AND REGULATIONS

This decision conforms to the National Environmental Policy Act, 1969 (NEPA); the Council of Environmental Quality Implementing Regulations, (40 CFR 1500-1508); The Multiple Use, Sustained Yield act, 1960; and the National Forest Management Act, 1976.

COMPATIBILITY WITH OTHER AGENCY GOALS

Comments received from other public agencies about the BLB project include the Montana Department of Fish, Wildlife, and Parks and the U.S Environmental Protection Agency. The USDI Fish and Wildlife Service was consulted in the decision-making process. The proposed action and the associated Forest Plan non-significant amendment are compatible with the goals of these agencies.

IMPLEMENTATION DATE OF MY DECISION

If no appeal is received, implementation of this decision may occur on, but not before, five business days from the close of the appeal filing period. If an appeal is received, implementation may not occur for 15 days following the date of appeal disposition.

APPEAL RIGHTS

This decision is subject to appeal pursuant to 36 CFR Part 215.7. Appeals must be postmarked or received within 45 days after publication of the legal notice in the Ravalli Republic newspaper, Hamilton, Montana. The notice of appeal must be fully consistent with 36 CFR 215.14. Send appeals to:

USDA, Forest Service, Northern Region
Appeals Deciding Officer
P.O. Box 7669
Missoula, Montana 59807

CONTACT PERSON FOR MORE INFORMATION

For additional information or questions concerning the decision or the appeal process, please contact Nora Rasure, West Fork District Ranger at (406) 821-3269 or Kerry McMenus, Forest Planning Staff Officer at (406) 363-7106.

Copies of the Environmental Assessment for Amendment 11 and the Buck-Little Boulder Environmental Impact Statement can be obtained at the West Fork Ranger Station, Darby, Montana or at the Forest Supervisor's Office in Hamilton, Montana.

STEPHEN K. KELLY
Forest Supervisor

6/25/96
Date

APPENDIX A - COMMENTS AND RESPONSES

Ten written responses were received during the scoping period and 30 day comment period for the Amendment 11 Environmental Assessment. The comments are transcribed below. Following the comments is a consolidated response. The Decision Notice, Finding of No Significant Impact, and the Determination of Non-Significance for the Site Specific Forest Plan Amendment also respond to the comments.

COMMENT ID: 1
DATE RECEIVED: June 14, 1994
TYPE CODE: 1 (1-Individual, 2-State Ag., 3-Fed. Ag., 4-Tribe, 5-public)
TYPE NAME: INDIVIDUAL

NAME/ ADDRESS: Tom Platt
Alliance for the Wild Rockies
Box 8731
Missoula, MT 59807

NUMBER OF SIGNATURES: 1

COMMENTS:

Comment: Site specific plan amendments circumvent the forest planning process: The Alliance for the Wild Rockies is opposed to any site specific forest plan amendments that precede the impending forest plan revision process. Congress mandated a specific procedure in the National Forest Management Act, that requires the Forest Service to assess land suitability through in-depth biological analysis and public involvement during the NEPA process. Through this public process, the Bitterroot National Forest determined that areas of the forest were unsuitable for timber harvest because of steepness of slope, erodable soils, etc. The lands in units 9 and 10 of the BLB project were determined to be unsuitable for biologically-based reasons.

AWR feels it is a violation of the forest planning process to attempt to reclassify lands in a piecemeal fashion, that avoids the detailed method prescribed by the NFMA. The BNF must follow the requirements of NEPA and NFMA if it is to legally proceed with timber cutting activity on public lands. We request that the BNF refrain from any forest plan amendments prior to the impending LRMP revision process. In the case of the BLB amendments, the BNF should withdraw the proposed EA and delete units 9 and 10 from the BLB timber sale.

Environmental Impact Statement Required to assess cumulative impacts: The reclassification of unsuitable lands on a case by case basis second guesses the biological and legal determinations of the forest planning process. It fails to consider the potential cumulative effects of additional suitability revisions on the land classification system. Additional reclassifications are reasonably foreseeable actions and thus fall under the cumulative effects requirements of NEPA analysis. Reclassification through the amendment process may occur forest-wide, and presents an opportunity for managers to achieve ASQ through numerous small actions which escape the larger review process. Thus, the potential impacts of reclassifying unsuitable sale units 9 and 10 transcend the local level of the BLB project. These cumulative impacts to soils, vegetation, and watersheds constitute a significant impact to the human environment and require a full EIS under the terms of the NEPA.

Response: See Consolidated Response to Comments following public comments.
The National Forest Management Act allows for non-significant Forest Plan amendments to be made by Forest Supervisors. This amendment does not reclassify unsuitable lands to suitable lands. It allows for timber harvest on unsuitable lands to protect other resource values as allowed for in the National Forest Management Act.

Because of the above, if the BNF proceeds with this proposal AWR requests that the forest withdraw its EA and prepare a full EIS on the potential effects of land suitability reclassification on forest resources. This EIS will differ from the BLB FEIS, in that it should address the specific question of the potential impact on forest resources from altering the directives of the forest planning process. In addition, the EIS should contain an additional alternative beyond the no action and proposed action alternatives from the EA. The EIS s[illegible]

contain an alternative that considers deleting from the BLB project the portions of units 9 and 10 that are in unsuitable lands. The NEPA requires that planning documents present a full range of reasonable alternatives for each project. The current EA fails to do this and is thus inadequate. The modification of land classification is not essential for the BLB project to proceed. There are currently four alternatives on the BLB FEIS that do not require any forest plan amendment.(alternatives 1,4,7,and 8).

Response: Eight alternatives were considered in the Buck-Little Boulder Environmental Impact Statement. The selected alternative is the one that was brought forward into this analysis as the alternative that best met the purpose and need of the project. The Amendment 11 Environmental Assessment and Decision Notice also discuss alternatives.

Determination of no significant impact flawed: The process of suitability reclassification is a federal action that has far reaching effects beyond the local impacts to the BLB project, and thus are not within scope of an EA. Our point by point critique of the EA's determination of no significance follows:
(1) BLB units 9 and 10 contain unique characteristics with ecological importance. All roadless lands qualify as unique areas of the National Forest System, and thus must be given a higher level of scrutiny when development activities are proposed for them. The Allan Mountain area is also proposed for Wilderness designation under the Northern Rockies Ecosystem Protection Act, a bill currently before Congress. This Congressional consideration for Wilderness designation confers additional uniqueness value to the area. Additionally, the Allan Mountain roadless area serves as a biological corridor connecting the Centennial Mountains and the Greater Yellowstone ecosystem with the Central Idaho Wilderness complex. A growing body of scientific evidence indicates that biological connectivity is essential for preserving genetic diversity in animal and plan populations. A recent court decision, Marble Mountain Audubon v. Rice(No. 90-15389, D.C. NO.CV89-170-EJG,Sept. 13, 1990), interprets NEPA to require the Forest Service to consider biological corridors. The standard for such a review is the same "hard look" NEPA requires of other environmental effects. We are requesting that the Forest Service analyze the effects of each of the alternative on possible biological corridors in the project areas, including species-specific assessments of corridor location and use.
(2) The proposed forest plan amendment is highly controversial in its potential to affect the human environment. Recent polls indicate that over 30% of Montanans support all remaining roadless National Forest System land being protected as Wilderness. This would include the lands proposed for suitability reclassification in this proposal. This indicates that the decision to reclassify the lands is a controversial decision.
(3) The action proposed will have highly uncertain effects, in that the long-term consequences of habitat fragmentation are unknown and involve great potential risk to normally functioning ecosystems. Additionally, the reclassification of unsuitable lands is not a common practice and is site specific in its potential to harm the watersheds in the project area.
(4) Perhaps most important , the decision to reclassify biologically unsuitable land as suitable in order to harvest timber from it will set a far reaching precedent for other forest throughout the System. This element alone is a critical reason for only considering land suitability classification as part of the official forest planning process, or else in the larger context of a full EIS that evaluates the wider potential effects of piecemeal land reclassification.
(5) The action is related to other actions with potentially cumulative effects, in three principal ways. First, the attempt to reclassify land opens the door to second-guessing forest plan direction and circumvention of the NFMA and NEPA processes. Second, the cumulative effects form the BLB project reduce the already diminished acreage of roadless lands in the National Forest System and thus have a deleterious effect on the biological diversity of system lands. Third, the fragmentation of biological corridors is an additional impact on threatened, endangered, and sensitive species in the region, especially when the two other factors (unsuitability for timber harvest and roadlessness) is considered.

Response: These concerns are addressed in the Finding of No Significant Impact and other supporting documents.

In closing, AWR feels that the proposal to reclassify lands designated as unsuitable for timber harvest through site specific forest plan amendment is an action of much larger significance than for just this project. We are concerned that reclassification of lands circumvents the forest planning process and should only be undertaken during formal forest plan review. If the agency insists on forest plan amendments, AWR requests that a full EIS be prepared that evaluates the possible cumulative effects of land suitability redesignation forest-or system-wide.

Reponse: See the Forest Plan Amendment 11 Determination of Non-Significant Amendment.

COMMENT ID: 2
DATE RECEIVED: April 15, 1994
TYPE CODE: 1 (1-Individual, 2-State Ag., 3-Fed. Ag., 4-Tribe, 5-public)
TYPE NAME: INDIVIDUAL

NAME/ ADDRESS: Friends of the Bitterroot, Inc.
PO Box 442
Hamilton, MT 59840

NUMBER OF SIGNATURES: 1

COMMENTS:

FOB appreciates the opportunity to comment on the scoping for the environmental analysis to amend the 1987 Bitter Root Forest Plan to allow for cutting of timber on the intermingled "unsuitable" lands contained in the BLB area, as was originally proposed in the BLB FEIS/ROD.

The lands involved have been described as being in Forest Plan (LRMP) Management areas (MA) 1. Specifically, this analysis and amendment involves proposed commercial selective helicopter timber logging on unsuitable acres contained in Cutting Units 9 and 10 on slopes above Little Boulder Creek.

The "site-specific" amendment is to allow an "Improvement Cut" and introduction of fire to restore vegetative structure and ecological processes. This will supposedly result in "more open and park-like stands of trees with a greater proportion of large ponderosa pine, while increasing diversity in the area".

This action was first disclosed in the FEIS/Rod as " Amendment 13", and was administratively appealed by this organization. The Regional Forester upheld portions of the appeal and remanded the decision back to yourself on February 18,1994.

The RO appeal decision stated in part:
"At a minimum, a LRMP amendment may be adopted only after appropriate public notification and satisfactory completion of NEPA procedures'.... If a LRMP amendment is necessary to implement a project, that fact must be disclosed early in the process so the public has an opportunity to identify issues associated with this aspect of the proposal, and so that its effects may be considered. I find that the [ROD for the BLB Timber Sale] was the first clear notice given to the public that a change was being proposed in the standard for harvest on unsuitable lands in this area. Comments on the proposed amendment were never solicited. This approach does not meet NFMA or NEPA requirements"

"Relief" was granted for issue(s) "# 1, 3 and 4, to the extent they relate to unsuitable lands in the [BLB] timber sale area", which was defined previously in the decision as:
"(1) remand the amendment, (3) that the forest supervisor should be required to follow the existing standards and guidelines of the existing Bitterroot LRMP, and (4) that the issue of timber harvest on unsuitable lands be addressed solely in the BLB Environmental Impact Statement or that all harvest on unsuitable lands be deleted from the BLB". (emphasis added)

We maintain this current process fails to comply with the RO decision regarding (3), and (4) above, and instead attempts to "redefine" that decision.

Response: The Regional Reviewing Officer stated in his decision "Until proper procedures are followed, the Forest Supervisor must comply with existing direction...." The Forest is pursuing the amendment again and has responded to the issues identified by the Regional Reviewing Officer.

If this "new" process is intended as a "supplement" of some kind to the BLB EIS/ROD, then it must be clearly disclosed as such and the rationale for the supplementation must be clearly defined.

It certainly does not involve NEPA/CEQ requirements for supplementation involving "substantial changes in the proposed action that are relevant to enviromental concerns"; or "significant new circumstances or information relevant to enviromental concerns and bearing on the proposed or its impacts"

Conversely, if it is, (as described in the "scoping" letter), an EA for an amendment to the LRMP, then what is being proposed is simply "an after-the-fact" NEPA analysis being done only to justify a de-facto decision already made as described in the BLB FEIS/ROD.

This is not any different in principle that the "decision" made by yourself on August 30, 1993 which was remanded back to you be the Regional Forester five and one-half months later, (on 2/18/94).

NEPA is enforced under the federal court's authority to set aside agency action taken without observance of the procedures required by law. Save the Yaak Committee v. Block, 840 F.2d at 717 (9th Cir. 1988) cert. denied, ____U.S.____, 109 S.Ct. 1340 (1989).

Proper timing of environmental review is essential to NEPA's purposes. Yaak, at 718. Further, NEPA documentation must not be used to justify decisions already made. (id., quoting 40 C.F.R. sec. 1502.4)

The situation is that the "public involvement" for the BLB project started in the fall of 1987 and extended through the "draft EIS" comment period in 1993.
Yet, in spite of the "extensive" public participation period and efforts, the first "public" disclosure that LRMP classified "unsuitable lands" were intended to be cutover was only made belatedly in the BLB FEIS/ROD.
The NEPA/CEQ analysis for the BLB project without doubt failed to comply the requirements as mandated by the Federal Court opinions above.
Now the Supervisor initiates another "NEPA" analysis purportedly to study an action he previously described by saying "the proposed treatments are needed to fully achieve the desired condition for the analysis area". (Amendment #13 decision, 8/30/93, emphasis added)

Response: Additional public involvement was done for the Forest Plan amendment. See Public Involvement section in Decision Notice.

Since the BLB FEIS/ROD is essentially a "done deal", it is ludicrous to pretend that this "new" analysis is to accomplish anything more than developing a post-decisional rationale for the same outcome. In many years of reviewing Forest Service NEPA documentation, we doubt that we have ever before seen such a blatant self-serving and cynical approach to the NEPA process.

The cutting units in question, units 9 and 10 are within the inventoried roadless area, Allan Mountain. The units also consist of LRMP classified "unsuitable for timber harvest" lands. In fact, as was disclosed in the BLB DEIS, "about 28% of the BLB, or 4,026 acres, is biologically unsuitable for timber management." (III-49) The 8/30/93 decision inferred that "unsuitability" was because of inability to regenerate in a timely manner after even-aged cutting. "Unsuitability" may also be because of steep slopes on erosive soils over a sensitive watershed. (The units in question are on steep slopes above the Little Boulder Creek which has been significantly impacted by previous timber cutting activities, and there will be some increase in water yield because of the removal of tree canopy).
"Unsuitability may be because the land is not capable of producing more that 20 cubic feet of wood fiber per acre per year. (The units appear to be within such a low productivity area as was demonstrated on a 1983 FS map of suitable/non-suitable lands).
"Unsuitability" may also be because the units are economically non-suitable besides.
Yet, no disclosure was made in any of the previous "documentation" if, in fact, other reasons for an "unsuitability" determination may be present.

Response: See discussion on unsuitability in Consolidated Response to Comments.

The intended proposal can be also described as attempting to segment (by proposing to accomplish in individual small actions) the intended cutting in "unsuitable" lands across the forest which is a "significant" alteration of the Forest plan, requiring a supplemental EIS to the LRMP.
The Forest draft "Review" for a possible "Revision" of the LRMP, clearly documents the BNF timber manager's future intent to commercially cut in "unsuitable" lands by use of ill-defined "Ecosystem Management" principles as "justification". This of course makes at least 100,000 acres of currently intermixed "unsuitable" lands available to commercial timber cutting - and even more "unsuitable" lands not "intermixed" will be likely open to besides.

By now segmenting off only individual "site-specific" amendments to the LRMP to allow timber cutting in unsuitable lands, it conveniently enables the Bitter Root Forest Supervisor and Rangers to overlook and

a "hard look" and subsequent "disclosures" of the connected, cumulative, and potentially significant impacts that would otherwise (when examined in light of their entirely) require the Forest to initiate an amendment to the Forest Plan EIS instead.

Significance is in part defined by the CEQ regulations as "the degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future action" and "whether the action is related to other actions with individually insignificant but cumulatively significant impacts.

Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts".

The CEQ regulations stipulate that "proposals or parts of proposals which are related to each other closely enough to be, in effect, a single course of action shall be evaluated in a single impact statement".

The commercial cutting in unsuitable lands clearly constitutes a "connected action" under the regulations. Actions are connected if they "automatically trigger other actions which may require environmental impact statements - cannot or will not proceed unless other actions are taken previously or simultaneously and - are interdependent parts of a larger action and depend on the larger action for their justification."

The extent of the activity is presented in a self-serving "minor" light when viewed in a single, small "site-specific" proposal, but the future intent, and its extent, is clearly described by the draft "Review" . The appropriate analysis should be in an amendment to the Plan, not in segmented actions avoiding such an analysis.

Response: See Determination of Non-Significant Amendment in the Decision Notice and discussion on Forest Plan Direction in the Response to Comments.

The proposal involves "individual tree selection improvement cut by helicopter". (8/30/93 decision) What is being now rationalized as being necessary for "Ecosystem Management" is quite similar to the previous process which "high-graded" out the large diameter, high-value timber, which was mostly p-pine then. Now, the Forest intends to do a similar treatment to the larger diameter doug-fir and/or spruce instead, but the fact still remains that helicopter yarding will certainly not be for pole-sized timber.

It is interesting viewing the oratory contortions the Forest goes through to "redefine" what is essentially the same type of gentle management previously applied - old growth liquidation.

This has little to do with "forest health" issues., (less than one percent of the BLB area will be treated), but much to do with a single-minded purpose of "getting out the cut".

As to increasing "forage", we could assume that the heavily cut-over lands already evident in the analysis area or the district itself would likely provide "forage" besides. Nowhere was it disclosed that site-specific analysis determined that forage is major limiting factor for the big game herds.

A risk assessment for escaped fire must be also prepared for this proposed action.

Response: The harvest prescription is described in the Consolidated Response to Comments and in the Buck-Little Boulder EIS and Project File. A risk assessment is prepared for all prescribed burns.

COMMENT ID: 3
DATE RECEIVED: June 21, 1994
TYPE CODE: 1 (1-Individual, 2-State Ag., 3-Fed. Ag., 4-Tribe, 5-public)
TYPE NAME: INDIVIDUAL

NAME/ ADDRESS: Friends of the Bitter Root, Inc.
P.O. Box 442
Hamilton, Montana 59840

NUMBER OF SIGNATURES: 1

COMMENTS:

The 1994 EA for the Forest Plan #11 Amendment tiers both to the Buck-Little Boulder EIS/ROD (BLB) and the Bitter Root Forest Plan. All project activities must be in compliance with the Plan, which is why the supervisor and ranger are now proposing this 'amendment'. This is an 'amendment' so the managers can violate provisions of the Plan while at the same time claim they are 'complying' with the Plan.

The Forest Plan was appealed by nine conservation organizations and after six years has not yet had a 'Decision' rendered by the Chief which is a continuing violation of the Forest Service Regulations.

The 1993 BLB EIS/ROD was appealed, and the appeal was subsequently denied by the Supervisor. Therefore Administrative Review is at an end and the course of action now available is within the Federal Courts domain. The 1993 Amendment (#13) for this logging of unsuitable timberlands was also subsequently appealed, and that appeal was upheld by the Regional Forester and The Decision was remanded back to the supervisor. We therefore also incorporate by this notice all previous concerns or issues raised in our previous appeal(s) of the BLB FEIS/ROD, the 8/30/93 decision, comments on the drafts EIS and comments made during the scoping periods extending back to 1988 for this proposed timber sale.

We again reiterate our previously stated convictions that this action requires an EIS (or Supplemental EIS); also constitutes "new information significantly affecting" the premises set forth in the BNF Forest Plan, which in turn requires a "Revision" of the Plan itself; and since the BLB FEIS/ROD is essentially a "done deal", it is ludicrous to pretend that this "new" analysis is to accomplish anything more than developing a post-decisional rationale for the same outcome.

Response: The process to amend the Forest Plan is discussed in the Consolidated Response to Comments.

We maintain the proposed action is highly controversial because of the proposal to cut in unsuitable lands. This proposal to commercially log unsuitable lands is an "initial" attempt to significantly modify the Forest Plan while avoiding complying with the Forest Plan Revision process. The Forest managers claim that this proposed activity is only "site-specific" in nature, on a small area, and is not indicative of a "precedent". This can only be described a dissembling or disinformation at its best. The Forest Supervisor, rangers and managers fully intend to modify the forest Plan to now include the Plan designated "unsuitable" lands into their future logging agendas.

Response: See the Finding of No Significant Impact and Determination of Non-Significant Amendment.

The Forest managers have clearly demonstrated their intention to use the public relations concept of "Ecosystem management" as the supporting theory for increasing the acres available for logging. This has been documented in the discussions in the Draft Forest Plan Review process; in the original BLB EIS/ROD for this logging; and within the original (1993) Stevensville South-west timber sale besides. In fact, for over one year now the Forest management team has been floating political 'trial balloons' in order to gauge the public reaction.

As stated by the supervisor in his cover letter, the affected 60 acres of unsuitable lands are a portion of the approximately 31,000 acres of unsuitable lands found within the forest Plan Management Area 1, or the approximately 91,000 acres of unsuitable lands intermixed with the 'suitable' lands located within the entire Forest Planning area. It is not difficult to perceive that the supervisor and managers, when faced with a significant 'fall down' in the 33.4 MMBF ASQ 'assumptions' of the Forest Plan, are now attempting an end

run so as to increase the timber base by nearly 100,000 acres on a forest wide basis. Furthermore, the proposal evidences "segmentation" (by proposing to accomplish incorporation separate 'unsuitable lands' cutting in individual small actions). The overall intent of the 'segmented' cutting in the "unsuitable" lands across the Forest constitutes a significant alteration of the BNF Forest Plan requiring instead a supplemental EIS to the BNF LRMP.

Response: See Forest Plan Amendment section in Consolidated Response to Comments and Determination of Non-Significant Amendment in Decision Notice.

We maintain the proposed action is also highly controversial because of the proposal under the guise of "Ecosystem Management" to initiate further cutting in the remaining Roadless lands. The unsuitable lands (units 9 and 10) are within the inventoried or un-inventoried roadless area, Allan Mountain.
The Allan Mountain Roadless Area is proposed for wilderness protection within the Northern Rockies Ecosystem Protection Act (NREPA), which is supported by this organization and many others within the State and the Nation. NREPA is currently being supported by approximately 45 congressional sponsors or co-sponsors, and the proposed timber sale activity will adversely impact the opportunity for that deliberation process.

The Allan Mountain Roadless Area also provides a portion of a functioning significant "biological corridor" between the largest remaining ecosystems of the Northern Rockies. The activities proposed in the EA and in the BLB EIS/ROD will further narrow and adversely affect that connection.

The proposed action, along with the earlier BLB EIS/ROD therefore does include lands that certainly have "unique characteristics", in spite of the protestations set forth in the EA and BLB EIS/ROD. The inventoried/un-inventoried Allan Mountain Roadless Area acres are representative of an 'ecosystem' that has been reduced nationally to only 5 to 10 percent of their 'pre-european' extent. Of course, it goes without saying that the controversy over the remaining roadless lands, in and of themselves, has been one of the foremost 'management problems' on a local and National basis for at least nearly 25 years.

The Forest Service has done two Nationwide roadless Reviews (RARE I and RARE II) and has again attempted to 'write-off" the majority of the remaining roadless lands during the Forest Planning process. None of these previous attempts have proven successful yet, but the forest Service is certainly still working hard at some concept that will allow them to proceed with their 'predetermined' goal of 2 and one-half decades ago.

It is interesting that the Bitterroot Forest, (while now claiming they wish to practice "Ecosystem Management" for the 'good' of the Forest's health), then initiates activities such as continuing logging in the remaining roadless lands in spite of the well-known fact of the dwindling scarcity of the roadless resources on the local, national and global scale. On the subject of Ecosystem Management, as utilized by the Forest Service, Dr. Reed Noss (Missoulian, 3/30/94) was quoted as saying "we have to be very wary about how ecosystem management is used by the agencies and the politicians". "For on thing, it seems to be not much more than a public relation scheme". "We don't know what the effects of this kind of management is. Its experimental."

The cutting units 9 and 10, (which this EA proposal 'authorizes'), significantly encroach further on the roadless lands and effectively narrow the boundary of the existing remaining roadless lands even further. The FS claim that since these units are not being 'roaded' they will still be available for wilderness consideration, is not believable either. Instead, the boundaries of the Allan Mountain Roadless Area will be redefined and reduced by this proposed activity in units 9 and 10.

This is in spite of the fact that the BNF's survey (as demonstrated in the Forest's draft Plan Review) showed strong support for the amenities found in roadless or undeveloped areas. Furthermore, a recent Missoulian article (6/1/94) indicated that 32% of Montanans supported the NREPA proposal. We maintain the action is therefore highly controversial.

Response: See Finding of No Significant Impact in the Decision Notice. For a further discussion on roadless lands see the Buck-Little Boulder EIS.

The EA and BLB EIS/ROD proposed action is also highly controversial because of the continuing and significant loss of old growth or large diameter trees.
The EA (and the BLB EIS/ROD), even though they are required to be 'full disclosure' documents, do not clearly inform the public as to what size or age of 'un-desireable' trees are being removed. This has been a concern raised for some time on this sale and at the Forest level besides. The BLB EIS/ROD states that no old growth

habitat' will be logged. This is not a convincing comment, given the propensity of the Forest managers to 'redefine' the issues.

As the Bitter Root Forest Plan stipulated: "Stands which meet the following age criteria will usually have characteristics necessary to meet the old growth definition; [in plan]
Douglas-fir over 120 years
Ponderosa Pine 200 years or older
Mixed conifer stands over 160 years
Lodgepole pine over 80 years and larger than 6 inches in diameter" (BNF plan FEIS Vol. I, pg III-22)

The two analyses (EA & BLB EIS/ROD) mention Doug fir and ponderosa pine as examples of 'unhealthy' or 'at risk' species. "The high-risk trees include spiked top ponderosa pine and thin crowned Douglas fir." (BLB EIS at App.F2-1)
"Thinning the scattered Douglas fir thickets is an acceptable option that would provide limited benefits to wildlife and timber, bu[illegible]asn't recommended because cost relative to benefits would be extremely high. The salvage option would limit harvest to dead and dying trees." (BLB EIS at App. F2-2)

But as the Forest Plan pointed out, "Timber harvest activities primarily affect old growth." (BNF Plan FEIS, Vol. II, pg. B-59) Since the current EA proposal is for "helicopter selective logging", it is evident the supervisor and ranger are continuing with the individual old growth tree liquidation cutting that has been a standard practice since the inception of this administrative Forest.

The ponderosa pine has been documented as being significantly overcut for nearly 25 years by the Forest's managers, (see 1971 FS Task Force [Worf] Report). The Bitter Root Forest managers also have continuously, and knowingly, logged off the large diameter ponderosa pine trees at a rate exceeding any concept of "sustained yield" for this species. This has historically been 'rationalized' by the BNF managers as necessary to support the logging industry, but in reality was only so as to add 'higher valued products' to the sale offerings.

Now the rationale has changed slightly, and while it is still claimed to be logged for 'forest health and wildlife forage', the end result is strikingly similar - continual downward spirals of the large diameter, old growth species and less of the large diameter ponderosa pine.

For all intents, old growth trees and/or habitat are an irretrievable resource since it involves upwards of 200 years to begin to recreate them, (if they even can be successfully recreated), and the Forest Service has tacitly acknowledged this in other Region 1 environmental documents.

While the supervisor and rangers have at other times previously claimed they will set aside some areas for 'future old growth', the fact is that they of course cannot control the activities of the future extending long beyond their administrative tenure or their lives.

The "spiked top ponderosa pine and thin-crowned Douglas fir" referred to in the BLB EIS as being the 'target trees' to be logged, are only "undesirable" from a forester's viewpoint of a 'managed forest'. Those conditions described are in fact completely "natural" in the truest sense of the word.
Those "spiked top ponderosa pine and thin-crowned Douglas fir" are also highly desirable components of a functioning 'Ecosystem', in that they eventually become habitat for the insects that other forest species utilize for food sources. After the primary excavators make their holes, the trees then become homes for a variety of other forest species. The Bitter Root Forest Plan pointed out that, "Wildlife species are dependent on the amount and distribution of old-growth forest, riparian zones, and habitat diversity." (BNF Plan FEIS Vol. I, pg. III-21) "About 43 percent of the 373 wildlife species living in the Forest use old growth stands for nesting and feeding. Without old growth forests, these species could disappear. Timber harvest activities primarily affect old growth." (BNF Plan FEIS Vol. II, pg. B-59)

Response: See Buck-Little Boulder EIS for discussion on old growth. The objective of this proposal is to maintain ponderosa pine, especially, large, old ponderosa pine on this site. See Consolidated Response to Comments for additional information.

One of the other main "purposes" claimed for the proposed action is to create more wildlife forage. Forage has not been never been scientifically demonstrated to be a limiting factor for wildlife on this Forest or District but lack of security and open road density has been. The EA (and EIS/ROD) present that the "need" [illegible]

cut the designated unsuitable lands is also related to wildlife forage needs, but then the environmental documents fail to bother to address or discuss the extensive forage created on this District (and Forest) by the past clearcutting that is so evident across the BNF landscape.
Creation of "more wildlife forage" can therefore be viewed as another spite of spurious claims of 'Ecosystem Management'. This appears to be a violation of the scientific and professional integrity clause in the CEQ regulations. It also appears to be a violation of the current Chief's Direction to forest managers to "tell the truth".

COMMENT ID: 4
DATE RECEIVED: June 16, 1994
TYPE CODE: 1 (1-Individual, 2-State Ag., 3-Fed. Ag., 4-Tribe, 5-public)
TYPE NAME: INDIVIDUAL

NAME/ ADDRESS: Daniel G. Johnson
HCR 1 Box 50
Nezperce, ID 83543

NUMBER OF SIGNATURES: 1

COMMENTS:

I have no special concerns with the proposed site specific amendment to the FS allowing timber harvest on US lands in units 9 and 10 if the BLB project, especially when the proposal will assist in meeting FS goals and objectives!

COMMENT ID: 5
DATE RECEIVED: May 2, 1994
TYPE CODE: 1 (1-Individual, 2-State Ag., 3-Fed. Ag., 4-Tribe, 5-public)
TYPE NAME: INDIVIDUAL

NAME/ ADDRESS: Lewis Karstetter
3424 Snowy Mtn View
Darby, MT 59829

NUMBER OF SIGNATURES: 1

COMMENTS:

Yes I think it would be good to start selling timber on the
Bitterroot National Forest. Buck-Little Boulder Project area would be a good place to start.

We need to implement the induction of fire to restore vegetative structure to enhance wildlife habitat and [illegible] a park like setting.

COMMENT ID: 6
DATE RECEIVED: May 2, 1994
TYPE CODE: 1 (1-Individual, 2-State Ag., 3-Fed. Ag., 4-Tribe, 5-public)
TYPE NAME: INDIVIDUAL

NAME/ ADDRESS: Mr. & Mrs. Tim Kidd
P.O. Box 611
Darby, MT 59829

NUMBER OF SIGNATURES: 1

COMMENTS:

We would like to comment on the Buck-Little Project area. Since we don't believe in wasting our natural resources, and also since timber is a renewable resource, please consider timber harvesting as much as possible in this area and for that matter all areas for possible timber harvest in the Bitterroot National Forest.

May we suggest that areas not accessible by road, to use helicopter logging.

We believe that wise use of our natural resources should be practiced by the Forest Service and all of us as we all use timber products every day and really can't be denied timber harvest in our natural forests.

COMMENT ID: 7
DATE RECEIVED: April 12, 1994
TYPE CODE: 1 (1-Individual, 2-State Ag., 3-Fed. Ag., 4-Tribe, 5-public)
TYPE NAME: INDIVIDUAL

NAME/ ADDRESS: Doris Milner
65 Ricketts Road
Hamilton MT 59840

NUMBER OF SIGNATURES: 1

COMMENTS:

I have discussed this decision with Ranger Rasure and now that I understand exactly what is being proposed and why, I support the proposed amendment.

We are all aware of the past overcutting of the ponderosa pine stands in the Valley, and since this proposed harvest would be done with the purpose in mind of removing the understory which has grown up under pine due to fire exclusion in order to eventually restore the area to open pine savannah-like stands, it seems like a wise move.

I understand that the understory to be harvested will provide trees for a small sale which would pay the of the project. This is far better than hauling them off to a stacking area with no benefit to anyone

This proposed project seems to be in harmony with the Desired Future Conditions of Buck-Little Bould as well as those of the Forest itself.

COMMENT ID: 8
DATE RECEIVED: April 11, 1994
TYPE CODE: 1 (1-Individual, 2-State Ag., 3-Fed. Ag., 4-Tribe, 5-public)
TYPE NAME: INDIVIDUAL

NAME/ ADDRESS: Dennis Palmer
121 State St. #202
Hamilton, MT 59840

NUMBER OF SIGNATURES: 1

COMMENTS:

I support the proposal to amend the Bitterroot Forest Plan to allow timber harvesting activities consistent with the National Forest Management Act on MA 1 lands within the Buck-Little Boulder Project area.

I support the proposal to improve cut and the introduction of fire to restore vegetation structure and ecological process on the area in Units 9 and 10. I strongly support the more open and park like stands of trees with a greater proportion of large Ponderosa Pine while increasing the natural diversity of the area.

COMMENT ID: 9
DATE RECEIVED: May 27, 1994
TYPE CODE: 1 (1-Individual, 2-State Ag., 3-Fed. Ag., 4-Tribe, 5-public)
TYPE NAME: INDIVIDUAL

NAME/ ADDRESS: Dennis Palmer
121 State Street #202
Hamilton, MT 59840

NUMBER OF SIGNATURES: 1

COMMENTS:

I support Forest Plan amendment No 11 for Buck Little Boulder EIS, I support vegetation treatments for units 9 & 10.

COMMENT ID: 10
DATE RECEIVED: May 31, 1994
TYPE CODE: 1 (1-Individual, 2-State Ag., 3-Fed. Ag., 4-Tribe, 5-public)
TYPE NAME: INDIVIDUAL

NAME/ ADDRESS: Jack & Nita Webster
640 River Road West
Plains, MT 59859

NUMBER OF SIGNATURES: 2

COMMENTS:

In regard the the Buck Little Boulder Project Area Bitterroot Forest Plan Amendment 11, we would like to again respond that we feel the Bitterroot Area has already been over logged and needs to be slowed down for recovery.

However, we are real happy that you are helicopter logging which will lessen the impact of roads. Also, to follow up with management of the area by fire could be a good tool for reforestation & wildlife funding

Make sure you don't burn all the trees left after selective logging.

RESPONSE TO COMMENTS

This consolidated response to comments provides an overview of the background information and facts pertaining to the proposed Forest Plan Amendment. It provides the key elements of the regulatory framework, Forest Plan direction, site specific information from the Buck Little Boulder FEIS, and the proposed amendment to the Forest Plan.

REGULATORY FRAMEWORK

Timber Production Suitability

National Forest Management Act (NFMA) regulations at 36 CFR 219.14 directed National Forests to identify lands not suited for timber production, during the Forest Planning process. "Timber production" is defined at 36 CFR 219.3 as " the purposeful growing, tending, harvesting, and regeneration of regulated crops of trees...".

As previously stated in the proposed action section of this EA, the NFMA regulations at 36 CFR 219.27 (c)(1) also state "No timber harvesting shall occur on lands classified as not suited for timber production persuant to 219.14 except salvage sales, sales necessary to protect other multiple use values, or activities that meet other objectives on such lands; if the forest plan established that such actions are appropriate."

NFMA regulations at 36 CFR 219.14 describe the categories of land not suited for timber production. Two of the criteria for timber production suitability listed therein apply to BLB units 9 and 10:

> "...there is not reasonable assurance that such lands can be restocked (within 5 years) as provided in 219.27c(3)."
>
> "The lands are not cost efficient over the planning horizon in meeting forest objectives, which include timber production".

Forest Plan Amendments

NFMA regulations at 36 CFR 219.10(f) allows for Forest Plan amendments to be made by Forest Supervisors. Such an amendment requires a determination of significance of the change be made. "If the change resulting from the amendment is determined not to be significant for the purposes of the planning process, the Forest Supervisor may implement the amendment following appropriate public notification and satisfactory completion of NEPA procedure."

The Forest Service Land and Resource Management Planning Handbook (FSH 1909.12) at 5.31a.1 states ..."if a proposed project or alternative action is not consistent with the Forest Plan, there are then three options for consideration:

a. Modify the proposal to make it consistent with the Forest Plan

b. Reject the proposal.

c. "Amend the Plan to permit the proposal".

Further direction in that handbook at part 5.32 provides direction on the process to amend the Forest Plan. The attached document "Determination of Non-Significance for the Site Specific Forest Plan Amendment" provides the information necessary to determine whether the proposed change to the Forest Plan is or is not a significant change.

BITTERROOT FOREST PLAN DIRECTION

Chapter One of the the Forest Plan Amendment 11 EA describes the Forest Plan goals and objectives that would be wholly or partially accomplished by allowing the proposed timber harvest to occur in units 9 and 10.

The Bitterroot Forest Plan provides definitions for the following key terms:

> Salvage Harvest: The cutting of dead, dying, or deteriorating (e.g. because they are overmature or materially damaged by fire wind, insects fungi, or other injurious agents) before they lose their commercial value.
>
> Suitability: The appropriateness of applying certain resource management practices to a particular area of land, as determined by an analysis of the economic and environmental consequences and the alternative uses foregone. A unit of land may be suitable for a variety of individual or combined management practices.
>
> Suitability Analysis : Process of identifying National Forest Lands to be managed for timber production. (three stages described)
>
> Suitable Forest Land: Forest land (as defined in 36 CFR 219.3) for which technology is available that will ensure timber production without irreversible resource damage to to soils, productivity , or watershed conditions; for which there is reasonable assurance that such lands can be adequately restocked (as provided in CFR 219.14); and for which there is management direction that indicates that timber production is an appropriate use of that area.
>
> Timber Production: same definition as the one quoted from the NFMA regulations above.

As stated in the description of the proposed action in this EA, a Bitterroot Forest Plan standard for MA-1 lands states, "Lands unsuitable for timber management will not be scheduled for timber harvest, except salvage harvest can be programed when necessary to meet the goals and standards of the management area."

The Forest Plan provides direction on Amendment and revision on page IV-5, pursuant to 36 CFR 219.10f.

The criteria use to differentiate lands suitable and unsuitable for timber production are described in the Bitterroot Forest Plan Final Environmental Impact Statement, Volume II, Appendix B, Part III, "The Forest Planning Model, 'Section C', Identification of analysis areas".

THE BUCK LITTLE BOULDER FINAL ENVIRONMENTAL IMPACT STATEMENT AND RECORD OF DECISION

Pages I-1 to I-3 of the BLB Final EIS describe the purpose and need for action in the BLB project. One of the stated purposes is to "maintain and create healthy stands of timber while maintaining the natural diversity within the project area". Most pertinent to units 9 and 10 is the stated need "...the vegetation has shifted toward an increasingly multi-layered structure and shade tolerant species composition in the ponderosa pine forest cover type. This condition puts those stands at risk from both insects and disease and loss to stand replacing wildfire"...."The proposed activities are needed to reduce the risk of extensive tree mortality due to insect disease, and fire. They are also needed to maintain vegetation and fuels within the range of natural conditions and to maintain the areas natural diversity."

Appendix F-2 of the BLB Final EIS documents the projects silvicultural diagnosis. Pages App F2-1 and 2 describe the silvicultural diagnosis for the improvement cut proposed in units 9 and 10. A description of the existing condition and site conditions in units 9 and 10, management objectives, and target stand descriptions are provided. As described, units 9 and 10 contain a mix of areas that are partially biologically unsuitable for timber production and, at the present time, economically unsuitable for timber production. Due to those reasons, a target stand that meets timber production objectives was not developed. The target stand was designed to meet wildlife objectives by providing for big game and a higher proportion of ponderosa pine for wildlife species that prefer this tree species.

The stand diagnosis describes the rationale for prescribing an improvement cut in units 9 and 10. The desired condition would not be fully met on those sites if only a salvage harvest were implemented; the one harvest option allowed by the Forest Plan. A salvage harvest would only remove dead and dying trees. As stated in the diagnosis, the improvement cut prescription would allow the opportunity to salvage dead and dying trees and also permits the removal of competing overstories, diseased trees, and commercial thinning. The harvest prescription in combination with subsequent understory burning would perpetuate the open and irregular multi-storied stand structure that historically existed on these sites. The combination of the improvement

and prescribed fire would best meet wildlife objectives by increasing forage production and improving the chances of ponderosa pine being naturally established and maintained as a component of the stand. As stated in the diagnosis, "without treatment the combination of successful fire suppression and natural succession will result in stands dominated by Douglas fir and the associated insects and disease". The prescribed treatments would move units 9 and 10 toward the stated desired condition and meet the stated purpose and need for action.

The areas prescribed for treatment by an improvement cut and understory burning in units 9 and 10 is on a southerly aspect where climatic conditions are warm and dry. Within the areas proposed for treatment there is an estimated 10 to 20% of the area occupied by rock outcrops and tallus slopes. These areas are not forested and no harvest activity would occur on them. There is an estimated 50 to 60% of units 9 and 10 which are more heavily forested, are reasonably productive, and if roaded access existed, would meet the criteria for land suitable for timber production. Without roads these areas are largely economically unsuitable for timber production because of their remote location. If these sites were managed for timber production the necessary access on foot or by helicopter for reforestation, exams, and various stand tending operations would be cost prohibitive when all costs of timber prodcution are considered together. The remaining 20 to 40% of the units 9 and 10 represent a gradient of forest site conditions between the two conditions described above. That 20 to 40% of units 9 and 10 are largely unsuitable for timber production due to shallow soils and dry conditions that cause low productivity and an increased risk of artificial regeneration failure. In summary, there are two aspects of the "unsuitable for timber production" determination in units 9 and 10; areas that are biologically suitable for timber production but are not economically suitable due to access limitations, and elsewhere, lands that are biologically unsuitable for timber production due to shallow soils and dry conditions.

Silviculture prescriptions and stand marking instructions for units 9 and 10 are found in BLB project file documents 251 and 252. As documented therein, the trees to be harvested are those "expected to die within the next 10 years, except that no more than 40% of the basal area should be removed on any area larger than two acres". In other words, in isolated cases where numerous dying trees exist, more than 40% of the basal area could be removed, but only in areas no more than two acres in size. The Douglas-fir overstory and up to half the ponderosa pine overstory can be removed from any area where there is a satisfactorily stocked conifer understory. Priority is to be given to removing diseased trees, primarily Douglas-fir trees infected with dwarf mistletoe, where there is an understory of conifer trees present. Selecting against Douglas-fir and retaining ponderosa pine whenever possible is prescribed. In addition, a portion of stand 9 is to be commercially thinned and stocking will be reduced by 30% in that area.

For the reasons stated above, timber production, or producing regulated crops of trees, is not intended on these sites. Fire suppression has allowed many of the trees that historically would have been lethally scorched by periodic fires to reach commercial size. Units 9 and 10 are supporting more trees, mostly more shade tolerant Douglas-fir, than historically existed. Their presence poses a dual threat to the older ponderosa pine and any new ponderosa pines seedlings that become established. First, competition for the moisture, nutrients,and light necessary to exist has intensified due to more crowded conditions; and second, should a fire occur there is a "fuel ladder" present that would carry what would otherwise be a ground fire into the upper canopy of old ponderosa pine and lethally scorch them. With fire suppression, many of the Douglas-fir trees are now too large to be lethally scorched by a relatively low intensity prescribed understory burn. The prescribed treatment would remove many of the Douglas-fir to reduce the the threat they pose and also to provide sawlogs for timber products. Once that treatment is implemented subsequent treatments should emphasize periodic prescribed understory burns to prevent the encroachment of shade tolerant trees and the accompanying threat of losses to overstory ponderosa pine from occurring again.

A number of resource issues were raised by those who provided comments on the EA. The following references describe the analysis documentation pertaining to those issues.

Chapter III, pages III-4 to III-6 of the BLB Final EIS describe in detail the historic and existing condition of the vegetation composition and structure in the ponderosa pine forest type. Pages IV-5 to IV -8 of the FEIS describe the effects of the alternatives on vegetation composition, structure and ecological function for the ponderosa pine forest type (which includes the areas occupied by units 9 and 10). The Record of Decision pages 2 and 3, discusses the purpose and need for the proposed treatments in the ponderosa pine/Douglas-fir forest type.

BLB final EIS pages III-17 to III-24 describe the historic and existing conditions of the wildlife aspects of biological diversity, including fragmentation, corridors, and TES species. Pages IV-16 through IV-23 of the FEIS describe the effects of the alternatives with respect to fragmentation, corridors, and TES animal species.

BLB FEIS pages III-33 to III-38 and maps III-7 describe the existing condition of old growth, old growth management indicator species, and old ponderosa pine trees in the BLB area. Pages IV-37 to IV-38 describe the effects of the alternatives on old growth, old growth MIS, and individual old ponderosa pine trees. Tables IV-6, IV-7, and IV-8 display the effects of the alternatives on old growth in the Little Boulder Creek Drainage, in MA-1 lands, and in the ponderosa pine/Douglas-fir type (all three of these locations pertain to units 9 and 10). Effects of the alternatives on individual old pondersoa pine tees are documented on pages IV-45 to IV-48 of the BLB EIS. Specific references to the prescribed treatments in units 9 and 10 and the effects on ponderosa pine are made on page IV-46.

The roadless lands in the BLB area are described in detail on pages III-65 to III-68 of the FEIS. Effects of the alternatives on roadless lands are documented on pages IV-82 through IV-92 and map IV-1 of the FEIS. Additional discussion of the roadless issues is documented in Chapter V of the FEIS.

Pages III-64 and Map III-5 identify the lands unsuitable for timber production in the BLB area. Suitability for timber production and the alternatives are discussed on IV-80 of the FEIS. The map accompanying this Forest Plan Amendment 11 EA, "BLB Timber Harvest in MA-1 Unsuitable Lands", shows units 9 and 10 and the lands unsuitable for timber production.

PROPOSED FOREST PLAN AMENDMENT 11 AND THE DECISION AT HAND

The proposed action would allow a silvicultural harvest prescription, an improvement cut, to be implemented in two areas totaling about 60 acres that are recognized as unsuitable for timber production. It would not change the designation of those lands from the "unsuitable for timber production" to "suitable for timber production".

The proposed action is premised on the finding that the treatments are "necessary to protect other multiple use values...on such lands" (not suitable for timber production)...."if the Forest Plan establishes that such actions are appropriate" (36 CFR 219.27(c)(1)).

Timber production, as defined in the NFMA regulations and the Forest Plan is not proposed to occur in units 9 and 10. The need to address vegetation species composition and stand structures in the ponderosa pine/Douglas-fir forest type, conditions resulting from decades of fire suppression, has been established for the lands occurring in units 9 and 10. The prescribed treatments were designed to address those needs. Those treatments fall in the category provided in the NFMA regulations which would allow for "sales necessary to protect other multiple use values". The proposed Forest Plan amendment recognizes that such an action is appropriate and should be allowed by the Forest Plan.

The previously mentioned Forest Service Land and Resource Management Planning Handbook (1909.15) also provides direction when a proposed project is not consistent with the Forest Plan and specifies three options to consider. Those considerations are addressed in the following paragraphs.

The option to modify the proposal to make it consistent with the Forest Plan, only salvage harvest, is addressed in the silvicultural diagnosis for stands 9 and 10. That option would not fully meet the stated management objectives or target stand conditions. Therefore, the proposed treatments were not modified for the sake of Forest Plan consistency. The option to only use prescribed fire to meet target conditions for the BLB project was raised in a comment on the Draft EIS (refer to page V-41 of the Final EIS). Limiting management practices to only prescribed fire in units 9 and 10 would not meet target conditions as effectively as the combination of timber harvest and prescribed fire. As stated previously, a low intensity ground fire would not lethally scorch many of the trees that are surplus to the target stand condition. If stocking is not reduced to levels more consistent with natural conditions, competition for water and nutrients will continue to increse. This will result in stands that are more stressed and susceptible to insect and disease attacks. In addition, the risk of unnaturally intense stand replacing fires will increase. On sites such as these, where solar radiation is high and moisture is limited, shade is often necessary for regeneration to become established. In the event of an unnaturally intense fire on these sites, resulting in the loss of overstory trees and the shade and seed they provide, recovery to a forested condition would be extremely slow and uncertain. Such a

change in vegetative condition would have some adverse consequences to the native plants and animals that historically have used and are adapted to these areas, as well as to the visual and recreational attributes that humans value.

The option to modify the proposal to only harvest on the suitable lands in units 9 and 10 and not harvest on the unsuitable inclusions within those areas was not studied in detail. The vegetation conditions and restoration needs that the improvement cut was designed to adress exist independently of any "suitable/unsuitable" land classifications, so that option was not developed as an alternative.

Rejection of the proposal to treat units 9 and 10 was considered as part of four alternatives considered in the BLB Environmental Impact Statement. The purpose and need for action was established for the prescribed treatment. The consequences of not implementing the prescribed treatments have been described and have some adverse effects. The option to reject the proposal is being considered in the decision at hand.

In the Record of Decision for the BLB project, the responsible official recommended that the Forest Plan be amended to allow for the prescribed improvement cut in units 9 and 10 to occur. The option to allow the proposed treatments by amending the Forest Plan is being considered in the decision at hand.

This amendment is not inconsistent with efforts to revise the Forest Plan. The proposal deals with more site-specific conditions on these particular lands and proposes actions that are ecologically based on the ponderosa pine ecosystem. The findings here are similar to the findings on other sites on the Forest. As stated in the Five-year review, "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, multi-storied and overstocked. Disturbances have shifted from underburns and low levels of insect and disease activity to stand replacing fires and epidemics."

In addition, the amendment does not change many of the overreaching Forest Plan decisions like Management Area designations. The suitable/unsuitable land base remains intact. The amendment primarily makes provisions for the treatment of some site-specific lands for ecological objectives.

BITTERROOT NATIONAL FOREST
Land and Resource Management Plan

Amendment Number 11

June 28, 1994

Amend Bitterroot National Forest Plan (September, 1987) to add:

MA 1, Chapter 111-5, 3.e.(9)

(9) Lands Unsuitable for timber management will not be scheduled for timber harvest except for salvage sales, sales necessary to protect other multiple use values or activities that meet other objectives on such lands if the forest plan establishes that such actions are appropriate. (NMFA 36 CFR 219.27(C)(1)). The Forest Plan estabishes that such actions are appropriate for: Units 9 and 10 of the Buck Little Boulder Project located within the proximity of Sections 19 and 20, T1S, and R20W on the West Fork Ranger District.

END OF AMENDMENT

****

United States Department of Agriculture | Forest Service | Moose Creek Ranger District | P. O. Box 464 Grangeville, ID 83530-0464 (208) 983-2712

Reply to: 1920/1950/2320

Date: January 18, 1995

Dear Citizen,

Attached is a Decision Notice, Finding of No Significant Impact, and Environmental Assessment for a non-significant amendment to the Selway-Bitterroot Wilderness General Management Direction. The General Management Direction is an appendix to the Bitterroot, Clearwater, Lolo and Nez Perce Forest Plans.

This decision establishes goals, objectives, management standards, and monitoring elements that address vegetation issues in the Selway-Bitterroot Wilderness.

This decision is subject to appeal pursuant Forest Service regulations in 36 CFR 215.7. Appeals must be post marked or received within 45 days from January 20, 1995. Send appeals to Appeals Deciding Officer, Regional Forester's Office, USDA Forest Service, P.O. Box 7669, Missoula, MT 59807. Appeals must meet the requirements of 36 CFR 215.4.

If you would like further information regarding this decision, please contact me at the Moose Creek Ranger District office.

Sincerely,

DAN RITTER
Selway-Bitterroot Wilderness Coordinator

DECISION NOTICE

and

FINDING OF NO SIGNIFICANT IMPACT AND DETERMINATION OF NON-SIGNIFICANCE

for

Adoption of an amendment to the Selway-Bitterroot Wilderness General Management Direction which is an appendix to the Bitterroot, Clearwater, Lolo, and Nez Perce Forest Plans

BITTERROOT FOREST PLAN AMENDMENT NO. 12
CLEARWATER FOREST PLAN AMENDMENT NO. 12
LOLO FOREST PLAN AMENDMENT NO. 21
NEZ PERCE FOREST PLAN AMENDMENT NO. 19

Decision

It is my decision to select Alternative 2 as described in the September, 1994 Environmental Assessment titled "Vegetation Management Direction for the Selway-Bitterroot Wilderness. This decision establishes goals and objectives for managing the Selway-Bitterroot Wilderness within ecosystem management principals. It specifically addresses direction to diminish the spread of weeds, ensure that impacted sites are restored with native vegetation, and maintain or restore rare plant populations.

The decision will amend the current Selway-Bitterroot Wilderness General Management Direction by adding goals, objectives, management standards and monitoring indicators contained in the document titled "Vegetation." Management guidelines are included that provide managers with examples of how to implement the goals, objectives, standards and monitoring.

The amendment will replace current pages in the Selway-Bitterroot Wilderness General Management Direction pages with new pages attached to this decision notice.

Rationale for Decision

I have considered reasonable alternatives and possible environmental effects of the proposed action in making my decision to approve this amendment. Public participation has been encouraged throughout the development of the proposed amendment. Members of the public were asked to identify issues early in the amendment process (June 1989) and were given the opportunity to comment on the goals and objectives in the first draft of the amendment. Nine subsequent public meetings were held to review drafts of the proposed amendment and discuss new issues. Letters were sent to public interests in the areas surrounding the Bitterroot, Clearwater, Lolo and Nez Perce National Forests to solicit comments on the final draft. Three responses were received during this final scoping phase. Two were supportive of the proposed amendment and one was concerned about the effects on recreation use from management actions that may result from the amendment. Based on the environmental effects analysis in the EA, I have determined than any effects on recreation use as a result of this amendment will not be significant. The effects of any projects that may be proposed to implement this direction will be disclosed in a site specific environmental analysis.

The Upper Columbia Basin Environmental Impact Statement (EIS) is currently being prepared and will include the Selway-Bitterroot Wilderness as part of the analysis area. This amendment will not preclude

any changes in management direction that may result from the EIS. This amendment completes a process that has been underway since 1989. It focuses on a few management issues (weeds, native plants, natural diversity) and will provide managers with more meaningful direction to address priority wilderness problems.

I believe my decision is in compliance with all applicable laws and regulations. I did not select Alternative 1 - No Action because the current direction in the forest plans for vegetation management in the Selway-Bitterroot Wilderness is inadequate and does not provide managers specific direction for controlling the spread and introduction of weeds, ensuring the viability of rare plant populations and protecting native plant communities.

Determination of Non-Significance (NFMA)

Based on my review of the following factors, I have determined that the Proposed Action (amend the Selway-Bitterroot Wilderness General Management Direction with new management direction titled "Vegetation" - Alternative 2 in the Environmental Assessment) is not a significant change in the Forest Plan. The determination has been made in accordance with the requirements of the National Forest Management Act (16 USC 1604 (f)(4), 36 CFR 219.10 (e) and FSM 1922.5).

Although the proposed amendment applies to the entire 1.3 million acre Selway-Bitterroot Wilderness, it does not alter the level of goods and services projected by the forest plans.

The Proposed Action will become effective following appropriate public notification and completion of procedures for administrative review of the decision.

Finding of No Significant Impact (NEPA)

The direct, indirect and cumulative impacts of this proposed amendment have been reviewed and documented in the Environmental Assessment (EA) and project file.

Based on this review, I have determined that this is not a major federal action that would significantly affect the quality of the human environment, individually or cumulative with other actions and therefore an environmental impact statement is not needed.

Implementation of management activities after the adoption of this amendment will be consistent with the management goals, objectives, standards and guidelines, and monitoring requirements outlined in the 1992 Selway-Bitterroot General Management Direction (GMD). The GMD is an appendix to the Bitterroot, Clearwater, Lolo, and Nez Perce Forest Plans.

The determination of no significant impact is based upon the following factors in accordance with the National Environmental Policy Act (40 CFR 1508.27):

There are no known effects to the human health and safety, endangered, threatened or sensitive species or its critical habitat, or cultural and historic values.

The physical and biological effects are limited because of the programmatic nature of the Proposed Action. For example, the vegetation direction emphasizes the control of noxious weeds but does not make decisions to treat them or on types of treatment that may be used. Therefore, this action does not set a precedent for other projects that may have significant effects. The effects of management actions that may occur to implement direction found in the

Proposed Action will be analyzed on a project specific basis according to regulations under the National Environmental Policy Act.

There are no known effects on the human environment that are highly uncertain or involve unique or unknown risks, and based on scoping responses, the effects of the Proposed Action are not likely to be controversial. Although the use of herbicides to control weeds is controversial, the proposed action does not advocate the use of herbicides or any other method of weed control.

There are no known significant irretrievable or irreversible commitments of resources and the Proposed Action does not threaten violation of federal, state or local law.

This decision is a refinement of existing direction in the Selway-Bitterroot Wilderness General Management Direction which is an appendix to the Bitterroot, Clearwater, Lolo, and Nez Perce forest plans. This decision is consistent with the overall goals and objectives in the Forest Plans.

This decision will be implemented no sooner than seven (7) days after publication of this decision.

This decision is subject to appeal pursuant to 36 CFR 217. A notice of appeal must be filed with the Regional Forest, USDA Forest Service, Federal Building, 200 East Broadway, P.O. Box 7669, Missoula, MT 59807 within 45 days after the publication date of this decision. For additional information concerning this decision, contact Dan Ritter, Selway-Bitterroot Wilderness Coordinator, Moose Creek Ranger District, P.O. Box 464, Grangeville, ID 83530.

Stephen K. Kelly

STEPHEN K. KELLY
Forest Supervisor
Bitterroot National Forest

11/14/94
Date

James L. Caswell

JAMES L. CASWELL
Forest Supervisor
Clearwater National Forest

11/21/94
Date

Robert P. Meuchel

ROBERT P. MEUCHEL
Acting Forest Supervisor
Lolo National Forest

11/10/94
Date

Michael King

MICHAEL KING
Forest Supervisor
Nez Perce National Forest

11/29/94
Date

FOREST PLAN AMENDMENT

Bitterroot National Forest Land and Resource Management Plan Amendment 12

Clearwater National Forest Land and Resource Management Plan Amendment 12

Lolo National Forest Land and Resource Management Plan Amendment 21

Nez Perce National Forest Land and Resource Management Plan Amendment 19

Specific changes to the Selway-Bitterroot Wilderness General Management Direction include:

1. Replace the "Table of Contents" with "Table of Contents - revised 9/94"
2. Replace Chapter D, "Vegetation" (existing Page D-1) with the new Chapter D, "Vegetation", Pages D-1 through D-11.
3. Replace Chapter E, "Forage" (existing pages E-1 through E-2) with the new Page E-1.
4. Replace "Appendix A" (existing Pages Appendix A-1 through A-2) with the new "Appendix A", Appendix Pages A-1 through A-3.
5. Replace "Appendix B" (existing Appendix Pages B-1 through B-2) with the new "Appendix B", Appendix Pages B-1 through B-3.

TABLE OF CONTENTS - 9/94 Revision

This section originally titled *Forage* was combined with Section D - *Vegetation* in a 1994 amendment. Management direction for forage can now be found in Section D - *Vegetation*.

D. VEGETATION

Goals:

Vegetation is composed of native plant communities that represent the natural diversity of the Selway-Bitterroot Wilderness ecosystem in composition (kinds and amounts of vegetation), structure (arrangement of vegetation), and function (processes like succession, decomposition and nutrient cycling).

Vegetative diversity and processes are maintained by natural disturbances such as fire, wind, avalanches, and insects and disease.

New noxious weed populations are eradicated. Existing undesirable and noxious weed populations are geographically contained and are not increasing.

Viability of rare plant populations is maintained or is restored if human impacts have adversely affected them.

Wildlife habitat and natural processes such as nutrient cycling are not adversely affected by the human use of standing and down dead wood.

Grazing of pack and saddle stock does not adversely affect native plant and animal populations, water quality and soil conditions.

Objectives:

New populations of noxious weeds identified in the Wilderness will be eradicated.

Percent cover of designated weed species in Key Areas will decrease or remain stable from year to year.

Designated weed species will not occupy Weed Free Areas.

Resource conditions will meet individual grazing management plan standards.

All known rare plant populations will be monitored to ensure that self-sustaining populations are maintained.

Management Standards:

Priority areas for prevention and control of weed populations will be where weeds threaten to spread into Weed Free Areas, boundaries of existing weed populations targeted for containment, and areas critical to plant and animal species habitat.

Methods used in the eradication or containment of noxious or undesirable weed populations will be designed to have no significant adverse effects to native plant or animal populations or natural processes. Manual and cultural removal of weeds will be evaluated first and given preference over the use of herbicides and biological control methods. Introduction of approved biological control agents will only be allowed if the agent is host specific. Site specific environmental analyses will be conducted prior to initiating control methods.

Native plants, appropriate to the specific habitat type, will be used when rehabilitating sites. The first priority in selecting seeds or plant propagation materials will be to collect on, or adjacent to, the site. Introduced species may be retained if they are non competitive and naturalized.

Priority for implementing management actions to move toward desired conditions will be based on the severity of human impacts and sensitivity or uniqueness of the associated ecologic land unit type.

Monitoring and Evaluation Indicators:

New populations of noxious weeds identified and eradicated.

Percent cover of designated weed species in Key Areas.

Presence of designated weed species in Weed Free areas.

Monitoring indicators listed in Grazing section of Vegetation Management Guidelines.

Elements of individual grazing management plans that address resource conditions.

Current fire regimes compared to historic regimes.

Dead wood retention in heavily used camp areas.

Population trends of rare plant species.

Management Guidelines:

The following guidelines are operational in scope and are a list of "how to's" that managers may use to achieve the goals and objectives.

Inventory and Classification

Vegetation management efforts will primarily focus on maintaining natural processes and a landscape mosaic within the range of natural variability. However, elements such as rare plants alpine lakes, hot springs and other special features will be given individual attention in vegetation inventory, classification, and mapping efforts.

A vegetation classification and mapping strategy will be used in conjunction with the Selway-Bitterroot Wilderness Opportunity Class map to help determine acceptable levels of human use in areas based on ecologic considerations. The classification will also provide the framework for identification of potential species habitat.

Ecologic land units will be mapped in the Wilderness to describe areas of different biological and physical potentials that define the limits or range of existing and future ecologic conditions. Important landscape features such as vegetation patterns and habitat linkages will be identified. This information, in combination with inventories of existing vegetation, wildlife, and human aspects, will facilitate an ecological approach to wilderness planning and management.

Fire

Fire is a primary force in sustaining natural composition, structure and function in the Selway-Bitterroot Wilderness ecosystem.

Existing conditions and natural conditions will be identified and compared to establish management needs. Where fire suppression activities have disrupted natural processes, discontinuing suppression should be considered.

Threatened, endangered and sensitive plant and animal species habitat will be addressed in all fire management planning.

Insects and plant pathogens

Native insects and disease have an important role in maintaining natural ecosystem processes (ie. energy/nutrient cycling, wildlife habitat) by killing and defoliating vegetation.

Insects and disease function differently in disturbed ecosystems. Long term fire suppression can create artificially large insect and disease populations. Therefore, outbreaks that originate on disturbed lands may have an unnatural influence in wilderness.

When unnatural outbreaks on adjacent lands threaten natural processes in wilderness, control measures should be initiated outside the Wilderness. Native insect and disease outbreaks originating in the Wilderness will be allowed to fulfill their role whenever possible. Management of insect and disease populations, that have the potential to spread across administrative boundaries, will be evaluated site specifically and negotiated between adjacent ownerships.

Weeds

Many non-native plant species reside in the Selway-Bitterroot Wilderness. Some are more influential than others. Aggressive, introduced species, such as spotted knapweed and yellowstar thistle, displace native grasses and forbs. In addition to changing the composition of natural communities, reduction in native plant populations can lead to decreased wildlife forage, soil instability, and can influence the role of natural fire in the ecosystem.

Humans can contribute to weed encroachment in the Wilderness, not only by carrying weed seeds on their clothing and equipment, but by transporting seeds on dogs, livestock, and in livestock feed. Weeds can also be transported by aircraft and fire fighting activities.

The introduction of any new weed species will be actively prevented. Forests will cooperate with counties and states to develop weed free livestock feed programs and in the interim, use of certified weed free feed will be encouraged both at portals and within the Wilderness.

Education efforts will focus on the use of prevention measures to address the transport of weeds by aircraft, stock, people, dogs, and fire fighting activities.

Travel routes to the Wilderness (roads or trails) and portals will be managed to control weeds, with priority on roads or portals accessing areas that are highly susceptible to weed encroachment. Interior airfields and administrative sites inside or associated with the Wilderness will also be weed control priorities.

A number of Weed Free Areas will be identified on each district. These areas will represent different plant communities, and will be managed in a weed-free condition by containing the weeds outside the area. Based on inventory data, these areas could be either completely free of weeds, or may be free of specific, designated species. Species will be "designated" on each District by the District Ranger in close consultation with Forest Supervisors and other agencies responsible for the management and control of exotics. State noxious weed lists will be consulted when determining weed management priorities.

When control of a weed population is being evaluated, all applicable control practices for a given species will be considered. The minimum tool principle will be applied in that the methods that accomplish control objectives while causing the least disturbance to the wilderness resource will be selected.

Key Areas for monitoring will be identified throughout the Wilderness based on ecologic land unit type. These will include areas where weeds are likely to displace native plant communities, where weeds are likely to impact critical wildlife habitat, areas with differing levels of infestation, and weed-free areas. Existing weed populations boundaries that are targeted for containment will also be identified as Key Areas. Specific weed species to be monitored will be designated for each Key Area.

Cooperative agreements will be developed with owners of private inholdings and adjacent lands, user groups, and adjacent public land managers to prevent the spread of introduced plants. Cooperative agreements will also address education as appropriate.

Assertive information and education programs will be developed to help achieve management objectives. Stock users, pilots and other visitors will be contacted prior to entering the Wilderness and at Wilderness portals when possible.

Outfitter and guides permitted in the Wilderness, state outfitter/guide boards, and other stock user groups will be included in information, education and cooperative efforts. Opportunities for outfitters

to help control weeds in their areas of operation will be outlined in the operating plans of their special use permits. Hunter information and education will also be accomplished through coordination with state wildlife agencies. Pilot organizations and agency air operations personnel will be included in these efforts.

The message will convey both the goals of vegetation management and appropriate prevention practices to avoid transportation of weeds by people, stock, dogs, vehicles and aircraft. Education messages will address pre-trip, portal, and wilderness travel practices and weed identification.

Possible Management Methods

The management methods contained in this document serve as a menu of possible actions for managers. They are not an exhaustive list nor do they preclude other actions not listed. They are ranked from least restrictive to most restrictive.

For preventing new introductions:

- Educate all users, particularly stock users and pilots, encouraging preventative practices.
- Initiate cooperative agreements with adjacent land owners or managers
- Encourage or require specific knowledge and/or equipment (i.e. using nosebags instead of feeding on ground or having the knowledge to contain weeds)
- Eradicate aggressive species from portal areas or boundary areas-
- Require the use of certified weed free feed.
- Prohibit the use of hay

- For retaining identified weed free areas:

- Educate all users, particularly stock users and pilots, encouraging alternative practices
- Encourage or require specific practices and/or equipment
- Contain introduced species to areas outside the weed free areas
- Eradicate introductions into the weed free areas
- Discourage or prohibit types of use linked to introductions
- Discourage or prohibit overnight use
- Require the use of weed free feed
- Prohibit the use of hay

Rare Plants

There is little information documented on the status of rare plants in the Selway-Bitterroot Wilderness. There are several known Forest Service designated "sensitive" species in the Wilderness and others that have potential habitat there. Little monitoring has been done on these populations.

All human activities will be managed to protect and recover rare plants. Management of federally designated threatened, endangered and sensitive species and State Species of Special Concern will be conducted in cooperation with state and federal agencies in accordance with recovery plans.

Potential habitat for rare plant species will be identified during area analyses and project planning. Biological evaluations and assessments will be conducted for proposed and existing activities that may affect rare plants.

Research and monitoring necessary to protect and perpetuate these species will be allowed and will utilize the minimum tool principle. Proposed research projects will be reviewed to assure consistency with the Wilderness management objectives that pertain to specific proposed activities.

Rare plant protection will be considered in all plans for management activities and projects within the Wilderness.

Possible Management Methods

- Education
- Manage fire to sustain populations when appropriate
- Use trail maintenance standards to direct use to more resistant sites
- Signing at trailhead
- Encourage or require use of certain practices, behavior and/or equipment
- Limit grazing in specific areas
- Discourage or prohibit camping on certain sites or locations
- Discourage or prohibit overnight use
- Seasonal campsite closure

Live trees and shrubs

Damage to trees and shrubs is common in many heavily used sites in the Wilderness. Impacts include hacking, carving, girdling and root damage due to trampling.

Management actions to address damage to trees and shrubs will be based on the severity of the damage and the sensitivity of the species. Species that are less common and/or less resistant to damage, like thin-barked aspen and birch trees, will be given higher priority than those that are more common and/or more resistant to impacts.

Possible Management Methods

- Education
- Enforce CFR 261.9 a. which prohibits damaging any natural feature or other property of the United States.
- Use of news media to inform of conditions and restrictions
- Restore site or components of site to prevent further degradation
- Signing at trailhead
- Signing on site
- Encourage or require use of certain practices, behavior and/or equipment
- Discourage or prohibit overnight use
- Concentrate and channel use with facilities
- Remove damaged features

Standing and down dead wood

Snags and large, downed wood play an important role in maintaining natural processes. Nutrient and energy cycling and wildlife habitat are examples of functions that the dead wood component contributes to. Dead wood is commonly used for firewood by Wilderness visitors. In some high use areas, long-term absence of dead wood can have a significant impact on site productivity.

In heavily used camp areas, monitoring will be conducted to assess dead wood retention. The amount of dead wood retention will be evaluated by comparing impacted sites with unimpacted sites in comparable vegetation community types. Monitoring results can be used in implementing management strategies to maintain or restore dead wood functions where necessary.

Possible monitoring indicators could include: 1) Distance necessary to travel from campsite to obtain firewood, 2) Percent volume or size of down wood retained at a site, 3) Percent or size of snags retained at a site, 3) Number of snags or logs inhabited by wildlife.

Possible Management Methods

- Use of news media to inform of conditions and restrictions
- Signing at trailhead
- Signing on site
- Encourage or require use of certain practices, behavior and/or equipment
- Encourage or require use of alternative fuel source in designated areas
- Encourage or require restrictive length of stay
- Close identified sites to snag cutting
- Close identified sites to downed wood gathering
- Discourage or prohibit overnight use
- Seasonal campsite closures
- Use trail access management to direct use

Grazing

There are no established cattle or sheep grazing allotments in the Selway-Bitterroot Wilderness. Pack and saddle stock grazing occurs throughout the Wilderness in conjunction with outfitter operations, Forest Service administration and recreational visitor use.

Grazing management plans for pack and saddle stock will be developed and based on: 1) ecologic land unit type; 2) needs of other resources and; 3) grazing capacity.

Range analyses will be conducted to provide an inventory of the resource and a narrative evaluation of the resource data including management alternatives for grazing management planning.

Guidelines for completing a range analysis are listed below:

Inventory

- Determine suitability of areas currently grazed by pack and saddle stock.
- Map vegetation type, soils, condition/trend, production, utilization, etc.
- Identify potential conflicts with other resources. An assessment of wild ungulate grazing can be included if necessary.

Compilation of Data

- Acres by condition/trend
- Comparison of present and potential condition
  - Describe successional stages
  - Determine cause of site condition
  - Address site rehabilitation needs
- Grazing capacity

- Actual use records
- Grazing history

Evaluation

- Develop and compare alternatives to resolve discrepancies between grazing capacity, actual use and needs of other resources.

Grazing management plans will be developed based on range analysis information. The procedure for developing these plans is outlined in the Northern Region Range Analysis Handbook (FSH 2209.21, R-1, Chapter 830, Appendix D) and summarized below:

Action Plan

- Existing use and grazing capacity
- Grazing system
- Livestock management

Monitoring Plan

- Production/utilization studies
- Condition/trend benchmarks
- Visual examinations

Management objectives will be developed within the grazing management plans based on ecologic land unit type.

The following is a menu of possible monitoring indicators that could be used.to measure progress toward achieving the management objectives:

Species composition and density, forage production, forage utilization, riparian condition, time of year site is grazed, length of time site is grazed, soil condition, salt containment, type of stock, number and behavior, competition with wildlife for forage, displacement of wildlife, potential threatened, endangered and sensitive species habitat.

Displacement of or competition with threatened, endangered and sensitive animal and plant species, and other species that may be affected, will be addressed in the grazing management plan.

Priority for establishing grazing management plans will be based on ecologic land unit status and sensitivity. Rare and sensitive ecologic land units will be given higher priority than common and resistant units.

Rehabilitation of grazing sites will be prioritized based on information contained in the grazing management plans. See direction in Site Rehabilitation section.

Possible Management Methods

- Enforce compliance with grazing management plans
- Use of news media to inform of conditions and restrictions
- Signing at trailhead

- Signing on site
- Encourage or require certain knowledge, behavior and/or equipment
- Provide grazing in certain areas
- Provide grazing during certain times of the year
- Limit duration of grazing
- Limit stock numbers
- Limit kind of stock grazed
- Contain grazing in temporary enclosures
- Discourage or prohibit overnight use
- Concentrate and channel use with facilities

Site Rehabilitation

When sites are below the standard established for campsite impacts (refer to Selway-Bitterroot Wilderness General Management Direction, 1992), and natural recovery within a reasonable time period is unlikely, rehabilitation should be considered. In some cases, specific components of a site, such as damaged trees, invite further damage and should be managed to prevent additional resource degradation.

Monitoring plans will be developed for rehabilitated sites to determine if sites are moving toward the desired condition. Necessary maintenance will be performed based on monitoring results.

Refer to previous section titled "Weeds" for specifics on managing undesirable or noxious weeds as part of a rehabilitation plan. Prioritize rehabilitation sites based on severity of impacts and ecologic land unit status and sensitivity.

Possible Management Methods

- Signing at trailhead
- Signing on site
- Use of news media to inform of conditions and restrictions
- Restore site or components of site to prevent further degradation
- Boulder and downed wood placement
- Stabilize erosive soil (check dams, biodegradable erosion matting, water bars)
- Recontour and revegetate impacted areas
- Redesign and reconstruct access to site and travelways within site
- Concentrate and channel use with facilities

Glossary

Biological control agent - an organism used to control a specific plant species.

Cultural control method - seeding or planting to control a plant species.

Designated Weed Species - species that are either noxious or undesirable and are designated by Ranger Districts based on site-specific needs.

Ecologic Land Units - delineations of land and water areas that exhibit similar patterns of potential vegetation, soils, hydrology, landform, lithology, climate, and natural processes.

Endangered species - a species designated by the U.S. Fish and Wildlife Service that is in danger of extinction throughout all, or a significant portion, of its range.

Goals - timeless, yet measurable statements of the condition of the Selway-Bitterroot Wilderness (both in terms of ecological and experience conditions) that is to be achieved or maintained. Goals are expressed in broad, general terms that describe intent. There is no timeframe for achieving the goals, since the rate of implementation will vary depending on budgets and a host of other factors.

Key Areas - monitoring areas where weeds are likely to displace native plant communities and where weeds are likely to impact critical wildlife habitat, areas with differing levels of infestation, and weed-free areas.

Management Guidelines - a management method or practice that may be used by managers to achieve forest plan goals and objectives. They are operational in nature and are included to provide examples for managers.

Management Standards - a statement of management direction (requirements) that limits the discretion of managers. Adherence is mandatory and within the control of the agency. Standards are the bounds on the methods which could possibly be used to achieve the desired condition. Standards are imposed where there is a clear need to limit the discretion of managers to choose what they think might be the best actions to bridge the gap between existing conditions and desired conditions.

Minimum tool principal - a two-part analysis that is a fundamental guiding principal applied to all wilderness management decisions; 1. Is the action necessary to accomplish legitimate wilderness objectives; and 2. If the action is deemed necessary, what are the methods and equipment which will accomplish the task with least impact on the physical, biological and social characteristics of wilderness?

Monitoring and Evaluation - identification of the element(s) that will be used to track progress toward achieving the objective.

Native species - an original or indigenous inhabitant of a region as distinguished from an invader.

Natural - in a state provided by nature, without human made changes; wild; uncultivated.

Natural processes - processes such as nutrient cycling, decomposition, and succession that occur without the influence or manipulation by humans.

Naturalized species - any non-native species that is genetically close or resembles a native species and one that is established ib the ecosystem as if it were a native species.

Noxious species - those plant species designated as "noxious" by the states of Idaho and Montana.

Objectives - measures that describe the goals in resource management terms. These measures are the basis from which monitoring and evaluation schedules are developed.

Rare plants - Region 1 designated sensitive species, threatened or endangered species listed by the U.S. Fish and Wildlife Service, and Idaho and Montana state list of Species of Special Concern.

Sensitive species - those species designated by the Regional Forester for which population viability is a concern.

Threatened species - a species designated by the U. S. Fish and Wildlife Service that is likely to become an endangered species within the forseeable future throughout all, or a significant portion, of its range.

Undesirable species - those non-native plant species that aggressively displace native species and are easily transported through the Wilderness. Designation of undesirable species will be made on an ongoing basis from information collected in the field. District Rangers will make the designation in close consultation with Forest Supervisors and other agencies responsible for management and control of exotics.

Weed Free Areas - areas that are either completely free of weeds or may be free of a specific weed species.

Weeds - the term is used in this document to refer to both noxious species and undesirable species.

SECTION III - APPENDICES

APPENDIX A

MONTORING AND EVALUATION REQUIREMENTS

The table below describes monitoring components for the composite wilderness resource. Monitoring requirements for specific resources are displayed in each updated resource section. As management direction for all resources is updated, monitoring and evaluation requirements will be added.

FOREST PLAN MONITORING REQUIREMENTS (36 CFR 219)

TABLE A-1

Item No.[1]	Actions, Effects, or Resources Measured	Expected Precision	Expected Reliability	Tolerance Limits	Reporting Time
1	Impacts of human activities on the composite wilderness resource	moderate	low	meets resource goals	annually
2	Impacts of management activities on the composite wilderness resource	moderate	low	meets resource goals	annually
3	Number of sites per square mile	high	high	to standard	annually (5 year rotation)
4	Number of sites at a particular impact level per square mile	high	high	to standard	annually (5 year rotation)
5	Number of other parties encountered per day	low	low	to standard	annually
6	Number of other parties camped within sight or sound	high	low	to standard	annually
7	Problem Areas managed to correct substandard conditions	high	high	to standard	annually
8	Identification & correction of sub-standard signing	moderate	moderate	to standard after 10 year phase out	3 - 5 years

Item No.[1]	Actions, Effects, or Resources Measured	Expected Precision	Expected Reliability	Tolerance Limits	Reporting Time
9	Evaluating maintenance and reconstruction project plans against management direction	high	high	all projects evaluated	annually
10	Achievement of trail maintenance objectives	moderate	low	meets objectives as funding permits	annually
11	Achievement of trail reconstruction objectives	high	high	meets objectives	annually
12	Impacts to non-system trails	moderate	moderate	meets non-system trail goals	5 years
13	Number of landings per day	high	high	90% of the days meet standards	1-3 years
14	Number of landings per year by user type	high	high	within 10% of standard on an annual basis, or within 5% of standard for a 3 year trend	1-3 years
15	Proportion of landings by user type	high	moderate	n/a	1-3 years
16	Length of stay	moderate	moderate	n/a	3 years
17	Condition of runway surface and facilities	high	high	meets safety standards	annually
18	Change in vegetation cover on runway surface	high	high	10% deterioration from baseline condition	3-5 years

Item No.[1]	Actions, Effects, or Resources Measured	Expected Precision	Expected Reliability	Tolerance Limits	Reporting Time
19	Assure targeted weed areas are treated and successfully eradicated or spreading reduced. Monitor trends of noxious weed establishment or spread.	moderate	low	meets objectives	3-5 years
20	Monitor trends of identified rare plants	moderate	low	meets objectives	3-5 years

[1] Item numbers correspond with Appendix B.

APPENDIX B

Methods for Measuring or Evaluating Monitoring Requirements

The following operational guidelines may be used by managers to achieve monitoring objectives. The methodology may change over the course of time as technology improves. Therefore, these guidelines are not forest plan decisions.

1. *Impacts of human activities on the composite wilderness resource* - Each year a field review will be conducted to review the effects of human activities on the wilderness resource. Situations for review will include a trail project or problem, opportunity class allocations not meeting standard, or other human-caused impacts. The review team will be comprised of Forest Service employees and Citizen Task Force representatives. The field review will rotate between each of the three forests. In addition to the formal review, Supervisor's Office staff and the Selway-Bitterroot Wilderness Coordinator will evaluate implementation and effectiveness of Forest Plan direction, as well as consistency of management across district or forest boundaries. Wilderness will be included in Integrated Resource Reviews. The Steering Group (District Rangers) will meet a minimum of twice annually to review observations and set priorities.

2. *Impacts of management activities on the composite wilderness resource* - The effects of management activities on the composite wilderness resource will be reviewed as described above.

3. *Number of sites per square mile* (indicator) - Each year specific areas will be identified for monitoring. The persons assigned this responsibility will make a reasonable search for site locations, verifying previously recorded locations and noting new site locations. A "roving" square mile grid will be used to determine how many sites are located within a square mile of any given site, for that opportunity class allocation. This will be analyzed to determine whether or not existing conditions conform to LAC standards. Areas not meeting standard will be recorded in the State of the Wilderness Report.

4. *Number of sites at a particular impact rating per square mile* (indicator) - Specific areas will be identified for monitoring. The persons assigned this responsibility will complete site impact worksheets for all sites within this area. A composite score reflecting all impacts will rank the site as having light, moderate, heavy, or extreme impacts. This will then be analyzed to determine whether or not existing conditions conform to LAC standards. Areas not meeting standards will be reported in the State of the Wilderness Report.

5. *Number of other parties encountered per day* (indicator) - Field-going personnel will record how many other groups they encounter per day. Multiple encounters with the same group will be treated as separate encounters. This will be recorded in the Visitor Contact Record booklets. At the end of each field season this data will be tabulated and analyzed area by area, to establish whether or not existing conditions conform to LAC standards. In addition, areas where the standard threatens to be approached will be identified, and reported in the State of the Wilderness Report.

6. *Number of other parties camped within sight or sound* (indicator) - When encountering a group, field-going personnel will informally ask them how many other groups were camped within sight or sound on the previous evening. The location of the camp and the number of other groups will be recorded in the visitor contact record booklets. In addition, field personnel will record observations from their own camp locations. At the end of each field season this data will be tabulated and analyzed area by area, to establish whether or not existing conditions conform to LAC standards. Areas not

meeting standard, or where the standard threatens to be approached will be identified and reported in the State of the Wilderness Report.

7. *Problem areas managed to correct substandard conditions* - Each unit will report progress with managing substandard conditions annually in the State of the Wilderness Report. Successfulness of current management strategies will be reviewed, when in the field, by Resource Assistants, Forest Supervisor's Office staff, and/or the Selway-Bitterroot Wilderness Coordinator. Management may also be evaluated as a part of district field reviews, or the annual field review.

8. *Identification and correction of sub-standards signing* - Districts will periodically review and update their sign inventory. New signs ordered will conform to standard. Some non-standard signs may remain for their useful life (up to ten years) if the information being provided is sufficient for meeting management objectives. Conformance with signing standards will also be identified, when in the field, by Forest Supervisors Office staff and the Selway-Bitterroot Wilderness Coordinator.

9. *Evaluating trail maintenance and reconstruction project plans against management direction* - When developing plans for trail reconstruction projects or annual maintenance, districts will review the opportunity class objectives and guidelines for trails management. Application of objectives and guidelines will be documented in district files, and where applicable, in any NEPA analyses.

10. *Achievement of trail maintenance objectives* - Number of trail miles receiving full maintenance (to standard) and partial maintenance are reported in the State of the Wilderness Report. Application of trail maintenance objectives will be reviewed when in the field by unit trail managers, Resource Assistants, Forest Supervisors Office staff, and/or the Selway-Bitterroot Wilderness Coordinator. Application of objectives may also be evaluated as a part of district field reviews, or the annual field review.

11. *Achievement of trail reconstruction objectives* - The project manager will assure compliance with trail reconstruction objectives during the project. As available, application of objectives will be reviewed in the field by Resource Assistants, Forest Supervisors Office staff, the Selway-Bitterroot Wilderness Coordinator, district field reviews, and/or the annual field review.

12. *Impacts to non-system trails* - Current management of non-system trails will be reviewed by district personnel. Trails not meeting the non-system trails objective will be tracked in the State of the Wilderness Report. As available, application of objectives will be reviewed by Forest Supervisors Office staff, the Selway-Bitterroot Wilderness Coordinator, district field reviews, and/or the annual field review.

13 and 14. *Number of aircraft landings per day/per year* (indicators) - This will be accomplished by visitor registration boxes and cards and electronic counters at the Moose Creek, Fish Lake, and Shearer airstrips. The data will be tabulated and used to confirm standards and analyze conformance with standards. If standards are not met, this will be recorded in the State of the Wilderness Report.

15. *Proportion of landings by user type* - Proportion of landings will be identified by administrative (district business), other administrative (fires, emergency, or other administrative use), private, and commercial (outfitter related use). Methodologies might include either observer sampling or mechanical sampling. This data will be used to determine proportions per user type if use restrictions become necessary.

16. *Length of stay per airfield landing*- This will be accomplished by observation and visitor registration boxes and cards. This will be used as a tool in determining the amount of wilderness-dependent use.

17. *Condition of runway surface and facilities* - Qualified aviation safety officers will inspect the runway surface and facilities for compliance with safety requirements.

18. *Change in vegetation cover on runway surface* - Runway vegetative cover will be sampled to identify degree of deterioration from a baseline condition.

19. *Assure targeted weed areas are treated and successfully eradicated or spreading reduced. Monitor trends of noxious weed establishment or spread* - Identification of new noxious weed populations will be a part of routine field observation and will be reported by wilderness users. Weed free areas will be identified and monitored for presence of Designated Weed Species. Species are "designated" by Districts based on site specific needs.

20. *Monitor trends of identified rare plants* - Locations of rare plants will be identified and long term monitoring protocols established to determine trends.

Forest Plan Direction (Vegetation) for the Selway-Bitterroot Wilderness

ENVIRONMENTAL ASSESSMENT

September 1994

CHAPTER 1

PURPOSE AND NEED

Proposed Action

The Bitterroot, Clearwater, Lolo and Nez Perce National Forests propose to amend the Selway-Bitterroot Wilderness General Management Direction to replace Section D (*Vegetation*) and Section E (*Forage*) with a new section titled *Vegetation*. The General Management Direction is an appendix to the Bitterroot, Clearwater, Lolo, and Nez Perce Land and Resource Management Plans (Forest Plans).

The new vegetation section will include goals, objectives, management standards and monitoring elements that specifically address vegetation in the Selway-Bitterroot Wilderness.

Purpose of and Need for Action

The purpose of this action is to update and replace the current vegetation direction in the GMD because it does not provide specific goals, objectives or monitoring elements as required by the National Forest Management Act (36 CFR 219.11). A new vegetation section in the GMD will better address the issues of: managing noxious weeds; protecting the viability of rare plants; maintaining natural vegetative diversity; and managing pack and saddle stock grazing.

This action, by itself, does not commit resources or specify projects needed to achieve the goals or objectives stated in the proposed amendment. Site specific analysis in accordance with the National Environmental Policy Act (NEPA) will be completed prior to taking any action to implement the proposed direction.

Each of the four Forest Plans contains language directing managers to develop this kind of specific management direction for the Selway-Bitterroot Wilderness. The planning process included a broad public involvement process. Members of the public provided first hand knowledge of current conditions in the Wilderness and were provided numerous opportunities to comment on the goals and objectives as they were being written.

Scoping and Public Involvement

Notification was made on January 14, 1994 to the names contained on the Selway-Bitterroot Wilderness mailing list in addition to the four Forests' public mailing lists. A press release was also issued to local and regional media outlets on each Forest. The public was asked to comment on the proposed vegetation direction and send their comments to the Selway-Bitterroot Wilderness Coordinator by March 15, 1994.

Three responses were received. None of them were against the proposal to amend the Forest Plans. No significant issues were raised during scoping.

Appendix A contains a list of persons contacted during scoping.

CHAPTER 2

ALTERNATIVES INCLUDING THE PROPOSED ACTION

The ID Team considered two alternatives that responded to the issues raised during scoping. Alternative 1 is the No Action alternative while Alternative 2 would permit the Selway-Bitterroot Wilderness General Management Direction to be amended to add new vegetation management direction.

Alternative 1 - No Action

Section D Vegetation and Section E Forage of the Selway-Bitterroot Wilderness GMD would remain unchanged. This alternative would continue the implementation of the current Selway-Bitterroot Wilderness General Management Direction. There would be no net change in the flow of goods and services provided by the Bitterroot, Clearwater, Lolo and Nez Perce National Forests.

Alternative 2 - Amend the Selway-Bitterroot Wilderness General Management Direction with new management direction contained in the document titled "*Vegetation*".

This alternative would continue the implementation of the Selway-Bitterroot Wilderness General Management Direction but would add more specific management direction for vegetation. It would establish goals and objectives for vegetation within ecosystem management principals. It would provide specific management direction to address the issues of: managing noxious weeds; protecting the viability of rare plants; maintaining natural vegetative diversity; and managing pack and saddle stock grazing.

There would be no net change in the flow of goods and services provided by the Bitterroot, Clearwater, Lolo and Nez Perce National Forests. The new direction would aid managers in protecting the vegetation resources in the Selway-Bitterroot Wilderness by providing goals, objectives, standards and guidelines and monitoring elements.

CHAPTER 3

AFFECTED ENVIRONMENT

This chapter describes the existing vegetation conditions and associated habitats in the Selway-Bitterroot Wilderness.

Background

The Selway-Bitterroot Wilderness is an ecologically diverse landscape that occupies 1.3 million acres and is managed by four national forests. The diversity of the Wilderness ranges from high alpine lake communities to an arid river canyon with an array of environments in between, including old growth western red cedar communities.

Recreation and Administrative Use

Human activity in the Wilderness includes recreational backpacking, horsepacking, floating on the Selway River and flying by aircraft into airfields within the Wilderness. The fall hunting season is the time of heaviest use, with private parties and several commercial outfitters using the Wilderness. Mountain lions are hunted in the winter and black bear in the spring. Fishing occurs in Wilderness streams and high lakes throughout the summer months. Forest Service administrative activity in the Wilderness includes construction and maintenance of an extensive trail system and fire fighting activities.

Several private inholdings and airstrips as well as three Forest Service administrative sites exist within the Wilderness boundaries. There are numerous trailhead access points into the Wilderness in Montana and Idaho in addition to three airstrip portals inside the Wilderness.

Weeds

Many non native plant species have been introduced into the Wilderness. Some of them are aggressive and have displaced native vegetation. Effects of this weed encroachment may include accelerated soil erosion, reduced wildlife forage and influence on the role of natural fire in the ecosystem. Weeds of primary concern include: spotted knapweed, which occupies hundreds of acres and is common on main trails, trailheads, the Selway River corridor and other heavily used sites; Sulfur cinquefoil, which is aggressive and prominent in the main travel corridors - its spread is expected to increase; Yellow starthistle, which is very aggressive and spreads rapidly - a small population has been documented in the Idaho portion of the Wilderness; Canada thistle, which is common along trails. These species are designated noxious by the state of Idaho, the state of Montana or both. Numerous other noxious or undesirable, non-native species are also found in the Wilderness. Human caused vectors of weed introduction and dispersal into the Wilderness include people and their pack animals and dogs, livestock feed, vehicles at trailheads, and aircraft. Generally, weed populations are concentrated at trailheads, along main trails, administrative sites, outfitter camps and other areas of heavy use.

Rare Plants

Several rare plant species, also designated as sensitive, reside in the Wilderness and others have potential habitat there.

Grazing

Some sites in the Wilderness are intensively grazed by horses and mules. These areas include outfitter base camps, Forest Service administrative sites and heavily used campsites. Some of these sites are located in or near important wildlife habitat.

Dead Wood

In some areas of the Wilderness, the use of wood for campfires may have reduced the amount of dead and down wood to the extent that soil nutrients and energy cycling are affected. Little is known about the extent or effects of wood gathering.

CHAPTER 4

ENVIRONMENTAL CONSEQUENCES

This chapter discloses environmental consequences or effects of implementing the alternatives. It forms the scientific and analytical basis for comparing the Proposed Action and the No Action alternatives. The *environmental* consequences of this action are limited because amending forest plans affects administration more than the environment. The effects of management actions or projects that are proposed to *implement* forest plan direction will be disclosed in site-specific environmental analyses. The effects disclosed in the each of the forest plan's Environmental Impact Statement have been reviewed. The additional management direction that is proposed by this action will not measurably change these effects.

Recreation and Administrative Use

Alternative 1 - No Action

Managers will not have guidelines for the use of native plants and seeds when rehabilitating and revegetating highly impacted recreation sites.

Alternative 2

The new direction establishes guidelines for the use seeds and plants when rehabilitating highly impacted recreation sites.

Weeds

Alternative 1 - No Action

Managers will not have measurable goals or objectives to guide them in limiting the spread of existing weeds and controlling the introduction of new weeds.

Alternative 2

Managers will have measurable objectives and standards for the control and/or containment of weeds. Priority areas for weed prevention and control will be identified based on criteria contained in the new direction. Possible management methods to contain or eradicate weeds will be evaluated based on criteria contained in the new direction.

Rare Plants

Alternative 1 - No Action

Managers will not have measurable objectives or standards to determine the viability of existing populations of rare plants. Managers will not have direction to inventory existing populations of rare plants and monitor population trends.

Alternative 2

Managers will have measurable objectives and standards that are needed to determine the viability of existing rare plant populations.

Grazing

Alternative 1 - No Action

Managers will not have guidelines for developing grazing management plants in areas of the Wilderness where recreation stock grazing impacts occur. Managers will not have measurable objectives or standards to assist them in determining the effects of recreation stock grazing on vegetation.

Alternative 2

Managers will have guidelines to use when developing grazing management plans. Managers will have measurable objectives and standards to help determine the effects of recreation stock grazing.

Dead Wood

Alternative 1 - No Action

Managers will not have measurable objectives or standards to measure the effects of firewood gathering on nutrient cycling or wildlife habitat. Areas where firewood gathering is affecting these resources will not be identified.

Alternative 2

Managers will have measurable objectives and standards to determine the effects of firewood gathering.

APPENDIX A

AGENCIES AND PERSONS CONSULTED

Board of Adams County Commissioners
Alliance for the Wild Rockies
Marty Almquist
American River Touring Assn.
American Wildlands
Governor Cecil Andrus
Mort Arkava
Director, Arthur Carhart Center
Jim Babb, The Solar Club
Backcountry Horsemen
Peter Bahls
Dennis Baird
Ian Barlow
The Honorable Max Baucus
Dave Bennett
Frank Beum
Forest Supervisor, Bitterroot N.F.
Arnold W. Bolle
Randy Borniger
Clife Bove
Cheryl Bransford
Doug Brede
Grace Brookman
Pat Burke
The Honorable Conrad Burns
Ernest A. Busek
Douglas K. Caffee
Art Callan
Keith E. Carlson
Representative Mike Crapo
Rudy Carter
Chuck & Ruth Centers
Mike Chandler
Marc Childress
Kendall Clark
Lee Clark
Forest Supervisor, Clearwater N.F.
Jason & Carolyn Clinkenbeard
Liz Close
Patricia Cohn
David Cole
Colorado State University, The Libraries
Congressman Larry La Rocco
Rebecca Cothran
County Planning Office, Hamilton, MT
Lauretta Crabtree
Senator Larry Craig
Tim Craig
Leo Crane
Don Crawford
Bobby R. Crick
Bill Cunningham
Jim Curtis
Orville L. Daniels
Brian Strand
Lee Daniels
District Ranger, Darby Ranger District
Dan Davis, Interagency Grizzly Bear Study GP
Jim Dayton
Pete Deane
David Del Sordo
Steve Didier
District Ranger, Missoula Ranger District
Ecology Center, Missoula, MT
Smoke Elser
Helen Engle
Angela Evenden
John Firebaugh
Fish & Wildlife Service, Boise ID
Fish & Wildlife Service, Billings, MT
Kurt Flynn
Jon Foland
Carey Foster
Kathy & Bill Franks
Gordon Frost
FWL Outfitters
Archie & Eileen George
Dale Gill
Tom Gionet
Dale Goble
John Goffinet, Orofino Chamber of Commerce
Bill Goslin
Art Griffith
Robert Griffiths
Darin Groff
Don Habel
Robert Haggard
Robert L. Halvorsen
Oats Hargett
Lisa Therrell & Rich Haydon
Dave Hayes
Clem Pope
Dave Hemphill
Kent Henderson

Dave Hettinger
Tom Highland, Oregon State Aeronautical
Grangeville Air Service
Larry Hippler, State of Idaho Transportation Dept.
Bobbie Hoe, Wilderness Watch
Holiday River Expeditions of Idaho
Larry Hooker
Beth Horn
Glen L. Hower
Helen Hudson
John McCarthy, Idaho Conservation League
Roger & Janice Ingram
Dean A. Lydig, Inland Northwest Wildlife Council
Norman J. James, M.D.
Bennie W. James
Bruce E. Johnson, Missoula Ranger District
D. M. Johnson
Richard E. Karstetter
Ruth Monahan
Senator Dirk Kempthorne
Stephen Knudtsen
Mark Kowack
David Kozub
Ed Krumpe
Richard Kuhl
Bob Lamerson
Al Latch
Donnie Laughlin
Calvin B. Leman
Director, Leopold Institute
Lewiston Airport Commission
Chuck Lobdell
District Ranger, Lochsa Ranger District
Lochsa River Outfitter
Forest supervisor, Lolo N.F.
Roy Lombardo, Hells Canyon NRA
Chris Lorentz
Dick Mangan, Missoula Technology Develop Cen
Pamela Marcum
Mc Call Air Taxi
John Mc Carthy
Dr. Mitch Mc Claren
Ritchie Mc Lean
Steve Mc Cool, Professor School of Forestry
Belle McGregor
Sandy McIntyre
University of Idaho
Don McPherson
Linda Merigliano
Garry D. Merritt
Patricia Millington
Doris Milner
Missoula Public Library
District Ranger, Missoula Ranger District
William H. Mitchell
Elliott Moffett, Nez Perce Tribe Exec. Committee
Montana Wilderness Association
Montana Wilderness Outfitters
District Ranger, Moose Creek Ranger District
Steve Morton
Steve Nadeau, Idaho Fish & Game
Forest Supervisor, Lolo N.F.
Nature Conservancy
Jeanine Nelson, Bitterroot BCH
Eugene A. Nett
Forest Supervisor, Nez Perce N.F.
Mike Nichols, Grass Roots for Multiple Use
Lyn Nielson, MT. Dept of Fish, Wildlife & Parks
Richard Norris
Jacey Nygaard
James W. Olson
Orofino Aviation
John Osborn, M.D.
Ralph Oswold
Dennis Palmer
Todd Parker
Rod Parks & bob Van Allen
Steve Paulson, Palouse Audubon Society
Jim Peak, University of Idaho
Don & Elaine Pearsons
Gary Peters
Robert Peterson
Pioneer Aviation
Herb Pollard, Idaho Dept of Fish & Game
Clem Pope, Payette N.F.
Potlatch Corporation
District Ranger, Powell Ranger District
Ravalli County Fish & Wildlife Assn
George H. Holman, Ravalli County Fish/Wildlife
Ravalli County Planning
The Ravalli Republic
George Reese
Dwain Rennaker
Renshaw Outfitting, Inc.
Steve Rice
Dave Robbins
Tim Roberts
John Rose
Gene Ross, Idaho Transportation Dept
Tom Ruffatto
Ray Rugg
James A. Russel
Salmon Air Taxi
Salmon Backcountry Horsemen
Nick Sanyal, University of Idaho
Liese Celbsch-Dean, Sawtooth NRA

John Sayles, Top Gun Springer Spaniels
Dave Schilz
Cindi Mader/Kristi Hicks, Sen. Larry Craig Office
Carolyn Durant
Gus Serven
John Seubert
Dick Shew
Sierra Club
Gloria Silva
Grant Simonds
Ken Smith
William Snook
Gerry Snyder
Paul Snyder
Julie Titone
Tony Guardalabene
Ken Stauffer, Salmon N.F.
Honorable Stan Stevens
District Ranger, Stevensville Ranger District
Frogg Stewart
Robert Stewart
Rob Strand
Larry Swain
Dennis A. Teal
The Wilderness Studies & Information Center
Amber and Jim Thiemens
Doug Tims
Susan M. Treu
Spencer Trogdon
U. S. Bureau of Mines, Spokane, WA
Darrell Von Bargen
Dick Walker
Sarah Walker
Washington Pilots Association
Rick Weholt
Jack Wemple
District Ranger, West Fork Ranger District
Douglas K. Caffee, West Fork Ranger Station
Duane Whipple
Wilderness Aviation
Craig Gehrke, Wilderness Society
Regional Forester, Missoula, MT
Wildlife Outfitter/Guest Ranch
The Honorable Pat Williams
Ron & Mimsi Wise
Punk Folfinberger
Howie Wolke
Bill Worf
Ken Wortring, Salmon N.F.
Jeff Yeo, University of Idaho
W. Travis & Beverly York
Jennifer Zahrobsky
Charlotte Zikan

INTERDISCIPLINARY TEAM

Dennis Elliott - Recreation Specialist
Mary Ann High - Wildlife Biologist
Kerry McMenus - Planner
Jim Olivarez - Noxious Weeds Specialist
Dan Ritter - Selway-Bitterroot Wilderness Coordinator

PROGRAMMATIC BIOLOGICAL EVALUATION

for

FOREST PLAN DIRECTION (VEGETATION) FOR THE SELWAY-BITTERROOT WILDERNESS

Introduction

This is a programmatic biological evaluation (BE) for an amendment to the Selway-Bitterroot Wilderness General Management Direction which is an appendix to the Bitterroot, Clearwater, Lolo and Nez Perce Forest Plans.

Species

All species currently listed as threatened, endangered and sensitive that are known to or have the potential to reside in the Selway-Bitterroot Wilderness are considered. These species are specified below in the "Potential Effects" section.

Proposed Action

The Bitterroot, Clearwater, Lolo and Nez Perce National Forests propose to amend the Selway-Bitterroot Wilderness General Management Direction to replace Section D (*Vegetation*) and Section E (*Forage*) with a new section titled *Vegetation*. The General Management Direction is an appendix to the Bitterroot, Clearwater, Lolo, and Nez Perce Land and Resource Management Plans (Forest Plans).

The direction includes goals, objectives and management standards to diminish the spread of noxious weeds, ensure that impacted sites are restored with native vegetation, and maintain or restore rare plant populations. Management standards set forth priorities for preventing and controlling weed populations; priorities for selecting native seed or plant propagation sources; and priorities for selecting management actions that move towards a desired condition. Monitoring indicators are identified, and Guidelines or more operational direction is provided for use in achieving the goals and objectives.

Potential Effects

The amendment will not affect threatened, endangered and sensitive species or their habitats. The nature of the amendment is to provide programmatic direction to managers. Subsequent site specific activities will be evaluated in appropriate NEPA documentation and project specific BE's.

The direction contained in this amendment is neutral toward the ecosystems in the Wilderness relative to the current Forest Plans.

The specific threatened and endangered species are listed in Table I and the evaluation in accordance with the Endangered Species Act is provided. The conclusion for all of these species is "No Effect". Sensitive species are listed in Table II and an evaluation in accordance with FSM 2670 is provided. The conclusion for these species is "No Effect".

Determination of Effects

The amendment will have no effect on any federally proposed or listed threatened or endangered species or its habitat. Formal consultation with the USDI Fish and Wildlife Service and the National Marine Fisheries is not required. There are no known significant irretrievable or irreversible commitments of resources made as a result of this action.

Table I

USDI Fish and Wildlife Service Threatened and Endangered Species

Species	Conclusion	Status
Bald Eagle *Haliaeetus leucocephalus*	No Effect	Threatened
Peregrine Falcon *Falco peregrinus*	No Effect	Endangered
Gray Wolf *Canis lupis*	No Effect	Endangered
Grizzly Bear *Ursus arctos*	No Effect	Threatened
Chinook Salmon *Oncorhynchus tschawytscha*	No Effect	Endangered
Howellia aquatilis	No Effect	Threatened

Table II

USDA Forest Service Sensitive Animal and Plant Species

Species	Conclusion	Status
Boreal Owl *Aegolius funereus*	No Effect	Sensitive
Trumpeter Swan *Cygnus buccinator*	No Effect	Sensitive
Lynx *Felis lynx*	No Effect	Sensitive
Common Loon *Gavia immer*	No Effect	Sensitive
Wolverine *Gulo gulo*	No Effect	Sensitive

Species	Conclusion	Status
Harlequin Duck *Histrionicus histrionicus*	No Effect	Sensitive
Fisher *Martes pennanti*	No Effect	Sensitive
Flammulated Owl *Otus flammeolus*	No Effect	Sensitive
Mountain Quail *Oreotyx pictus*	No Effect	Sensitive
Whiteheaded Woodpecker *Picoides albolavatus*	No Effect	Sensitive
Black-backed Woodpecker *Picoides arcticus*	No Effect	Sensitive
Townsend's Big-Eared Bat *Plecotus townsendi*	No Effect	Sensitive
Coeur d'Alene Salamander *Plethodon vandykei idahoensis*	No Effect	Sensitive
Spring/Summer Chinook Salmon *Oncorhynchus tshawytscha*	No Effect	Sensitive
Westslope Cutthroat Trout *Oncorhynchus clarki lewisi*	No Effect	Sensitive
Steelhead Trout *Oncorhynchus mykiss*	No Effect	Sensitive
Bull Trout *Salvelinus confluentus*	No Effect	Sensitive
Northern Bog Lemming *Synaptomys borealis*	No Effect	Sensitive
Adoxa moschatellina	No Effect	Sensitive
Agrostis oregonensis	No Effect	Sensitive
Allium acuminatum	No Effect	Sensitive
Allium fibrillum	No Effect	Sensitive
Allium validum	No Effect	Sensitive
Allotropa virgata	No Effect	Sensitive

Species	Conclusion	Status
Astragalus paysonii	No Effect	Sensitive
Athysanus pusillus	No Effect	Sensitive
Blechnum spicant	No Effect	Sensitive
Botrychium lanceolatum var. *lanceolatum*	No Effect	Sensitive
Botrychium minganense	No Effect	Sensitive
Botrychium montanum	No Effect	Sensitive
Botrychium pinnatum	No Effect	Sensitive
Botrychium simplex	No Effect	Sensitive
Calochortus nitidus	No Effect	Sensitive
Cardamine constancei	No Effect	Sensitive
Carex californica	No Effect	Sensitive
Carex hendersonii	No Effect	Sensitive
Carex livida	No Effect	Sensitive
Carex paupercula	No Effect	Sensitive
Castilleja covilleana	No Effect	Sensitive
Clarkia rhomboidea	No Effect	Sensitive
Cornus nuttallii	No Effect	Sensitive
Cypripedium calceolus var. *parviflorum*	No Effect	Sensitive
Cypripedium fasciculatum	No Effect	Sensitive
Dasynotus daubenmirei	No Effect	Sensitive
Douglasia idahoensis	No Effect	Sensitive
Dryopteris cristata	No Effect	Sensitive
Epipactis gigantea	No Effect	Sensitive
Erigeron asperugineus	No Effect	Sensitive

Species	Conclusion	Status
Erigeron evermannii	No Effect	Sensitive
Erigeron linearis	No Effect	Sensitive
Eupatorium occidentale	No Effect	Sensitive
Gentianopsis simplex	No Effect	Sensitive
Glossopetalon nevadense	No Effect	Sensitive
Grindelia howellii	No Effect	Sensitive
Halimolobos perplexa var. *lemhiensis*	No Effect	Sensitive
Halimolobos perplexa var. *perplexa*	No Effect	Sensitive
Haplopappus aberrans	No Effect	Sensitive
Haplopappus macronema var. *macronema*	No Effect	Sensitive
Idahoa scapigera	No Effect	Sensitive
Lesquerella humilis	No Effect	Sensitive
Lycopodium sitchense	No Effect	Sensitive
Mertensia bella	No Effect	Sensitive
Mimulus clivicola	No Effect	Sensitive
Mimulus primuloides	No Effect	Sensitive
Orogenia fusiformis	No Effect	Sensitive
Penstemon lemhiensis	No Effect	Sensitive
Saxifraga tempestiva	No Effect	Sensitive
Synthyris platycarpa	No Effect	Sensitive
Trifolium eriocephalum var. *piperi*	No Effect	Sensitive
Trifolium gymnocarpon	No Effect	Sensitive
Waldsteinia idahoensis	No Effect	Sensitive

Prepared by: [signature] Date: 11/8/94

Title: Moose Creek Ranger District Wildlife Biologist

Reviewed by: Janet L. Johnson Date: 11/08/94

Title: Bitterroot National Forest Ecologist/Botanist

Forest Plan Amendments

1	MA8a Boundary changes in Maynard Creek
2	Allowance for Mountain Bike Outfitting/Guiding
3	Allowance for fire salvage in MA5 - Gird Point
4	Roadless component of the ASQ (done by Forest, Region-wide)
5	Cache Policy in FCRONR Wilderness (done by Forest, directed by WO (since litigated))
6	Inclusion of Running Creek for Wild&Scenic River Study
7	Selway Bitterroot Wilderness LAC designations
8	Allowance for Outfitting/Guide River Permit
9	Allowance for Boat Launch Site - West Fork
10	Allowance for Boat Launch Site - Spring Gulch
11	Ecosystem Restoration on Unsuitable lands

Amendment 12.5

United States Department of Agriculture

Forest Service

Region 6
Region 1
Region 4

Pacific Northwest Region
Northern Region
Intermountain Region

File Code: 1920/2600
Route To: 2200/2400/2300/7100
Date: December 4, 2000

Interested Parties

This letter corrects the Inland Native Fish Strategy (INFISH) Environmental Assessment (EA) for:

- Acreages for priority watersheds
- Total acreage of National Forest System lands and priority watersheds
- Area boundary for INFISH
- Percentage change in priority watersheds by management area categories with these acreage corrections.
- Priority Watershed Map

The acreages in the INFISH EA are being corrected based on more accurate mapping using Geographic Information System (GIS) of the forest and of priority watersheds. This mapping was conducted by the Key and Priority Watershed Task Team, which was formed to address specific commitments made by the Forest Service (FS) to fully implement INFISH and the "Interim strategies for managing anadromous fish-producing watersheds in Eastern Oregon and Washington, Idaho and portions of California" (PACFISH). The Key and Priority Watershed Task Team was comprised of members from the FS and Bureau of Land Management (BLM) in Oregon, Washington, Idaho and Montana. The Key and Priority Watershed Task Team was one task team founded by the Interagency Implementation Team (ITT) to implement the commitments made by the FS. As a part of their efforts, the Key and Watershed Task Team was to accurately map INFISH priority watersheds.

In starting this effort, the Key and Watershed Task Team identified two sources of information showing priority watersheds. First, after the Decision Notice for INFISH, the priority watersheds were listed in an appendix to the Implementation Plan for INFISH. It was determined that the list omitted some watersheds identified by the administrative units during the INFISH process for priority watershed designation, and it included some watersheds that had not been identified during the INFISH process as priority watersheds. Second, the INFISH Environmental Assessment (EA) provided a map of the priority watersheds (figure II-1), but it did not list or name the watersheds. The Key and Priority Watershed Task Team used GIS analysis to develop a list of watersheds from the EA map. The GIS analysis of the EA map determined the priority watershed area to be 7,440,344 acres, not the 5.5 million acres stated in the EA. In addition, the INFISH area boundary was found to be inaccurate; some Northwest Forest Plan and PACFISH watershed areas were inaccurately located in the INFISH area.

The Key and Priority Watershed Task Team reviewed the priority watershed network in order to summarize and reconcile the errors. The following criteria were used to correct the watershed network: (1) Watersheds that provide habitat for bull trout were added; (2) Watersheds that do not provide habitat for bull trout were deleted; and (3) Priority watersheds identified and located outside the INFISH area were deleted. GIS analysis found a net difference between the INFISH EA priority watershed map and a corrected map of 965,440 acres (total acres previously 7,440,344 versus acres after 8,405,784). This is a 13 percent increase in acres. These new values are the result of accurately mapping the priority watersheds from the INFISH EA map using more specific GIS tools, and correcting the map to insure that those watersheds which were intended to be included or excluded for the conservation of bull trout were properly identified (Attachment 1).

Based on the above work of the Key and Priority Watershed Task Team, a corrected priority watershed map has been developed using GIS analysis, and the following corrections/errata are made to the INFISH EA to conform to the corrected map.

INFISH EA

1. pages I-4 and II-7.

In the INFISH EA, the value of 24.9 million acres was given for the total acreage of the National Forest System (NFS) lands within the assessment area. It also states that priority watersheds occupy about 5.5 million acres or 22 percent of the assessment area. After running GIS reports and correcting the maps for priority watersheds, it was determined that the total acreage of NFS lands was approximately 24.8 million acres, and the priority watershed area was 8.4 million acres which comprises 34% of the assessment area.

- ✓ See EA page I-4
  - change 24.9 million acres to 24.8 million acres.

- ✓ See EA page II-7
  - change 5.5 million acres to 8.4 million acres.
  - change 24.9 million acres to 24.8 million acres.
  - change 22 percent to 34 percent.

2. Page II-10, figure II-1

- ✓ See EA page II-10.
  - replace this page with the enclosed figure II-1.

3. Page III-35.

Table III-2 in the INFISH EA displayed the percentage of acreage within priority watersheds by Management Area Categories (MACs) under Alternatives B, D, and E.

The following table displays the original and corrected percentages within priority watersheds by MACs.

Category	1	2	3	4	5	6	7	8
Original Percentages in Table III-2 of the INFISH EA	29	2	28	1	38	2	0	0
Corrected Percentages	26	2	26	0	44	2	0	0

The INFISH EA stated that over 60 percent of the acreage in the INFISH EA is in MACs 1 through 4. These MACs represent the lease amount of management intensity. Category 5 represents the area that will require the most modification (38%). The corrected watersheds comprise 54 percent of the acreage in MACs 1 thru 4. Category 5 was increased from 38 percent to 44 percent.

Additionally, the INFISH EA identified the total area for priority watersheds to be 5.5 million acres. The corrected acreage is 8.4 million.

- ✓ See EA page III-35
  - change percentages in Table III-2 with the corrected percentages displayed above.
  - change 60% of the acreage is in MACs 1 through 4 to 54%.
  - change 5.5 million acres to 8.4 million acres.

In determining whether supplementation or revision of the INFISH EA is needed, we considered the following:

(1) The correction is consistent with the intent and effect of the 1995 decision:

a. INFISH was intended to provide programmatic mitigation measures for potential environmental effects that may result from future projects and activities.

b. The intended effect of INFISH was to maintain the environmental status quo while long-term management strategies are being developed.

(2) The correction does not substantially alter the estimates of effects projected in the EA:

a. The environmental assessment projected most beneficial effects would be minimal or would not be apparent during the interim period (INFISH EA, III-15).

b. This effect is not altered by correcting the acreage estimate.

c. The EA identified adverse social and economic effects from the selected alternative. These projected effects were considered to be minor or inconsequential since the INFISH strategy is interim. Given the interim nature of the strategy and the minor acreage change resulting from the acreage reconciliation, the effects are expected to be essentially unchanged.

d. Applying the requirements for Priority Watersheds to these watersheds should not have substantially different effects on the affected environment. Priority watershed designation increases the buffer widths for intermittent stream channels from 50 to 100 feet on each side of the stream. However, the actual effects of this change would likely be much less since all watershed additions to the priority watershed network have a federally listed fish species and Endangered Species Act consultations for projects occurring in watersheds with listed fish species would likely result in protections greater than those afforded by the Priority Watershed designation.

We reviewed the needed corrections to the EA, and considered them in relation to the environmental consequences disclosed in the INFISH EA and the purpose and need for INFISH. As a result, we have concluded that these corrections do not constitute significant new circumstances or information relevant to environmental concerns and bearing on the selected action or its disclosure to environmental impacts. Consequently, we have determined that no need to supplement or revise the INFISH EA exists.

/s/ *Mike Edrington* (for)
(for)
HARV FORSGREN
Regional Forester
Region 6

/s/ *Kathleen A. McAllister*

DALE BOSWORTH
Regional Forester
Region 1

/s/ *Jack G. Troyer* (for)
JACK A. BLACKWELL
Regional Forester
Region 4

Enclosures

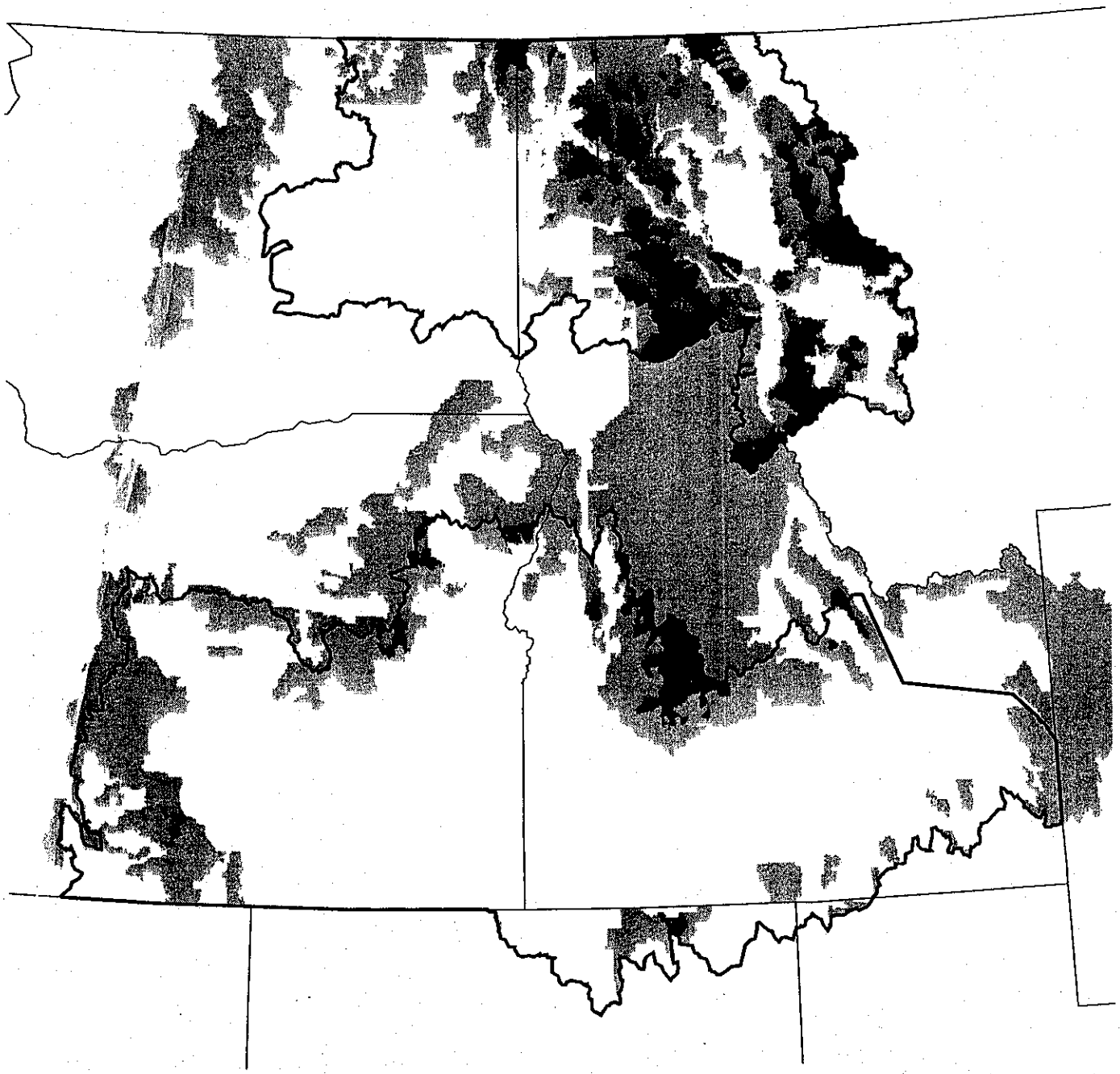


Figure II-1.

Priority Watersheds Within INFS

National Forests

Priority Watersheds

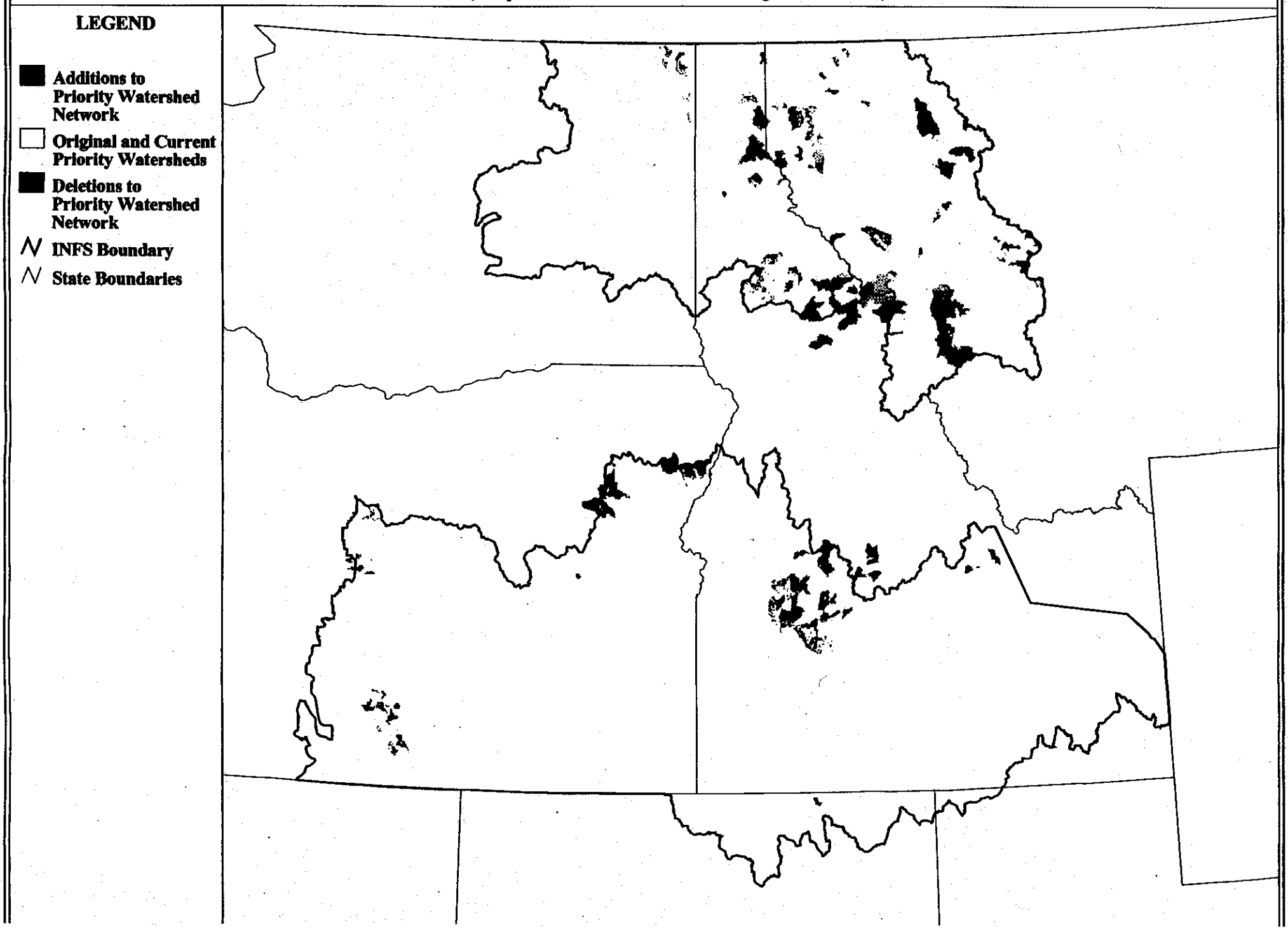
N
W E
S

Scale 1:~5,450,000

50 0 50 100
Miles

Attachment 1. INFS Priority Watersheds on Forest Service Administered Lands

(Comparison of Recent Additions with Original Watersheds)



BITTERROOT NATIONAL FOREST

Land and Resource Management Plan

Amendment 13

October 23, 1995

Amend Bitterroot National Forest Plan (September, 1987) to add:

MA1, Chapter III-5, 3.e.(10)

(10) Lands unsuitable for timber production will not be scheduled for timber harvest except for salvage sales, sales necessary to protect other multiple use values, or activities that meet other objectives on such lands if the Forest Plan establishes that such actions are appropriate. (NFMA 36 CFR 219.27(C) (1)). The Forest Plan establishes that such actions are appropriate for 174 acres located in portions of Units 2,3, 10, 12, 24, 28, and 29 of the Beaver Woods Vegetation Management Project in the proximity of Sections 16, 21, 26, 29, 32, 34 and 35 T3S, R22W and Section 5 T4S, R22W on the West Fork Ranger District.

END OF AMENDMENT

******

BITTERROOT NATIONAL FOREST

Land and Resource Management Plan

Amendment 14

June 27, 1996

Amend Bitterroot National Forest Plan (September, 1987) to add:

MA1, Chapter III-18, 3,e(8)

Lands unsuitable for timber production will not be scheduled for timber harvest except for salvage sales, sales necessary to protect other multiple use values, or activities that meet other objectives on such lands if the Forest Plan establishes that such actions are appropriate. (NMFA 36 CFR 219.27(C)(1)). The Forest Plan establishes that such actions are appropriate for unsuitable portions of Units 4, 8, and 24 of the Warm Springs Project in the proximity of Sections 7 and 18, T.1N., R.19W. and sections 12 and 13, T.1N., R.20W. on the Sula Ranger District.

END OF AMENDMENT

******

BITTERROOT NATIONAL FOREST

Land and Resource Management Plan

Amendment 15

June 25, 1997

Amend Bitterroot National Forest Plan (September, 1987) to add:

MA8b, Chapter III-62, 3.h.(1)

(1) Public ownership of this management area will not be reduced and important winter ranges will be considered for addition to public ownership by exchange or purchase (Appendix L.) **The following parcels as listed and described in the Decision Notice for the Federal Land Exchange (FLEX) dated 7/97 are exceptions to the above standard and disposal of winter range is allowed due to a greater land management benefit:**

French Basin #4	**130**	**acres of MA 8b**
French Basin #5	**40.74**	**acres of MA 8b**
Blind Draw	**40**	**acres of MA 8b**

END OF AMENDMENT

******

BITTERROOT NATIONAL FOREST

Land and Resource Management Plan

Amendment 16

August 12, 1997

Amend Bitterroot National Forest Plan (September, 1987) to add:

Forest Wide Management Direction, Chapter II-21, F.2.e.(14)

(14) Manage roads through the Travel Plan process to attain or maintain 50 percent or higher elk habitat effectiveness (Lyion, 1983) in currently roaded third order drainages. Drainages where more than 25 percent of roads are in place are considered roaded. Maintain 60 percent or higher elk habitat effectiveness in drainages where less than 25 percent of the roads have been built. **Third order drainages 03K-313-3 and 03K-314-2 on the Sula District will be managed for 47 and 40 percent level of elk habitat effectiveness, respectively.**

END OF AMENDMENT

******

BITTERROOT NATIONAL FOREST

Land and Resource Management Plan

Amendment 17

June 25, 1997

Amend Bitterroot National Forest Plan (September, 1987) to add:

See attached map for **Management Area boundary relocations.**

III. Management Area Direction, Chapter III-2, A, Table III-1
See attached page for **changes in Management Area acres.**

MA3a, Chapter III-15, 1.
About **103,189** acres of Management Area 3a are in the visually sensitive foreground .....

MA5, Chapter III-36, 1.
Management Area 5 contains **232,683** acres of semiprimitive recreation and elk.....

MA10, Chapter III-69, 1.
Management Area 10 contains **1606** acres of developed recreation sites on the Forest. .....

MA10, Chapter III-70, 3.b.(1)
(1) The visual quality objective of developed sites, adjacent areas, and access corridors is retention (USDA), 1977). **The visual quality objective for Lost Trail Ski Area is modification.**

END OF AMENDMENT

******

Table III-1
Management Area Assignment

Management Area	Suitable Timberland	Management Area Acres	Percent of Forest	-------Subtotal------- Acres	Percent
1	162,797	194,089	12		
2	109,506	128,785	8		
3a	70,911	**103,189**	7		
3b	41,452	50,431	3		
3c	5,154	7,027	<1	**483,521**	30
5		**232,683**	15	**232,683**	15
6		76,805	5		
7a		41,162	3		
7b		193,703	12		
7c		*508,217	32	819,887	52
8a		25,949	2		
8b		9,499	<1		
9		488	<1		
10		**1606**	<1		
11a		4250	<1		
11b - Located within MA 1, 2, 3a, 3c, 5 & 8a					
11c - Located within MA 3a				**41,792**	3
Total		1,577,883	100	1,577,883	100

* September 30, 1986 edition of "Land Areas of the National Forest System" shows 511, 997 acres for the Bitterroot portion of the Selway- Bitterroot Wilderness.


Amendment 17
Map B-1 Forest Plan Amendment, Management Area Reallocation
MA 5 to MA 10 465 ac.
MA 3a to MA 10 680 ac.
LEMHI CO
B-3

United States Department of Agriculture | Forest Service | Beaverhead-Deerlodge National Forest | Wisdom Ranger District

File Code: 2320/1950
Route To:

Date: May 10, 1999

Subject: Anaconda Pintler Plan Revision - EA for Comment

To: Anaconda Pintler Wilderness Managers

Attached for your review and comment is the Environmental Assessment for the Anaconda-Pintler (AP) Wilderness Plan with a brief abstract that outlines the key features of the preferred alternative on the back of this page. The preferred alternative was identified by the Interdisciplinary Team and the line officers at an April 11, 1997 meeting in Wisdom. This alternative attempts to strike a balance which maintains the status quo in terms of how the A-P looks and feels. It improves resource and social conditions where possible without being highly restrictive.

We would like to reach a final decision on the future management of the Anaconda-Pintler this fall. A press release will be sent out this week as well as EAs for comment to those who responded to the initial scoping. A letter informing 577 individuals that the A-P EA is available for comment will also be mailed this week.

We have asked folks to respond by July 15th, 1999. The project file is housed in Wisdom but comments can be given to any of the members of the IDT team listed below and they will forward the comments on to us here.

Deb Gale
Wisdom Ranger District
PO Box 238
Wisdom, MT 59761
(406) 689-3243

Bill Sprauer
Philipsburg Ranger District
P.O. Box 805
Philipsburg, MT 59858
(406) 859-3211

Judith Fraser
West Fork Ranger District
6735 West Fork Road
Darby, MT 59829

Paul Olson
Wise River Ranger District
P.O. Box 100
Wise River, MT 59762

Thank you for your attention to this and your interest in the future of the Anaconda-Pintler Wilderness.

Sincerely,

DENNIS HAVIG
District Ranger

Environmental Assessment
May 1999

Forest Plan Direction for the Anaconda-Pintler Wilderness
Beaverhead-Deerlodge and Bitterroot National Forest

TABLE OF CONTENTS

CHAPTER I - PURPOSE AND NEED

Introduction

Wilderness Management direction for Anaconda-Pintler Wilderness, (A-P) is being updated for the respective Forest Plans, (Beaverhead, Bitterroot, Deerlodge). It will revise the Anaconda-Pintler Wilderness Plan (1977) as it was appended to those plans. Wilderness direction has not been updated for 20 years. The 1977 plan said it would be updated every 10 years. The proposed direction guides management activities and establishes management standards for the Wilderness. It describes management practices which will maintain or restore wilderness integrity. Updated direction includes goals, objectives, standards, guidelines, monitoring and evaluation requirements. However, the rate of implementation and management activities are dependent on the annual budgeting process.

As part of this analysis the Northern Regional Forester is proposing to formally establish two Research Natural Areas (RNA's) which are either wholly or partially contained within the Anaconda-Pintler Wilderness. (See proposed Action 5, page 7.)

The A-P covers 159,086 acres located along the Continental Divide in southwestern Montana. A vicinity map is attached. The area is fairly high in elevation with much of the crest above 9,000 feet. Elevations range from 5,400' on the East Fork of the Bitterroot, to 10,793' on West Goat Peak. Annual precipitation, varying from 40-60", combines with complex geology and diverse topography to produce an array of vegetation which in turn supports many wildlife species.

With designated Wilderness status, the Anaconda-Pintler has significance as a special area for future generations. It also has a functional role as part of a larger landscape.

Purpose And Need

The goal of wilderness management is to preserve wilderness values. Current Forest Plans do not recognize differing conditions throughout the Wilderness nor do they provide specific guidelines for determining resource trends and acceptable conditions. Amended direction will define an acceptable range of desired resource and social conditions through identification of zones as described in the attached narrative and tables. New direction for the A-P is necessary because of increased use, cumulative effects of increasing numbers of people and new issues and current threats to wilderness quality. These are described more fully under Proposed Actions.

Management will reflect the character of the A-P and its history as an outstanding example of this nation's wildlands. The intention of this updated direction is to

maintain the quality of this area despite pressures of growing recreation use and other human induced changes.

Proposed Actions

The Proposed Actions were developed from an evaluation of the existing conditions of the A-P, public comments, and management concerns. The proposed actions are premised upon Desired Future Condition which is described in Chapter I-page 12.

The Proposed Actions are

1. To manage increasing recreation use by identifying zones and prescriptions which reflect acceptable use levels and the degree of impact allowed for each area;

2. To set guidelines for responding to new requests for outfitter and guide permits as well as requests for increased "user days" from existing outfitters;

3. In full cooperation with Mt. Fish, Wildlife and Parks, determine which lakes and streams are appropriate for stocking with indigenous species and which should not be stocked.

4. To identify management direction for treating noxious weeds;

5. To establish the proposed Research Natural Areas (RNA's) on Goat Flat and the East Fork of the Bitterroot;

6. To change management direction for Mystic Lake Cabin; and

7. To change monitoring requirements

The Proposed Actions are discussed more fully below.

Proposed Action 1 - Establish Recreation Use Zones and Prescriptions

Purpose and Need for Action 1

Population growth and increasing demand for wilderness experiences are impacting the A-P. Western Montana is growing at a rapid rate. Pressure on most wildlands, nationwide, is increasing. The Anaconda-Pintler is not an exception to this trend. Currently, individuals and groups from all over the nation are coming to the Anaconda-Pintler because it "has not been discovered". One of the primary things that people seek when they come to the Anaconda-Pintler is an experience where they "seldom, if ever, see anyone in another party".

Use is gradually increasing as population grows and more people discover the A-P. Increasing numbers of groups use the area. These include boy scouts, church groups, educational groups and various institutional groups. Groups, whether outfitted or not, need larger sites. Any group often causes increased social and physical impacts in an area.

Zones are established based on the desired wilderness condition. They reflect the levels of acceptable change in given areas and focus strategies to prevent unacceptable conditions. These strategies include various preventative measures which may help maintain wilderness quality even with increasing wilderness use.

Recreational use inevitably creates some impacts. Measurable indicators which reflect these impacts are campsite density, loss or alteration of vegetation around campsites, encounters with other users, etc. These indicators are listed in Table I, Chapter II, page 55. Standards, guidelines, goals and objectives relate to these indicators. These desired conditions are also described in the narrative description of Zones I-IV, Chapter II-Pages 36-42. The amount of impact acceptable differs within each zone.

If goals, objectives, and standards, stated in Chapter II, are not being met then new restrictions or management actions that correct specific shortcomings may have to be taken. This is discussed further in Chapter II - starting on page 28 , Actions Common to all Action Alternatives in the Vegetation and Recreation sections under Goals, Objectives and Guidelines.

Proposed Action 2 - Outfitter and Guide Special Use Permits

Purpose and Need for Action 2.

Numerous requests are received from individuals or organizations that want to outfit and guide in Wilderness. Because of the nature of the A-P, there is limited capacity and little

A-P specific need for outfitting. This plan will provide guidelines for responding to requests from prospective outfitters.

The Anaconda-Pintler is a relatively small, easily accessible wilderness. It is long and narrow in configuration with most points being accessible in a day from the nearest trailhead. It is in good condition and has ample opportunity for solitude. Scoping tells us that the public wants to keep it much like it is. Current use includes people from all over the nation as well as those from local communities.

Reported use days by all but one existing outfitter are lower than their priority use days. Currently some outfitters provide "traditional", stock-supported opportunities for hunting and fishing as well as stock oriented or stock supported summer travel. Other outfitters guide backpacking trips. To date there have been no outfitter services requested during the winter.

The Forest Service has received very few requests from the public asking for an outfitter to take them into the Anaconda-Pintler. The A-P can be readily used by those with basic skills and equipment. Day use is prevalent in a number of areas.

A time and dollar cost is associated with permit administration. Often, neither time nor money is ample to administer permits.

Purpose and Need for Action 3 - Develop Fish Stocking Within the Wilderness

In full cooperation with MT. Fish, Wildlife and Parks, determine which lakes and streams are appropriate for stocking with indigenous species and which should not be stocked.

It is recognized that stocking fish in waters in the Anaconda-Pintler has altered the natural biological community in many of the lakes and streams. The practice was established before the 1964 Wilderness Act. Although it is not supported by everyone, stocking is a traditional practice and supports a traditional use. There is a need to address the direct and indirect effects of fish stocking and to take action to minimize adverse impacts. The intent is to move the wilderness toward more natural conditions where possible and manage fish stocking so that it reflects wilderness values.

Proposed Action 4 - Prevention and Removal of Noxious Weeds

Use a variety of methods, (chemical, biological and physical) to eliminate spread of noxious weeds in the Anaconda-Pintler, including treatment of areas such as trailheads which threaten to spread weeds into the Wilderness.

Purpose and Need for Action 4

Noxious weeds are showing up in isolated spots in the Wilderness. They are prevalent in some trailhead areas and on approach roads, particularly on the Bitterroot side of the Wilderness. The A-P is a core area of virtually unmodified land between modified lands. Settlement accompanied by timber harvest, agriculture and subdivision of lands have changed the Bitterroot Valley and its surroundings. The valley is infested with noxious weeds. The Wilderness forms a barrier between the Bitterroot and the Big Hole Valley, the latter being comparatively weed-free. The A-P connects with the large wild areas of the Sapphire Mountains to separate the Bitterroot from Flint Creek and Upper Rock Creek as well. Neither Flint Creek or Rock Creek has substantial development or the same degree of weed infestation as exists in the Bitterroot Valley. Noxious weeds have the potential to drastically change the wilderness. Direction will help prevent weeds from gaining a foothold as they have in adjacent areas and other wildernesses.

Proposed Action 5. Establish Research Natural Areas (RNAs)

The Northern Region Regional Forester proposes to designate two Research Natural Areas (RNAs) either wholly or partially contained within the Anaconda-Pintler Wilderness (Maps II and III). A decision to establish these RNAs would amend Forest Plans for the Bitterroot and the Deerlodge National Forests to reflect these areas are established RNAs. Establishment Records for each of the RNAs, along with management direction for the Anaconda-Pintler Wilderness, would be implemented as the guiding management direction for each area. Establishment Records are consistent with the broader direction found in Forest Service Manual (4063), Regional Guide, and Forest Plans.

Decision to be Made

The decisions to be made concerning the two Research Natural Areas are: 1) whether or not to designate each of the proposed areas; 2) and if so, what changes or amendments, are required to be made to the Forest Plans, and 3) if amendments are determined necessary, whether or not they are significant. Each of the two areas will be considered individually. The Regional Forester could decide to designate both RNAs, or one, or neither.

Purpose and Need for Action 5

Research Natural Areas are part of a national network of ecological areas designated in perpetuity for research and education and/or to maintain biological diversity on National Forest System lands. The proposed Research Natural Areas were identified by the Forest Service Northern Region and Intermountain Research Station through studies of areas that represented target plant communities for addition to the national network. Current NEPA analysis requirements for RNA establishment will be accomplished via this Environmental Assessment.

During the original Forest Planning Process (mid 1980s) the Bitterroot and Deerlodge National Forests identified these two proposed RNAs in their Forest Plans. There now exists a need to formally establish these areas per Forest Plan direction and direction contained in Forest Service Manual 4063.

The purpose of designating these RNAs is to provide for their long-term protection and recognition, and to contribute to the national network of areas of important forest, shrubland, and grassland types, as well as other plant communities, that have special or unique characteristics of scientific interest and importance.

The Bitterroot and Deerlodge National Forest Plans contain a section on "Research Natural Area Objectives," which essentially states,"...(the identified) types were assigned in the 1983 Northern Region Guide as the Forests's objectives for Research Natural Area establishment." The Forests generally identified and proposed representative areas in the Forest Plans for meeting the assigned targets, and have standards to protect the values of these areas. Field surveys and verification were conducted and Establishment Records prepared for each proposed area.

This EA tiers to, and is consistent with, the above planning process, the 1983 Regional Guide, and both National Forest Plans. Therefore, issues of scale, and extent or representation of natural features, across the entire Northern Region are not reanalyzed, nor repeated here.

The proposed RNAs were identified for designation through Regional and Forest level planning based on their representative and/or unique natural and ecological features. They were identified in the last planning processes to become part of a designated system of areas with a management goal of maintaining their natural condition and features for use in non-manipulative research, as well as for baseline comparison and observation (FSM 4063).

The Goat Flat RNA was originally proposed at 150 acres in the Forest Plan. This current proposal has been expanded to 1376 acres of National Forest System Land for the purpose of including a broader representation of alpine, subalpine, and endemic plant habitats. The proposed Goat Flat RNA encompasses 679 acres within Wilderness and 697 acres outside of Wilderness. The East Fork proposed RNA is wholly contained within the Anaconda-Pintler Wilderness and the boundary remains the same as proposed in the original Forest Plan, approximately 298 acres.

Proposed Action 6 - Change Management Direction for Mystic Lake Cabin

Purpose and Need for Action 6

The 1977 Wilderness Direction specified that the Mystic Lake Cabin was not essential for administration of the Wilderness and would be phased out over a five year period and evaluated for it historical value. If there was no historical value the cabin would be phased

out. Further analysis has determined that the Mystic Lake Cabin has cultural significance. It is no longer appropriate that the cabin be phased out without steps being taken to try to protect the structure. This proposed action will establish management guidelines for the cabin that recognize it's cultural value and provide appropriate levels of fire protection.

Proposed Action 7 - Change Monitoring Direction

Purpose and Need for Action 7

New monitoring guidelines are needed to see if Wilderness condition is as described in desired future condition. Monitoring activities listed in the 1977 Anaconda-Pintler Wilderness Management Plan and individual Compartment Prescriptions will continue to be monitored. This plan will set up new guidelines on how we will do monitoring. Specific indicators that will be monitored include campsite density, barren core area, number of social trails, encounters, administrative and/or permitted camps, noxious weeds, campfire closures, resource protection facilities, stock access (trail) and containment (hitch rails), Forest Service system trails, non-system trails, trail signs, fish stocking (indigenous species), existing grazing allotments, outfitter/guide activities and amount of use, recreational use zones and existing and new regulations.

SCOPE OF THE PROPOSED ACTIONS AND ANALYSIS

The purpose of this environmental analysis is to evaluate proposed actions that are programmatic in nature. That is, the management direction set forth in this document provides a general framework within which project activities or protective measures may be implemented. Subsequent NEPA analysis or management decisions may be made at more site specific levels to implement the direction. This direction does not repeat guidance which is already contained in existing laws and policies. Examples of such laws are the Wilderness Act (P.L. 88-577), Appendix 1, which provides overall direction for all Wilderness activity; the Threatened and Endangered Species Act which provides direction for the protection and recovery of listed plant and animal species, and the Clean Water Act which sets water quality standards. In addition, existing Federal Regulations (CFR's) are not included in this guidance.

This proposed direction does not describe the methods, the "how to", or the schedule of implementing the direction nor does it describe the day-to-day or operational actions to be carried out in the management of the A-P. A Wilderness Operating Plan, when completed, will give details for on-the-ground operations to insure uniform and consistent administration of this direction. This direction will amend the current Forest Plans. Those portions of the 1977 A-P Plan not replaced by this updated direction will be incorporated into the updated operating plan, see Appendix II.

OFFICIALS RESPONSIBLE FOR DECISIONS

The responsible officials for this Environmental Analysis, (EA), are the Forest Supervisors of the Beaverhead-Deerlodge National Forest and the Bitterroot National Forest. The Regional Forester is responsible for establishing Research Natural Areas, (FSM 4063.01) and deciding if visitor registration and/or a permit will be required (FSM 2323.04c 1).

Based on the analysis in this EA, three levels of decisions must be made:

1. The Forest Supervisor will decide which direction is appropriate and which needs to be added, if any, to the Forest Plans to ensure that the Anaconda-Pintler Wilderness is managed to preserve its wilderness character. This 'programmatic' level of decision will either amend management direction for the Beaverhead, Deerlodge and Bitterroot Forest land and Resource Management Plans, Units MA 9, MA B1, MA 7a, respectively, based on one of the action alternatives or continue existing management (No Action Alternative). Amendments will be consistent with laws, regulations, policies, and forest Plan direction. "Opportunity Classes" in the Beaverhead Forest Plan will be replaced by zones.

2. The Forest Supervisors must issue special orders which will support the programmatic decision which is selected. This will involve such things as group limit and campfire closure areas.

3. The Regional Forester must decide what type, if any, permit will be required

4. The Regional Forester has the authority to establish RNA's. The decision to be made is whether or not the proposed Goat Flat and East Fork (Bitterroot) RNA's should be established as RNA's and if so, how they should be managed.

DESIRED CONDITIONS FOR THE ANACONDA-PINTLER WILDERNESS

Significance of the Area

Much of the Anaconda Range was originally designated as a Primitive Area in 1937 due to its outstanding physical and biological characteristics (Regulation L-20, October 2, 1937). It was designated as "Wilderness", December 13, 1962 under U-1 regulations signed by the Secretary of Agriculture. The area was classified as an "instant" Wilderness with the passage of the September 3, 1964 Wilderness Act and is now a unit of the National Wilderness Preservation System.

Early documents show the area was designated as Wilderness because of its rugged, scenic beauty, pristine condition, and "almost complete absence of man's influence." Since the '30's, when it was established as a primitive area, the Anaconda-Pintler has been recognized for its importance to wildlife, water resources, outstanding scenery and backcountry recreation.

The Anaconda-Pintler is a narrow mountain range along the Continental Divide in southwestern Montana. With designated acreage at 159,086, it is relatively small by western Wilderness standards. The area is fairly high in elevation with much of the crest and eastern section above 9,000 feet. Elevations range from the 5,400' willow flats on the East Fork of the Bitterroot to the rock and snow summit of West Goat Peak at 10,793'.

An array of vegetation exists because of complex geology, diverse topography, and annual precipitation variation which ranges between 40 to 60". The vegetative spectrum varies with elevation and available moisture. Sagebrush, extensive willow flats, ponderosa pine, Douglas fir, lodgepole pine, and spruce comprise much of the lower elevation vegetative mosaic. These blend into aspen, subalpine fir, whitebark pine, and subalpine larch as the elevation increases. Small wet meadows are found in many locations. This diverse plant life supports varied wildlife populations which include mountain goat, elk, moose, deer, bear, mountain lion, and wolverine as well as many smaller mammals and birds. Native west-slope cutthroat and bull trout are found in some streams. Lakes have cutthroat or non-native rainbow planted over the years.

The high elevation zone is characterized by bare, lichen-covered talus slopes, tarns, and snowfields. Solifluction lobes and terraces, rock polygons, and stone stripes are of particular interest. Alpine vegetation communities represented are: grassland, cushion plant, snowbed, both dry and wet slope, and wetland communities. Relatively large stands of sub-alpine larch and whitebark pine are found at higher elevations. The whitebark pine varies from large healthy trees up to 36" in diameter to mixed age stands. Although there is some sign of blister rust there is little mortality to date. In high basins and along ridges there are areas where whitebark occurs in stands of krummholz form. Many whitebark snags remain from the bark beetle infestation of the 30's. Limber pine is also present on limestone outcroppings in the north east portion of the Wilderness.

There are two proposed RNA's listed in the respective Forest Plans. The East Fork of the Bitterroot and Goat Flat. These RNAs enhance the research and biodiversity conservation values of the Wilderness by providing additional recognition for the significant ecological features of these areas.

Headwaters of the Big Hole, Upper Clark Fork (Rock Creek), and Bitterroot Rivers, all important cold water fisheries and irrigation sources, lie within the Anaconda-Pintler. The Wilderness takes its name from the Anaconda Mountain Range and Charles Ellsworth Pintler, a Big Hole Valley settler of the late 1800's.

The narrow configuration of the wilderness makes even its high elevation central section readily accessible. The integrity of the area is intact because it is rugged and because, historically, it has not been near a population center.

The A-P runs basically west to north-east while most mountain ranges in the vicinity are north-south in orientation. Biologically, it functions as corridor, divider, security area, reference area, and gene pool. The area allows examination of relatively undisturbed ecological processes over long temporal and large spatial extents. The Anaconda-Pintler is a core area of virtually unmodified land between lands modified by humans. The Anaconda-Pintler connects with the large wild areas of the Sapphire Mountains to separate the Bitterroot Valley from the Flint Creek, Upper Rock Creek and the Big Hole valleys. None of these have substantial development. The Big Hole is virtually weed free and modified primarily by agriculture with some timber harvest around the fringe. The A-P is in close proximity to other large wild areas such as Trail Creek, Allen Mountain, West Big Hole, and the West Pioneers.

Desired Future Condition

The intent of the proposed management direction, including goals, objectives, standards and guidelines, is to help move toward the desired future condition. The following paragraph is a description of the desired future condition for the Wilderness.

The A-P is characterized by a predominantly unmodified natural environment where ecological processes operate without interference. Wilderness characteristics as they relate to process (function), appearance (structure), and composition (elements) of the ecosystem(s) within the Wilderness are maintained. Noxious weeds are not present.

There is opportunity for a high quality "wilderness experience" which includes solitude, adventure, risk, self-reliance and primitive forms of recreation. The area feels and looks wild to those who visit. Human activity and associated stock use does not unduly displace wildlife, substantially alter natural vegetative communities, substantially disturb or compact soil. Air and water quality retain a high level of purity. Heritage resources are protected.

Management Philosophy

The 1964 Wilderness Act provides general direction for managing wilderness and protecting wilderness values. The Act states that wilderness areas "...secure for the American people of present and future generations the benefits of an enduring resource of wilderness....unimpaired for future use and enjoyment." It further states that Congress intended to manage these wildernesses so that "...the earth and it's community of life are untrammeled by man..." Wilderness is defined as "retaining it's primeval character and influence..." and it "...appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; has outstanding opportunities for

solitude or a primitive and unconfined type of recreation...."and "may also contain ecological, geological, or other features of scientific, educational, scenic or historical value."

Document Organization

The following narratives briefly describe the organization and content of this EA:

Chapter II - describes issues and the five alternative ways (including no action) of addressing or resolving environmental issues related to this proposal. The four action alternatives wholly or partially meet the purpose and need for the proposal, as described in this chapter. The alternatives are displayed so that a comparison can be made of the environmental impacts of each.

Chapter III - discusses those portions of the existing conditions that may be affected by the alternatives. The location, existing condition, history and desired future condition are described for the resources affected.

Chapter IV - discloses the environmental consequences of implementing the alternatives, using the descriptions in Chapter III as the baseline for measurement. Direct, indirect, and cumulative effects are discussed.

Literature Cited and References

List of Preparers - lists the individuals who prepared this EA.

Glossary

Appendices - contain key supporting documentation.

Maps

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CHAPTER II - ISSUES AND ALTERNATIVES

Introduction

This section describes the range of Alternatives considered, including the proposed action. The Alternatives respond in various ways to the significant issues. As stated in Chapter I the intention of this action is to maintain the quality of the A-P despite pressures of growing recreation use and other human induced changes. Forest Plan direction for the A-P has not been updated for 20 years.

Scoping And Public Involvement Process

Many meetings and discussions have taken place to decide what issues and concerns need to be addressed to maintain the quality of the A-P. An Interdisciplinary Team (ID team) was formed during the preliminary analysis and has conducted this environmental analysis. Those involved with wilderness management, line officers, forest planners, and various specialists have participated in discussions and reviews which have provided input to the analysis.

Public involvement has taken place in a number of ways. There have been several mailings, one during the preliminary analysis and two during the NEPA analysis. Mailing lists are composed of individuals, organizations, outfitters and guides, local government and local business representatives. Written and oral comments have been received in response to these mailings. Comments on wilderness registration cards, wilderness ranger reports and questions and comments to receptionists have also been noted and considered.

THE ISSUES

As a result of the scoping effort, the public and Forest Service personnel raised a number of concerns. These are grouped into the following issues. The issues influenced how alternatives were formed.

Issues Identified but Eliminated from Further Consideration

The following issues will not be analyzed in this EA either because they are already mandated by law or they are outside the scope of the analysis.

- **Changes in the boundaries of the A-P.** The boundaries of Wilderness areas are established by Congress. Potential additions to the A-P are addressed in the current Forest Plans.

- **Buffers around the A-P.** Management of adjacent lands is already addressed by Management Areas in the respective Forest Plans.

- **The reintroduction of predator species and hunting and fishing regulations in the A-P.** Reintroduction of wildlife species is determined by Montana Fish Wildlife and Parks and U.S. Fish and Wildlife Service. Hunting and fishing are permitted in the A-P under regulations of the State of Montana.

- **Current levels of funding.** While the Forest Service has some discretion, Congress allocates funding annually. This is not under local control and is outside the scope of this analysis.

Fire. Management of natural ignitions is addressed in the Fire Management Action Plan for each Forest. This document was updated with 1993 Fire Management Guidelines for the Anaconda-Pintler. Fire frequency is being monitored to determine if these guidelines are successfully returning fire to the landscape within the natural range of variability. Management ignited fire will not be addressed in this document.

- **Air and water quality influenced by air pollution.** An air quality monitoring plan (1995 A-P AQRV Plan) is in place. Monitoring for the Class I Airshed will continue. The Forest Service is responsible for communicating the conditions of the selected Air Quality Related Values to the State of Montana, Department of Environmental Quality. The State agency is responsible for the enforcement of the Clean Air Act.

- **Access and Trailheads.** These issues will not be addressed by this document but will be part of the travel plan updates for the respective forests.

INDICATORS

Indicators are used to compare alternatives. In the case of Management Zones indicators are specific variables which can be measured to assess the described conditions. The objectives and standards for these indicators were developed as the maximum limits of change, to serve as a "red flag" when unacceptable conditions are being approached or exceeded. When these standards or objectives are approached management actions need to be taken.

Description of Indicators

- **Campsite Density, Barren Core Area, and Social Trails** are connected to both bio-physical and social impacts. All these indicators occur, to varying degrees, in areas where moderate amounts of camping and day use take place. Vegetation, soils, and wildlife habitat, are all influenced if campsites become too dense or too impacted or if

there is a proliferation of social trails. An area looks and feels less wild if it has numerous impacted use sites and social trails.

Studies by the Intermountain Research Center, (Cole, 1993) emphasize the problem of campsite proliferation and recommend various strategies for addressing it. Those strategies are incorporated in various management actions recommended in action alternatives of this document.

- **Encounters** are a direct measure of social impacts and are indirectly related to many bio-physical impacts. For most people, the wilderness experience is diminished if they encounter a large number of other people. The Wilderness Act defines wilderness as a place which has "outstanding opportunities for solitude." Frequent human presence also has the negative effect of displacing or taming wildlife.

- **Administrative and Permitted Camps** tend to be large camps and often are of relatively long duration or have repeated use. Since size, duration, and frequency of use contribute to greater social and bio-physical impacts, administrative actions which control these camps and limit size, duration and frequency are desirable.

- **Permanent Structures** fall into three major categories: 1) Heritage Resources are considered part of the value of wilderness. 2) Trail related structures such as waterbars, turnpikes, and puncheons, prevent resource damage including erosion, mudholes, tread braiding, etc. 3) Structures such as hitching racks or toilets tend to concentrate use and impacts, on one hand, but may prevent impacts that are more severe or widespread. Any structure makes an area seem less natural and also has the potential of changing use patterns which may or may not be desirable. The Wilderness Act defines Wilderness as an area "without permanent improvements".

  FS System Trails and Non-System Trails both change the wilderness character of an area bio-physically and socially. Trails directly influence how much and what kind of use an area receives. Thus, administrative decisions regarding trails have long term effects on the wilderness.

- **Signs** have a direct influence on how wild an area feels and the challenge of wilderness travel.

- **Fish Stocking** has a direct influence on the species mix in an area and on the recreation experience. It also has indirect effects if people adjust their use according to whether or not a given lake has fish.

- **New Regulations** such as lower group limits, campfire closures, stock restrictions, permit requirements and access changes influence both the social experience and the resource condition.

- **Consistent Guidelines for Outfitters and Guides** relating to new permits and user days are defined.

- **Noxious Weeds are prevented and eliminated.**

Issues Used To Develop Alternatives

The issues that the ID Team believed to be most significant and that were used to develop alternatives are discussed below, along with the indicators used to gauge an alternative's response to the issue. The indicators are used to compare the alternatives in this chapter and are key to illustrating the alternatives in the tables.

Issue 1: Human activity is affecting vegetation, soils and the natural appearance of the A-P in areas of concentrated use

Human activity is affecting vegetation, soils and the natural appearance of the A-P along trails, in campsites, and on lakeshores. Most of the A-P still appears natural. Wider use of "Leave No Trace" techniques and the efforts of wilderness rangers have actually improved the condition of some areas. New regulations over the years have also helped change use patterns and the resulting impacts.

In other places, impacts are increasing in severity and/or proliferating. These changes occur because of multiple factors. In some places, crowding itself makes an area seem less natural.

Some changes may have small scale bio-physical impacts on wildlife habitat, water quality, natural diversity, natural processes and other important components of wilderness. Vegetation is sometimes obliterated or the vegetative composition in a given area changed as a result of human activity. Soils may become compacted and no longer support vegetation. Lack of vegetation increases erosion and sediment deposition. Water run-off or puddling may increase as may wind erosion. Though some changes are primarily in appearance, they still make an area seem less wild and this diminishes the wilderness experience.

When people use stock more impacts on vegetation and soil may occur. Impacts may include increased trampling, vegetation utilization, scarred trees, soil compaction and erosion.

Indicators for this issue include:

Campsite Density

Barren Core Area

Social Trails

Encounters

Administrative and Permitted Camps

Permanent Structures

FS System Trails and Non-System Trails

Issue 2: Elements of the wilderness experience--solitude, adventure, discovery, freedom and challenge are adversely influenced by increasing recreation use

Increased use diminishes the opportunity for solitude. People need to work harder to find it. As people are displaced from some areas and move into others the cycle of increased social and bio-physical impacts in more remote areas continues. Places where solitude used to be virtually guaranteed become more and more utilized by individuals who are displaced from other areas with increasing use.

Adventure and discovery are diluted if numerous other people frequent a trail or a destination area. Challenge decreases if cross-country travel makes routes obvious.

Encounter levels are specified for each zone. These indicators address social aspects of the wilderness experience directly and some bio-physical impacts indirectly.

Indicators for this issue include:

Campsite Density

Encounters

Administrative and Permitted Camps

FS System Trails and Non-system Trails

Signs

Permanent Structures

Issue 3: Management actions, ways of managing human use, influence elements of the wilderness experience in the A-P

Often, administrative actions change the wilderness experience. They influence the feeling of solitude, challenge, freedom, spontaneity or control. Management actions involve trade-offs. More official presence, more facilities, and/or more regulations all change people's experience of "wild". With increased use, management actions are necessary to protect aspects of wilderness. Depending on an individual's point of view, some actions may seem more intrusive than others. What is acceptable to one individual or group, may be objectionable to another. Possible administrative actions involve changes in group limit, (size of groups allowed), mandatory permits, (self-issued or agency issued) , a quota system, campfire closures, camping restrictions, facilities such as hitch rails or toilets, access

changes, a requirement to pack feed, etc. These types of management actions are simply different ways to minimize human impact on the wilderness.

Indicators for this issue include:

New Regulations , (such as Group Size Restrictions, Permit Requirements, Campfire Closures , Access Changes)

Administrative and Permitted Camps

Signs

Permanent Structures

Issue 4: Clearly defined guidelines are needed for responding to increased requests for new Outfitter and Guide Permits and for responding to requests for more user days from existing outfitters.

Most Wildernesses in the west are inundated with requests from potential outfitters who want to operate in the area. New types of outfitting, institutional outfitting, outfitters who have outfitted elsewhere and want to change locations or expand operations, and currently permitted outfitters who want to increase user days, all factor into these requests.

Clearly defined guidelines relating to types of uses permitted and numbers permitted need to be established so both existing outfitters and new outfitter requests are treated fairly and consistently throughout the wilderness.

Indicators for this issue include:

Consistent guidelines for outfitters and guides relating to new permits and user days are defined.

Issue 5: Encroaching noxious weeds threaten native vegetation and habitat

The A-P is relatively weed free but weeds are appearing at trailheads, along trails and at some spots inside the wilderness boundary. Noxious weeds are a serious threat to native vegetation and the very naturalness which defines Wilderness. This influence can be on a level of process, structure, or composition. For example, a hillside covered with knapweed is very different from one which has natural species. It will burn differently, provide different forage for wildlife, have different rates of soil erosion, different moisture retention, and a very different appearance to those who pass by on the trail. Potentially, weeds can change how the wilderness ecosystems function and how the wilderness is experienced. Guidelines are necessary to prevent, detect, monitor, and contain or eliminate weeds.

Indicators for this issue include

Noxious weeds are prevented, detected, monitored, contained or eliminated

Issue 6: Fish stocking changes native communities

In recent years questions have been raised about the impacts of fish stocking on natural biological communities. Fish stocking is conducted by Montana Fish, Wildlife and Parks in coordination with the Forest Service. The management of fish habitat, wilderness integrity and visitor use cannot be totally separated.

The practice of stocking was established prior to the passage of the Wilderness Act and, although it is not supported by everyone, it is a traditional practice and supports a traditional use by visitors. Stocking fish in the waters of the A-P has altered the natural biological community in and around many of the approximately 17 lakes that support fish as well as in lakes which are currently barren but where stocking was attempted in the past. Some streams have also been altered by direct stocking or by fish moving into the streams from connected stocked lakes.

Indicators for this issue include:

Fishless lakes remain fishless.

Native populations are not further displaced by non-natives as a result of new stocking activities.

Issue 7: Research Natural Areas were proposed by Forest Plans but have not yet been established

The Forest Plans proposed two research natural areas, Goat Flat in the NW portion of the A-P and the East Fork along the East Fork of the Bitterroot River. This document proposes to establish both RNA's, The acreage of the Goat Flat RNA is proposed to be increased, as mentioned in the Purpose and Need, and now includes more acreage both within and outside the Wilderness.

Research Natural Areas (RNA's) are lands that are permanently protected for the purposes of maintaining biological diversity, conducting non-manipulative research and monitoring, and fostering education. One of the goals of RNA designation is to provide for representation of major ecosystem types within the RNA network. In some cases RNAs are located within Wilderness, resulting in overlapping designations. In these situations, Wilderness management standards and guidelines take precedence. However, management of Wilderness RNA's should ensure that these portions of Wilderness are maintained in as undisturbed a state as possible.

Indicators for this issue include:

- RNA's are established.

ALTERNATIVE DEVELOPMENT PROCESS

Alternatives reflect suggestions from the public, input from resource professionals and recommendations from those involved with wilderness management. Alternatives were developed to respond to the identified issues. The concept of "Limits of Acceptable Change", (LAC), was used in developing alternatives. All alternatives are designed to meet the direction of the 1964 Wilderness Act and Forest Service national and regional Wilderness policy direction.

NATIONAL WILDERNESS MANAGEMENT DIRECTION

All alternatives for the Anaconda-Pintler Wilderness must be consistent with the existing direction provided by the Wilderness Act, other Federal Regulations which apply, and policy from the Forest Service Manual (FSM 2320).

- **The Wilderness Act**

The 1964 Wilderness Act provides general direction for managing Wilderness and protecting its values. The Act states that Wilderness areas: "...shall be administered for the use and enjoyment of the American people in such a manner as will leave them unimpaired for future use and enjoyment as wilderness, and so as to provide for the protection of these areas, the preservation of their wilderness character..."

- **Department of Agriculture Regulations**

The U.S. Department of Agriculture, (USDA), regulations further specify that Forest Service wilderness areas will be managed to protect and where necessary restore the wilderness character of the land and its specific values of solitude, physical and mental challenge, scientific study, inspiration, and primitive recreation. To achieve that objective the Department policy directs that natural ecological succession be allowed to operate freely, use levels in the wilderness be consistent with the maintenance of primitive conditions and that in resolving conflicts over resource use, wilderness values will be dominant. (36 CFR 293.2).

The following are some of the key Forest Service manual directions relating to Wilderness Management.

- **Forest Service Manual (2320 Section)**

Protect Wilderness values as one of the multiple uses of National Forests;

Keep wilderness ecosystems unaffected by human influences;

Minimize effects of special provisions, but allowed uses, such as grazing allotments and diversion ditches.

Perpetuate wilderness values including scientific study, education, solitude, physical and mental challenge, inspiration and primitive recreation.

Gather data to increase understanding of wilderness ecology, uses, management, and visitor behavior;

Wilderness values should be dominant in making management decisions;

Use of other resources in Wilderness should be compatible with Wilderness management objectives;

Cease or remove non-essential activities and structures;

Consider the effects of wilderness on activities on both sides of the wilderness boundary during planning;

Coordinate management of wilderness across administrative boundaries.

Where choices must be made between wilderness values and visitors or any other activity, preserving the wilderness resource is the overriding value. Economy, convenience, commercial value, and comfort are not standards of management or use of wilderness.

Develop a monitoring plan to ensure standards and guidelines are met.

DESCRIPTION OF ALTERNATIVES

The IDT analyzed 5 alternatives, including the no action alternative. Alternatives address the issues in different ways and meet the purpose and need for action to varying degrees. Alternatives have different types and different amounts of administrative action to minimize

bio-physical and social impacts. The alternatives vary by the following actions: Group Size limits, Permits required, Campsites permitted, Campfires permitted, Resource Protection Facilities permitted, Trails permitted, Stock Feed Requirements and Stock Access and Containment. Reference Table II , Chapter II, page 57 for these descriptions.

Alternative A (The No Action Alternative)

The No Action Alternative would not change current direction in the A-P. Forest Plans would not be amended with updated direction. Management zones would not be defined; specific goals, objectives, standards and guidelines would not be established to measure change in the desired condition of the wilderness. Group size would remain 15 people and 20 head of stock. No self-issuing or agency issued permits would be required. Only special use permits would still be required. New campsites would continue to be naturalized to slow proliferation of campsites. Campfires would not be prohibited in specified locations. No changes in resource protection facilities that currently exist in the wilderness such as the toilet and hitching rack at Mystic and hitching rack at the top of Hope Lake trail would occur. No new system trails would be built. Reconstruction, including relocation of short stretches for resource protection or safety purposes would be allowed on existing trails. Social trails and other user-built trails would be discouraged and eliminated where possible. Established way trails with frequent use may be left in place but would not be improved, signed, or shown on a map. Abandoned portions of trails would be naturalized. Weed seed free feed would be required and grazing would be allowed. The 200' grazing and tethering of stock setback requirement would remain in place. Education efforts would be intensified to insure that the public does not expect to find forage in the A-P. Hope Lake Tr. #424 would still be closed to travel with stock. Appropriate stock containment would be emphasized. No change in the way new outfitters or current outfitters are currently handled in the A-P. Also, no change in fish stocking within the wilderness. The two proposed RNA's would not be formally designated but continue to be managed in status quo to retain the option for future designation through the next planning cycle. Management direction for the proposed areas would remain the same as in the current Forest Plans. Current A-P direction does not address noxious weeds. Forest Plan direction does not address weeds in wilderness. Current A-P direction specifies that Mystic Lake Cabin will be administratively phased out.

Alternative B

Alternative B is the most recreation oriented of the action alternatives. Zones are initiated with goals, objectives, standards and guidelines for each zone. Actions are necessary to maintain the conditions of each zone. This alternative is least restrictive. The tool for preventing bio-physical impacts is "hardening", i.e. facilities such as hitch racks and backcountry toilets are constructed to concentrate impact and focus use. This alternative has the least Zone I and the most Zone IV. It also has less Zone II and more Zone III than the other action alternatives. Group size would remain 15 people and 20 head of stock. A free, mandatory, self-issuing permit would be required year round. This alternative would allow more areas to have recognizable campsites. Some naturalizing will still occur. More large sites would be retained. No restrictions with campfires. Resource protection facilities such as hitch racks, toilets etc. would be used. No new system trails would be built. Reconstruction, including relocation of short stretches for resource protection or safety purposes would be allowed on existing trails. Social trails and other user-built trails would be discouraged and eliminated where possible. Established way trails with frequent use may be left in place but would not be improved, signed, or shown on a map.

Abandoned portions of trails would be naturalized. Weed seed free feed would be required and grazing would be allowed with 200' setback requirement remaining in place. Education efforts would be intensified to insure that the public does not expect to find forage in the A-P. Hope lake Trail #424 would still be closed to travel with stock. Appropriate stock. containment would be emphasized. New outfitters may be considered if 1-3 are met in Table II, Chapter II, page 58. For currently permitted uses, existing outfitters will be capped at a combination of the 10 year use high as shown in Table V, Chapter III, page 87, plus an additional 50 use days if the demand is there and monitoring shows that impacts are acceptable. Operating plans will determine appropriate location and use levels of base, spike, progressive and drop camps within guidelines, and standards set for each zone. No camps within the wilderness will have permanent improvements. In cooperation with Montana Fish, Wildlife and Parks the guidelines for fish stocking will be updated to move towards more natural conditions. No fishless lakes will be stocked. Recreational fishing will be provided where appropriate. Management decisions will focus on protection of those streams where known or suspected pure strains of West Slope Cutthroat or Bull trout exist. Stocking will follow goals, objectives and guidelines on Chapter II pages 31-33. Stocking would be considered when either criteria listed in Table II, Chapter II, page 59 is met. When feasible stocking should be done using traditional means instead of helicopter or airplane. The two proposed RNA's would be established. Guidelines for RNA's will include 1-7 on Table II, Chapter II, page 59. A combination of education, detection, prevention, and eradication methods will be used to prevent weed infestations before they occur. Existing inventoried noxious weeds will continue to receive follow-up treatments. New infestations will be eradicated as soon as possible after being inventoried. Weed monitoring will continue. Further analysis has determined Mystic Lake Cabin has historic importance and is eligible for listing under the National Register of Historic Places. Thus, it will not be phased out by administrative action and measures will be taken to protect and stabilize the cabin as described in Chapter II, page 35.

Alternative C (The Preferred Alternative)

Alternative C initiates more measures to change use patterns and decrease impact causing activities. Actions reflect emerging problems and are preventative with emphasis on minimizing social and bio-physical impacts. This alternative maintains or slightly improves current conditions. The distributions of zones is a mix which will result in less evidence of recreational use. Group size is lowered to any combination of stock and people which does not exceed 16. A free, mandatory, self-issuing permit would be required year round. This alternative would continue to naturalize new campsites and downsize large campsites. Campfire closures within 1/4 mile of the following lakes would be initiated: Oreamnos, Sawed Cabin, Upper Phyllis, Upper Carpp, Surprise, Bear, Buck, Emerald, Lost, Lower Phyllis, Park, Sauer, Continental, Unnamed below Queener Mtn. and Unnamed west of Warren lake. Fewer resource protection facilities would be used. Placement of facilities would only be done if a serious deterioration of resources occurred. No new system trails would be built. Reconstruction, including relocation of short stretches for resource protection or safety purposes would be allowed on existing trails. Social trails and other user-built trails would be discouraged and eliminated where possible. Established way trails with frequent use may be left in place but would not be improved, signed, or shown on a map. Abandoned portions of trails would be naturalized. Weed seed free feed would be required and grazing allowed with 200' setback requirement would still be in place. Education efforts would be intensified to insure that the public does not expect to find forage in the A-P. Hope lake Trail #424 would still be closed to travel with stock. In addition. camping with stock within 1/4 mile of Sawed Cabin, Oreamnos and Ripple Lakes would be prohibited. Appropriate stock, containment would be emphasized. New outfitters may be considered if 1-3 are met in Table II, Chapter II, page 58. For currently permitted uses, existing outfitters will be capped at a combination of the 10 year use high as shown in Table V, Chapter III page 87, plus an additional 50 use days if the demand is

there and monitoring shows that impacts are acceptable. Operating plans will determine appropriate location and use levels of base, spike, progressive and drop camps within guidelines, and standards set for each zone. No camps within the wilderness will have permanent improvements. In cooperation with Montana Fish, Wildlife and Parks the guidelines for fish stocking will be updated to move towards more natural conditions. No fishless lakes will be stocked. Recreation fishing will be provided where appropriate. Management decisions will focus on protection of those streams where known or suspected pure strains of West Slope Cutthroat or Bull trout exist. Stocking will follow goals, objectives and guidelines in Chapter II on pages 31-33. Stocking would be considered when either criteria listed in Table II, Chapter II, page 59 is met. When feasible stocking should be done using traditional means instead of helicopter or airplane. The two proposed RNA's would be established. Guidelines for RNA's will include 1-7 on Table II, Chapter II, page 59. A combination of education, detection, prevention, and eradication methods will be used to prevent weed infestations before they occur. Existing inventoried noxious weeds will continue to receive follow-up treatments. New infestations will be eradicated as soon as possible after being inventoried. Weed monitoring will continue. Further analysis has determined Mystic Lake cabin has historic importance and is eligible for listing under the National Register of Historic Places. Thus, it will not be phased out by administrative action and measures will be taken to protect and stabilize the cabin as described in Chapter II on page 35.

Alternative D

Alternative D has further restrictions put in place to minimize the impacts of recreation. This alternative is the most restrictive. This alternative has the most Zone I and II and the least III and IV. It has the highest number of regulations, signs, etc. within the wilderness. It would change the wilderness experience more than the previous alternatives. Controls would change use patterns and decrease impact causing activities. Group size would drop to any combination of people and stock up to 12. A free, mandatory, self-issuing permits would be required year round as well as an office issued permit required for all overnight stock use. This would give an opportunity to place use in areas that are appropriate, not already occupied by other stock users and offer an opportunity to share concerns, trail conditions and techniques for minimizing stock damage. Campsites may be designated in some areas and some areas may be closed to camping. Campfire closures within 1/4 mile of the following lakes would be initiated: Oreamnos, Sawed Cabin, Upper Phyllis, Upper Carpp, Surprise, Bear, Buck, Emerald, Lost, Lower Phyllis, Park, Sauer, Continental, Unnamed below Queener Mtn. and Unnamed west of Warren lake, Carrp, Ripple, Hidden, Kelly, Johnson, Tamarack and Flower. Fewer new resource protection facilities would be used. Further restrictions in lieu of facilities to prevent resource damage. No new system trails would be built. Reconstruction, including relocation of short stretches for resource protection or safety purposes would be allowed on existing trails. Social trails and other user-built trails would be discouraged and eliminated where possible. Established way trails with frequent use may be left in place but would not be improved, signed, or shown on a map. Abandoned portions of trails would be naturalized. Overnight stockusers would be required to pack in weed seed free feed. Hope lake Trail #424 would still be closed to travel with stock. In addition, camping with stock within 1/4 mile of Sawed Cabin, Oreamnos, Ripple and Upper Seymour Lakes would be prohibited. Appropriate stock, containment would be emphasized. New outfitters may be considered if 1-3 are met in Table II, Chapter II, page 58. For currently permitted uses, existing outfitters will be capped at a combination of the 10 year use high as shown in Table V, Chapter III page 87, plus an additional 50 use days if the demand is there and monitoring shows that impacts are acceptable. Operating plans will determine appropriate location and use levels of base, spike, progressive and drop camps within guidelines, and standards set for each zone. No

camps within the wilderness will have permanent improvements. In cooperation with Montana Fish, Wildlife and Parks the guidelines for fish stocking will be updated to move towards more natural conditions. No fishless lakes will be stocked. Recreation fishing will be provided where appropriate. Management decisions will focus on protection of those streams where know or suspected pure strains of West Slope Cutthroat or Bull trout exist. Stocking will follow goals, objectives and guidelines in Chapter II, pages 31-33. Stocking would be considered when either criteria listed in Table II, Chapter II, page 59 is met. When feasible stocking should done using traditional means instead of helicopter or airplane. The two proposed RNA's would be established. Guidelines for RNA's will include 1-7 on Table II, Chapter II, page 59. A combination of education, detection, prevention, and eradication methods will be used to prevent weed infestations before they occur. Existing inventoried noxious weeds will continue to receive follow-up treatments. New infestations will be eradicated as soon as possible after being inventoried. Weed monitoring will continue. Further analysis has determined Mystic Lake cabin has historic importance and is eligible for listing under the National Register of Historic Places. Thus, it will not be phased out by administrative action and measures will be taken to protect and stabilize the cabin as described in Chapter II, page 35.

Alternative E

Alternative E calls for an agency issued permit which could incorporate a quota system, i.e. it could limit numbers when and where necessary to prevent social and bio-physical impacts. In this case, administrative controls would be "up front". Once inside the Wilderness there would be fewer regulations, signs, and administrative constraints than in Alternative D. Inside the Wilderness, it would provide more of a feeling of wildness and enhance the Wilderness experience. Mix of zones is virtually the same as Alternative D. Group size would be controlled by a permit with 12 people and 15 head of stock allowed. This alternative has the flexibility of allowing large groups on occasion in areas which already have large camps because it provides up front control. This permit would be an agency issued permit with use quotas by trailheads and destination areas. Permit would revert to self-issuing during the "off-season" (11/15-5/30). With a permit system campsite proliferation would be easier to control and will less likely to increase in size. Impacts are easier to minimize with a permit system. Fewer areas will develop barren core areas because of displacement. Campfire closures within 1/4 mile of the following Lakes would be initiated: Oreamnos, Sawed Cabin, Upper Phyllis, Upper Carpp, Surprise, Bear, Buck, Emerald, Lost, Lower Phyllis, Park, Sauer, Continental. Unnamed below Queener Mtn. Unnamed west of Warren lake. Resource protecting facilities would not be increased and stay the same as current management. No new system trails would be built. Reconstruction, including relocation of short stretches for resource protection or safety purposes would be allowed on existing trails. Social trails and other user-built trails would be discouraged and eliminated where possible. Established way trails with frequent use may be left in place but would not be improved, signed, or shown on a map. Abandoned portions of trails would be naturalized. Weed seed free feed would be required and grazing allowed with 200' setback requirement would still be in place. Education efforts would be intensified to insure that the public does not expect to find forage in the A-P. Hope lake Trail #424 would still be closed to travel with stock. Appropriate stock, containment would be emphasized. If the public is limited by quotas new outfitting permits would not be issued. For current outfitters no increases in outfitter use days in areas where quotas are imposed on the public. In cooperation with Montana Fish, Wildlife and Parks the guidelines for fish stocking will be updated to move towards more natural conditions. No fishless lakes will be stocked. Recreation fishing will be provided where appropriate. Management decisions will focus on protection of those streams where know

or suspected pure strains of West Slope Cutthroat or Bull trout exist. Stocking will follow goals, objectives and guidelines in Chapter II, pages 31-33. Stocking would be considered when either criteria listed in Table II, Chapter II, page 59 is met. When feasible stocking should done using traditional means instead of helicopter or airplane. The two proposed RNA's would be established. Guidelines for RNA's will include 1-7 on Table II, Chapter II, page 59. A combination of education, detection, prevention, and eradication methods will be used to prevent weed infestations before they occur. Existing inventoried noxious weeds will continue to receive follow-up treatments. New infestations will be eradicated as soon as possible after being inventoried. Weed monitoring will continue. Further analysis has determined Mystic Lake cabin has historic importance and is eligible for listing under the National Register of Historic Places. Thus, it will not be phased out by administrative action and measures will be taken to protect and stabilize the cabin as described in Chapter II, page 35.

ACTIONS COMMON TO ALTERNATIVES B thru E

All action alternatives propose to update Forest Plan direction. Each creates a zone system and a prescription for each zone. Alternatives vary in the amount of each zone and in the tactics used to achieve or maintain the desired conditions in each zone. Details of actions by alternative are summarized in Table II, Chapter II pages 57-59.

All action alternatives, (B-E), will:

Change Goals, Objectives, Guideline And Standards Of The Forest Plan

The current A-P Plan is an appendix of the Forest Plans thus, a change in current direction requires Forest Plan Amendment. The ID team reviewed the existing direction for the A-P as contained in the A-P Wilderness Management Plan for 1977, and identified those portions that needed to be changed or refined. Some parts of the 1977 Wilderness plan remain pertinent and there is no need to update them. They will continue to provide direction for the A-P. The goals and objectives listed below, and discussed in this document, are only those where change is proposed. The following goals, objective, guidelines and standards are changes that will apply Wilderness-wide.

Recreation

Goals

Maintain opportunity for high quality, primitive recreation.

2. Maintain opportunity for solitude.

3. Evidence of management will be the minimum necessary to achieve the Desired Future Condition.

Objectives

1 Minimize number of campsites and degree of impact on soil and vegetation in existing campsites. (See Table I, Chapter II, page 55 and the Zone Descriptions portion of this chapter, pages 36-42 for specific numbers of campsites permitted in each zone.)

2. Restore degraded areas to an acceptable level, as defined in the zones.

3. Have an active education program which emphasizes the importance of wild places and "Leave No Trace" ethics and practices.

Guidelines

1 Provide a range of opportunities for primitive and unconfined recreation.

2 . Maintain opportunity for solitude by eliminating most user built trails, naturalizing new campsites, and applying other measures as necessary to concentrate or disperse use.

3 Provide recreation options which include large trailless areas as well as maintained trails for stock users and hikers.

4 . Limit and distribute use as necessary to protect wilderness.

Commercial Outfitters

Goals

Provide opportunities for outfitted service for recreation activities.

2. Outfitters and guides provide quality service in a manner compatible with use by other visitors.

3. Outfitter and guide services are conducted in a manner which maintains the wilderness resource.

4. Outfitter and Guides educate their clients on "Leave No Trace" skills and ethics, provide good examples of these practices, and interpret the natural and human history of the area.

Objectives

1. Outfitted use helps achieve proposed objectives, standards and guidelines associated with each zone.

2. Use allocation process, and evaluation criteria for similar operations, will be consistently applied by all Ranger Districts in the Anaconda-Pintler as described in the Guidelines.

Guidelines

1. New permits, or increased user days on existing permits, will not be issued unless there is a resource capacity to absorb the use without damage to wilderness values, an ability by the Forest Service to administer more permits, and a demonstrated public demand for additional outfitted A-P use.

2. If new permits are considered, the following five step process will be followed.

   a. Determination of demonstrated public need is completed and documented by the Forest Service. Determination of need examines: 1) Agency Mission, 2) Opportunities, 3) Land Capability, 4) Social Capacity, 5) Demand/Supply as further defined in the Guidebook on Outfitter and Guide Administration (February 1997).

   b. The issuance proposal is fully evaluated and the appropriate NEPA analysis/documentation has been completed.

   c. The analysis and decision are documented and linked to the Forest Plan.

   d. The prospectus process is followed for solicitation for applicants, evaluating competition and providing required documentation/information on applicants. This process is described in Forest Service Manual (FSM 2712.2)

      i. Applicant has proven financial capability and possesses adequate experience/expertise to operate a successful sustainable business.

ii. The most highly qualified applicant(s) has been selected via a formal documented applicant selection/use allocation process.

e. Permit issued consisting of:

Basic permit

ii. Operating plan for the tenure of the permit

iii. Annual itinerary (annual operating plan).

3. Each outfitter will be assigned an area in the operating plan.

4. Up to 100 incidental commercial/institutional use days will be allowed annually per district. These days are not intended for repeated use by the same outfitter nor are these days intended for existing outfitters. They are allotted on a one time basis.

Fish

The intention of this plan is to promote an integrated approach which minimizes the effects of fish stocking in the A-P with guidelines that move the wilderness towards more natural conditions. Over the years there have been various stocking strategy recommendations for given lakes and some attempts to outline overall strategy. This management framework outlines an approach that has been implemented in other Wilderness areas in Montana and will be conducted with full cooperation of Montana Fish, Wildlife and parks.

Goals

1. Work in close cooperation with Montana Fish Wildlife and Parks to reestablish or maintain indigenous species.

2. Move towards native biological communities where possible.

3. Use an ecosystem approach in fisheries management which values the natural biological communities of the Anaconda-Pintler.

4. Contribute to the restoration of native strains of fish.

5. Provide fishing recreation where appropriate.

6. Protect native fish species.

Objectives

1. Fishless waters represent special esthetic, scientific, biological, and social values. Because of this the Forest Service prefers that these waters remain unstocked. See Table VI, Chapter III, page 89.

2. Stock only indigenous species in lakes that have been evaluated and determined appropriate by the Montana Fish Wildlife and Parks and the Forest Service.

3. Stocking methods will be in keeping with wilderness values.

Guidelines

1 For those headwater lakes, which require periodic stocking to maintain a sport fishery, the following options will be considered:

a. Allow the fish to naturally die out and maintain as a barren lake.

b. In those headwater lakes where native species exist, continue to stock with native species.

c. Where "a" or "b" do not apply, MFWP immediately switches to using native species in those waters where native populations presently exist downstream of stocked headwater lakes. Where native species brood stocks are unavailable, the stocking of non-natives be terminated until an appropriate brood stock is developed.

d. Where native populations do not exist downstream of stocked headwater lakes switch, as soon as practical to using native species.

2. The Forest Service and the MFWP will cooperatively work together to implement management activities to reduce the threats to existing native populations within the drainage as a result of the past establishment of self-sustaining populations of non-native species.

3. The Forest Service and MFWP will cooperatively work together to modify fish stocking strategies in lakes that are receiving excessive damage (increase in social trails, barren core areas around campsites, number of campsites and number of new fire rings) from wilderness users.

4. In cooperation with MFWP aerial stocking of fish may be permitted for those waters in the wilderness where this was an established practice before wilderness designation if there is continued need or where other practical means are not available

Vegetation

Goals

1. Maintain native vegetation, including natural composition, structure and function.

2. Protect rare and sensitive plants.

3. Eliminate, contain and prevent noxious weed infestations.

4. Maintain inherent disturbance regime for vegetation.

Guidelines

1 Follow the 1993 Anaconda Pintler Fire Management Guidelines.

2. Take actions necessary to prevent or restore recreation impacts on vegetation if they are in conflict with desired future condition. After further analysis, these actions might include such things as campfire prohibitions, camping closures, stock closures, restoration planting or limiting numbers of visitors.

3. Use a mix of methods to prevent and eliminate noxious weed infestations including the following:

   a. Eradicate or contain weeds in areas adjacent to the wilderness to prevent invasion from the perimeter. This includes treatment of trailheads and sides of approach roads, clear-cuts, and adjacent range allotments.

   b. Eradicate weeds within wilderness with a combination of hand pulling, biological and chemical methods as needed.

c. Enforce weed seed free feed regulation, CFR 261.50 (a), which requires that all feed in the Anaconda-Pintler be certified weed seed free or pelletized.

d. Encourage stock users to have animals on weed seed free feed for 48 hours prior to wilderness entry.

e. Have an active education program on weed spread prevention, weed recognition and the negative effects of weeds on ecological processes.

Research Natural Areas

Recommend establishment of the East Fork and Goat Flat proposed Research Natural Areas as shown in Maps II and III. Both of these RNA's were proposed in the original Bitterroot and Deerlodge National Forest Plans. The East Fork proposed RNA is wholly contained within the A-P Wilderness, and the boundary remains the same as proposed in the Forest Plan. The boundary of Goat Flat proposed RNA has been modified to include a larger representation of alpine and subalpine plant communities and endemic plant species. Goat Flat RNA is partially within the A-P Wilderness, (679 acres) and partially outside the Wilderness boundary. (697 acres).

Goals

Preserve and monitor RNA's as representative ecosystem types and for their special vegetative associations and sensitive species. These special elements are noted in the establishment record and existing conditions section of this document.

Objectives

1. No increase in number of campsites or their degree of impact within the East Fork RNA. No campsites in Goat Flat RNA.

Guidelines

1 Naturalize any new campsites which appear.

2. Do not stage crews for firefighting or use area for repeated helicopter landings.

3. Avoid group camps for administrative purposes, including spike or base camps for fire fighting, trail construction, contract work, or other camps for field work;

4. Do not permit outfitter camps or other camps under special use permit.

5. Pay special attention to sensitive species and associations if any trail relocation or reconstruction is necessary.

6. No new range allotments or new water diversions are permitted.

7 Eliminate noxious weeds in accordance with guidelines discussed Table II. Chapter II, page 59. Other exotic species will also be eliminated if it is determined that they are displacing native vegetation.

Mystic Lake Cabin

Goals

1 Preserve Mystic Lake Cabin for its cultural significance as part of the historic component of the wilderness resource.

Objectives

1 Maintain and protect Mystic Lake Cabin from deterioration in a manner that allows for its continued, occasional, administrative use.

Guidelines

1 Individual preventative fuels management will be employed in the vicinity of the cabin for the purpose defending the cabin in the event of a wildfire or prescribed natural fire. Efforts to save the cabin will be taken if a fires threatens. These measures could include a variety of suppression tactics but would not include extensive cutting of vegetation.

Standards

1. Maintenance and rehabilitation of the cabin will not use mechanized tools and will be done in a fashion that meets the standards of management for a historic structure eligible for listing under the National Register of Historic Places.

Establish Management Zones

Management zones are based on the Limits of Acceptable Change (LAC) concept. It sets limits, in different portions of the Wilderness, based on measurements of conditions. The intent of establishing zones is to maintain or re-establish acceptable resource and social conditions. These conditions represent the maximum limit of change from natural which will be allowed. Zones allow managers to apply a range of desired conditions which are specific and acceptable within wilderness. Zones are based on the premise that the Wilderness is not homogeneous. Some areas will have more human activity and thus show more bio-physical and social impacts than do areas with fewer people and their associated activities. Conditions, as described in narratives and as measured by indicators, vary from one zone to the next. Management actions appropriate to each zone are identified and procedures for monitoring and evaluating the effectiveness of management actions are established.

Alternatives and zones are related. Maps IV through VII show this relationship. Zone direction does not vary by alternative. Location and amount of each zone does vary by alternative. Various actions which differ by alternative need to be taken to maintain zone conditions. See Table II, Chapter II page 57.

For example, minimizing campsite impacts is a goal in all alternatives but the degree to which this will be applied varies by zone and alternative. The way results will be attained varies too. Campsite impacts can be influenced by many actions, from education to various restrictions such as: bans on campfires or camping, hardening or designating campsites, reducing group size, eliminating stock use in some areas, a permit system which limits over all use, etc.

In all action alternatives, the A-P will be primarily Zone I. Thus, in direction common to all action alternatives, the A-P will have a high degree of apparent naturalness, ecological processes will operate with no perceptible evidence of human impact or use, there will be outstanding opportunities for solitude and recreation will be characterized as primitive, unconfined, and challenging. The area will function as a wild place. It will look and feel wild to those who visit.

Relationship Between Human Influence and Zone Delineation

- **Lakes**

The effects of recreation on the area around lakes may create a different zone in areas adjacent to the lakes. The area affected by recreation around lakes may include: frequent human presence during use season, campsites which persist from one season to the next, user trails around lakes, tree damage from recreation use, etc. The area which is affected varies by a lake's proximity to a trail, the nature of the lakeshore, and use patterns.

Some lakes display very little evidence of use and the surrounding area does not differ from the adjacent Zone I. At other lakes some influence and impact is apparent within approximately a 500' radius of the lake. More heavily used lakes may have some influence

and impacts apparent within 1/4 mile radius. The influence of use areas is displayed in Table IV, Chapter II, page 63.

- **Trails**

Trail corridors inevitably display some influence from human activity, (sight, sound, or bio-physical effect), for a distance of approximately 200' each side of the trail. Table IV, Chapter II, page 63, reflects zone changes by Alternative.

- **Other Areas,** as shown in Table IV, Chapter II, page 63, are simply use areas which are generally recognized. They are bounded by natural use patterns which are primarily defined by the surrounding geography, such as steep slopes, rock, or dense vegetation. The area is influenced, to some degree, approximately 1/2 mi. from its center.

Description of Management Zones

- **Zone I (Most Natural)** - exists in essentially trailless areas where use and impacts are not focused by destinations. This area has the lowest level of human disturbance. It is characterized by a virtually unmodified natural environment. The A-P is primarily Zone I.

Goals

1. This zone has the highest degree of apparent naturalness.

2. Ecological processes operate naturally, with essentially no perceptible or measurable evidence of human impact or use.

3. The area has outstanding opportunities for solitude and a primitive and unconfined type of recreation which requires self-reliance.

4. The area functions as a wild place. It looks and feels wild to those who visit.

Objectives

1. Campsite vegetation impacts recover annually.

2. Trails frequently used by humans seldom occur in this area.

3. Encounters with other groups and rangers are rare.

Standards

Eliminate or prevent the following in this zone:

1. System Trails

2. Signing

Guidelines

Through education and administrative actions, which may sometimes include physical removal, the following will be discouraged or eliminated:

1. Base Camps for fire suppression or other administrative purposes

2. Constructed Helispots; allow old sites to recover

3. Rock Campfire Rings

4. Barren Core Area associated with campsites

5. Campsite density greater than 1 per roving, radial, mile

6. Structures (except Heritage Resource)

7. Frequent Managerial Presence

8. Repeated use of Large Group Camps, including outfitter

- **Zone II**- composed primarily of some access routes and the high elevation lake areas found on the Philipsburg and NW Wise River District. It is close to the crest of the range and contains more destinations than any other portion of the wilderness. The

destinations include lakes, peaks, and high passes. Access in this zone is via secondary trails. Destination areas have moderate use and are relatively vulnerable.

Goals

1. This zone has a high degree of wilderness integrity and a low level of human disturbance.

2. The zone is characterized by a predominantly unmodified natural environment.

3. Ecological processes operate naturally with limited evidence of human impact.

4. Excellent opportunities exist for solitude and the area offers a primitive and unconfined type of recreation, requiring self-reliance

Objectives

1. Campsite impacts are minimal.

2. User built trails and social trails are minimized.

3. Encounters with other groups and rangers are uncommon.

Standards

1. Secondary trails are the highest standard trail in this area.

Guidelines

Through education and administrative actions, which may sometimes include physical removal, the following will be discouraged or eliminated:

1 Signing except at trail junctions and wilderness boundaries

2. Frequent Managerial Presence

3. Base Camps for fire suppression or other administrative purposes

4. Outfitter Base Camps

5. Rock Campfire Rings

6. Barren Core Area over 100 sq. ft.

7. Campsite density greater than 3 per roving, radial, mile

8. Structures, (except Heritage Resource, and trail structures for resource protection, e.g.waterbars.)

- **Zone III**- includes some popular destinations and more heavily used areas that are along popular routes used for overnight trips. The area is characterized by a predominantly unmodified natural environment. However, some sites are substantially affected by human activity. Such impacts include loss of vegetation and soil along travel routes, at campsites and at scenic attractions such as lakeshores and viewpoints. The area has both mainline and secondary system trails. Encounters with other groups and rangers on the trail or in campsites are expected. Campfire rings will exist only in heavily used sites where determination has been made that less damage occurs by concentrating use than by dispersing it. Impacts could persist from year to year but do not exceed defined objectives shown in Table I, Chapter II, page 55.

Goals

1. The zone has a high degree of wilderness integrity.

2. The zone is characterized by a minimal level of human disturbance.

3. Ecological processes operate naturally with limited evidence of human impact.

4. Opportunities for solitude are available.

5. A primitive and unconfined type of recreation, requiring self-reliance, is characteristic of the area.

Objectives

Objectives

1. User-built trails and social trails are minimized.

2. Conditions that precipitate user conflicts are minimal.

Guidelines

The following will be discouraged through education and may be physically modified or removed if they occur:

1. Rock Campfire Rings

2. Barren Core Area over 200 sq. ft.

3. Campsite density greater than 6 per roving, radial, mile

4. Signing, except at trail junctions and wilderness boundaries.

5. Structures, (except Heritage Resource, and trail structures for resource protection or safety, e.g. waterbars or other resource protection structures, such as hitching rails or toilets).

- **Zone IV (Transition/Portal)**-receives the most use within the Wilderness and the highest percentage day use. It has the most human disturbance of any zone within the Wilderness. Despite this disturbance it is still characterized by a high degree of wilderness integrity and by a predominantly unmodified natural environment. However, some sites are substantially affected by human activity. Such impacts include loss of vegetation and soil along travel routes, campsites and scenic attractions. Ecological processes still operate naturally with little evidence of human impact. Activity levels are such that some wildlife is displaced. Opportunities for solitude are available but less characteristic of this area. A primitive and unconfined type of recreation, requiring self-reliance, is characteristic of the area. Risk and challenge are somewhat less than in more remote areas of the wilderness. The area has both mainline and secondary system trails. User-built trails and social trails are minimized. Encounters with other groups and rangers on the trail or in campsites are expected. Conditions that precipitate user conflicts are minimal. Rock campfire rings will exist only in heavily used sites where determination has been made that less damage occurs by concentrating use than by dispersing it. Impacts could persist from year to year but do not exceed defined objectives shown in Table I, Chapter II page 55. Visitor use may be regulated to protect the environment and visitor experiences.

Goals

1. Maintain as much as possible a high degree of wilderness integrity.

2. Minimize the level of human disturbance.

3. Ecological processes operate naturally with little evidence of human impact.

4. Opportunities for solitude are available but mostly during off season.

5. A primitive and unconfined type of recreation requiring self reliance is characteristic of the area.

Objective

1 Minimize user-built and social trails.

2. Conditions that precipitate user conflicts are minimal.

Guidelines

The following will be discouraged through education and may be physically modified or removed if they occur:

1. Rock Campfire Rings

2. Barren Core Area over 500 sq. ft.

3. Campsite density greater than 8 per roving, radial, mile

4. Structures, (except Heritage Resource, and trail associated for resource protection, e.g. waterbars or other resource protection structures, such as hitching rails or toilets.)

Require a self-issuing (Alt. B-D) or agency issued (Alt.E) permit

Self-issuing, entry permits in Alt. B-D would be required for both day and overnight use. Permits would be free and available at trailheads. They would not regulate use. Although mandatory, spontaneity and convenience would be maintained.

A self-issuing permit is an inexpensive and accurate way to assess wilderness use. With current funding and staffing there is no way to obtain accurate information on numbers of users, length of stay, destinations, or type of visitors, i.e. (day, overnight, hikers, stock users, local, out of state, etc.). Many facets of management could be improved with a better information gathering tool. This method provides more useful data than trail counters, trailhead counts or sporadic backcountry encounter data.

Self-issuing permits provide an education opportunity, albeit a limited one, and help law enforcement in several ways. The system acts as a deterrent since people know their names are available to agency personnel at the trailhead. Rules and regulations on the tear off portion of the permit notify people and provide a handy reference for regulations and rationale. Law enforcement officials no longer need to be hesitant to enforce regulations because people "didn't know".

MONITORING COMMON TO ALL ALTERNATIVES

Conditions By Zone

Under any action alternative, monitoring which gauges whether the goals, objectives, standards and guidelines are being attained will be necessary. Site conditions will be assessed in a variety of ways. Recreation impacts and administrative actions (which have specific indicators as shown in Table I of Chapter II, page 55.) will be monitored. These include such things as campsite density, barren core area, number of social trails, encounters, administrative or permitted camps, noxious weeds, and vegetation impacts that result from recreation use. Impacts include firewood utilization, forage utilization and vegetation disturbance or elimination around campsites

In addition to monitoring tied to specific indicators in the table, other monitoring also helps gauge the health of the resource. An Air Quality Related Values plan exists to monitor air quality. Other areas of concern are considered below.

Natural Fire Occurrence

The goal of wilderness fire management is that fire play as natural a role as possible within the Wilderness displaying a frequency and severity similar to historic range of variability. Frequency and severity are both monitored as part of the 1993 Fire Management Guidelines (FMG), for the Anaconda-Pintler. The number of natural starts is compared with the number of fires which are allowed to follow their natural course without suppression. The monitoring plan in the FMG is adequate and will not be changed by this EA.

Monitor fire frequency, intensity, and acres burned relative to lightning starts and historic activity.

Grazing Impacts from Recreational Use

Standards for the grazing by recreational stock of uplands, wet meadows and riparian areas along streams in the A-P Wilderness are derived from prescription guidelines in the Bitterroot, Deerlodge and Beaverhead Forest Plans; the Beaverhead Forest Plan Riparian Amendment; the USFS Region One Soil and Water Conservation Practices Handbook; and accepted Forest Service pack/saddle stock practices.

Land managers will apply the appropriate type of standard and monitoring frequency according to site-specific need.

These standards are as follows:

1. Forage Utilization

a. Forage utilization on wet meadows and riparian sites will not exceed 50% of the total annual growth of grasses, sedges and other herbaceous forage when measured at or projected to the end of the growing season. A more restrictive standard may be applied to sites that are trending downward or are identified as having a lower than desirable ecological condition.

A simple visual technique can be taught to the general public and used as a guideline to encourage the frequent movement of stock. The stockhandler should count on leaving at least 2/3 of the plant height that was on the site when they arrived. This will help insure that a site will not be overgrazed by successive users over the remainder of the season and serves as a minimum guarantee for maintaining plant vigor and preventing the development of bare soil patches.

b. On riparian sites associated with streams containing bull trout and westslope cutthroat trout, forage utilization will not exceed 35% to 45% of the herbaceous growth when measured at or projected to the end of the growing season. Identify these areas for your outfitters, wilderness rangers and general users and emphasize the need to graze these sites lightly. A rule of thumb would be to leave 3/4 of the forage present on the site when the party arrives.

c. Upland site utilization (those grazeable areas, dominated by species such as elk sedge) and not influenced by groundwater) will not exceed 50% of the total annual growth. More restrictive standards may be assigned to sites that are trending downward or are identified as having a less than desirable ecological condition.

d. No more than 15% of the surface area of any forage site for stock may exceed the above utilization standards. Forage sites in the A/P may vary from a fraction of an acre to fifty acres or more.

e. Estimates of forage utilization can be arrived at by using clipping and weighing inside and outside small exclosure cages, grazed plant transects, comparison with ungrazed sites, etc. Sampling methodologies are explained in FSH 2209.21 and "Sampling Vegetation Attributes", 1996, an Interagency Technical Reference.

2. Stubble Height Standards for Perennial Streams and Associated Vegetation

a. Average leaf length of grasses and sedges in the bankfull zone (immediately adjacent to streams) will not be shorter than 4" at the end of the growing season.

b. Average leaf lengths after grazing of the grasses and sedges in the floodplain zone will not be shorter than 3" at the end of the growing season. This standard applies to those floodplain zones on which sedge species, tufted hairgrass, alpine timothy or other species that typically grow leaf lengths well in excess of three inches.

Stubble height standards may not apply to some community types, such as Kentucky bluegrass, that at high elevations may not attain leaf lengths much greater than three inches. Employ utilization standards on these sites.

c. Stubble height measurements are taken along representative stream segments within the forage site.

d. More restrictive stubble heights may be prescribed for sites that are trending downward or that are in a less than desirable ecological status.

3. Streambank Alteration

a. Riparian sites along streamcourses require other types of stock impact monitoring. The amount and kind of streambank trampling by stock hoof action should be tracked so that riparian function is maintained. Forage sites along streams or stream segments classified as "functioning-at-risk" (using hydrologic/ecological condition rating) or non-functioning may need seasonal limitations or closure to grazing in order to establish an improving trend in streambank and vegetation condition. This need will be determined on a site-specific basis.

b. Some streambank alteration resulting from stock crossings or watering sites are inevitable, however, their number and size should be small for any forage site. An

increase in size or number of crossings and watering sites that may affect the function of the stream will warrant management action to control and mitigate the resource impacts.

4. Willow/Aspen/Other Browse Species Management

a. Managers should monitor browse intensity of deciduous woody species such as willow and aspen by recreational stock to insure that the plant stands/communities within forage sites are maintaining "height growth". The accepted method for determining the health of woody browse stands is contained in Browse Evaluation by Analysis of Growth Form (Keigley and Frisina, 1998)

b. Corrective management action on problem sites, where the sustainability of browse stands is affected by stock impacts, may include seasonal grazing limitations, closures or fencing.

The following areas have been identified as those with fairly regular recreational stock grazing, therefore ongoing observation is important for these areas.

Location	District
Meadows behind Warren Lake	Wise River
Elk Park	Wisdom
Seymour Horse Camp	Wise River
MacGlaughlin Meadows at Rainbow Lk.	Wise River
Meadow below Kelly Lk.	Sula
Meadow below Hidden Lk.	Sula
Buck Ridge Meadows	Sula
Kurtz Flat, both sides of river	Sula
Meadow above Mystic Lk. along CDT	Wisdom
Meadow on NW end of Mystic	Wisdom
Horse camp at Johnson Lake	Philipsburg

White Pine Blister Rust

Most of the high elevation areas in the Anaconda-Pintler support whitebark pine. Whitebark is both a critical component of the ecosystem and a special element of the wilderness experience for those who visit. Many areas in the northwest have growing

occurrence of a fungus, white pine blister rust, *Cronartium ribicola*. This fungus causes branch and stem cankers that eventually cause top kill and death of the infected whitebark pine trees. The Anaconda-Pintler has been relatively free of this disease compared to adjacent areas, however, recently, more and more areas have been showing infection. It is important to know how much this pathogen, which was introduced from Europe and Asia in the early 1930's, is influencing the natural conditions of the Anaconda-Pintler. It is also important to know how this area might differ from adjacent ones as far as resistance. Monitoring will involve mapping infestations of white pine blister rust in white bark and limber pine communities.

Research Natural Areas

Monitor the trail corridor and any existing campsites to make certain the vegetative associations and sensitive species are not disturbed by human activity or displaced by exotic species, particularly noxious weeds.

Monitor the existing campsites within the East Fork RNA to make certain they are not increasing in degree of impact. If any campsites become established within Goat Flat RNA they will be naturalized.

Monitor noxious weed and other exotic species.

Noxious Weeds

Monitor known infestations as well as inventory any new infestations of noxious weeds by placing them on maps and identifying species. If any treatment is administered the effects of that process will also be monitored.

COMPARISON OF ALTERNATIVES

Reference the following tables and maps.

Table II, Chapter II - Actions By Alternative - Recreation, pages 57-59

Table III, Chapter II - Summary of Standards, Guidelines, and Objectives by Alternatives, page 61

Table IV, Chapter II - Zones Designated for Lakes, Trails And Adjacent Areas-By Alternative, pages 63-65

Maps IV-VII Zone Maps - see Map Section

Alternative A (No Action Alternative)

The No Action alternative would not change current direction for the A-P. Forest Plans goals, objectives, guidelines and standards would not change with updated direction. Management zones would not be defined. Permits, either self-issuing or agency issued, would not be required. Clear guidelines for elimination of noxious weeds would not be in place nor would guidelines for responding to requests by outfitters and guides. Guidelines relating to fish stocking would not be updated. RNA's would not be formally designated but would continue to be managed in status quo to retain the option for future designation. Mystic Lake Cabin will be administratively phased out.

Alternative B

Alternative B is most responsive to people's desire to recreate in the A-P. It minimizes regulation and provides maximum recreation flexibility. Direction is provided for measuring changes resulting from recreation activity and minimizing recreation impacts. Specifics of this alternative are as follows:

- **Recreation Use Zones** - Alternative B has more Zone III and IV than other Alternatives and has the least Zone I.

- **Group Size** - The group size in this alternative will not change and is the same as existing numbers, 15 people and 20 head of stock.

- **Permits** required in Alternative B are free, mandatory, self-issuing permits available at trailheads.

A self-issuing permit is an inexpensive and accurate way to assess wilderness use. With current funding and staffing there is no way to obtain accurate information on numbers of users, length of stay, destinations or type of visitors, i.e. (day, overnight, hikers, stock users, local, out-of-state, etc.) Many facets of management could be improved with better information. Research and experience in other places have shown that self-issuing permits are a good information gathering tool. This method provides more useful data than trail counters, trailhead counts or sporadic back country encounter data.

Self-issuing permits provide an education opportunity, albeit a limited one, and help law enforcement in several ways. The system acts as a deterrent since people know their names are available to agency personnel at the trailhead. Rules and regulations on the tear off portion of the permit notify people and provide a handy reference for regulations and rationale. Law enforcement officials no longer need to be hesitant to enforce regulations because people "didn't know."

- **Campsites**

- **Campsite Density** - Alternative B has more Zone III and IV than other alternatives it will have the highest campsite density. This density will not exceed the objective for Zone IV which is less than 8/roving radial mile.

- **Barren Core Area** - Alternative B has more Zone III and IV than other alternatives it will have more areas with larger barren core areas. The objective for Zone IV is less than 500 sq. ft. Zone III is less than 200 sq. ft.

- **Social Trails** - Alternative B has more Zone III and IV than other alternatives therefore more social trails will be tolerated. The objective in Zone IV is fewer than 5 in camp areas and fewer than 3 elsewhere.

- **Encounters** - Alternative B has more Zone III and IV than other alternatives therefore more encounters will occur. The objective in Zone IV is fewer than 5 encounters with groups, per day, along the trail on Zone 4 trails, and fewer than 4 groups per day in camps in Zone 4 destinations.

- **Campfire Closures** will not be instituted under Alternative B.

- **Resource Protection Facilities** will be a method of influencing use patterns and concentrating impact so it does not occur in numerous places. Such things as hitching racks and toilets will be more common in this alternative than any other. "Hardening" techniques will be more prevalent in this alternative than others. Less naturalization will take place.

- **Stock Feed Requirements** certified weed seed free feed or pelletized feed is required.

- **Stock Access and Containment** requirements will not change in this alternative. Hope Lake Trail, #424 is closed to travel with stock. Grazing and tethering of stock must be at least 200' from any lake.

Alternative C

Alternative C proposes a number of measures to minimize impacts of recreational use on the wilderness.

- **Recreation Use Zones** The Alternative has a mix of zones that are best understood by examining the tables zone maps. The distribution of zones is a mix which will result in less evidence of recreational use and impacts than does Alternative B.

- **Group Size** is lowered from the present 15 people to 20 head of stock to any combination of stock and people which does not exceed 16.

- **Permits** required in Alternative C are free, mandatory, self-issuing permits available at the trailhead.

- **Campsites**

- **Campsite Density** - Alternative C has less Zone III and IV than Alternative B therefore it would have less campsite density. Because there is more Zone I than in Alternative B there would be more area without campsites. More naturalization would take place than in Alternative B.

- **Barren Core Area** - With less Zone III and IV and more I and II than Alternative B, there would be fewer areas with a barren core area evident and fewer of them that reach the maximum size of less than 500 sq. ft. in the objective stated for Zone IV. Large campsites will be downsized and naturalization will take place to minimize barren core areas.

- **Social Trails** - With less Zone III and IV and more Zone I and II than Alternative B, fewer social trails will be apparent than in Alternative B.

- **Encounters** will be lower than Alternative B because fewer Zone III and IV areas will exist and other measures will minimize encounters.

- **Campfire Closures** - campfires will be prohibited within 1/4 mile of the following Lakes: Oreamnos, Sawed Cabin, Upper Phyllis, Upper Carpp, Surprise, Bear, Buck, Emerald, Lost Lakes, Lower Phyllis, Park Lakes, Sauer, Continental, Unnamed below Queener Mountain, and Unnamed west of Warren Lake. This will directly influence proliferation of campsites, barren core area, and a number of bio-physical factors. The areas targeted either have a shortage of firewood already or are essentially unimpacted by campfire scars. In either case the quality of the area will be improved by imposing a campfire closure. Campfire closures have more positive influence on the resource than any other single management action.

Resource Protection Facilities - Fewer resource protection facilities will be installed in this alternative, because of other actions which should reduce the number of visitors. It has less Zone IV so fewer areas are available for this approach to minimizing impact.

Stock Feed Requirements As in Alternative B certified weed seed free feed or pelletized feed is required.

- **Stock Access and Containment** - Camping with stock will be prohibited within 1/4 mile of Sawed Cabin, Oreamnos, and Ripple Lakes and Hope Lake Trail #424 will be closed to travel with stock. None of these lakes have appropriate areas for camping with stock. They are fragile and are already impacted by stock use.

Alternative D

This alternative has further restrictions put in place to minimize the impacts of recreation. This alternative is the most restrictive of the alternatives.

- **Recreation Use Zones** - Examine the tables and zone maps to see the mix of destinations and trails in the various zones. It has the most Zone I and II and the least III and IV of any alternative.

- **Group Size** is smallest in this alternative. It is any combination of stock and people which totals 12. This is a limit which is common in many other places and seems to generally accommodate use patterns. It does decrease the number of riders to a maximum of 6. The maximum number of people hiking decreases to 12.

  Permit requirements are the same as Alternative B&C except that any overnight stock use would require an agency issued permit. The intention of this requirement is to give an opportunity to place use in areas that are appropriate, are not already occupied by other stock users, and as an opportunity to share current concerns, trail conditions and techniques for minimizing stock damage.

- **Campsites**

- **Campsite Density** varies with zone but because this alternative has the least Zone III and IV, density would be lower than in Alternatives A-C. Because there is more Zone I there would be more area without campsites. More naturalization would take place. Campsites will be least prominent in this Alternative and Alternative E.

  Barren Core Area - Fewer barren core areas and those that exist will be smaller because of the actions associated with this alternative.

- **Social Trails** will be fewer in number because of other constraints in this alternative

Encounters with other groups should be fewer than under Alternative B and C due to increased restrictions and constraints.

- **Campfire closures** as listed in Alternative C as well as closures at Carpp and Lower Carpp, Ripple, Hidden, Kelly, Johnson, Tamarack, and Flower Lakes. Same justification as in Alternative C. This alternative simply takes a more restrictive approach with maximum emphasis on protecting the resource.

- **Resource Protection Facilities.** More restrictions will reduce the number of facilities needed.

- **Stock Feed Requirements.** Over night stock users will be **required** to pack certified weed seed free feed or pelletized feed.

- **Stock Access and Containment** will be the same as Alternative C except that Upper Seymour will also be included in the 1/4 mi. Setback for camping with stock. A stock camp does exist near Upper Seymour, it would still be available, and suggested, for stock camping.

Alternative E

This is the "permit" alternative. It differs from all other alternatives in that it requires an agency issued permit for all entry. Additionally, the permit could impose a quota system, i.e. limit overall numbers or numbers into a given area. Use quotas could be established by destination, or trailhead. The permit would revert to self-issuing during the "off-season" 11/15-5/30. In this case the restriction is "up front" outside the wilderness. There are fewer constraints inside the Wilderness.

- **Recreation Use Zones** The mix is virtually the same as in Alternative D. The way of achieving it is different. See the tables for the breakdown.

- **Group Size** is larger than both Alternative C or D, maximum of 12 people and 15 head of stock This alternative has the flexibility of allowing large groups on occasion in areas which already have large camps because it provides up front control where there is more flexibility in this regard.

- **Permits** are required as discussed above.

Campsites

- **Campsite Density** objectives still exist for each Zone. Because of the permit system campsite density will be easier to control and will be less likely to increase.

- **Barren Core Areas** objectives for Zones still apply, impacts are easier to minimize with a permit system. Fewer areas will develop barren core areas because of displacement. Barren core areas tend to decrease in size as well as frequency of new occurrence.

- **Social Trails** have associated objectives with each Zone which will be easier to attain with a permit system.

- **Campfire Closures** same as in Alternative C. Campfires will be prohibited within 1/4 mile of the following Lakes: Oreamnos, Sawed Cabin, Upper Phyllis, Upper Carpp,

Surprise, Bear, Buck, Emerald, Lost Lakes, Lower Phyllis, Park Lakes, Sauer, Continental, Unnamed below Queener Mountain, and Unnamed west of Warren Lake.

- **Resource Protection Facilities** Will not be increased. Same as current.

- **Stock Feed Requirements** same as A, B, and C. No requirement to pack feed for overnight stock users.

- **Stock Access and Containment** no change from current regulations. If stock use causes damage in a given area it could be controlled when issuing permits.

- **New Outfitting permits** would not be issued if public is limited by quotas.

- **Current Outfitters** would have no increases in use days in areas where quotas are imposed on the public.

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TABLE I - CONDITIONS BY ZONE

INDICATOR	ZONE I	ZONE II	ZONE III	ZONE IV	Std./Obj.[1]
Campsite Density	<1/roving mi.	<3/roving mi.	<6/roving mi.	<8/roving mi.	Objective
Barren Core Area	Short-lived	<100 sq.ft.	<200 sq.ft.	<500 sq.ft.	Objective
# Social Trls./camp	Generally 0	Generally<2	Generally<3	Generally<5	Objective
# Other Social Trls.	Generally 0	Generally<2	Generally<3	Generally<3	Objective
Encounters per day (trail)	Generally 0	Generally<2	Generally<3	Generally<5	Objective
Encounters per day (camp)	Generally 0	Generally<2	Generally<4	Generally<4	Objective
Administrative and Permitted Camps, (base or spike camps)	Not to exceed 15 service or use days per season per site	Allowed as needed for administrative use except in RNA's. Allowed as specified in operating plans for outfitters.			Standard
Permanent Structures, (other than Heritage)	no	RESOURCE PROTECTION ONLY			Standard
Examples of Structures	none	Water bars, turnpike, puncheon		Same as II & III, if needed possibly toilets or hitch racks	Standard
FS System Trails	None	Secondary & way trails only	Mainline, secondary and way		Standard
Trail Signs (directional)	no	yes	yes	yes	Standard
Non-System Trails	Discourage in all zones. Eliminate when and where possible.				Objective
Existing Grazing Allotment	no	no	yes	yes	Standard
Noxious Weeds	Noxious weeds will be removed from all zones.				Objective
Fish stocking	In cooperation with Montana Fish Wildlife and Parks move towards more natural conditions. Fishless lakes will remain so. Stocking will follow the goals, objectives and guidelines stated in Chapter II, pages 31-33, and will be considered when either of the following criteria are met: 1) a clearly defined need to re-establish or maintain an indigenous species adversely affected by human influence, 2) to perpetuate or recover a threatened or endangered species.				Objective
RNA's	RNA establishment is not tied to zone designation.				NA

1 Standard or Objective associated with this indicator.
(< = less than)

ACTIONS			ALTERNATIVE D		ALTERNATIVE E
Group Size	Current 15/20	Same as current, 15/20	Any combination of people and stock, up to 16	Any combination of people and stock up to 12	Permit Controls, Max, 12/15
Permits	Special Use Permits are the only permits required.	Require self-issuing permit of all users. (Year-round requirement)	Require self-issuing permit of all users, (year-round requirement)	Same as C plus an office issued permit would be required for **all overnight stock use.**	Establish permit system, (not self -issuing), with **use quotas** by trailheads or destination area . **Note:** Permit reverts to self-issuing during "off-season", (ll/15-5/30).
Campsites	No change ; naturalize new campsites to slow proliferation of campsites	Allow more areas to have recognizable campsites. Some naturalizing will still occur. More large sites will be retained.	Continue to naturalize new campsites and downsize large campsites.	Campsites may be designated in some areas; some areas may be closed to camping: Inlet of Edith	May allow more flexibility than C and D.
Campfires	No Restrictions, encourage use of stoves or dead and down wood only	Same as A.	Campfire closures w/i 1/4 mile of the following lakes : Oreamnos, Sawed Cabin, Upper Phyllis, Upper Carpp, Surprise, Bear, Buck, Emerald, Lost Lakes, Lower Phyllis, Park Lakes, Sauer, Continental, Unnamed, below Queener Mtn., Unnamed, west of Warren Lake.	All areas listed in C plus: Carrp Lakes, Ripple, Hidden, Kelly, Johnson, Tamarack, Flower	Same as C.
Resource Protection Facilities	No Change, have toilet and hitching rack at Mystic. Hitching rack top of Hope Lake Trail.	Place facilities such as hitch racks, toilets, etc. for resource protection . Possible sites: Johnson Lake, Carrp Lakes, Ripple, Hidden Lake, Mystic Lake	Fewer resource protection facilities than Alt. B. Possible sites same as Alt. B. Placement of facilities would be done only if a serious deterioration of resources	Fewer new facilities. Further restrictions in lieu of facilities to prevent resource damage.	Same as Alt. A.
Trails	No new system trails will be built in any alternative. Reconstruction, including relocation of short stretches for resource protection or safety purposes, will be allowed on existing trails. Abandoned portions of trail will be naturalized. Social trails and other user-built trails will be discouraged and eliminated where possible in all alternatives. Established way trails with frequent use may be left in place. These will not be improved, signed, or shown on a map.				

TABLE II - RECREATION STOCK RELATED ACTIONS

ACTIONS	ALTERNATIVE A (No Action)	ALTERNATIVE Be	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E
Stock feed requirements	Weed seed free feed requirement; grazing allowed with 200' setback requirement. **Intensify education efforts to insure that the public does not expect to find forage in the A-P. Advise** stock users to pack feed, preferably pellets. Emphasize appropriate containment of stock.			**Require** overnight stockusers to pack feed.	Same as A, B & C.
Stock access and containment	No Change, Hope Lake Tr. # 424 Closed to Travel with Stock. Hitchracks will be provided as per "facilities", above. Emphasize appropriate stock containment.	Same as A.	In addition to A & B, prohibit camping with stock within 1/4 mi. of Sawed Cabin, Oreamnos, and Ripple Lakes.	Close additional area to camping with stock, w/i 1/4 mi.: Upper Seymour.	Educate and regulate by permit. Hope Lake closure would remain.

Note: STOCK is defined as horses, mules, burros, llamas or goats.

TABLE II - ACTIONS BY ALTERNATIVE - OTHER ISSUES

ACTIONS	ALTERNATIVE A (No Action)	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E
New Outfitters	No Change	New outfitters may be considered if: 1) the use will not create unacceptable social or bio-physical impacts; 2) the use cannot be filled by current outfitters and; 3) The new use is non-traditional, not one of the current permitted uses. This includes, but is not limited to, such uses as dog sledding or winter ski tours. If these conditions are all met, a prospectus may be issued by the Forest Service and would be used to select a new outfitter.			If the public is limited by quotas new outfitting permits will not be issued.
Current Outfitters	No Change	For currently permitted uses, existing outfitters will be capped at a combination of the 10 year actual use high, as shown in Table V, of Chapter III page 87, plus an additional 50 use days, if demand is there and monitoring shows that impacts are acceptable. Operating plans will determine appropriate location and use levels of base, spike , progressive and drop camps within guidelines and standards set for each zone. Such decisions will focus on improving conditions where needed and maintaining conditions where they are fully acceptable, **based on zone criteria**. All regulations which apply to the public also apply to outfitters with the exception of the 14-day limit on the Bitterroot NF and 16-day limit on the Beaverhead-Deerlodge NF. In the case of assigned sites, the 14 or 16 day limit can be exceeded as specified under the special use permit in the operating plan. No camps within the A-P will have permanent improvements.				No increases in outfitter use days in areas where quotas are imposed on the public.

TABLE II - ACTIONS BY ALTERNATIVE - OTHER ISSUES

ACTIONS	ALTERNATIVE A (No Action)	ALTERNATIVE Be	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E
Fish Stocking	No Change	In cooperation with Montana Fish, Wildlife and Parks (MFWP) move toward more natural conditions. No fishless lakes will be stocked. Provide fishing recreation where appropriate. Management decisions will focus on protection of those streams where known or suspected pure strains of West Slope Cutthroat or Bull Trout exist. Stocking will follow goals, objectives and guidelines in Chapter II, pages 31-33 . Stocking could be considered when either of the following criteria is met: 1) to re-establish or maintain an indigenous species adversely affected by human influence, or 2) to perpetuate or recover a threatened or endangered species. When feasible, stocking should be done using traditional means instead of helicopter or airplane.			
Research Natural Areas , (RNA'S)	No Change, the pRNA's would remain "proposed" in Forest Plans	RNA's, proposed in the Forest Plans for Goat Flat, on the Beaverhead-Deerlodge NF, and for East Fork Bitterroot, on the Bitterroot NF, will be established with any alternative. Guidelines for RNA's will include: 1) active monitoring, especially of the trail corridor and any existing campsites to make certain the vegetation associations and sensitive species are not disturbed by human activity or displaced by exotic species, particularly noxious weeds ; 2) eliminate noxious weeds as specified in following guidelines; 3) naturalize any new campsites which appear within the RNA's; 4) special attention to sensitive species and associations if any trail relocation or reconstruction is necessary; 5) avoid staging for firefighting, including repeated helicopter landings; 6) do not allow spike or base camps, contractor or administrative camps within the RNA's; 7) do not permit outfitter camps or other camps associated with special use permits w/i the RNA.'s.			
Noxious Weeds	Current A-P direction does not address noxious weeds. Forest plan direction does not address weeds in wilderness.	A combination of education, detection, prevention, and eradication methods will be used to prevent weed infestations before they occur and to eliminate infestations while they are still minimal. Existing inventoried noxious weeds, (one acre, Kurtz Flat, knapweed), will continue to receive follow-up treatments as needed per the 1994 BNF Noxious Weed EA. New infestations of noxious weeds will be eradicated as soon as possible after being inventoried. Eradication will be done by handpulling or biological control if possible, otherwise, by using the most appropriate herbicide available. Herbicide applications will be site specific and only by hand, to minimize effects on non-target species.			
Mystic Cabin	Current A-P direction specifies the cabin will be phased out..	Further analysis has determined the cabin has historic importance and is eligible for listing under the National Register of Historic Places. It will not be phased out and measures will be taken to protect and stabilize the cabin. In the event of wild or prescribed fire in the vicinity of the cabin, measures will be taken to protect the cabin from fire. Advance measures to "fire-proof" the cabin through major vegetation manipulation will not be undertaken.			

TABLE III - SUMMARY OF STANDARDS, GUIDELINES AND OBJECTIVES, BY ALTERNATIVE

INDICATORS	ALTERNATIVE A (No Action)	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E
Campsite Density	No Standards or Guidelines in Current Plan	Varies by Zone from <1/roving mi. in Zone I to <8/roving mile in Zone IV.			
Barren Core Area	No Standards or Guidelines in Current Plan	Varies by Zone from "short-lived" to <500 sq.ft.			
Social Trails/camp	No Standards or Guidelines in Current Plan	Varies by Zone from generally < 1 to < 5.			
Social Trails/other	No Standards or Guidelines in Current Plan	Varies by Zone from generally 0 to < 3.			
Encounters/day	No Standards or Guidelines in Current Plan	Varies by Zone from generally 0 to generally < 4 groups per day.			
Administrative and Permitted Camps	No Standards or Guidelines in Current Plan	Not to exceed 15 service days in Zone I. Permissible in other zones except in RNA's.			
Permanent Structures (Other than Heritage)	Currently a hitching rack and toilet at Mystic, past structures at Johnson and Ripple.	None permissible in Zone I. For Resource Protection Only in other Zones. Zone II has only trail structures such as waterbars, or puncheon. Zones III and IV may have occasional hitchracks or toilets as deemed necessary for resource protection under some Alternatives.			
FS System Trails	Current plan, no new system trails.	No new system trails will be constructed in any Alternative. Reconstruction, including relocation of short stretches for resource protection or safety purposes, will be allowed on existing trails. Zone I does not contain system trails. Zone II has only way or secondary trails. Zones III & IV may have mainline or secondary trails. Trail access may change in some alternatives.			
Non-system Trails	Not addressed in current plan	Social trails and other user-built trails will be discouraged and eliminated where possible in all alternatives.			
Trail Signs (directional)	No Change	Directional signs at trail junctions in zones II-IV. No signs in Zone I.			
Fish Stocking,	No Change	In cooperation with Montana Fish, wildlife and Parks move towards more natural conditions. Fishless lakes will remain so. Stocking will follow the goals, objectives and guidelines in Chpater II, pages 31-33 and will be considered when either of the following criteria are met: 1) a clearly defined need to re-establish or maintain an indigenous species adversely affected by human influence, 2) to perpetuate or recover a threatened or endangered species.			
Existing Grazing Allotments	No Change	No Change. Allotments exist only in Zone III or IV.			
Noxious Weeds	No Change	Noxious weeds will be prevented and eliminated when and where possible.			
Outfitter and Guides	No Change	Outfitters will meet objectives, standards, guidelines according to Zones. Operating plans will provide specifics. No permanent structures or caches will be allowed.			
New Regulations	No Change	Regulations change according to Alternative, including group limit, permit requirements, campfire closures, access changes, stock feed			

The following table lists lakes, trails and other areas which are frequently used for recreation. Such use influences an adjacent area. The heavier the use in an area the larger the area that is influenced. Geographic features also influence the size of the area that receives impact. The intention of this table is to show an approximation of the area where one might expect to see some impacts as the result of human use .

TABLE IV - ZONES DESIGNATED FOR LAKES, TRAILS AND ADJACENT AREAS, BY ALTERNATIVE

LAKES	ALT. B	ALT. C	ALT. D	ALT. E
Alpine Lakes	I. none	I. none	I. none	I, none
				I, none
				I, none
"Little Annie"(T3N R16W Sec 35)	I, none	I, none	I, none	I, none
Lost Lakes	I, none	I, none	I, none	I, none
Lower Phyllis	I, none	I, none	I. none	I, none
Park Lakes	I, none	I, none	I, none	I, none
Sauer	I, none	I, none	I, none	I, none
Continental	I, none	I, none	I, none	I, none
Unamed, below Queener Mnt.	I, none	I, none	I, none	I. none
Unnamed, West Warren Lake	I, none	I, none	I, none	I, none
"Annie", (T3N, R15W Sec 16)	II, 500'	II, 500	I. none	I, none
Bear	II, 500'	II, 500'	II, 500'	II, 500'
Crystal	II, 500'	II. 500'	II. 500'	II, 500'
Flower		II. 500'	II. 500'	II, 500'
Hicks		II. 500'	I. none	I. none
La Marche		I, none	I. none	I, none
Lion. (W.Fk. Thomp.)		II. 500'	II, 500'	II, 500'
Little Johnson	II. 500'	II, 500'	II, 500'	II, 500'
Page	II, 500'	II. 500'	II, 500'	II, 500'
	II, 500'	I, none	I, none	I, none
	II. 500'	II. 500'	II. 500'	II. 500'
Upper Carpp	II. 500'	II, 500'	II, 500'	II,500'
Mystic	III, ¼ mi.	III, ¼ mi.	III, ¼ mi.	III, ¼ mi.
Oreamnos	III, ¼ mi.	II. 500'	II, 500'	II. 500'
Rainbow	III, ¼ mi.	III, ¼ mi.	II, 500'	II. 500'
Ripple	III, ¼ mi.	III. ¼ mi.	II. 500'	II. 500'
Tamarack	III, ¼ mi.	II, 500'	II, 500'	II, 500'
Upper Phyllis	III, ¼ mi.	III, ¼ mi.	III, ¼ mi.	III, ¼ mi.
Warren	III, ¼ mi.	III, ¼ mi.	II, ¼ mi.	II, ¼ mi.
Queener Pond (Horse Camp)	III, ¼ mi.	II. 500'	II, 500'	II, 500'
Hope	III, 500 '	III, 500'	II, 500'	II, 500'
Martin	III. 500'	III, 500'	II. 500'	II. 500'
Carpp	IV, ¼ mi.	IV, ¼ mi.	III, ¼ mi	III, ¼ mi
Edith	IV, ¼ mi.	IV, ¼ mi.	III, ¼ mi.	III, ¼ mi.
Hidden	IV, ¼ mi.	III, ¼ mi.	III, ¼ mi.	III, ¼ mi.
Ivanhoe	IV, ¼ mi.	IV, ¼ mi.	III, ¼ mi.	III, ¼ mi.
Johnson	IV, ¼ mi	IV, ¼ mi	IV, ¼ mi	IV, ¼ mi
Kelly	IV, ¼ mi.	III, ¼ mi	III, ¼ mi.	III, ¼ mi.
Carpp			IV, ¼ mi	IV, ¼ mi
Upper Seymour			III. ¼ mi	III, ¼ mi
OTHER AREAS	**ALT. B**	**ALT. C**	**ALT. D**	**ALT. E**
Elk Park	II, ½ mi.	II, ½ mi.	II, ½ mi.	II, ½ mi.
Hidden Lk. Jct. Mdw.	III, ½ mi.	III, ½ mi.	III, ½ mi.	III, ½ mi.
Kelly Lake Meadows	III, ½ mi.	III, ½ mi.	II, ½ mi.	II, ½ mi.
Mystic Horse Camp	III, ½ mi.	III, ½ mi.	II, ½ mi.	II, ½ mi.
Pintler Meadows	III, ½ mi.	III, ½ mi.	II. ½ mi.	II. ½ mi.
Buck Ridge Meadows	III, ½ mi.	III, ½ mi.	II, ½ mi.	II, ½ mi.
Johnson Horse Camp	IV, ½ mi.	IV, ½ mi.	IV, ½ mi	IV, ½ mi.

TABLE IV - ZONES DESIGNATED FOR LAKES, TRAILS AND ADJACENT AREAS, BY ALTERNATIVE

TRAILS	ALT. B	ALT. C	ALT. D	ALT. E
#7 W.F. Thompson Ck.	Zone II	Zone II	Zone II	Zone II
#38 East Fk. (Rock Ck.)	Zone II	Zone II	Zone II	Zone II
#39 Page Lake	Zone II	Zone II	Zone II	Zone II
#170 Swift Ck.	Zone II	Zone II	Zone II	Zone II
#198 Buck Ck.	Zone II	Zone II	Zone II	Zone II
#371 Plimpton Ck.	Zone II	Zone II	Zone II	Zone II
#111 Hiline Tr., portion between Carpp Lk. and Upper Carpp Lk.	Zone IV	Zone IV	Zone III	Zone III
#111 Hiline Tr., Jct. w/ #97 to Carpp	Zone III	Zone III	Zone III	Zone III
#111 Hiline from Upper Carpp to Cutaway Pass	Zone II	Zone II	Zone II	Zone II
#125.1 Trout Ck.	Zone II	Zone II	Zone II	Zone II
#126 West Fork La Marche	Zone II	Zone II	Zone II	Zone II
#128 East Fork Fishtrap	"	Zone II	Zone II	Zone II
#129 Middle Fork Fishtrap	Zone II	Zone II	Zone II	Zone II
#132 Chub Ck. Trail		Zone II	Zone II	Zone II
#169 Clifford Ck.	Zone II	Zone II	Zone II	Zone II
#170.1 East Fk. LaMarche	Zone II	Zone II	Zone II	Zone II
#177 West Fk. Mudd Ck.	Zone II	Zone II	Zone II	Zone II
#26 Copper Ck.	Zone II	Zone II	Zone II	Zone II
#313 Bitterroot-Rock Ck. Divide (No. of Kelly Lake)	Zone II	Zone II	Zone II	Zone II
#368 Beaver Ck.	Zone II	Zone II	Zone II	Zone II
#424 Hope Lake	Zone II	Zone II	Zone II	Zone II
#434 Needle Ck.	Zone II	Zone II	Zone II	Zone II
#434 Lick Ck.- Rock Ck. Divide	Zone II	Zone II	Zone II	Zone II
#740 Queener Pond	Zone II	Zone II	Zone II	Zone II
#742 Mudd Ridge		"	Zone II	Zone II
#124 Middle Fork La Marche	Zone II	Zone II	Zone II	Zone II
#37 Pintler Creek	Zone III	Zone III	Zone III	Zone III
# 313.70 Bitterroot-Rock Ck. Divide, (from Kelly Lk. to #9 CDT)	Zone III	Zone III	Zone III	Zone III
# 402 Ripple Lk.	Zone III	Zone III	Zone III	Zone III
#130 West Fork Fishtrap	Zone III	Zone III	Zone II	Zone II
#24 Carrp Ck.	Zone III	"	Zone III	Zone III
	"		Zone III	Zone III
			Zone III	Zone III
			Zone III	Zone III
			Zone III	Zone III
		Zone II	Zone II	Zone II
#9 Continental Divide (DT), A-P West Bdry to Pintler Pass	Zone III	Zone II	Zone II	Zone II
#9 CDT, Pintler Pass to Rainbow Lk.	Zone III	Zone III	Zone III	Zone III
#9 CDT, Rainbow Lk. to Goat Flat	Zone III	Zone II	Zone II	Zone II
#110 Carpp Lk.	Zone IV	Zone IV	Zone III	Zone III
	Zone IV	Zone III	Zone III	Zone III
	Zone IV	Zone IV	Zone IV	Zone IV
	Zone IV	Zone IV	ZoneIV	Zone IV
	Zone IV	Zone III	Zone III	Zone III
#41 Storm Lake (to Storm Lk. Pass)	Zone IV	Zone III	Zone III	Zone III

TABLE IV - ZONES DESIGNATED FOR LAKES, TRAILS AND ADJACENT AREAS, BY ALTERNATIVE

TRAILS	ALT. B	ALT. C	ALT. D	ALT. E
#41 Storm Lake (beyond pass to #9)	Zone III	Zone III	Zone III	Zone III
#97 Edith Lake	Zone IV	Zone IV	Zone III	Zone III
#433 East Fork (Bitterroot)	Zone IV to Star Falls, III beyond	Zone IV to Star Falls, III beyond	Zone IV to Star Falls, III beyond	Zone IV to Star Falls, III beyond
#435 McCart-Johnson Pk.	Zone IV to Lookout, III beyond	Zone IV to Lookout, III beyond	Zone IV to Lookout, III beyond	Zone IV to Lookout, III beyond
# 96 Johnson Lk.	Zone IV	Zone IV	Zone IV	Zone IV

NOTE: For planning purposes, area influenced is calculated at 200 'each side of the trail.

CHAPTER III - AFFECTED ENVIRONMENT

Introduction

This chapter discusses those elements of the existing condition that may be affected by proposed actions. The existing condition and zone map show what exists in the A-P at this point in time. It is important to remember that this document is primarily programmatic and proposed actions are those that minimize recreational impacts on the Wilderness.

Soils, Vegetation, and Natural Appearance

Soils are relatively undisturbed by human activity with the exception of the actual trail tread, camp sites, or other use areas. In these areas there is some small scale compaction and erosion. Campfires remove organic material from soil building cycles, sterilize the soil, create compacted soils in the fire vicinity, remove wood from the ground and change the micro-climate for new plant growth.

Vegetation is influenced by recreation in a number of ways. Campsites, trail corridors and other use areas often have some degree of trampled vegetation. In some cases, these impacts are increasing in severity and/or proliferating. Over the years, additional areas look "bare", "worn", and "hammered". These changes occur because of multiple factors. Areas around camps are subjected to repeated walking, sitting, tenting, and sometimes stock containment. Historic use has created large campsites in a few areas. Trail corridors often become wider or braided because people and stock step out of the trail tread, particularly when traffic is heavy or large groups are encountered. Social and user-built trails contribute to degradation by creating pathways into draomages wothout trails, around lakes, between campsites, to vista points, and in other areas where use is repeated or concentrated. Wood gathering activities, finding a toilet area, scrambling down steep banks for water or fishing access, and traveling to adjacent campsites all create social trails and widened areas of impact. Trees in camp areas are often devoid of lower branches and have been scarred or killed by wood-gathering for campfires, as well as improper stock containment techniques. District files have trail logs, campsite inventories, and similar information which show the extent and trends of these conditions

In some cases, foraging of recreational stock may cause severe negative impacts in areas where there is overuse. These impacts include such things as trampled or overgrazed vegetation, erosion, damage to trees, introduction of noxious weeds, and damage to aquatic systems. Riparian areas are especially critical since overgrazing can severely affect aquatic systems. Few impacts of this nature occur in the Wilderness at this time. In the 1930's higher elevations had sheep grazing allotments. Today, no sheep allotments exist and there is only one cattle allotment, in the Pintler Meadows area.

The proposed actions will change impacts on vegetation by changing those factors which especially contribute to vegetative disturbance.

The biological environment is virtually unmodified with the exception of small scale vegetation change or temporary wildlife displacement because of recreation activities.

Wilderness Experience

Human use is increasing in the Anaconda-Pintler because of the rapid population growth in western Montana as well as publicity it has received as an "undiscovered" Wilderness. Use is concentrated around destinations, especially lakes, that are closest to the population centers of Butte, Anaconda, Missoula, and the Bitterroot Valley. Trends indicate an increase in use from out-of-state visitors as well as from the Bozeman and Flathead Valley areas. The geography of the A-P makes it especially appealing for day use and short trips since nearly any location within the wilderness is accessible from a trailhead in a day. Although accurate use figures for the A-P do not exist, the use trends are unmistakable. This is evidenced by increased vehicles at trailheads, increased encounters in the Wilderness and increased impacts in areas that did not previously have impacts.

As discussed in the section under vegetation, some areas are showing the impacts of recreation. These impacts, in turn, influence the recreation experience by changing the appearance of an area in a way that makes it seem less wild. Most visitors expect to see some signs of prior use when they go to popular destinations. Even though people's expectations vary, it is reasonable to expect that a wilderness area should look and feel natural without an inordinate amount of human impact. Wilderness is not characterized by a "worn" or "marred" look. For most visitors crowding itself makes an area seem less natural. Recurring noise, distraction, and the visual impact of other groups makes an area feel less wild. The number, size, and behavior of groups changes the experience for those around them. Numerous other groups, particularly large ones, whether on the trail or in campsites, detract from the wilderness experience. Many people go to wilderness in hopes of an opportunity for solitude and reflection, for quiet sharing with others, discovery, adventure or challenge. If the situation is such that it seems like "there are people everywhere" these opportunities, so characteristic of what most people want and expect from wilderness, are diminished.

The most heavily used areas are Johnson Lake, Carpp Lakes and other lakes in the north central portion of the wilderness. These lakes, for the most part have short, relatively easy approaches and are very scenic. Seymour and Hidden Lakes receive a moderate amount of use while all lakes with trails to them, especially those that are close to trailheads or part of loop options, are visited on a regular basis. Summer use is a mix of day hiking, backpacking and both day and overnight stock use. Portions of the Wilderness without trails are essentially undisturbed but indications are that use in these areas is also increasing.

Because the A-P is a narrow area it is easily accessible on short trips. Despite easy accessibility there is still ample opportunity to find those qualities which exemplify the

Wilderness experience: solitude, challenge, observing natural processes, a relatively pristine environment, wildlife viewing, spectacular vistas and a natural diversity of vegetation which includes a multitude of wildflowers.

The A-P Wilderness has approximately 280 miles of trail including a 45 mile section of the Continental Divide National Scenic Trail. Fishing is an important summer activity. Fall use is predominately hunting and often involves stock use. Outfitters, both summer and fall, account for approximately 10% of the total use. The most active outfitter provides backpacking trips. Traditional hunting and fishing outfitters are a smaller percentage of the outfitted use. Annual use is currently estimated at 26,426 recreation visitor days, (RVD's). An RVD is 1 person for 12 hours)

Management Actions Influencing Human Use

Current management influencing human use includes education and information outreach from offices, bulletin boards, signs, maps, and visitor contacts in the field. This includes emphasis on "Leave No Trace". Field presence of wilderness and trail personnel, regulations, trail condition and placement of facilities all reflect management priorities and influence human impacts and use.

Field presence has improved over the long run but has been declining the last several years due to budget constraints. A field presence increases education, prevents impacts, provides better law enforcement, increases naturalization of sites, provides quick action on problem areas discovered during monitoring, improves trail conditions and other management.

Standard regulations such as the requirement for special use permits for outfitters, apply. Regulations include those common to all wilderness areas, e.g. prohibition on motorized vehicles or equipment and bicycles. The following are current regulations for the Anaconda-Pintler:

Group Size Limit of 15 people and 20 head of stock

Camping Limit of 14 days on the Bitterroot NF and limit of 16 days on the

Beaverhead-Deerlodge NF

Certified weed seed free feed requirement

Grazing and tethering of stock set-back of 200' from all lakes required

Prohibition of caching

Camping closure between trail and lake at Johnson Lake

Hope Lake Trail #424 closed to travel with stock

Trails are maintained on a regular basis. A mix of primary and secondary trails exist. Almost all are open to stock use though some are more suitable than others. The exception is the trail to Hope Lake. Hope Lake Trail is unsafe for stock and the lake area is not suitable for camping with stock or tethering stock. Over the past 20 years, heavy maintenance and reconstruction have improved many trails, however, some problem areas remain and others develop from time to time when use becomes heavy or adequate maintenance is not possible. User-built trails are discouraged and rehabilitated when possible. Facilities are very minimal, hitching racks are at the top of the Hope Lake Trail and at Mystic Lake.

Outfitter and Guides

The A-P has outfitters on all districts. Some are the traditional stock supported operation which is primarily hunting and fishing. Others are a mix of fall hunting and summer use. The largest outfitter in the A-P outfits backpacking trips of which the A-P provides a portion of the experience for his clients who are on extended trips.

The size, shape, and geography of the A-P make almost any part accessible from a trailhead, in a day, on foot. Risk, difficulty and distances in the A-P are not such that they generate a high need or demand for outfitted services. Reported use days by existing outfitters are currently lower than their allocated use. Considering these factors it is important that available sites along popular routes or in popular destinations be available to both outfitted and non-outfitted groups. It is not desirable that all large, impacted sites be occupied by outfitted use the majority of the time.

A number of public responses indicates that they do not want to see the condition of the Anaconda-Pintler degrade nor do they want to see more groups, more outfitted use or a proliferation of campsites. Impacting additional areas by repeated use or with large groups causes the wilderness condition to deteriorate. Displacement of one group by another often creates additional impacts. The aim of this new direction will be to prevent deterioration.

The A-P has limited capacity to absorb a large number of groups. Loop trips and options for extended trips are limited. Large, impacted campsites are not numerous. Campsites suitable for stock are relatively few.

Outfitting use in the Anaconda Pintler Wilderness is summarized in Table V of this Chapter, on page 87. Currently there are six permitted outfitters operating in the A-P. Of the six outfitters, 5 use stock. A brief summary of the operations follows. Further information is contained in the project file.

Under Wild Skies

This outfitter operates on both Philipsburg and Wisdom Districts. His base of operations is out of Moose Lake on the Philipsburg District. The operation is a mix of summer and fall stock use. It offers a combination of day and overnight trips. Summer day use is building, particularly from the lodge at Moose Lake to lakes in the A-P.

Hunting use is primarily on the Wisdom District with a base camp just outside the A-P on Thompson Creek. Use on the Wisdom District was capped by an Environmental Assessment signed in 1993. It says: "In and adjacent to the Anaconda-Pintler Wilderness, a permit reissuance of an existing permit would authorize 30 service days for summer trips, and 130 service days for bow and rifle season trips, all of which would be stock-based. These trips would occur on the West Fork Thompson, Plimpton Creek, Continental Divide and Mystic Lake trails. Trips would be day-use and overnight."

In addition to the two base camps outside the A-P, this permit has the following potential assigned camps: Cutaway Mountain, Bear Lake, Big Johnson, Carrp Creek Trailhead, Little Annie, Edith Lake, Little Johnson, Tamarack Lake, One Hundred Acre Meadows, and Upper Phyllis Lake.

This permit has changed hands 4 times in the last 10-12 years, the current permit holder has had the permit since 1995. Under Wild Skies is the only outfitter allowed to operate in the Anaconda Pintler, on Philipsburg District, during hunting season. He operates both in and out of the A-P, summer and fall. He is building his business.

Big M Outfitters

Big M, on Philipsburg District, is permitted to operate in the A-P during the summer months only. Use specifically for the A-P has only been reported separately since 1995. Use is either trail rides, day use or pack trips which may or may not include fishing. Big M has 20 priority service days for summer use in the A-P but usually has not used that much. Highest use to date has been 1997 with 22 service days. This permit does not have assigned sites in the A-P but occasionally uses spike camps.

LaMarche Creek Outfitting

La Marche Cr. Outfitting operates on Wise River District. The operation involves hunting with stock for both day and overnight use. The permit has changed hands several times in the last ten years. Use has steadily declined since the early '90's. The current owner has had the operation for several years. Day use is now more prevalent than overnight. Potential assigned camps are: East Fork La Marche, Trout Creek, McGlaughlin, and Mudd Lake.

Sundance

Sundance Lodge, operates a small operation out of Sundance Lodge on the Wise River District. It involves day rides only. Sundance Lodge is permitted for summer day use where visitors take day rides out of a lodge. Most of the rides are on National Forest but outside of the A-P. Sometimes part of the ride goes into the A-P. No overnight use is permitted in the A-P and there are no assigned camps associated with this permit. The permit has changed hands once in the last 10 years.

East Fork Outfitters

East Fork Outfitters operates on the East Fork of the Bitterroot. The operation utilizes stock for both summer and fall hunting use. Fall use is still the bulk of the business but summer use seems to be expanding. Use is primarily overnight. The business has changed hands several times in the last ten years. A small base camp exists at Clifford Creek just off the East Fork. Additional potential reserve sites are Kelly Lake, Kurtz Flat, Hidden Lake, Buck Ridge Meadows, and Alpine Meadows.

Wilderness Ventures

Wilderness Ventures is the only backpacking outfitter in the A-P. This operation involves summer, overnight, backpacking for young adults. This operation has the highest number of service days in the A-P, well over half the total days in the A-P. They have consistently used all their priority use days. They operate primarily on Wise River District but do travel throughout the A-P. They do not have assigned camps but use is approved in areas utilized on a repeated basis. Their method of operating is progressive camps. Trips are usually of 5 days in duration with an average of 12 people. The A-P trips are only a portion of longer trips which they conduct.

Institutional Outfitters

Requests for institutional use of the A-P are not uncommon. Groups such as universities, schools, clubs, religious organizations, camps, rehabilitation centers and special interest groups make requests. The group limit, currently 15 people and 20 head of stock, applies to all institutional groups regardless of whether they are commercial or private. If an operation is commercial some incidental use days may be approved under special use permit for institutional outfitters. Institutional outfitters are encouraged to use areas outside the A-P.

Noxious Weeds

The Anaconda-Pintler Wilderness is almost entirely free from noxious weeds except for a few locations along the East Fork of the Bitterroot. In that vicinity the most common noxious weed is spotted knapweed, *Centaurea maculosa.* The primary area of infestation is in the vicinity of Kurtz Flat, approximately four miles up trail #433. There are several small patches of Canadian thistle, *Cirsium arvense;* one in the Kurtz Flat vicinity, on the south side of the river, and others down stream along the river. There have been a few isolated occurrences (only a few plants) of sulfur cinquefoil, *Potentilla recta;* and St. John's Wort, (Goatweed), *Hypericum perforatum;* these have been hand pulled. There is an ongoing knapweed eradication effort in and around the Kurtz Flat area. The area was treated by hand pulling and grubbing for about fifteen years. These eradication efforts were not fully effective. In 1994 an Environmental Assessment was completed. In 1995, initial, limited, hand spraying, began. This spot specific herbicide treatment involved a total infested area of approximately two acres in size. Small scale follow-up treatment was undertaken in 1996 and 1997. Hand pulling has also continued.

At the present time there are some plants scattered throughout the treatment vicinity. Remnant seed in the area will require regular monitoring and annual spot treatments for the next 5-7 years, after which the area should be totally weed free.

The habitat types found within the A-P vary widely, but for the most part they are timber-dominated habitat types. There are a few scattered native grasslands which are classified as a bluebunch wheatgrass/Idaho fescue habitat type in the lower elevations. Additionally, in the lower elevations there is also a substantial amount of ponderosa pine/ bluebunch wheatgrass habitat type.

The bluebunch wheatgrass/Idaho Fescue native grassland habitat types and the more open, (less than 30% crown cover) ponderosa pine/bluebunch wheatgrass habitat types of this wilderness are very susceptible to noxious weed invasion. Spotted knapweed, sulfur cinquefoil, and goatweed have recently begun to encroach on many areas adjacent to the Wilderness.

Since 1992, there has been a certified "weed seed free feed " requirement in the entire A-P. This is an attempt to curtail any noxious weed seeds from coming into the wilderness via horse feed.

Trailheads and roads leading to the wilderness have received special attention and in some cases hand-pulling and/or herbicide treatment has been undertaken to prevent the spread of weeds into the wilderness. Wilderness rangers and members of the public have routinely pulled isolated weeds along the trail or at trailheads.

Ongoing education efforts on weed identification and methods of preventing the spread of weed seeds have been undertaken on all Districts.

Fish

In recent years there have been concerns expressed about the practice of stocking lakes in Wilderness. These concerns involve the changes that occur when naturally fishless lakes are stocked. Of added concern is the need to maintain native species. Bull trout and native West slope Cutthroat are native in drainages west of the Continental Divide, and genetically pure east slope strains of West-slope Cutthroat exist in some places east of the Continental Divide. There is no hatchery brood stock for the East slope strain of West slope Cutthroat. Stocking itself has changed some lakes however, there is no way of assessing those changes since stocking began in some areas over 50 years ago. No baseline data exists.

There have been numerous discussions, over a number of years, between Montana Fish Wildlife and Parks and the Forest Service concerning fisheries management in the high lakes and streams of the Anaconda-Pintler. The numerous administrative units and individuals involved in both agencies sometimes have complicated these discussions. Initial scoping has indicated a willingness and need to develop a fish management strategy that maintains or moves towards more natural conditions within the Wilderness.

The Anaconda Pintler has 42 lakes named on the map. Of this total, approximately 17 support fish populations. Many of these populations are self-sustaining. Table VI, on page 89, summarizes lakes and fish populations, compiled from numerous documents. Lakes listed as having fish in Table VI, page 89 are lakes the Montana Department of Fish, Wildlife and Parks currently stock or have been stocked in the past. Some of the lakes like Rainbow, Crystal, Lion, Mystic, and Upper Seymour Lakes all have self sustaining populations of rainbow trout and are no longer stocked.

Fish populations, in streams are summarized by District, as follows:

Philipsburg Ranger District

Species of Salmonids. No genetic test results on any of the streams so information is based on the professional opinion by fisheries biologists. Data sources for this information include the Montana River Information System, MFWP stocking records and lake inventory results, talking with local Mt. Fish Wildlife and Parks fisheries biologists, and field sampling efforts.

The information is organized by stream name and relative abundance of each species within each stream, beginning at the western end of the Wilderness and progressing eastward. Some of the streams are outside of the Wilderness boundary, but are included because they drain portions of the A-P.

Copper Creek

Eastern brook trout (EB): Most prevalent species, resident population.

Westslope cutthroat trout (WCT): Common, presumed pure although rainbow trout (RB) were historically planted downstream.

Bull trout: Uncommon, stream provides spawning for fluvial population and rearing habitat for juveniles. Some hydridization with EB likely, but has not been documented.

Meyers Creek

Bull trout: Common. Meyers Creek is confirmed as a spawning tributary for fluvial Bull trout from Rock Creek population. Provides substantial rearing habitat for juveniles.

Westslope cutthroat trout: Uncommon. Fisheries biologist assumes they are a genetically pure resident population although RB have been planted in the Middle Fork in the past.

Middle Fork Rock Creek

Bull trout: Common. Upstream of confluence with Copper Creek is one of most important Bull trout spawning areas in Rock Creek. Some spawning activity within Wilderness. Important rearing area.

Westslope cutthroat trout: Uncommon. Assuming these are genetically pure, even though RB have been planted downstream and generic "cutthroat trout" have been planted in both upper and lower Phyllis Lakes, due to the length of time it has been since stocking and subsequent stocking with WCT.

Carpp Creek

Bull trout: Common, high value as spawning and rearing habitat for Rock Creek population.

Westslope cutthroat trout: Common in upper reaches, uncommon elsewhere. Maybe pure, although generic cutthroat trout planted during the 40s and 50s in stream. Self-sustaining population of RB in unnamed lake in Tamarack Creek drainage, ("Little Annie"?) persist and likely inhabit Tamarack Creek. These fish could be a potential

source for hybridization in this drainage, but the cutthroat trout in Carpp Creek look good. The unnamed tributary draining Carpp Lakes might contain pure WCT.

East Fork Rock

Bull trout: Common. East Fork reservoir contains an adfluvial population of Bull trout which run up the East Fork to spawn and rear. This is very high value Bull trout watershed. East Fork Rock is a water quality limited stream.

Cutthroat may not exist here. Snorkel surveys in the wilderness, summer of 1997, failed to detect CT. RB have been planted in the reservoir and the fish there look like RBxCT hybrids, however, are likely Arlee strain RB. Historically RB and CT have been planted in upstream lakes (Page - RB & CT, Sauer - CT).

Eastern brook trout: Uncommon in reservoir, but self sustaining. Spawning EB observed in Wilderness portion in 1996.

Storm Lake Creek

Cutthroat trout: Common in stream below the lake and the only known species in Storm Lake. Spawning does occur above the lake, outside the wilderness. RB historically planted in the lake, with CT planted more recently, and WCT most recently. Questionable if CT are pure.

Bull trout: Uncommon downstream of Storm Lake. Not found in lake or above. This is an isolated population that is documented to contain EB and Bull trout hybrids.

Eastern brook trout: Uncommon in creek downstream of Storm Lake. Not found in, or upstream of, Storm Lake.

Twin Lake Creek

Cutthroat trout: Common throughout the drainage. Likely hybridized due to past stocking of cutthroat and rainbow trout in Twin Lakes and Lake of the Isle.

Eastern brook trout: Uncommon to common throughout the drainage. Also noted in Lower Twin Lake.

Bull trout: Rare to uncommon throughout drainage. Also noted in both upper and lower Twin Lakes.

Wisdom Ranger District

Plimpton Creek

Westslope Cutthroat Trout: Common within the A-P Wilderness. 30' barrier falls located approximately 1/2 mile below wilderness boundary. Ten WCT were collected in FY96 for genetic testing; no results yet. WCT tested near the Forest boundary in FY94 came back genetically pure. No stocked high mountain lake(s).

Eastern Brook Trout: Extremely abundant below the barrier falls.

Rainbow Trout or Hybrids: No RBT or Hybrids have been documented.

Thompson Creek

Westslope Cutthroat Trout: No WCT have been documented below the A-P Wilderness boundary. No surveys have been conducted above. Stocked high mountain lake(s).

Eastern Brook Trout: Extremely abundant below the A-P Wilderness boundary.

Rainbow Trout or Hybrids: Common below the A-P Wilderness boundary.

Howell Creek

Westslope Cutthroat Trout: No WCT have been documented below the A-P Wilderness boundary. No surveys have been conducted above. Stocked high mountain lake(s).

Eastern Brook Trout: Extremely abundant below the A-P Wilderness boundary.

Rainbow Trout or Hybrids: Rare below the A-P Wilderness boundary.

Mussigbrod Creek

Length 14 miles most of which is outside of the wilderness. Mussigbrod Creek is a water quality limited stream as listed by the Montana Department of Environmental Quality.

Wise River Ranger District

Pintler Creek

Westslope Cutthroat Trout: No WCT have been documented either above or below the A-P Wilderness boundary. No surveys in upper Pintler Creek above Pintler Meadows or Beaver Creek. Stocked high mountain lake(s).

Eastern Brook Trout: Extremely abundant in lower Pintler Creek below Pintler Falls.

Rainbow Trout or Hybrids: Common within Pintler Meadows.

Pintler Creek is a water quality limited stream as listed by the Montana Department of Environmental Quality.

Mudd Creek

Westslope Cutthroat Trout: Cutthroat trout are rare in the West Fork of Mudd Creek both above and below the A-P Wilderness boundary. WCT collected in W. Fork of Mudd Creek and nearby York Gulch are genetically pure. No stocked high mountain lake(s) in the West Fork of Mudd Creek. Water from Palisade Creek (Fishtrap Creek drainage) is diverted into the East Fork of Mudd Creek via of Mudd Lake.

Eastern Brook Trout: Extremely abundant both above and below the A-P Wilderness boundary.

Rainbow Trout or Hybrids: No RBT or Hybrids have been documented.

Fishtrap Creek Drainage

Westslope Cutthroat Trout: WCT have been caught in the West Fork of Fishtrap Creek and Palisade Creek. No fish were collected for genetic testing. Therefore, the genetic

purity is in question. No stocked high mountain lake(s) in Palisade Creek. Stocked high mountain lake(s) in the headwater of the West Fork.

Eastern Brook Trout: Extremely abundant within all drainages both above and below the A-P Wilderness boundary.

Rainbow Trout or Hybrids: RBT have not been document. It's highly possible that WCT below Rainbow Lake are hybridized with RBT.

Fishtrap Creek is a water quality limited stream as listed by the Montana Department of Environmental Quality.

LaMarche Creek Drainage

Westslope Cutthroat Trout: Only cutthroat trout are present in the West Fork of LaMarche Creek above the barrier falls. These fish are hybridized with Yellowstone cutthroat trout (71.1% WCT and 28.9% YCT). No WCT have been documented in the East Fork. Trout Creek and the Middle Fork have not been surveyed. Stocked high mountain lake(s).

Eastern Brook Trout: Extremely abundant within lower West Fork below the barrier falls and the East Fork.

Rainbow Trout or Hybrids: Common in main LaMarche Creek below the Forks.

LaMarche Creek is a water quality limited stream as listed by the Montana Department of Environmental Quality.

Seymour Creek

Westslope Cutthroat Trout: Nine WCT were collected above the A-P Wilderness boundary in 1989. Genetic purity of these fish was 98.8% hybridized with Yellowstone cutthroat trout. No surveys have been conducted since 1989. Current status unknown. Stocked high mountain lake(s). Genetic purity of WCT in nearby Chub Creek (below A-P Wilderness boundary) was 93.8% also hybridized with Yellowstone cutthroat trout.

Eastern Brook Trout: Based on 1989 data, EBT are rare to common above lower Seymour Lake. Current status unknown. Abundant below lower Seymour Lake.

Rainbow Trout or Hybrids: RBT have not been documented in upper Seymour Creek. Mostly likely some RBT are present immediately above the Big Hole River.

Seymour Creek is a water quality limited stream as listed by the Montana Department of Environmental Quality.

Sula Ranger District

The following is a brief summary of what is known about the fisheries resource on the Sula Ranger District portion of the Anaconda-Pintler Wilderness. Unfortunately the wilderness portion of the district has been largely ignored as far as fisheries inventories (lack of access, motorized restrictions, and few habitat changes). The data is from Forest Service and Fish and Game files, some may be out dated, but most of the stream work is from about 1994.

East Fork of The Bitterroot River (Below Star Falls)

Here cutthroat and bull trout are common with a few whitefish and rarely a rainbow (sample section just below wilderness boundary). There seems to be a fluvial population of cutthroat and bull trout (larger fish with seasonal movements). Some larger bull trout may run up the East Fork to Star Falls to spawn. No genetic testing has been done but the cutthroat appear to be good westslope cutthroat even though rainbow are found above and below. More work is needed in this area.

East Fork of the Bitterroot River (Above Star Falls)

No data from this important stretch of fish habitat. It was naturally probably barren of fish, but rainbows were planted in the lakes in the headwaters. Hidden Lake has self sustaining rainbow trout. Some literature indicates it was planted about 1940. It was to planted with WS cutthroat in 1995 in an attempt to swamp the rainbow. The results won't be known for awhile. Ripple was planted with rainbow in 1936 and 1959 and has a self sustaining population. It was also have been planted with WS Cutthroat in 1995. Kelly is shallow with no record of any plants. The whole aquatic system above Star Falls is a high priority for inventory and possible restoration for natives.

Dense Creek

Cutthroat and bull trout are common near its mouth, but probably do not go upstream very far because of barriers.

Swift Creek

Cutthroat and bull trout are common near the wilderness boundary, but do not go upstream very far because of barriers. Lower Swift Creek (outside of wilderness) may be a important bull trout stream for resident and fluvial fish.

Orphan Creek

Cutthroat and bull trout are common on the lower end. Distance of upstream occurrence upstream is unknown.

Carmine Creek

Cutthroat and bull trout are common on the lower end. Distance of upstream occurrence is unknown. Carmine Lake is shallow with no record of any plants.

Buck Creek

Cutthroat and bull trout are common on the lower end, there is a probable barrier a short way upstream. Hope Lake, at the head end of Buck Creek has rainbows. Buck lake is shallow, but was planted with rainbow in 1940. It does not have any fish in it at present.

Hope Creek

No data exists for this stream. Hope Lake was planted with rainbows several time from 1958-1981. It is self sustaining at present. It was scheduled for a WS Cutthroat plant about 1992.

Alpine Creek

Nothing is known about Alpine Creek. Alpine Lakes are shallow and has never been planted.

Park Creek

Nothing is known about Park Creek. Park Lakes are shallow and have never been planted.

Star Creek

Star Creek is below Star Falls; cutthroat and bull trout are common in the lower end. Distance of occurrence upstream is unknown, probably not very far because of barriers.

Clifford Creek

Cutthroat and bull trout are common in the lower end, its a larger tributary and fish may go upstream some distance.

Cub Creek

Small, no data, it could have some fish at least seasonally.

Moss Creek

Small, no data, it could have some fish at least seasonally.

Other Streams

No data exists for any other streams, most are small but there could be some fish use near the mouths of some of them.

Genetics

No genetics have been collected inside the wilderness. Adjacent streams (Meadow, Martin, Moose Creeks) all have pure westslope cutthroat trout. It is reasonable to

assume that MOST of the cutthroat trout in the East Fork are genetically pure westslope cutthroat, their physical appearance agrees with this.

Research Natural Areas

This section summarizes information from the Establishment Records, describing the resources and uses occurring in the proposed RNAs. Establishment Records are part of the project file. Please refer to maps II and III showing the boundaries of each of the proposed areas.

The Goat Flat proposed RNA (1376 acres) was selected to represent a unique alpine ecosystem and associated timberline forests dominated by alpine larch and subalpine fir. There are a number of sensitive plant species and rare plant communities within this RNA. The East Fork Bitterroot proposed RNA (298 acres) features a willow dominated valley bottom with beaver ponds in a subalpine fir forest type.

Beaverhead-Deerlodge National Forest

Goat Flat RNA

The Goat Flat proposed RNA is located in the Anaconda-Pintler Range of southwestern Montana, along the Continental Divide, 14 miles southwest of Anaconda, Montana. Total area of the RNA is 1376 acres. A segment of the RNA , approximately 679 acres lies within the Anaconda-Pintler Wilderness. The remaining 697 acres of non-wilderness land within the RNA consists of reserved federal lands.

The Goat Flat RNA consists of alpine communities and subalpine forest on sedimentary and igneous rock. It contains a wide variety of upper subalpine and alpine plant communities with nearly 190 species represented including Species of Special Concern and five listed as sensitive within Region 1 of the Forest Service.

The site contains populations of eleven plant species listed by the Montana Natural Heritage Program as species of special concern (Heidel 1996). Six of these species are Northern Region sensitive plant species (USDA) Forest Service 1994). In addition, the RNA contains alpine and Larix lyallii - Abies lasiocarpa habitat types. Other vegetative community types/habitat types make up the remainder of the vegetative cover within the RNA, and are useful additions to the natural areas system in the Northern Region, including subalpine larch and whitebark pine forests. Other features include riparian communities, small ponds, avalanche chutes, patterned ground on alpine tundra , and bunchgrass parks. Elevations range from 8200' - 9989'.

Goat Flat RNA contains scattered subalpine forest, and subalpine larch forest. None of the timber is of commercial quality. Timber harvest in the RNA is not permitted.

The RNA is located in a setting of intensely alpine-glaciated landforms. Cirque basins and glacial trough valleys form Page Creek, Dry Creek and Storm Lake Creek valleys, all of which have headwaters in the RNA. Runoff from Storm Lake Creek feeds the species-rich, moist meadows at the south end of Storm Lake.

The grizzly bear, federally listed as threatened, is considered a migrant and possibly a resident in certain locations of the Beaverhead-Deerlodge National Forest; the grey wolf, federally listed as endangered, is considered a rare migrant to the Forest.

Lands north of the RNA around and including Storm Lake, are currently receiving moderate camping, hiking, horseback riding, and hunting use. Trails that lead into the RNA are receiving light foot and horse travel. These activities are predicted to increase in future years. Fishing from the shore and from small boats (motorized and non-motorized) occurs in Storm Lake (outside of the RNA). A segment of the Continental Divide National Scenic Trail lies within the RNA.

Native Americans probably used the area in and around Goat Flat RNA for transient camps during the summer months. Similar sites in the Wilderness show evidence of such use. All of the mountain passes were used by Native Americans as travel routes; Storm Lake Pass, within the RNA, was probably used as well.

Grazing by domestic livestock has not occurred within the RNA and will not be allowed following establishment. Light grazing by pack stock has occurred and will likely continue near pack trails.

There are no current mineral leases, and no post-FLPMA (1976) unpatented mining claims on Goat Flat RNA (Avery 1996). The RNA is in an area of low mineral potential, as identified by the U.S. Geological Survey and U.S. Bureau of Mines (Close et al. 1982, Elliott et al. 1985).

Bitterroot National Forest

East Fork Bitterroot RNA

The East Fork Bitterroot proposed RNA is located in the southeastern portion of the Bitterroot National Forest, Sula Ranger District and is entirely within the Anaconda-Pintler Wilderness Area. The central features are beaver dams and ponds and riparian communities dominated by various willows (Salix spp.1/), and sedges (Carex spp.). The RNA includes a wilderness segment of the East Fork of the Bitterroot River. The size of

the RNA is 298 acres; approximately 125 acres or 43% of RNA support beaver ponds an willow-sedge communities.

The RNA also supports conifer forests dominated by lodgepole pine, Engelmann spruce, and subalpine fir, representative of the subalpine fir/dwarf huckleberry habitat type. To date, this RNA provides the only example of this habitat type in the RNA network in western Montana. The RNA will serve as a reference are for ecologic monitoring, especially the short- and long-term vegetation dynamics associated with a beaver influenced river system.

The East Fork Bitterroot River flows through the entire RNA, and several other streams enter the river within the RNA. The valley bottom along this reach of the river contains a series of active and abandoned beaver dams, which have allowed extensive areas of shrub and herbaceoous riparian communities to develop. Establishment of the RNA will maintain watershed values.

The elevation at streamside portions of the RNA averages 5400 feet. The highest elevation is 5600 feet along the north and south boundaries. The 5600 foot boundary contour incorporates portions of the riparian areas associated with six tributary streams into the RNA.

About 168 acres of the RNA are forested. However, timber harvest is not permitted within the Anaconda-Pintler Wilderness or within RNAs.

No endangered, threatened, or sensitive plant or animals species, apart from occasional visits by bald eagles (Haliaeetus leucocephalus), are known to occur with the RNA.

Fishing is popular along the East Fork Bitterroot River and Trail 433 within the RNA is used by fishermen and other recreationists to access the Anaconda-Pintler Wilderness Area. Access to the river within the RNA, however, is limited by dense willow thickets and beaver ponds, and few side trails are present off Trail 433. Fall hunting for elk and deer within the wilderness is also popular, but within the RNA, use is largely confined to Trail 433.

There are no known historic cultural features within the RNA. Nearby areas were roaded, logged and subject to homesteading early in the century. The wilderness portion of the East Fork drainage was undeveloped.

Grazing by domestic livestock has not occurred within the RNA, and will not be allowed following establishment. Light grazing by recreational pack stock has occurred and will likely continue near existing pack trails.

East Fork Bitterroot RNA has no commercial mineral resources. Its location within the Anaconda-Pintler Wilderness is withdrawn from mineral entry.

Mystic Lake Cabin

Mystic Cabin is the only administrative cabin site within the present A-P boundary. It is located on the Beaverhead-Deerlodge National Forest in the NE1/4 of Section 2 T1N R16W, adjacent to Mystic Lake on Trail #369. Elevation is 7,800 feet. The structure is shown on the A-P Wilderness Map with a "Forest Service Station" symbol and the words "Mystic Lake."

The site is in a superior setting which lies well within the Wilderness. It is several hours from the trailhead by the shortest access route. The setting is in a natural condition with minimal disturbance. The building has its structural integrity and is characteristic of an intermediate station. There are few similar sites on the Forest or on adjacent Forests. The property was evaluated by the Historic Research Associates in the 1991 region-wide study. It was considered for significance in relation to other properties nationally and statewide.

Informal surveys of people in the area indicate that they enjoy seeing the old guard station. It has historic interest and adds to their wilderness experience.

The cabin has been in place for 60 years and has not been impacted by fire. Wet ground conditions, the lake, streams, trails and bare ground make the site somewhat immune to ground fire.

TABLE V - SUMMARY OF CURRENT OUTFITTER AND GUIDES IN A-P							
OUTFITTER	DISTRICT	TYPE	PRIORITY DAYS	HIGH ACTUAL USE [1]	AVERAGE ACTUAL USE[2]	POTENTIAL ASSIGNED CAMPS IN A-P	COMMENTS
Under Wild Skies	Philipsburg & Wisdom, Philipsburg primarily	Stock, Day & Overnight Summer & Hunting	281	104 S, P-Burg, ('96) 34, S, Wisdom ('94) 126 H, P-Burg, ('96) 135, H, Wisdom, ('88)	70, S, P-Burg, 10, S, Wisdom 87, H, P-burg 50, H, Wisdom	Cutaway, Bear Big Johnson, Edith Little Johnson, Tamarack, Upper Phyllis, One Hundred Acre Meadow	Has changed hands several times. Use increasing on both districts. EA exists on Wisdom which caps use.
LaMarche Ck Outfitting	Wise River	Stock, Day & Overnight Hunting	none	77, S, ('89) 376, H, ('92)	20, S 143, H	East Fork LaMarche, Trout Creek, McGlaughlin, Mudd Lake	New Owner. Using more day use than overnight
Wilderness Ventures	All Districts Wise River primarily	Backpacking, Summer, Overnight	560	560, S, ('93-97) (Summer, Backpacking, overnight)	541, S	None assigned, some approved areas used on a repeated basis	Progressive Camps
East Fork Outfitters	Sula	Stock, primarily overnight hunting; some summer	163	76, S ('94) 220, H ('97)	34, S 98, H	Clifford Ck., Kelly Lk., Kurtz Flat, Hidden Lk., Buck Ridge Meadows, Alpine Meadows	Has changed hands a number of times
Sundance	Wise River	Stock, day use only.	None	35, S, dayuse, ('97)	35, S	None	Day rides from Lodge in LaMarche Cr.
Big M Outfitters	Philipsburg	Stock, day & overnight, summer	20	22 S, ('97)	12, S	None	Utilizes Spike Camps

Wilderness -Wide Totals for High Actual Use: 908 Summer, 857 Hunting
Wilderness - Wide Totals for Average Use: 722 Summer, 378 Hunting

Service Day, a day or any part of a day on National Forest System lands for which an outfitter or guide provides goods or services, including transportation, to a client. ON=Overnight D=Day Use S=Summer H=Hunting

[1]**High Actual Use** is the highest use that has occurred in the last 10 years or during the number of years for which we have data, regardless of owner.

[2]**Average Actual Use** is the average of service days used over the last ten years or for the number of years for which we have data.

TABLE VI - FISH OCCURRENCE, ANACONDA-PINTLER LAKES					
LAKE NAME	DRAINAGE[1]	SPECIES[2]	NATURAL REPRODUCTION	AMT. USE	COMMENTS
Alpine Lakes	Alpine Ck., Brt	Fishless	NA	Low	
"Annie", (T3 N R16 W Sec 35)	M Fk. Rk Ck	Fishless		Med	Natural springs
Bear	Beaver Ck., BH	Fishless	?	Low	Shallow
Buck	Buck Ck., Brt	Fishless	NA	Low	Shallow
Carmine	Carmine Ck., Brt	Fishless	NA	Low	
Carpp	Carpp Ck., RkCk	WCT	?	High	High day use, poor nutrition, possible winterkill
Lower Carpp	Carpp Ck., RkCk			High	
Upper Carpp	Carpp Ck, RkCk	Fishless		Med	Shallow
Continental	Thompson Ck., BH	WCT	?	Low	Shallow, formerly stocked w/ RB, 1946
Crystal	Thompson Ck., BH	RB	yes	Med.	
Edith	Falls Fk., RkCk	RB, GR, WCT	yes	High	"Natural reproduction provides more recruitment than desirable for maximum growth"
Emerald	EFk.LaMarche, BH	Fishless	NA	Low	
Flower	Page Ck., RkCk.	Fishless	NA	Med.	Shallow
Hicks	WFk.LaMarche, BH	RB	yes?	Med	
Hidden	Brt	RB	yes	High	
Hope	Hope Ck., Brt	RB	yes	Med	Increasing Use
Ivanhoe	M.Fk. RkCk	RB	yes	Med	
Johnson	Falls Fk., RkCk	WCT, LNS	yes	High	Most heavily used area in A-P;
Kelly	EFk Brt	Fishless		High	Shallow
LaMarche	LaMarche, BH			Low	
Lion	Thompson Ck., BH	RB	yes	Med	
"Little Annie" T3N R15W Sec 16	Tamarack Ck, RkCk			Med	
Little Johnson	M Fk RkCk			Med	
Lost Lakes	EFk Fish Trap, BH	Fishless		Low	
Martin	Falls Fk, RkCk	Fishless		Low	Shallow

[1]The Bitterroot and Rock Creek drainages are west of the Continental Divide. Both drainages have native Westslope Cutthroat and Bulltrout populations. The Big Hole drainage is east of the Continental Divide and has an East slope strain of Westslope Cutthroat.
[2] WCT=Westslope Cutthroat; RB=Rainbow, GR=Grayling; LNS=Long-nosed sucker

TABLE VI - FISH OCCURRENCE, ANACONDA-PINTLER LAKES					
LAKE NAME	DRAINAGE[3]	SPECIES[4]	NATURAL REPRODUCTION	AMT. USE	COMMENTS
Mosquito	Thompson Ck, BH				
Mystic	Howell Ck., BH	RBxCT	yes	Med	
Oreamnos	PintlerCk., BH	WCT, RB	no	High	Fish freeze out; repeatedly stocked in past
				Med	Historically planted w/ RB and CT
				Low	
		Fishless		Low	Shallow
Phyllis		RB, CT	?	Med	
	RkCk	CT	?	High	
				Med	
				High	
	EFk Btr			High	
	Sauer Ck., RkCk	?		Low	Historically planted w/ CT
	Pintler Ck., BH	Fishless		Med	Shallow
Spruce	Spruce Ck, RkCk				
Surprise	Hell Roaring, BH	Fishless		Med	Shallow
Tamarack	Carpp Cr, RkCk	Planted WCT	No	High	Increased use since stocked in 1993
Unnamed, West, Warren Lake	BH	Fishless		Low	
Unnamed, below Queener Mnt.	Seymour Ck, BH	Fishless		Low	
Unnamed lake T3N, R15W, Sec 21, NW1/4	Carpp Ck., RkCk.	RB	Yes	Low	
Upper Seymour	Seymour Ck, BH			High	
Violet	Hell Roaring, BH				
Warren	LaMarche, BH	Fishless		Med.	Stocked in past

[3]The Bitterroot and Rock Creek drainages are west of the Continental Divide. Both drainages have native Westslope Cutthroat and Bulltrout populations. The Big Hole drainage is east of the Continental Divide and has an East slope strain of Westslope Cutthroat.
[4] WCT=Westslope Cutthroat; RB=Rainbow, GR=Grayling; LNS=Long-nosed sucker

CHAPTER IV - ENVIRONMENTAL CONSEQUENCES

Introduction

This chapter discloses environmental consequences of implementing the alternatives described in Chapter II, pages 23-28 or the consequences of taking No Action at this time. The discussion on affected environment, outlined in chapter III, provides the baseline for describing the consequences. A comparison of Alternatives is presented in Chapter II, pages 47-53. Action alternatives differ from one another in the degree and means of managing human use to avoid biological, physical and social impacts. Each alternative is analyzed in regard to each issue. The effects of each alternative, as a whole, are summarized in the narrative. Because the overall effect of each alternative is a composite of the consequences of various actions the effects of individual actions are also summarized in Table VII, Chapter IV, page 111.

Chapter IV focuses on the most significant effects. Environmental consequences of the proposed action are discussed by issue. This chapter also discusses the cumulative or combined effects of the actions of the alternatives. Decisions that draw upon the effects analysis are limited only to the Anaconda-Pintler Wilderness.

The major issues, (see Chapter II, pages 18-22), define the scope of environmental concern for this project.

ISSUE 1: Human activity is affecting vegetation, soils and the natural appearance of the A-P in areas of concentrated use.

In many areas of the A-P, human activity is having an increased impact on vegetation, soils and the natural appearance of the Wilderness. Vegetation around campsites is slowly being obliterated and/or the plant composition in the immediate area is changing. Soils are becoming compacted and can no longer support plant life or surviving plants become stunted and deformed. Lack of vegetative ground cover increases erosion and sediment deposition in lakes and streams. Water run-off and puddling along with potential wind erosion is increasing as soils become compacted. Vegetative changes and lack of soil cover make the areas where they occur seem less wild and diminish the nature appearance of the Wilderness.

Campsites

Campsites account for many of the impacts on soil, vegetation, and natural appearance. The number, size and placement of campsites may influence wildlife habitat, water quality, solitude and many other factors important to wilderness integrity. Any area with repeated heavy use will experience vegetation loss and soil compaction. Impacts occur with camping use, foot or stock travel, and are often most extreme where stock is repeatedly contained for long periods. This is true with highlines, portable corrals, and even a leg picket system if it is not moved or is installed in the same spot repeatedly, particularly in a poorly selected site or in wet soil conditions. In some cases facilities may concentrate use and slow the proliferation of campsites and related impacts. However, if use in a given area increases to the point that campsites with facilities are already in use or if users chose other campsites, then proliferation of impacts occurs anyway.

Effects Common To All Action Alternatives (B-E)

Establish Management Zones

Establishing management zones and their respective prescriptions will be the primary tool for addressing the impacts of human use on soils, vegetation and natural appearance. The best way to minimize impacts, as determined by research, is to concentrate recreation use in those areas that are already impacted and to disperse recreation use in areas that are very slightly or not yet impacted. (Cole, 1989, 1993)

Zones are established in all action alternatives. The amount of each zone changes by alternative. A description of zones, standards, guidelines and the issues relating to human use are discussed in Chapter II, pages 36-42.

Zones are along trails and adjacent to destination areas. They are the approximate area of influence and can not be precisely calculated because of geographic irregularities. For example, the area of influence around a lake will differ if cliffs come down to the lake on one side than if a flat area exists all around it. Lake shapes, curves in the trail, adjacent terrain are all factors which make an acreage measurement of the zones unmeaningful. Approximate area of a given zone is best gauged by looking at the map and by referencing Table IV in Chapter II, page 63.

Those conditions described for each zone relate directly to indicators which measure the impacts of human activity on vegetation, soil, and the natural appearance of the A-P. These indicators include: campsite density, barren core area, social trails, encounters, administrative camps, permanent structures and trails. Each zone has standards which relate to impacts. The amount of acceptable impact varies by zone. Impacts are minimized by a combination of actions which vary by alternative. For example, the number of campfire closures, the group limit and other actions which vary by alternative, help maintain the standards set in each zone. Actions will decrease campsite density, barren core area and the number of social trails. These specific indicators can be measured, on the ground to see if desired conditions are being met by the actions being taken.

Direct and Indirect Effects

Management zones will set limits, in different portions of the Wilderness, based on measurements of conditions. The intent of establishing zones is to maintain or re-establish acceptable resource and social conditions. If conditions are approaching unacceptable then strategies for avoiding degradation are in place. These specific actions are discussed in the following sections specific to each alternative. Zones allow managers to apply a range of desired conditions which are specific and acceptable within wilderness. Some areas will have more human activity and show more bio-physical and social impacts than do areas with fewer people and their associated activities.

Cumulative Effects

It is important to note that in all action alternatives, the A-P is primarily Zone I. Because of this, regardless of alternative, the A-P, over the long term, maintains a high degree of apparent naturalness. Ecological processes operate with essentially no perceptible or measurable evidence of human impact or use. The area functions as a wild place, looks and feels wild to those who visit.

Alternative A - No Action

In Alternative A no new administrative actions are taken to alter human impacts and those impacts which occur from stock use. Those actions which are currently undertaken to minimize the impacts of recreation use will continue to the degree that funding and staffing allow. These include such things as education efforts in "Leave No Trace Techniques", naturalization of undesirable campsites or fire rings, enforcement of current regulations such as group limit, weed seed free feed requirements, lake set-backs for grazing and tethering of stock, and a camping closure area on one side of Johnson Lake.

Direct and Indirect Effects

Although there is no change in current direction, existing condition is not maintained in the long term because pressures on the Wilderness are increasing. "Desired Future Condition" and those objectives which relate to vegetation, soil and social conditions are not attained because degradation from increased recreation use continues. Direct and indirect effects include a proliferation of campsites, increase in campsite density, and barren core areas enlarging at high use campsites due to compaction of soils and loss of vegetative cover. More social trails develop between campsites, firewood gathering areas and attractions. An overall gradual degradation of vegetation, soils and wilderness appearance occurs.

Cumulative Effects

Under Alternative A, management is not tied to zones. Specific, measurable, attainable management objectives for resource conditions are not clearly defined and managers have no consistent way to determine when actions should be taken to improve conditions. The cumulative effects are increased degradation of vegetation and soils, and depletion of dead wood at a number of lakes. The "human browse line" on trees continues to develop. Compacted soils and reduced vegetation at campsites affect the appearance of campsites making them look degraded and less natural. An increasing number of social trails also reduces the natural appearance of the area.

Alternative B - Recreation/Human Use Emphasis

Alternative B is the most recreation oriented of the action alternatives. It is similar to Alternative A except that zones with goals, objectives, standards and guidelines are established. This makes it possible for trends to be assessed in relationship to various indicators.

Direct and Indirect Effects

The amount of each zone varies by action alternative. This alternative has the most Zone IV (Transition) and the least Zone I (Most Natural). It has more Zone III and less Zone II than other action alternatives. Of the action alternatives, Alternative B will have the greatest campsite density, the highest number of social trails, the most barren core area, more administrative and permitted camps, permanent structures, signs, and non-system trails than any of the action alternatives. In Alternative B campsites are likely to increase in number and have larger barren core areas than those in other action alternatives. More soil compaction, loss of vegetative cover, and social trails occur than in other action alternatives. Heavier stock traffic on system trails, than in other action alternatives, exposes more mineral soil. Bare soils in campsites are more susceptible to erosion so more sediment reaches adjacent streams and lakes. The greater number of campsites and more heavily impacted sites causes the wilderness to appear less natural. Resource protection facilities such as hitchrails and toilets prevent some widespread impacts but are themselves structures and thus detract from the naturalness of wilderness. Because group size does not decrease and other restrictions are not invoked, e. g. campfire restrictions, overall, impacts will be similar to Alternative A. Maximum freedom for the recreationist is maintained. Those measures taken to concentrate use will concentrate impacts. Managers will be able to gauge impacts and trends based on the indicators for each zone. It will be possible to track use patterns because of the self issuing permit.

Cumulative Effects

The Zone distribution in Alternative B allows more impact on soils and vegetation than other action alternatives. This includes: larger barren core areas at the more heavily used campsites, a proliferation of campsites, higher campsite density and more social trails. Impacts are similar to Alternative A. Under this alternative zone conditions are maintained by an increase in education outreach, more wilderness ranger coverage, increased mitigation of impacts, and increased hardening of sites with some facilities for resource protection.

Alternative C - Emphasis On Retention Of Existing Resource And Social Conditions (Preferred Alternative)

This alternative attempts to strike a balance which maintains the status quo in terms of how the A-P looks and feels. It improves resource and social conditions where possible without being highly restrictive. Allocation of zones mimics the existing condition.

Direct and Indirect Effects

Zone distribution for this alternative falls in between the distributions for Alternative B and those for Alternatives D and E. The overall effect is that less human impact is evident in this Alternative than in Alternatives A or B but more impact is evident than in Alternative D or E. Human and stock impacts are reduced by limiting the group size to a maximum of 16 beating hearts. The current group

limit of 15 people and 20 head of stock is reduced to any combination of people and stock, totalling 16. This impacts stock users who have historically travelled in larger groups. It decrease the impacts of travelling or camping with a large number of stock. Hitchrails also help reduce the impacts of stock at the lakes and/or on trails leading to the lakes. Hitchrails are placed at Johnson Lake, the junction of Hope Lake Trail #424 and the Continental Divide Trail above Ripple Lake. Camping with stock is not allowed within 1/4 mile of Oreamnos, Sawed Cabin or Ripple Lakes. This minimizes stock damage adjacent to these lakes.

Impacts on vegetation and soils are reduced by campfire restrictions. Campfire closures create a number of beneficial changes. Soil compaction and sterilization which occur around campfires are eliminated. Vegetation is no longer trampled or disturbed by wood gathering and congregating around a fire. Wood accumulates on the ground and creates microclimates for vegetation. Organic material from rotting wood becomes part of the soil building processes. Rocks are no longer blackened or cracked by campfires. Repeated use in some sites is reduced because the absence of fire rings or fire areas makes the sites less obvious.

Cumulative Effects

The cumulative effects of Alternative C include fewer campsites with large barren core areas, fewer social trails, and minimal proliferation of campsites. Impacts from stock are reduced and become less evident overall. Under Alternative C less vegetation and soil disturbance occur than in Alternatives A and B. The wilderness maintains a more natural appearance. Under this alternative zone conditions are maintained by an increase in education outreach, more wilderness ranger coverage, increased mitigation of impacts, and increased regulation and enforcement.

ALTERNATIVE D--Emphasis on Unmodified Natural Environment & Natural Processes

This alternative has the highest number of regulations, signs, etc. within the wilderness. It changes the wilderness experience and feeling of "freedom" more than the other action alternatives. The regulations change use patterns and decrease impact causing activities. This Alternative has the hightest number of new restrictions and regulations. It maintains the most Zone I and the least Zone IV.

Direct and Indirect Effects

Group limit decreases to any combination of 12 beating hearts. This decreases those impacts associated with large groups, including larger campsites, more social trails and associated damage to vegetation and soils. Impacts to soil and vegetation are also reduced by additional campfire and camping restrictions. These closures create a number of beneficial changes. Soil compaction and sterilization which occur around campfires are eliminated. Vegetation is no longer trampled or disturbed by wood gathering and congregating around a fire. Wood accumulates on the ground and creates microclimates for vegetation. Organic material from rotting wood becomes part of the soil building processes. Rocks are no longer blackened or cracked by campfires. Campsites do not occur in fragile lakeside areas. Because stock users are required to pack feed less grazing and its resulting

impacts take place. Resource protection structures are seldom utilized to concentrate use and prevent dispersal of impacts. Impacts are dispersed or controlled by regulations.

Cumulative Effects

Campsite proliferation slows and barren core areas do not increase at most established campsites and decrease in some places. Fewer stock impacts occur. Grazing is minimal, soil compaction and puddling are reduced, tree damage from firewood gathering and tying of stock slows. Impacts to vegetation and soil decrease. Under this alternative zone conditions are maintained by an increase in education outreach, more wilderness ranger coverage, increased mitigation of impacts, and increased regulation and enforcement.

Alternative E - Permit (Quota) System

Alternative E calls for an Agency issued permit during the primary use season from June through September.

Direct and Indirect Effects

This alternative requires obtaining a permit from a Forest Service office. It incorporates a quota. Permits can limit the number of visitors when and where necessary to prevent social and bio-physical impacts. Numbers may be limited based on destination, allowing a set number of individuals and stock in a given lake basin or area. This type of permit is an "up front" restriction which can minimize biophysical impacts by limiting the numbers of people in any area. Displacement of visitors could create impacts in other areas outside the wilderness. The natural condition of the wilderness is maximized in this alternative by control of use patterns. It has clear advantages for resource protection because it can limit numbers at specific destinations. Because campfires prohibitions next to lakes are the same as Alternative C effects which decrease impacts on soil and vegetation are the same.

Cumulative Effects

Proliferation of campsites, large campsites with barren core areas, and the number of social trails diminish to the lowest level of any alternative. The condition of soils and vegetation improves. Numbers of visitors and stock can be limited and the amount of use in given areas can be controlled. Under this alternative zone conditions are maintained by an increase in education outreach, more wilderness ranger coverage, increased mitigation of impacts, and by limiting numbers and use in certain areas by a permit and quota system.

ISSUE 2: Elements of the wilderness experience--solitude, adventure, discovery, freedom and challenge are adversely influenced by increasing recreation use

Increased use diminishes the opportunity for solitude. As people are displaced from some areas and move into others the cycle of increased social and biophysical impacts in more remote areas continues.

Places where solitude used to be virtually guaranteed become more and more utilized by individuals who are displaced from other areas with increasing use. Although it is difficult to measure the wilderness experience, indicators such as campsite density, encounters, administrative and permitted camps, trails, signs, and permanent structures measure elements which influence that experience. All these indicators measure factors which diminish a feeling of solitude, adventure, discovery, freedom and challenge.

Effects Common To All Action Alternatives (B-E)

Establish Management Zones

Establishing management zones and their respective prescriptions is the primary tool for measuring the social impacts of human use. A description of zones and the issues relating to human use are discussed in Chapter II, pages 36-42. Zones set standards and objectives for encounters, campsite density, administrative use, etc. which influence the wilderness experience. They provide a mechanism for measuring these indicators in given areas and then determining if the condition of the area is changing.

Direct and Indirect Effects

Management zones set limits, in different portions of the Wilderness, based on measurements of conditions. The intent of establishing zones is to maintain or re-establish acceptable resource and social conditions. If conditions are approaching unacceptable then strategies for avoiding degradation are in place. Zones allow managers to apply a range of desired conditions which are specific and acceptable within wilderness. Some areas will have more human activity and show more social impacts than do areas with fewer people and their associated activities. Zone standards set limits on encounters, campsite density, administrative use, trails, signing, and permanent structures. By maintaining these limits areas seem and appear more wild. The opportunity for solitude is increased. Elements of adventure and discovery increase. The presence, evidence and influence of humans is less evident.

Cumulative Effects

It is important to note that in all action alternatives, the A-P will be primarily Zone I. Because of this, regardless of alternative, the A-P over the long term will have a high degree of apparent naturalness, ecological processes will operate with essentially no perceptible or measurable evidence of human impact or use, there will be outstanding opportunities for solitude, and recreation will be characterized as primitive, unconfined, and challenging. The area will function as a wild place and will look and feel wild to those who visit. Solitude, adventure, discovery, freedom and challenge will be enhanced by maintaining standards set for the respective zones.

Alternative A - No Action

No new administrative actions are taken to alter human activity. Those regulations and actions currently in place continue.

Direct and Indirect Effects

Campsite densities, encounters, social trails, administrative and permitted camps will continue to increase since no added regulations or other measures compensate for increased use. FS system trails, signs and current structures will remain unchanged. Those impacts resulting from campfires and large groups who use stock will continue to increase. Current freedoms which relate to group size, campfire use, and camping with stock continue. There is no method for obtaining accurate use data so it continues to be incomplete and inaccurate.

Cumulative Effects

There will be a reduced feeling of solitude, adventure, and freedom due to the large group size, increased campsite density, more social trails, permitted and administrative camps. Larger groups will impact trails and camping areas making the wilderness feel less natural. More visitors will be encountered on established trails and in off trail areas affecting the feeling of adventure, challenge and discovery when traveling off trail. Fewer hidden areas may be found without the signs of human use.

Alternative B - Recreation/Human Use Emphasis

Alternative B is the most recreation oriented of the action alternatives. In many ways it is similar to Alternative A except that zones with goals, objectives, standards and guidelines are established. This makes it possible for trends to be assessed in relationship to various indicators.

Direct and Indirect Effects

This alternative has more Zone IV (transition/portal) and the least amount of Zone I (natural) than the other alternatives. The amount of Zone II is less than in the other action alternatives and it has more Zone III. With this mix of zones the expectation of solitude, adventure, discovery, freedom and challenge is less than with other action alternatives. A self issuing permit is available at the trailhead registration box and will be required of all users entering the Wilderness. This requirement may feel like an intrusion to some people but it will not decrease spontaneity, freedom, or a sense of adventure. The self- issued permit provides managers with a mechanism to determine use trends. Administration costs increase slightly because of the cost of permits, stocking permit boxes and checking for compliance.

Group size stays the same as in Alternative A so large groups with stock are still encountered on the trail and in campsites. This means that the impacts on vegetation and soils as well as the social impacts of large groups continue. Some areas have hitchrails and/or toilets to minimize impacts. Use is purposely concentrated around these structures, however, the decrease the feeling of wildness in the immediate area since they are a reminder of human presence. Impacts to soil and vegetation in the immediate area of hitching racks or toilets is increased so the area appears less wild. In Alternative B campsites are likely to increase and have larger barren core areas with more exposed soil, damaged vegetation and more social trails. More encounters occur on the trail, in camp and in off trail areas so the feeling of adventure and discovery is diminished. Added signs such as "tie stock here" decrease a

sense of wildness. The presence of administrative or permitted camps decrease solitude and feelings of adventure, discovery, freedom and challenge.

Cumulative effects

olitude, adventure, discovery, freedom and challenge are all adversely affected by the presence of large groups, administrative use, permitted camps, and more signing. Impacts such as proliferation of campsites and social trails decrease the feeling of discovery. Areas seem more used and less wild.

Alternative C - Emphasis On Retention Of Existing Resource And Social Conditions (Preferred Alternative)

This alternative attempts to strike a balance which maintains the status quo in terms of how the A-P looks and feels. It improves resource and social conditions where possible without being highly restrictive.

Direct and Indirect Effects

Zone allocations mimic the existing condition. This alternative has more area in Zone I than does Alternative B but less than Alternatives D and E. This Alternative also has more Zone IV than does Alternative D or E. The overall effect is that human impact will be less evident in this Alternative than in Alternatives A or B but more impact will be evident than in Alternative D or E. The self issuing permit requirement may feel like an intrusion to some people but it will not decrease spontaneity, freedom, or a sense of adventure. The self- issued permit provides managers with a mechanism to determine use trends. Permitted group size decreases to any combination of 16. This limits the size of stock groups and thus helps reduce the impact of stock use. Alternative C includes actions as described in Chapter II to change use patterns and decrease impact causing activities. Actions respond to emerging problems and are preventative with emphasis on minimizing both bio-physical and social impacts. The constraints focus on those measures which will best curtail impacts and will be least objectionable to the majority of people who use the wilderness. This alternative is less restrictive than Alternatives D and E. It does less hardening than Alternative B.

Hitchracks at Johnson, the junction of Hope Lake Trail and the Continental Divide Trail, and above Ripple Lake encourage stock users to tie their stock and approach the lakes on foot. Hitchracks also provide an alternative to tying to trees and concentrate use so that stock tie areas do not occur in numerous places. Toilets placed at Johnson Lake reduce sanitation problems and the appearance of toilet paper under or behind many rocks and trees in heavy use areas along the lakeshore. The impacts of campfires on soils and vegetation are reduced by encouraging campers to use stoves and other "Leave No Trace Techniques" which relate to campfires, Improvements in condition are especially notable in the campfire closure areas within 1/4 mile of: Oreamnos, Sawed Cabin, Upper Phyllis, Upper Carpp, Flower, and Surprise Lakes. Because these areas have fewer impacts they look and feel more wild. The restrictions, however, are a constraint on behavior and this seems less wild to some people, plus, the traditional enjoyment of a campfire in the immediate vicinity of these lakes is

lost. Thus the wilderness experience is enhanced in some ways but is diminished in other regards, depending on one's point of view.

Cumulative Effect

urrent wilderness quality both socially and biophysically will be maintained over the long term. The feeling of wildness is higher than with Alternatives A & B. In Alternative C there are potentially fewer campsites with larger barren core areas, fewer social trails, and fewer encounters on and off trail. The current opportunities for experiencing solitude, adventure, discovery, freedom and challenge are maintained and in some cases improved over time.

Alternative D--Emphasis On Unmodified Natural Environment & Natural Processes

This alternative is the most restrictive within the A-P.

Direct and Indirect Effects

Further restrictions in the form of campfire and camping closures decrease feelings of freedom but because of improved conditions in soil and vegetation the area feels more wild. Campsite density and encounters decrease as do the number of administrative and permitted camps. These changes increase the feeling of solitude and also decrease impacts. The number of hitching racks and toilets decrease making the area seem more natural. The decrease in group size to twelve beating hearts eliminates large stock groups and decreases the size of hiking groups. Stock users are required to pack in feed and grazing is discouraged. Stock users are encouraged to bring containment for their stock such as hitchlines, electric fence or picketlines. This alternative restricts the freedom of stock users in numerous ways.

Cumulative Effects

Campsite proliferation slows down. Areas look and feel more natural since for the most part barren core areas do not increase and decrease in some areas, as do the number of social trails. Encounters, particularly with large groups, decrease. The feeling of solitude, adventure, challenge, and discovery increases in most of the wilderness.

Alternative E - Permit (Quota) System

Alternative E is the most restrictive alternative with the requirement that all parties entering the wilderness must obtain a mandatory permit issued at a Forest Service Office.

Direct and Indirect Effects

Requiring all visitors to obtain a permit prior to entering the wilderness will result in a loss of spontaneity on the part of users. They will need to plan their trip in advance and may not be able to take spur of the moment trips. Permits will be used to control numbers and amount of use in areas,

to reduce impacts on campsites, lakes, and trails. The agency issued permit provides the most administrative control of use patterns and displacement. Many visitors will feel constrained by the permit requirement and some might be temporarily denied entry to an area.

Administering this type of permit system will require a reservation system, extensive front office involvement, communication between districts on a regular basis, law enforcement, field administration and substantial time and expense for each of these elements.

Cumulative Effects

The long term effect of restrictions and controlling the number and possible destinations of the users are: the potential reduction in the proliferation of campsites, large campsites with barren core areas should be reduced, social trails between campsites for firewood gathering area and around lakes should be reduced or become not as evident as a result of the lower use levels, encounters on trails and in camp will decrease with a general increase in the opportunity for solitude. Within the Wilderness, there should be a greater feeling of wildness. The natural condition of the wilderness and the feeling of solitude, adventure, discovery and challenge are maximized with this alternative.

ISSUE 3: Management actions or ways of managing human use, influence elements of the wilderness experience in the A-P.

Administrative actions can change the wilderness experience. They influence the feeling of solitude, challenge, freedom of choice, spontaneity or control. More official presence, more facilities and/or regulations all change the visitors experience of what is wild. With increased use, management actions are necessary to protect aspects of wilderness. The alternatives have different types and different amounts of administrative actions to minimize bio-physical and social impacts.

Effects Common To Alternatives B, C, And D

Alternatives B, C and D Require a Self-Issuing Permit

Entry permits will be required for both day and overnight use. **Permits will be free and available at trailheads under Alternatives B, C and D.** They will not regulate use.

Direct and Indirect Effects

Entry permit will be mandatory for anyone entering the Wilderness. Spontaneity and convenience of the visitor will be maintained since permits will be available at trailheads and numbers will not be limited.

The self-issuing permit is an inexpensive and accurate way to assess wilderness use. Currently there is no economical way to obtain accurate information on numbers of users, length of stay, destinations, or type of visitors, i.e. (day, overnight, hikers, stock users, local, out of state, etc.) Many facets of management could be improved with better information. Research and experience other places have shown that self-issuing permits are a good information gathering tool. This method is less expensive

and provides more useful data than trail counters, trailhead counts or sporadic back country encounter data.

Cumulative Effects

Self-issuing permits provide an education opportunity since *Leave No Trace* information can be included on the form. Rules and regulations are listed on the tear off portion of a self-issuing permit. This helps gain compliance because it provides a ready reference and rationale. People know their names are available to agency personnel at the trailhead and law enforcement officials no longer need to be hesitant to enforce regulations because people "didn't know". Long term effects of a permit system should be an improvement in how visitors treat the wilderness by reducing their impacts and having the feeling they are entering a special place.

Alternative A - No Action

The No Action Alternative means "no change" from current Forest Plan direction as it exists in the 1977 A-P Plan. "Existing Condition" is not maintained because pressures on the Wilderness are increasing. "Desired Future Condition" would not be attained since degradation from increased recreation use continues.

Direct and Indirect Effects

The effect of no action is a proliferation of campsites, more and larger barren core areas, higher campsite densities, increased encounters with diminished opportunity for solitude, and more social trails. The public would not experience a change in wilderness regulation, wilderness patrols, trail maintenance or other administrative actions as a result of this alternative. Groups of the same size, a maximum of 15 people and 20 head of stock could continue wilderness use. Guidelines for outfitters would remain unchanged. Campfire restrictions would not curtail campfire use. Campsites would still be naturalized by some members of the public and wilderness rangers. It is difficult to predict if this would be sufficient to slow the proliferation of campsites given increasing use and the lack of other constraints on human activity. The camping closure at Johnson Lake, between the trail and the lake on the west side remains in effect. Peoples activities would not be channeled by resource protection facilities.

Cumulative Effects

The long term effect of no action will be the gradual degradation of the Wilderness experience.

Alternative B - Recreation/Human Use Emphasis

Direct and Indirect Effects

Effects of this alternative are direct management actions taken to "harden" sites and construct "facilities" such as hitchrails and back country primitive toilets to handle the increased use. Less naturalization will be done. Repeated use of previously impacted sites is encouraged. More "primitive seats" and similar "attractions" are left in place, to concentrate use and impacts rather than impacting more areas. The effectiveness of "facilities" for preventing resource damage varies with the location of the facilities and the user group. Facilities will make the area where they are located appear less wild, reducing the wilderness experience of many of the users. Some areas, such as those where hitchrails are placed, become defacto "sacrifice areas". This Alternative is the least restrictive of recreation use, however, as in other action alternatives, a self-issuing permit is required of all users, year-round.

No special permits for stock use are required. Group limit remains at 15 people and 20 head of stock and there are no restrictions on campfires. Of action alternatives, this provides the most recreation opportunity for a maximum number of individuals and is the least restrictive of stock use. Hitchrails and toilets are not provided for user convenience but to prevent further impacts from stock containment or human waste. Possible areas where hitchrails might channel use include : Ripple Lake, junction of Hope Lake and Continental Divide Trail #9, Mystic Lake, Seymour Lake, and Johnson Lake. If toilets were installed at the possible toilet locations this would minimize sanitation problems at lakes where they were installed: Johnson, Hidden, Upper Seymour and Carpp Lakes. Wilderness characteristics would be maintained to a lesser degree than in other action alternatives because of added facilities and hardening of sites. Table Chapter IV-I shows differences between alternatives.

Stock damage would be minimized by encouraging stock users to camp in established sites, carry stock containment devices, and camp in smaller groups and by current regulations. No new stock related regulations would constrain stock users nor would added regulations influence the opportunity for campfires.

Cumulative Effects

There will be a long term degradation of wilderness quality both socially and biophysically. The area will appear less wild as more use becomes evident and there are more facilities developed to handle the additional use. For many individuals their wilderness experience will be diminished by the added facilities and increasing recreational use.

Alternative C - Emphasis On Retention Of Existing Resource And Social Conditions (Preferred Alternative)

Alternative C uses management actions to change use patterns and to decrease impact causing activities. The constraints focus on those measures which will best curtail impacts and will be least objectionable to the majority of people who use the wilderness. This alternative is less restrictive than Alternatives D and E. It does less hardening than Alternative B.

Direct and Indirect Effects

Under this alternative the permitted group size is reduced to any combination of 16. This limits the size of stock groups, including those of guided by outfitters. The effect of smaller stock groups is less damage to campsites and adjacent stock holding areas. Conflict between stock groups and hiking groups is also diminished. Large groups of stock users will be displaced to other areas outside the A-P. Campfire prohibitions with in 1/4 mile of the lakes, (listed in Table II of Chapter II, page 57), result in fewer impacts to campsites and the areas close to popular lakes. Because campfires are not allowed in some areas, some campers will chose to camp elsewhere simply because they want a campfire. Some new impacts may occur because of this displacement. These impacts will be more dispersed and can be minimized because, campers are encouraged to use "Leave No Trace" techniques and wilderness rangers continue to naturalize new campsites and downsize large campsites. Camping in existing stock use areas, packing feed, and using good containment practices can minimize damage from stock use. Hope Lake Trail #424 will remain closed to stock and stock damage will be prevented by closures for camping with stock at Sawed Cabin and Oreamnos lakes.

Cumulative Effects

Present wilderness characteristics will be maintained, areas with fire closures will actually improve in subtle ways. Users, particularly those with stock may feel slightly more constrained but constraints have a "pay-off" in wilderness quality.

Alternative D--Emphasis On Unmodified Natural Environment & Natural Processes

This alternative has the greatest number of regulations, signs, etc. within the wilderness of all the alternatives.

Direct and Indirect Effects

The feeling of freedom decreases under this alternative because of added constraints. However, the area will look more wild because of fewer impacts. Challenge may increase slightly because fewer social trails will be apparent. Controls will change use patterns and decrease impact causing activities. The ratio of zones in this Alternative is the same as in Alternative E. The increased regulations and control will necessitate increased law enforcement which can have a negative effect on the wilderness experience of the visitor. Those camping with stock will be required to obtain a permit for overnight stock use and will be required to pack feed. They will also have fewer options for camping, see stock camping closures listed in Chapter II, Table II, page 58. This alternative will not have the visual impact of resource protection facilities such as hitchrails or toilets.

Cumulative Effects

The long term effect will be a slow improvement of the physical characteristics of the wilderness by restricting or limiting use of some areas within the wilderness. As more regulations and signing are required due to increasing use and impacts of the visitors, the wilderness experience of visitors will be diminished.

Alternative E - Permit (Quota) System

Direct and Indirect Effects

Alternative E requires an agency issued permit to enter the wilderness during the primary use season. It may set a quota, ie., a limit on the number of users when and where necessary to prevent social and bio-physical impacts. This is not a self issuing permit and thus it is less convenient for the user and more constraining. It may limit numbers based on destination, allowing a set number of individuals and stock in a given lake basin or area. This type of permit is an "up front" restriction. Once inside the Wilderness there are fewer regulations, fewer signs, and fewer administrative constraints than in Alt. D. Spontaneity in trip planning decreases since permits need to be obtained before a trip. During the off season, self-issuing permits are required of all users but they will be obtained at trailhead registration boxes.

Cumulative Effects

An agency issued permit provides the most administrative control of use patterns and displacement within the A-P. This would have many advantages for resource protection. The rate of development of new campsites will slow under a mandatory permit system with set quotas. Existing size of barren core areas at established camping sites and barren core areas at lesser used campsites will not increase. Lower permitted numbers of visitors in areas of the wilderness should reduce the number of social trails at campsites, lower the number of encounters in camp, on trails and in off trail areas and improve the opportunity for solitude allowing visitor to have a better wilderness experience.

Issue 4: Clearly defined guidelines are needed for responding to increased requests for new outfitter and guide permits and for responding to requests for more user days from existing outfitters.

Managers field requests from people who want to outfit in the Anaconda-Pintler. Some of the existing outfitters request increases in their priority use days.

The A-P has permitted outfitters operating on all districts. Most outfitters are stock supported operations for hunting, summer fishing and sight-seeing trips. The size, shape and geography of the wilderness make it possible to reach most places in a days travel from a trailhead. Risk, difficulty and distances are not such that outfitted services are in high demand. Reported use days for almost all outfitters are below the priority use days specified by their permits.

Effects Common To All Action Alternatives (B-E)

In all action alternatives guidelines for responding to various requests by outfitters and guides are defined. Public scoping and internal concerns have consistently shown a desire to have clearer guidelines defining the selection process for new outfitters and for determining use days allowed existing outfitters. Outfitter and guide administration has long term bio-physical and social effects on the wilderness. It also involves people's livelihoods. It is complex and time consuming for administrators. For years there have been discussions about the need for Forest Plan direction. It is important that these guidelines be consistent throughout the Wilderness.

Direct and Indirect Effects

New outfitters are considered only under clearly defined guidelines as shown in Table II of Chapter II, page 58. These guidelines include 1) the use will not create unacceptable social or bio-physical impacts; 2) the use cannot be filled by current outfitters; 3) the new use is non-traditional, not one of the current permitted uses. This includes, but is not limited to, such uses as dog sledding or winter ski tours. A prospectus process may be used to select new outfitters. The effect of this direction is that few, if any, new outfitters will be allowed in the Anaconda-Pintler. Those that are allowed will not be in direct competition with current outfitters. The direction favors current outfitters. The only option for a traditional outfitter who is not a current permit holder is to purchase an existing business.

Use days for existing outfitters are capped at a combination of the 10 year actual use high, as shown in Table V of Chapter III, page 87, plus an additional 50 use days, if demand is there and monitoring shows that impacts are acceptable. This allows for some growth but does not increase use to a level that managers feel will damage either the biophysical or social aspects of the wilderness. Administration of current outfitters and guides emphasizes maintaining or improving current conditions to meet zone criteria in areas where they operate. No alternative allows permanent structures or caches at outfitter camps in the Anaconda-Pintler.

One hundred incidental use days, per year, per district, will be available. Incidental use days are intended for incidental, commercial or institutional use. They are not intended for repeated use by the same outfitter nor are these days intended for use by existing A-P outfitters. They may be allotted on a one time basis at the discretion of District resource managers. Days may be shared between districts. Availability of incidental use days provides flexibility for special circumstances and allows some institutional use.

Cumulative Effects

Limiting the number of outfitters and the number of use days responds to public demands and decreases the biophysical and social effects of large groups and stock use in the A-P. Clear cut guidelines give clarity and eliminate ambiguity in permit administration for both the permittee and the agency.

Alternative A - No Action

Direct, Indirect and Cumulative Effects

Guidelines for permitting new outfitters and determining the appropriate number of days for current outfitters remain unclear and each Ranger District handles requests for permits and additional use differently. Inconsistency continues between Districts in dealing with requests from potential outfitters will continue and requests for additional use days by existing outfitters will not be acted on.

ISSUE 5: Encroaching noxious weeds threaten native vegetation and habitat

The A-P is relatively weed free but weeds are appearing at trailheads, along trails and at some locations inside the wilderness boundary. Noxious weeds are a serious threat to native vegetation and the naturalness of the area.

Effects Common To All Action Alternatives (B-E)

Direct and Indirect Effects

Programmatic direction for addressing encroaching noxious weeds does not vary with action alternatives, thus the effects are the same in all alternatives. New direction provides the groundwork to deal with noxious weeds before they become a major problem. Eradication and prevention will be accomplished by a combination of methods that are described in Table II, Chapter II, page 59. This strategy maintains the Anaconda-Pintler as a weed free area where native vegetative communities have not been displaced by noxious weeds. Noxious weeds have the potential to drastically change the wilderness. Direction will help prevent weeds from gaining a foothold as they have in adjacent areas and other wildernesses. In addition to the bio-physical effects on vegetation, soils, and wildlife habitat, weeds also have a social effect. Weed prevention helps an area function and appear natural. The wilderness visitor prefers to see native vegetation rather than weed infestations. Additionally, many weeds have seeds which stick to clothing, irritate skin, and are harmful to livestock.

Cumulative Effects

Wilderness quality is enhanced by weed detection, prevention, containment, control and eradication. Clearer, consistent direction which defines response to noxious weeds will improve the condition of the wilderness and eliminate problems before they become unmanageable. With this strategy, weeds should not spread and current infestations will be reduced and be eliminated over time.

Alternative A - No Action

Direct and Indirect Effects

Since there is no specific direction that is consistent between all the Forests there will be inconsistent treatment of noxious weeds. In some areas weeds may be able to spread before they are treated. A gradual increase in the numbers of weed infestations is expected.

Cumulative Effects

Over the long term if weed infestations are not treated there will be a slow loss of the natural plant communities and wildlife habitat adjacent to and within the wilderness. Wilderness quality will decline.

ISSUE 6: Fish stocking changes native communities

The practice of fish stocking was established prior to the passage of the Wilderness Act and although it is not supported by everyone, it is a traditional practice and supports a traditional use by visitors. Stocking fish in waters of the A-P Wilderness has altered the natural biological community in and around many of the approximately 17 lakes that support fish, as well as in lakes which are currently barren but where stocking was attempted in the past. Streams have also been altered by direct stocking or by fish moving into the streams from connected stocked lakes.

Fish stocking is conducted by the Montana Fish, Wildlife and Parks in coordination with the Forest Service.

Effects Common To All Action Alternatives (B-E)

Direct and Indirect Effects

Direction which relates to fish stocking does not vary with action alternatives so the direct, indirect and cumulative effects are the same for all alternatives. Fish stocking is the responsibility of Montana Department of Fish, Wildlife and Parks and direction for specific lakes and drainages is developed cooperatively by Montana Department of Fish, Wildlife and Parks and the Forest Service. Fishless lakes will not be stocked and will remain fishless. These fishless lakes and streams serve as representatives of natural conditions without fish predation on amphibians, insects, and other species.

In Wilderness, where emphasis is on natural processes and conditions, it is intuitively evident that human introduced disturbance doesn't fit as a management strategy. However, in many cases fish stocking took place many years ago, preceding the Wilderness Act, and those populations are now naturally reproducing without supplemental stocking. In these cases a strategy will be developed by Montana Department of Fish, Wildlife and Parks and the Forest Service to contribute to the restoration of native strains of fish and native biological communities. The strategy will help protect native fish from the encroachment of exotic fish, generally rainbow and brooktrout. The effect of this new direction will be to focus management on further protection of those streams where known or suspected genetically pure strains of West Slope Cutthroat, (especially the east slope strain of west slope cutthroat) or Bull Trout exist.

Because aerial fish stocking may be continued where it was an established practice, some short-term disturbance for those in the immediate area will occur.

Cumulative Effects

The proposed actions move toward more natural conditions in lakes and streams as well as providing ongoing recreation sport fisheries as agreed cooperatively by Montana Fish Wildlife and Parks and the Forest Service. The strategy described in the programmatic direction will help maintain indigenous species and perpetuate threatened and endangered species. Over time the opportunity to catch rainbow or brook trout in the A-P will decline as native populations are favored by stocking practices.

Alternative A - No Action

Direct and Indirect Effects

Fish stocking of the high mountain lakes may continue as it has in the past using non-indigenous species with the potential to continue impacting native fish in the drainages below lakes that have been stocked.

Cumulative Effects

Long term effects will be the gradual decline in native fish populations and aquatic habitats.

ISSUE 7: Research natural areas were proposed by Forest Plans but have not yet been established.

Effects Common To All Action Alternatives (B-E)

Each of the four action alternatives designate both RNAs for long-term protection of these sites for research, monitoring, education, and biological diversity conservation. Establishment of the RNA's contributes to the national network of research areas. Establishment provides opportunities for future and current research as well as monitoring of natural processes.

Direct and Indirect Effects

Natural processes within the RNA's remain unaltered by direct human influences. The designated RNA's are protected from those activities that directly modify ecological processes, influence natural successional changes, and threaten or interfere with the objectives or purposes for which the RNA's are established. Uses are controlled so as not to detract from the objectives or the protection of the area. Consumptive uses are not be allowed. Recreation activities permitted in the RNA's do not differ from those currently present. Guidelines relating to administrative use, prescribed fire, fire suppression and other wilderness activities are listed in Chapter II on pages 34-35.

Cumulative Effects

RNA establishment enhances the research and biodiversity conservation values of Wilderness by providing additional recognition and protection for the significant ecological features of these areas.

Alternative A - No Action (Direct, Indirect And Cumulative Effects)

Under No Action Alternative A, neither of the two proposed RNA's would be formally designated. These areas allocated in the 1986 Forest Plans would continue to be managed in status quo to retain the option for future designation.

In Alternative A, protection of identified unique and representative natural features and sensitive plant and animal species, would continue to be accomplished in project or activity planning on a case-by-case basis. Use restrictions and requirements to protect those features would apply, but potential for lack of continuity of management and for the gradual loss of representative and unique natural features over time, may increase.

Change in Mystic Lake Cabin Management Strategy

Effects Common To All Action Alternatives (B-E)

Direct and Indirect Effects

Mystic Lake Cabin will remain in place and some measures, other than major vegetation modification, will be taken to protect it from fire. This management strategy will preserve this historic structure as part of the wilderness heritage. This will allow visitors the opportunity to appreciate this back country guard station and will allow continued, limited, administrative use. If protection measures are necessary, it may increase costs of fire suppression or of allowing fire to take its natural course in the area.

Cumulative Effects

The cabin will continue to add to the wilderness experience for those interested in the heritage of the A-P. Because of its presence there will be somewhat more impact in the vicinity of the cabin and the structure itself may make the immediate area seem less wild. Continued, limited, administrative use will be possible.

Alternative A

Direct and Indirect Effects

Direction in the 1977 Wilderness Management Plan specified that Mystic Cabin would be phased out over the next 5 years and evaluated for historic significance. This direction now creates a conflict since the cabin has been determined to have historic significance. The no action alternative does not recognize this significance and would not retain the cabin as an important element of historic interest to the public.

Cumulative Effects

Direction for the cabin remains unclear and does not respond to its historic significance.

TABLE VII - ENVIRONMENTAL CONSEQUENCES					
ACTIONS	**ALTERNATIVE A (No Action)**	**ALTERNATIVE B**	**ALTERNATIVE C**	**ALTERNATIVE D**	**ALTERNATIVE E**
Group Size	Group size restrictions would remain unchanged. Groups of 15 people and 20 horses or less would not be restricted. The impacts, both social and biophysical of this size group would continue to occur. Campsites would become larger and proliferate.	Same as A.	Group size would change to any combination of 16. This restriction would change use patterns and would decrease both biophysical and social impacts. Large stock groups would go elsewhere or would camp and travel in smaller numbers.	Group size would decrease to any combination of 12. This restriction would change use patterns and would decrease both biophysical and social impacts. Large stock groups would go elsewhere or would camp and travel in smaller numbers.	Group size would decrease to 12 people and 15 head of stock but group activity would be regulated by permit. The impacts of groups would decrease and those denied access would go elsewhere.
Permits	Only for special uses. The non-commercial wilderness users would not have any requirement for permits. The data on use trends, type, time, place, etc. would continue to be inaccurate, incomplete, and anecdotal.	Easily obtained, self-issuing, permits would be required of all users year-round. Despite convenience some people might dislike the **requirement** to obtain a permit. Managers would have better data to assess use trends and their relationship to problem areas.	Same as B.	Same as B and C plus an office issued permits would also be required of all overnight stock users. This would allow less spontaneous and be less convenient for stock users and large groups but would provide an opportunity to minimize the impacts.	An agency issued permit, to be picked up at an office, would be required of all users. It could set quotas, (limits), for # of visitors in some drainages and destinations. This would decrease spontaneity and convenience for the wilderness visitor but would provide an ability to influence impacts, both social and bio-physical, in a way that is not provided by any other alternative. As use inevitably increases, a quota system would provide the best protection for the resource.

TABLE VII - ENVIRONMENTAL CONSEQUENCES					
ACTIONS	**ALTERNATIVE A (No Action)**	**ALTERNATIVE B**	**ALTERNATIVE C**	**ALTERNATIVE D**	**ALTERNATIVE E**
Campfires	Fires would be permitted in all locations. Impacts of campfires in fragile locations would continue to increase. These impacts include: lack of firewood, diminished micro-climate, lack of soil building materials, blackened rocks, firerings used as trash pits, compacted and sterilized soils, trails from wood gathering, hacked trees and snags, etc.	Same as Alt. A.	Areas with fire closures would improve dramatically in appearance. Wood would begin to accumulate and create micro-climates. Organic material for soil building would return to natural quanities. Other impacts of campfires would also decrease. People would forego the pleasure of a fire in the back country when camping in fire closure areas. Some people would simply camp elsewhere where fires were allowed.	Same as C except would apply to more areas. Fewer options to have campfires in the back country but more improvement in camp areas and microsites currently effected by fires and woodgathering.	Same as C.
Campsites	Campsites would increase in size and number as use increases.	Campsites would increase in size and number as use increases. Large groups and stock users would be encouraged to camp in areas which are already impacted to minimize biophysical and social impacts. Some use would be concentrated by facilities.	Lowering of group limit would minimize displacement of other groups and slow development of large sites. Campsites might occur in new areas because of campfire closures but those in closure areas would improve in appearance.	The impacts of campsites would be minimized by closing some areas to camping and designating campsites in some places. This would require enforcement and signage.	Elimination of overcrowding would reduce enlargement of existing sites and generally prevent the creation of new sites from displacement.

TABLE VII - ENVIRONMENTAL CONSEQUENCES					
ACTIONS	**ALTERNATIVE A (No Action)**	**ALTERNATIVE B**	**ALTERNATIVE C**	**ALTERNATIVE D**	**ALTERNATIVE E**
Resource Protection Facilities, (Hitch racks and Toilets)	No Change.	Some areas suggested for large groups and stock users would have hitching racks and/or toilets to minimize impacts. This might concentrate impacts and prevent the spread of increased impacts over a large area. Though limited in size and frequency, such structures make an area seem less "wild" .	Fewer facilities than B. The effects of structures on resource damage is hard to assess. Strategic placement in a few key places might prevent impacts. Effects differ according to user group, number of overall users, displacement, use patterns, and many other variables.	Fewer new facilities . Some impacts may become more widespread because they are not concentrated by facilities but other impacts will be curtailed by restrictions.	By minimizing numbers with a quota system and having control of destinations the need for facilities and enforcement of special regulations w/i the A-P will be minimized.
Regulations	No Change	A self-issuing permit would be required. Other regulations would not change.	Modifying some current restrictions and putting some new ones in place would decrease resource damage but would also decrease the feeling of freedom and spontaneity. Enforcement would be necessary.	More restrictions and enforcement would be necessary. Feelings of freedom would be diminished and area would seem less "wild".	Regulations inside the A-P would be minimized. Regulation takes place before entry. Administration of the permit system would involve the front offices and require more field presence.
Outfitters and Guides	No Change.	A system would be in place for selecting new outfitters and clear direction would exist for existing outfitters who want to increase user days.			
Fish Stocking	No Change	Lakes and surrounding areas would move towards more natural conditions. Fishing experiences would change in some locations.			
RNA's	No Change	RNA's would be established.			
Mystic Cabin	No Change	Cabin would not be phased out but would be retained because of its historic significance. Costs associated with fire suppression or natural fire in the area may increase since some fire protection measures may be required.			

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GLOSSARY

Administrative Camp - A large or long term camp used by the Forest Service for management activities, such as trail crew camp for a construction project or a fire camp for fire suppression/management activities.

Air Quality Related Values (AQRV) - Features or properties that are important for preserving wilderness character and that could be adversely affected by air pollution.

Airshed - A geographic area that, because of topography, meteorology, and climate, shares the same air. Class I - Any area designated for the most stringent protection from degradation, including but not limited to all wildernesses over 5,000 acres in existence as of August 1977.

Alpine - Of, relating to, or growing on elevated slopes above timberline

Appropriate Suppression Response - The planned strategy for suppression actions (in terms of kind, amount, and timing) on a wildfire which most efficiently meets fire management direction under current and expected burning conditions. The response may range from a strategy of prompt control to one of containment or confinement.

Assigned Site - A campsite temporarily designated and authorized for occupancy and use by an outfitter for a specific length of time where no permanent facilities are permitted and the outfitter is charged a use fee. Interchangeable with a Reserved Site or Priority Use Site.

Barren Core area - The central core of a campsite (usually an area around the fire ring) that absorbs an inordinate amount of use and therefore is devoid of vegetation. Usually estimated in square meters or feet.

Best Management Practices (BMP) - A practice or combination of practices that are the most effective and practical means of preventing or reducing pollution from nonpoint sources.

Cache - A place for storing (usually concealed) unwieldy equipment when a site is not occupied, or a place for storing supplies for future use. Caches are generally used for administrative or resource protection purposes.

Carrying Capacity - The maximum level of use an area can sustain without exceeding the social and environmental conditions set by management.

Cathole - A small hole dug for one time use to bury human waste. Catholes are dug away from water sources, campsites and trails, approximately six to eight inches deep in mineral soil.

Desired Future Conditions - Management objectives to be achieved sometime in the future.

Dismantled - Completely disassembled to the basic components from which it was originally constructed.

Drop Camp - A temporary unreserved campsite used by an individual or party who compensates an outfitter for packing camp equipment, people, meat or supplies to or from the site. The camp is removed when the client terminates their stay. The outfitter is responsible for cleanup of the site.

Ecosystem- Includes all the organisms of an area, their environment, and the linkages or interactions between them; all parts of an ecosystem are interrelated. The fundamental unit in ecology, containing both organisms and abiotic environments, each influencing the properties of the other and both necessary for the maintenance of life.

Encounter - Coming into contact with a person or a group at relatively close range (sight and sound).

Exotic Species - A species that enters or is introduced into the ecosystem beyond its historical range, except through a natural expansion.

Goal - Concise statements describing a desired end result, normally expressed in general terms.

Grazing- Foraging for food by domestic livestock (sheep, cattle, horses, etc).

Group Size - The maximum number of persons authorized to travel and camp together at one time (also referred to as party size).

Guidelines - A preferred or advisable course of action that describes resource conditions and methods for conducting activities specific to the planning area.

Hardening - The practice of preparing a site so that it enables the site to receive certain uses without significant damage.

Heritage Resources - A building, site, structure, object, or historic district which possess historical significance.

High Use Season -That part of a calendar year where the majority of use for a given area takes place. Considered to be July 1 - September 15 for the Anaconda Pintler Wilderness.

Indicator - Items that can be measured to gauge the overall condition.

Incidental Use - Use in relation to outfitter and guides that is 50 service days or less and is anticipated to have little or no significant impact on public health and safety, the environment, or other authorized uses and activities.

Indigenous Species - Any species present in an ecosystem in its historic range, or naturally expanded from its historic range. Species of fish traditionally stocked before wilderness designation may be considered indigenous if the species is likely to survive.

Institutional Groups - A variety of membership or limited-constituency institutions, such as religious, conservation, youth, fraternal, service club, and social groups; educational institutions, such as schools, colleges and universities; and similar common interest organizations and associations. This category may also include permit applicants who operate commercially on a limited or intermittent basis in providing service to select customer clientele rather than to the public at large.

Interdisciplinary Team - A group of individuals with different training assembled to solve a problem. An interdisciplinary team is assembled because no single scientific discipline is sufficient to adequately identify and resolve issues and problems. Team member interaction provides necessary insight to all stages of the process.

Issue - A subject or question of widespread public discussion or interest regarding management of National Forest System lands.

Krummholz - A growth form assumed by tree species at the upper treeline or in the alpine zone; characterized by a creeping and multi-stemmed growth pattern due to desiccation and physical damage caused by wind and blowing ice crystals near the upper treeline.

Landscape - The fundamental traits of a specific geographic area, including its biological composition, physical environment and anthropogenic or social patterns.

Limits of Acceptable Change (LAC) - A planning system in which the amount of change to be allowed is measured by means of quantitative standards. Appropriate management actions are identified and procedures for monitoring and evaluating management performance are established.

Linear - In relations to a trail, considered to be the trail plus 200 feet on each side.

Management Action - Any activity undertaken as part of the administration of the Forest.

Management Goal - A concise statement that describes a desired condition of the land that is to be achieved.

Management Ignited Fire - A fire started by a scheduled, deliberate management action.

Mechanized Equipment - Any contrivance for moving people or material in or over land, water, or air, having moving parts, that provides a mechanical advantage to the user and that is powered by a living or nonliving power source. This includes, but is not limited to , sailboats, hang gliders, parachutes, bicycles, game carriers, carts and wagons. It does not include wheelchairs when used as necessary medical appliances. It also does not include skis, snowshoes, rafts, canoes, sleds, travois or similar primitive devices without moving parts.

Minimum Tool - Apply only the minimum impact policy, device, force, regulation, instruments or procedure to bring about a desired result.

Monitoring- Systematic gathering, comparing and evaluation of data.

Motorized Equipment - Machines that use a motor, engine, or other nonliving power sources. This includes, but is not limited to, such machines as chain saws, aircraft, snowmobiles, generators, motor boats and motor vehicles. It does not include small battery or gas powered hand carried devices such as shavers, wristwatches, flashlights, cameras, stoves or other similar small equipment.

National Environmental Policy Act (NEPA) - An act of Congress that declared the productive harmony with nature and protection of the environment to be a national policy.

National Forest Management Act of 1976 - An act of Congress that directed, among other things, the preparation of Land and Resource Management Plans for each unit of the National Forest System.

Naturalized - An area that is rehabilitated to its natural state, to the degree that is possible, removing all evidence of humans long term use.

Non-system Trail - Any trail regardless of origin, not included on the Forest Service trail inventory.

Noxious weeds - Any exotic plant species established or that may be introduced in the state which may render land unfit for agriculture, forestry, livestock, wildlife, or other beneficial uses and which is designated as a statewide noxious weed by rule of the department; or as a district noxious weed by a board, following public notice or intent and a public hearing.

Objective - Statements describing desired resource conditions or ranges of conditions intended to achieve goals. Must be defined in a manner that allows measurement. No associated time frames.

Occupancy - Camping, caching, leaving or storing equipment, or having a camp in place (tent, etc) even if unattended or unoccupied by humans.

Operation Plan - A plan mutually formulated by the holder and the authorized officer under which an outfitter will conduct operations and manage camps while occupying National Forest System lands.

Packstock - Domestic animals used to transport people or equipment from one location to another (not including dogs).

Permanent Facilities/structures - Anything built or constructed from native or nonnative materials that remains from year to year. Also referred to as permanent improvements.

Permit - A special use authorization which provides permission, without conveying an interest in land, to occupy and use National Forest System land or facilities for specified purpose, and which is revocable, terminable and non-compensable.

Permitted Camp - A camp permitted under special use permit, e.g. an outfitters camp.

Portals - Any point of entry into the Wilderness.

Prescribed Natural Fire Plan - A plan that permits certain fires to burn in a manner that duplicates natural conditions as much as possible. The policy allows for fires ignited by lightning to burn under pre-planned, specified conditions and objectives.

Prescription - A set of criteria identified before ignition for the use of prescribed fire within defined conditions to accomplish specific land and resource management objectives.

Preservation - A visual quality objective that allows ecological changes only. Management activities except for very low visual impact recreation facilities are prohibited.

Priority Use - A Forest Service commitment to the holder of a permit for outfitting and guiding to give priority consideration to granting the holder a specific amount of available future use. A reserved amount of use assigned to the holder by the Forest

Service based on the holder's past use, carrying capacity, and allocation decisions made through forest planning.

Puncheons - Structures constructed out of log stringers and wood decking utilized for crossing wet areas with trails.

Recreational Livestock - Animals used primarily in conjunction with recreation such as horses, mules, etc.

Refuse - Items or material that is brought into the wilderness and discarded. Garbage.

Research Natural Area- Areas set aside to preserve representative ecosystems for scientific study and educational purposes.

Retention - A visual quality objective that provides for management activities which are not usually evident. Under retention, activities may only repeat form, line, color, and texture which are frequently found in the characteristic landscape.

Riparian - An area of land or water that includes stream channels, lakes, floodplains and wetlands, and their adjacent ecosystems.

Roving Mile - A one mile diameter area on a map, based on a movable, circular template.

Sensitive Species - Species identified by the Regional Forester or the Forest Supervisor for which National Forest management activities may have an adverse effect and are on an official State list, under review for federally threatened or endangered status, and have populations where viability on the Forest is a concern.

Service Day - A day or portion of a day for which an outfitter or guide provides goods or services to a client, including transportation.

Snag - A non-living standing tree. The interior of the snag may be sound or rotted.

Social Trail - A trail that develops as a result of repeated use, for example around a campsite going to water, fishing trails around a lake, trails between campsites, etc.

Solitude - The quality or state of being alone.

Spike Camp - An additional campsite used by a party travelling on an extended trip who has another main camp.

Standard - A numerical value assigned to an indicator for measuring social or resource conditions.

Structures/Facilities - These include toilets, stock-tie areas, bridges, culverts, turnpikes including geotextile.

Subalpine - Upper mountain vegetation immediately below the cold limits or tree and tall shrub growth.

Suitability Study - A study by an interdisciplinary team to determine the appropriateness of applying certain resource management practices to a particular area of land.

Suitable Range - An area of land that can be grazed by a given class of livestock under a given management system without environmental damage.

System Trails - Trails listed on the Forest Service's inventory of trails.

Temporary Facilities/structures - Anything built or constructed from native or nonnative materials that is dismantled and removed after its season of use and is not used for resource protection (excludes standard camping gear).

Trailhead - A portal (entry) to the Wilderness that has improvements (ie trailhead registration box, parking, stock transfer areas, toilets, etc)

Trampling- Walking on vegetation and soil by humans and packstock which may cause: abrasion of vegetation, abrasion of surface soil organic layers, and compaction of soils.

Turnpikes - Structures constructed with log sides and earth fill to cross wet areas with trails.

Untrammeled - In the context of the Wilderness Act, an untrammeled area is where human influence does not impede the free play of natural forces or interfere with natural processes in the ecosystem.

User-built trail - Any trail constructed without Forest Service approval by someone wanting to access a particular point or area.

Vegetative Buffer - An area of healthy herbaceous ground cover, of sufficient width and density to filter sediments produced from the existing or proposed area to be disturbed before they enter surface waters of streams or lakes.

Visual Quality Objective (VQO) - Categories of acceptable landscape alteration measured in degrees of deviation from the natural appearing landscape.

Waterbars - Structures that are installed in trails to turn water off the trail to reduce surface erosion. Commonly constructed from logs or rocks.

Watershed - The entire area that contributes water to a drainage system or stream.

Wilderness Resource Specialist - Pre-selected individuals serving as a Wilderness Specialist/Resource Advisor for fire based on these qualifications: Knowledge in Wilderness objectives and policy, Familiar with rehabilitation procedures and techniques, Knows and can implement the minimum Impact Suppression Tactics guide, Has Standards for survival and Knowledgable fire background

Wildfire - Any wildland fire not designated and managed as a prescribed fire within an approved prescription.

Wheelchair - A device designed solely for use by a mobility-impaired person for locomotion.

Acronyms

BLM- Bureau of Land Management, U.S. Department of the Interior

CFR- Code of Federal Regulations

EA- Environmental Assessment

EIS- Environmental Impact Statement

FWS- Fish and Wildlife Service, U.S. Department of the Interior

IDT- Interdisciplinary Team

NEPA- National Environmental Policy Act of 1969

RNA- Research Natural Area

USFS- United States Forest Service, U.S. Department of Agriculture

APPENDIX I - WILDERNESS ACT - (P.L. 88-577)

THE WILDERNESS ACT OF 1964

Public Law 88-577
88th Congress, S. 4
September 3, 1964

AN ACT

To establish a National Wilderness Preservation System for the permanent good of the whole people, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

Wilderness Act.

SHORT TITLE

SECTION 1. This Act may be cited as the "Wilderness Act".

WILDERNESS SYSTEM ESTABLISHED STATEMENT OF POLICY

Sec. 2. (a) In order to assure that an increasing population, accompanied by expanding settlement and growing mechanization, does not occupy and modify all areas within the United States and its possessions, leaving no lands designated for preservation and protection in their natural condition, it is hereby declared to be the policy of the Congress to secure for the American people of present and future generations the benefits of an enduring resource of wilderness. For this purpose there is hereby established a National Wilderness Preservation System to be composed of federally owned areas designated by Congress as "wilderness areas", and these shall be administered for the use and enjoyment of the American people in such manner as will leave them unimpaired for future use and enjoyment as wilderness, and so as to provide for the protection of these areas, the preservation of their wilderness character, and for the gathering and dissemination of information regarding their use and enjoyment as wilderness; and no Federal lands shall be designated as "wilderness areas" except as provided for in this Act or by a subsequent Act.

(b) The inclusion of an area in the National Wilderness Preservation System notwithstanding, the area shall continue to be managed by the Department and agency having jurisdiction thereover immediately before its inclusion in the National Wilderness Preservation System unless otherwise provided by Act of Congress. No appropriation shall be available for the payment of expenses or salaries for the administration of the National Wilderness Preservation System as a separate unit nor shall any appropriations be available for additional personnel stated as being required solely for the purpose of managing or administering areas solely because they are included within the National Wilderness Preservation System.

78 STAT. 890.
78 STAT. 891.

DEFINITION OF WILDERNESS

(c) A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to mean in this Act an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value.

NATIONAL WILDERNESS PRESERVATION SYSTEM—EXTENT OF SYSTEM

Sec. 3. (a) All areas within the national forests classified at least 30 days before the effective date of this Act by the Secretary of Agriculture or the Chief of the Forest Service as "wilderness", "wild", or "canoe" are hereby designated as wilderness areas. The Secretary of Agriculture shall—

The Wilderness Act

(1) Within one year after the effective date of this Act, file a map and legal description of each wilderness area with the Interior and Insular Affairs Committees of the United States Senate and the House of Representatives, and such descriptions shall have the same force and effect as if included in this Act: *Provided, however*, That correction of clerical and typographical errors in such legal descriptions and maps may be made.

(2) Maintain, available to the public, records pertaining to said wilderness areas, including maps and legal descriptions, copies of regulations governing them, copies of public notices of, and reports submitted to Congress regarding pending additions, eliminations, or modifications. Maps, legal descriptions, and regulations pertaining to wilderness areas within their respective jurisdictions also shall be available to the public in the offices of regional foresters, national forest supervisors, and forest rangers.

Classification.

(b) The Secretary of Agriculture shall, within ten years after the enactment of this Act, review, as to its suitability or nonsuitability for preservation as wilderness, each area in the national forests classified on the effective date of this Act by the Secretary of Agriculture or the Chief of the Forest Service as "primitive" and report his findings to the President. The President shall advise the United States Senate and House of Representatives of his recommendations with respect to the designation as "wilderness" or other reclassification of each area on which review has been completed, together with maps and a definition of boundaries. Such advice shall be given with respect to not less than one-third of all the areas now classified as "primitive" within three years after the enactment of this Act, not less than two-thirds within seven years after the enactment of this Act, and the remaining areas within ten years after the enactment of this Act. Each recommendation of the President for designation as "wilderness" shall become effective only if so provided by an Act of Congress. Areas classified as "primitive" on the effective date of this Act shall continue to be administered under the rules and regulations affecting such areas on the effective date of this Act until Congress has determined otherwise. Any such area may be increased in size by the President at the time he submits his recommendations to the Congress by not more than five thousand acres with no more than one thousand two hundred and eighty acres of such increase in any one compact unit; if it is proposed to increase the size of any such area by more than five thousand acres or by more than one thousand two hundred and eighty acres in any one compact unit the increase in size shall not become effective until acted upon by Congress. Nothing herein contained shall limit the President in proposing, as part of his recommendations to Congress, the alteration of existing boundaries of primitive areas or recommending the addition of any contiguous area of national forest lands predominantly of wilderness value. Notwithstanding any other provisions of this Act, the Secretary of Agriculture may complete his review and delete such area as may be necessary, but not to exceed seven thousand acres, from the southern tip of the Gore Range-Eagles Nest Primitive Area, Colorado, if the Secretary determines that such action is in the public interest.

Presidential recommendation to Congress.

Congressional approval.

78 STAT. 891.
78 STAT. 892

Report to President.

(c) Within ten years after the effective date of this Act the Secretary of the Interior shall review every roadless area of five thousand contiguous acres or more in the national parks, monuments and other units of the national park system and every such area of, and every roadless island within, the national wildlife refuges and game ranges, under his jurisdiction on the effective date of this Act and shall report to the President his recommendation as to the suitability or nonsuitability of each such area or island for preservation as wilderness. The President shall advise the President of the Senate and the Speaker of the House of Representatives of his recommendation with respect to the designation as wilderness of each such area or island on which review has been completed, together with a map thereof and a definition of its boundaries. Such advice shall be given with respect to not less than one-third of the areas and islands to be reviewed under this subsection within three years after enactment of this Act, not less than two-thirds within seven years of enactment of this Act, and the remainder within ten years of enactment of this Act. A recommendation of the President for designation as wilderness shall become effective only if so provided by an Act of Congress. Nothing contained herein shall, by implication or otherwise, be construed to lessen the present statutory authority of the Secretary of the Interior with respect to the maintenance of roadless areas within units of the national park system.

Presidential recommendation to Congress.

Congressional approval.

Suitability.

(d)(1) The Secretary of Agriculture and the Secretary of the Interior shall, prior to submitting any recommendations to the President with respect to the suitability of any area for preservation as wilderness—

Publication in Federal Register.

(A) give such public notice of the proposed action as they deem appropriate, including publication in the Federal Register and in a newspaper having general circulation in the area or areas in the vicinity of the affected land;

Hearings.

(B) hold a public hearing or hearings at a location or locations convenient to the area affected. The hearings shall be announced through such means as the respective Secretaries involved deem appropriate, including notices in the Federal Register and in newspapers of general circulation in the

Publication in Federal Register.

area: *Provided*, That if the lands involved are located in more than one State, at least one hearing shall be held in each State in which a portion of the land lies;

79 STAT. 892.
78 STAT. 893.

(C) at least thirty days before the date of a hearing advise the Governor of each State and the governing board of each county, or in Alaska the borough, in which the lands are located, and Federal departments and agencies concerned, and invite such officials and Federal agencies to submit their views on the proposed action at the hearing or by no later than thirty days following the date of the hearing.

(2) Any views submitted to the appropriate Secretary under the provisions of (1) of this subsection with respect to any area shall be included with any recommendations to the President and to Congress with respect to such area.

Proposed modification.

(e) Any modification or adjustment of boundaries of any wilderness area shall be recommended by the appropriate Secretary after public notice of such proposal and public hearing or hearings as provided in subsection (d) of this section. The proposed modification or adjustment shall then be recommended with map and description thereof to the President. The President shall advise the United States Senate and the House of Representatives of his recommendations with respect to such modification or adjustment and such recommendations shall become effective only in the same manner as provided for in subsections (b) and (c) of this section.

USE OF WILDERNESS AREAS

Sec. 4. (a) The purposes of this Act are hereby declared to be within and supplemental to the purposes for which national forests and units of the national park and national wildlife refuge systems are established and administered and—

(1) Nothing in this Act shall be deemed to be in interference with the purpose for which national forests are established as set forth in the Act of June 4, 1897 (30 Stat. 11), and the Multiple-Use Sustained-Yield Act of June 12, 1960 (74 Stat. 215).

16 USC 475.
16 USC 528-531.

(2) Nothing in this Act shall modify the restrictions and provisions of the Shipstead-Nolan Act (Public Law 539, Seventy-first Congress, July 10, 1930; 46 Stat. 1020), the Thye-Blatnik Act (Public Law 733, Eighteth Congress, June 22, 1948; 62 Stat. 568), and the Humphrey-Thye-Blatnik-Andersen Act (Public Law 607, Eighty-fourth Congress, June 22, 1956; 70 Stat. 326), as applying to the Superior National Forest or the regulations of the Secretary of Agriculture.

16 USC 577-577b.

(3) Nothing in this Act shall modify the statutory authority under which units of the national park system are created. Further, the designation of any area of any park, monument, or other unit of the national park system as a wilderness area pursuant to this Act shall in no manner lower the standards evolved for the use and preservation of such park, monument, or other unit of the national park system in accordance with the Act of August 25, 1916, the statutory authority under which the area was created, or any other Act of Congress which might pertain to or affect such area, including, but not limited to, the Act of June 8, 1906 (34 Stat. 225; 16 U.S.C. 432 et seq.); section 3(2) of the Federal Power Act (16 U.S.C. 796(2)); and the Act of August 21, 1935 (49 Stat. 666; 16 U.S.C. 461 et seq.).

16 USC 577c-577h.
16 USC 577d-1, 577g-1, 577h.

39 Stat. 535.
16 USC 1 *et seq.*

41 Stat. 1063.
49 Stat. 838.

(b) Except as otherwise provided in this Act, each agency administering any area designated as wilderness shall be responsible for preserving the wilderness character of the area and shall so administer such area for such other purposes for which it may have been established as also to preserve its wilderness character. Except as otherwise provided in this Act, wilderness areas shall be devoted to the public purposes of recreational, scenic, scientific, educational, conservation, and historical use.

78 STAT. 893.
78 STAT. 894.

PROHIBITION OF CERTAIN USES

(c) Except as specifically provided for in this Act, and subject to existing private rights, there shall be no commercial enterprise and no permanent road within any wilderness area designated by this Act and, except as necessary to meet minimum requirements for the administration of the area for the purpose of this Act (including measures required in emergencies involving the health and safety of persons within the area), there shall be no temporary road, no use of motor vehicles, motorized equipment or motorboats, no landing of aircraft, no other form of mechanical transport, and no structure or installation within any such area.

SPECIAL PROVISIONS

(d) The following special provisions are hereby made:

(1) Within wilderness areas designated by this Act the use of aircraft or motorboats, where these uses have already become established, may be permitted to continue subject to such restrictions as the Secretary of Agriculture deems desirable. In addition, such measures may be taken as may be necessary in the control of fire, insects and diseases, subject to such conditions as the Secretary deems desirable.

The Wilderness Act

(2) Nothing in this Act shall prevent within national forest wilderness areas any activity, including prospecting, for the purpose of gathering information about mineral or other resources, if such activity is carried on in a manner compatible with the preservation of the wilderness environment. Furthermore, in accordance with such program as the Secretary of the Interior shall develop and conduct in consultation with the Secretary of Agriculture, such areas shall be surveyed on a planned, recurring basis consistent with the concept of wilderness preservation by the Geological Survey and the Bureau of Mines to determine the mineral values, if any, that may be present; and the results of such surveys shall be made available to the public and submitted to the President and Congress.

Mineral leases, claims, etc.

(3) Notwithstanding any other provisions of this Act, until midnight December 31, 1983, the United States mining laws and all laws pertaining to mineral leasing shall, to the same extent as applicable prior to the effective date of this Act, extend to those national forest lands designated by this Act as "wilderness areas"; subject, however, to such reasonable regulations governing ingress and egress as may be prescribed by the Secretary of Agriculture consistent with the use of the land for mineral location and development and exploration, drilling, and production, and use of land for transmission lines, waterlines, telephone lines, or facilities necessary in exploring, drilling, producing, mining, and processing operations, including where essential the use of mechanized ground or air equipment and restoration as near as practicable of the surface of the land disturbed in performing prospecting, location, and, in oil and gas leasing, discovery work, exploration, drilling, and production, as soon as they have served their purpose. Mining locations lying within the boundaries of said wilderness areas shall be held and used solely for mining or processing operations and uses reasonably incident thereto; and hereafter, subject to valid existing rights, all patents issued under the mining laws of the United States affecting national forest lands designated by this Act as wilderness areas shall convey title to the mineral deposits within the claim, together with the right to cut and use so much of the mature timber therefrom as may be needed in the extraction, removal, and beneficiation of the mineral deposits, if needed timber is not otherwise reasonably available, and if the timber is cut under sound principles of forest management as defined by the national forest rules and regulations, but each such patent shall reserve to the United States all title in or to the surface of the lands and products thereof, and no use of the surface of the claim or the resources therefrom not reasonably required for carrying on mining or prospecting shall be allowed except as otherwise expressly provided in this Act: *Provided*, That, unless hereafter specifically authorized, no patent within wilderness areas designated by this Act shall issue after December 31, 1983, except for the valid claims existing on or before December 31, 1983. Mining claims located after the effective date of this Act within the boundaries of wilderness areas designated by this Act shall create no rights in excess of those rights which may be patented under the provisions of this subsection. Mineral leases, permits, and licenses covering lands within national forest wilderness areas designated by this Act shall contain such reasonable stipulations as may be prescribed by the Secretary of Agriculture for the protection of the wilderness character of the land consistent with the use of the land for the purposes for which they are leased, permitted, or licensed. Subject to valid rights then existing, effective January 1, 1984, the minerals in lands designated by this Act as wilderness areas are withdrawn from all forms of appropriation under the mining laws and from disposition under all laws pertaining to mineral leasing and all amendments thereto.

78 STAT. 894.
78 STAT. 895.

Water resources.

(4) Within wilderness areas in the national forests designated by the Act, (1) the President may, within a specific area and in accordance with such regulations as he may deem desirable, authorize prospecting for water resources, the establishment and maintenance of reservoirs, water-conservation works, power projects, transmission lines, and other facilities needed in the public interest, including the road construction and maintenance essential to development and use thereof, upon his determination that such use or uses in the specific area will better serve the interests of the United States and the people thereof than will its denial; and (2) the grazing of livestock, where established prior to the effective date of this Act, shall be permitted to continue subject to such reasonable regulations as are deemed necessary by the Secretary of Agriculture.

(5) Other provisions of this Act to the contrary notwithstanding, the management of the Boundary Waters Canoe Area, formerly designated as the Superior, Little Indian Sioux, and Caribou Roadless Areas, in the Superior National Forest, Minnesota, shall be in accordance with regulations established by the Secretary of Agriculture in accordance with the general purpose of maintaining, without unnecessary restrictions on other uses, including that of timber, the primitive character of the area, particularly in the vicinity of lakes, streams, and portages: *Provided*, That nothing in this Act shall preclude the continuance within the area of any already established use of motorboats.

(6) Commercial services may be performed within the wilderness areas designated by this Act to the extent necessary for activities which are proper for realizing the recreational or other wilderness purposes of the areas.

78 STAT. 895.
78 STAT. 896.

(7) Nothing in this Act shall constitute an express or implied claim or denial on the part of the Federal Government as to exemption from State water laws.

(8) Nothing in this Act shall be construed as affecting the jurisdiction or responsibilities of the several States with respect to wildlife and fish in the national forests.

STATE AND PRIVATE LANDS WITHIN WILDERNESS AREAS

SEC. 5. (a) In any case where State-owned or privately owned land is completely surrounded by national forest lands within areas designated by this Act as wilderness, such State or private owner shall be given such rights as may be necessary to assure adequate access to such State-owned or privately owned land by such State or private owner and their successors in interest, or the State-owned land or privately owned land shall be exchanged for federally owned land in the same State of approximately equal value under authorities available to the Secretary of Agriculture: *Provided, however*, That the United States shall not transfer to a State or private owner any mineral interests unless the State or private owner relinquishes or causes to be relinquished to the United States the mineral interest in the surrounded land.

Transfer, restriction.

78 STAT. 896.

(b) In any case where valid mining claims or other valid occupancies are wholly within a designated national forest wilderness area, the Secretary of Agriculture shall, by reasonable regulations consistent with the preservation of the area as wilderness, permit ingress and egress to such surrounded areas by means which have been or are being customarily enjoyed with respect to other such areas similarly situated.

Acquisition.

(c) Subject to the appropriation of funds by Congress, the Secretary of Agriculture is authorized to acquire privately owned land within the perimeter of any area designated by this Act as wilderness if (1) the owner concurs in such acquisition or (2) the acquisition is specifically authorized by Congress.

GIFTS, BEQUESTS, AND CONTRIBUTIONS

SEC. 6. (a) The Secretary of Agriculture may accept gifts or bequests of land within wilderness areas designated by this Act for preservation as wilderness. The Secretary of Agriculture may also accept gifts or bequests of land adjacent to wilderness areas designated by this Act for preservation as wilderness if he has given sixty days advance notice thereof to the President of the Senate and the Speaker of the House of Representatives. Land accepted by the Secretary of Agriculture under this section shall become part of the wilderness area involved. Regulations with regard to any such land may be in accordance with such agreements, consistent with the policy of this Act, as are made at the time of such gift, or such conditions, consistent with such policy, as may be included in, and accepted with, such bequest.

(b) The Secretary of Agriculture or the Secretary of the Interior is authorized to accept private contributions and gifts to be used to further the purposes of this Act.

ANNUAL REPORTS

SEC. 7. At the opening of each session of Congress, the Secretaries of Agriculture and Interior shall jointly report to the President for transmission to Congress on the status of the wilderness system, including a list and descriptions of the areas in the system, regulations in effect, and other pertinent information, together with any recommendations they may care to make.

Approved September 3, 1964.

LEGISLATIVE HISTORY:

HOUSE REPORTS: No. 1538 accompanying H. R. 9070 (Comm. on Interior & Insular Affairs) and No. 1829 (Comm. of Conference).

SENATE REPORT No. 109 (Comm. on Interior & Insular Affairs).

CONGRESSIONAL RECORD:

Vol. 109 (1963):	Apr. 4, 8,	considered in Senate.
	Apr. 9,	considered and passed Senate.
Vol. 110 (1964):	July 28,	considered in House.
	July 30,	considered and passed House, amended, in lieu of H. R. 9070.
	Aug. 20,	House and Senate agreed to conference report.

APPENDIX II

HOW PROPOSED ACTIONS RELATE TO THE 1977 PLAN

In a number of areas direction will not change from the 1977 A-P Wilderness Plan which is currently an Appendix to the three Forest Plans. This direction will remain part of the Forest Plans. With increased use and over thirty years since the Anaconda-Pintler became a Wilderness, further direction is needed in some areas. These are detailed in the Purpose and Need.

Desired future condition and clearer guidelines, objectives and standards are provided by these alternatives. Mechanisms are provided to determine if Wilderness quality is improving, declining or holding its own. Possible actions to counter threats or declining trends need to be detailed.

Differences that occur within the Wilderness are planned for and recognized. The boundary does not make all 160,000 acres homogeneous in terms of the bio-physical and social characteristics which influence wilderness quality.

The current A-P plan is organized in the following chapters. Many can stand virtually as they are currently written in terms of content though the amount of detail or format may change. The Chapters that relate to issues and will be supplemented by this direction are starred **. Those areas that remain the same, are not starred. Current Forest Plan direction for the A-P, not involved with these issues and this analysis, will not change.

I. ADMINISTRATION (no major changes, update)

II. RECREATION **

Much of the proposed change in direction relates to the impacts of recreation. Various management actions are associated with various alternatives.

III. TRAILS AND TRAVEL

No changes in access.

IV. SIGNING

No change in policy.

V. INFORMATION AND EDUCATION

No changes, ongoing efforts to use this tool.

VI. LAND OCCUPANCY

Update, no changes in policy.

VII. OUTFITTERS **

Specific direction is provided by the proposed action.

VIII. FISH AND WILDLIFE **

Somewhat different than plan direction though many of the current concerns were touched on in 1977. Focus on the issue of fish stocking and it's relationship to natural ecosystems and a native fishery, including sensitive species such as Bull Trout and West Slope Cutthroat.

IX. VEGETATION **

Standards, guidelines and objectives relating to recreation use impacts. Updated direction for noxious weeds. Establishment of RNA's.

X. FIRE

Replaced by the A-P Fire Guidelines which updated the Fire Management Action Plan (part of the Forest Plans) in 1993.

XI. WATER **

Proposed actions relating to recreation use will minimize impacts to riparian areas. No other changes in direction.

XII. SOILS **

Proposed actions relating to recreation use will minimize impacts to soil.

XIII. MINING AND MINERALS

No change in direction.

XIV. COLLECTION OF RESOURCE AND USE INFORMATION**

Proposed mandatory permit would change and improve collection of use information.

XV. SCIENTIFIC STUDY **

Establishment of the two RNA's. Otherwise no major change.

XVI. CULTURAL AND HISTORIC RESOURCES

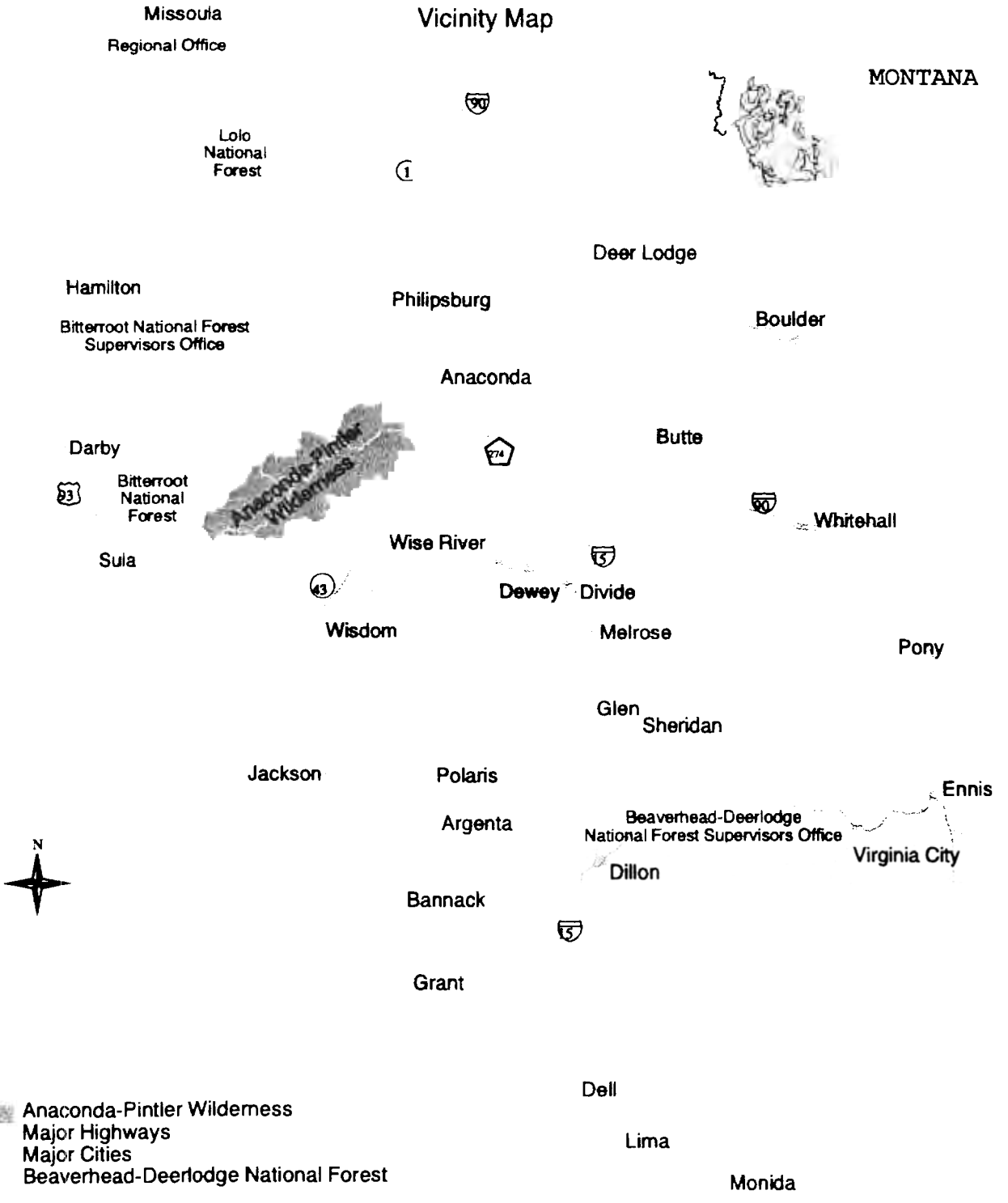
No change.

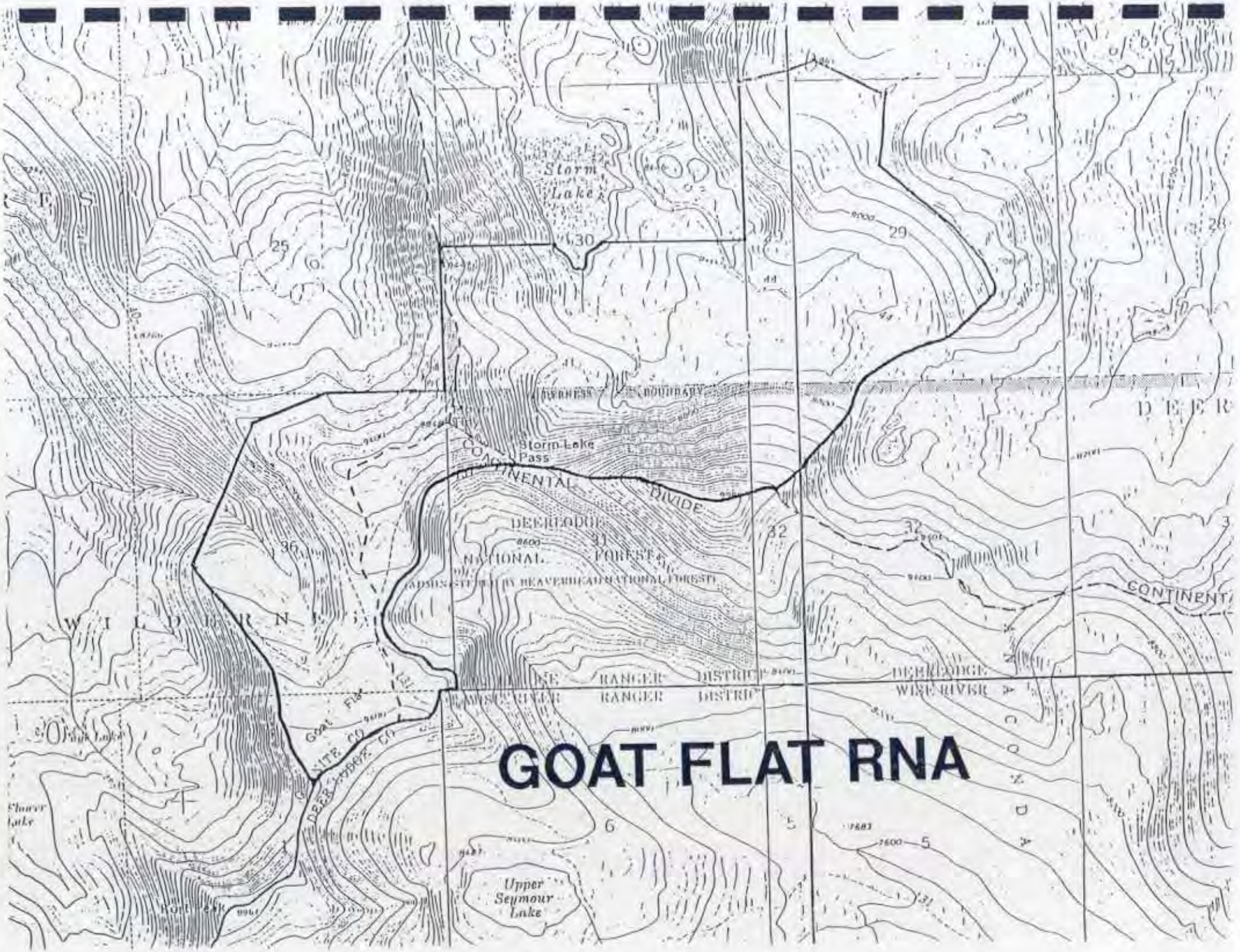
MAP SECTION

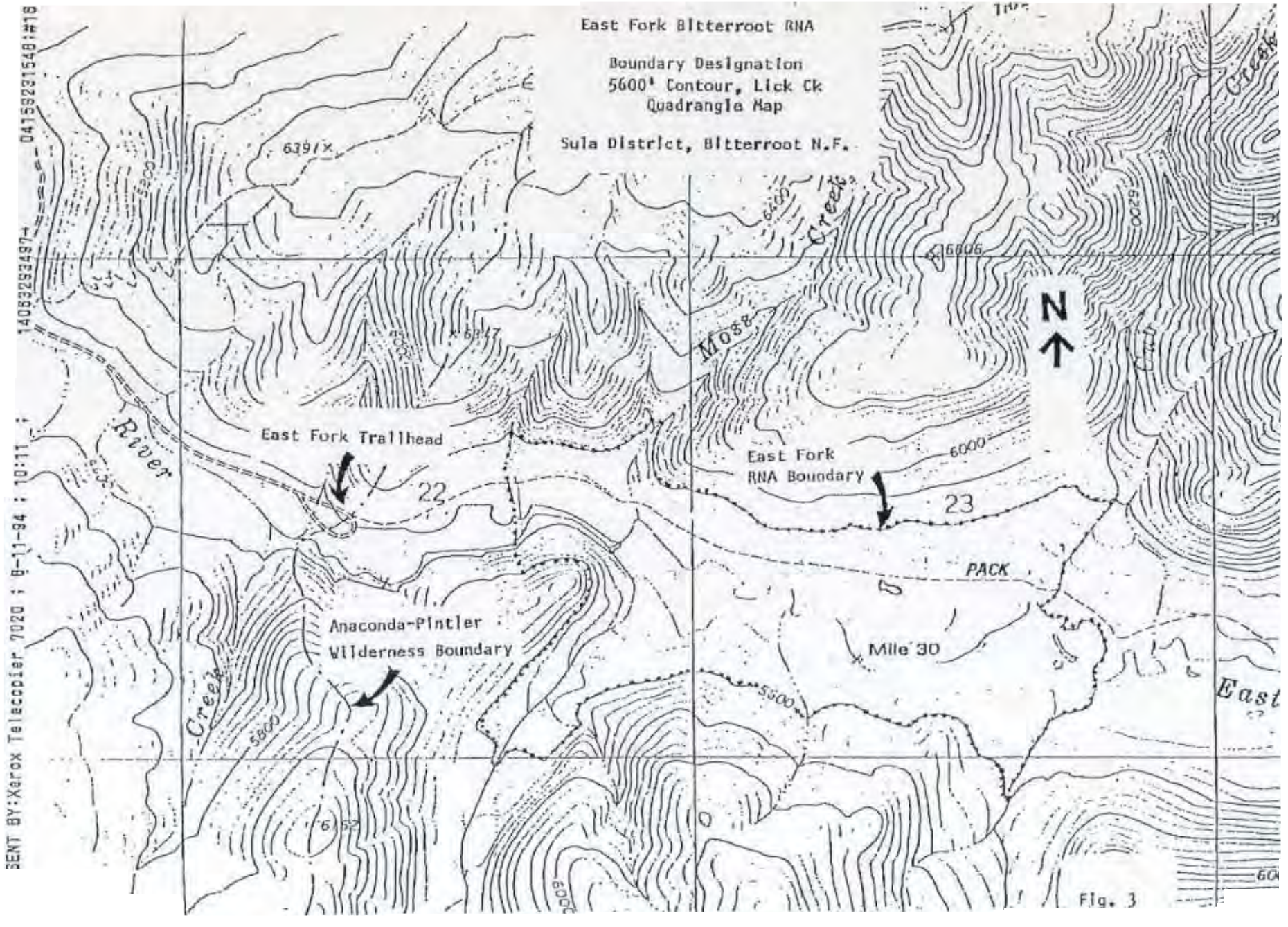
ANACONDA-PINTLER WILDERNESS

BEAVERHEAD-DEERLODGE, BITTERROOT

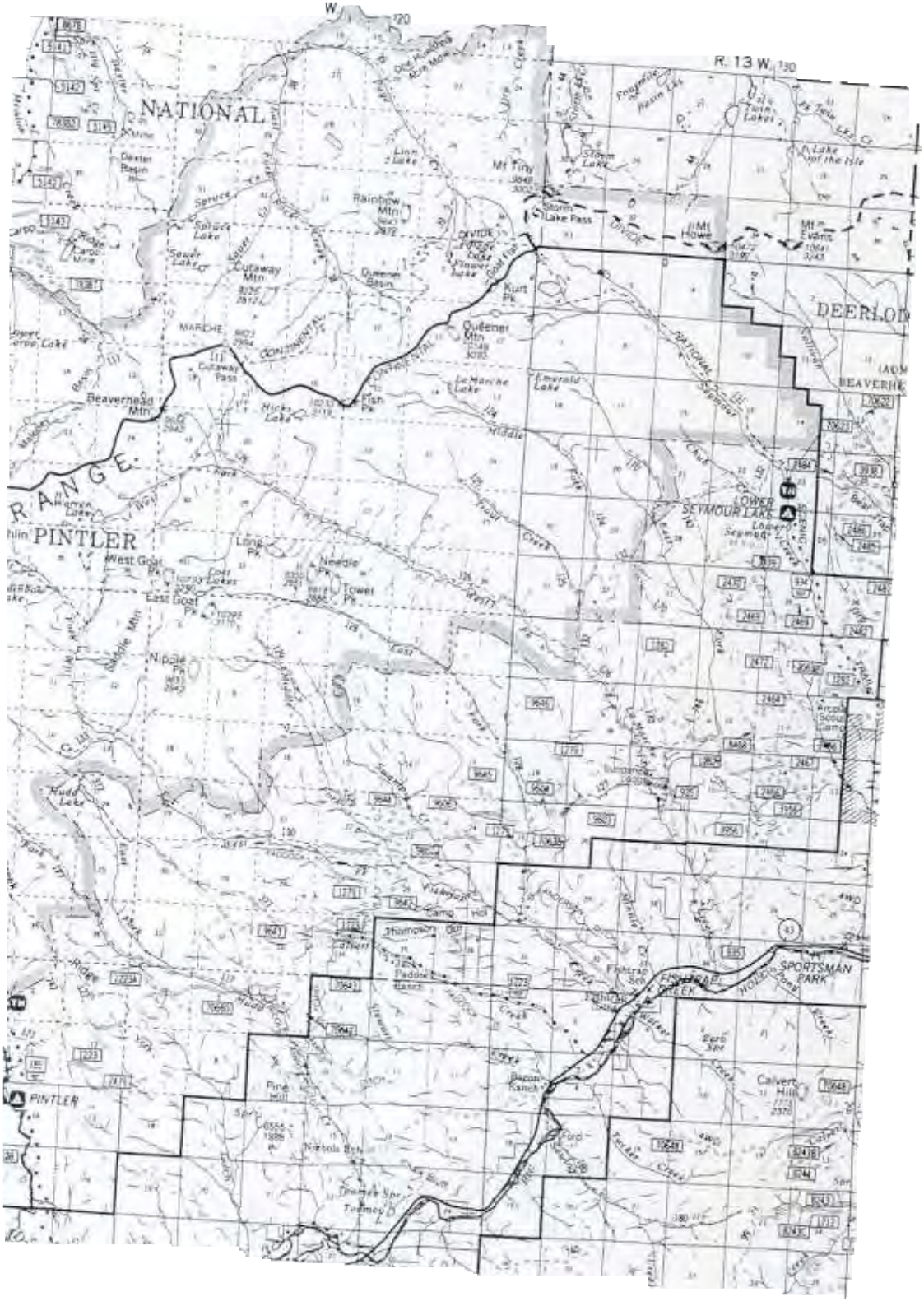
NATIONAL FORESTS

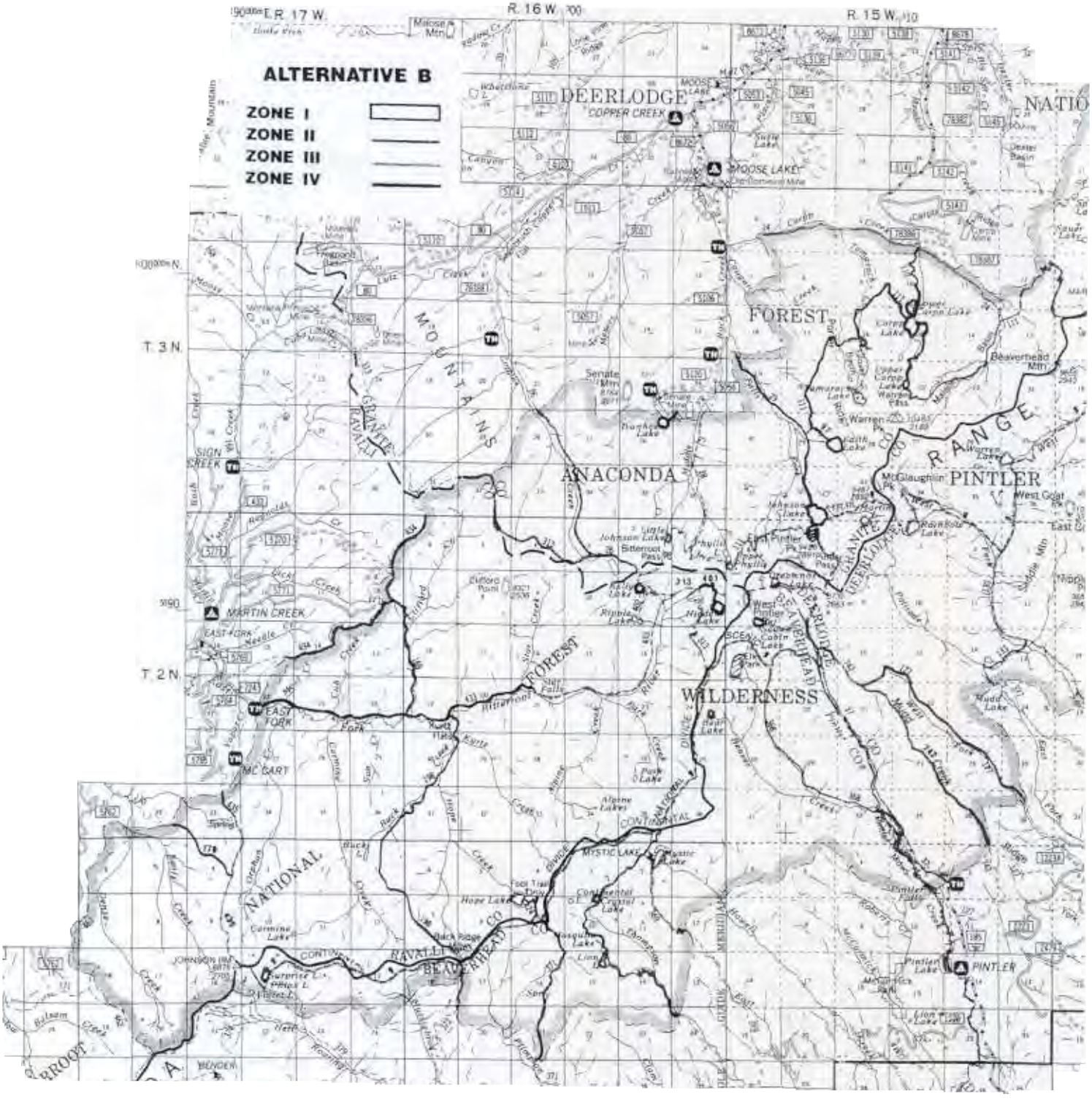



Storm Lake
Storm Lake Pass
CONTINENTAL DIVIDE
DEERLODGE NATIONAL FOREST
RANGER DISTRICT
WILDERNESS
Upper Seymour Lake
GOAT FLAT RNA


East Fork Bitterroot RNA
Boundary Designation
5600' Contour, Lick Ck
Quadrangle Map
Sula District, Bitterroot N.F.
East Fork Trailhead
East Fork
RNA Boundary
Anaconda-Pintler
Wilderness Boundary
Mile 30
PACK
Moose Creek
N
22
23
6391
6606
6000
5500
5800
5200
Fig. 3


ALTERNATIVE A
(No Action)
R. 17 W.
R. 16 W.
R. 15 W.
T. 4 N.
T. 3 N.
T. 2 N.
DEERLODGE
COPPER CREEK
MOOSE LAKE
ANACONDA
PINTLER
FOREST
WILDERNESS
NATIONAL
MARTIN CREEK
EAST FORK
MC CART
BENDER
PINTLER
Beaverhead Mtn
Senate Mtn
McGlaughlin Pk
West Goat Pk
East Pintler Pk
Warren Pk
Sign Creek
Bitterroot
Alpine Lakes
Mystic Lake
Hope Lake
Park Lake
Rattlesnake Creek
Fishtrap Creek
Carmine Lake
Johnson Lake
Little Johnson Lake
Butterfat Pass
Warren Pass
Upper Carpp Lake
Lower Carpp Lake
Tamarack Lake
Edith Lake
Hidden Lake
Ripple Lake
Kelly Lake
Clifford Point
Pintler Lake
Mudd Lake
Lion Lake
Mosquito Lake
Continental Lake
Crystal Lake
Surprise Lk
Foot Trail Trailhead
Back Ridge Meteo
Johnson Flat
Sheep Mtn
Miocene Mtn
Talbot Mountain
Little Fish
Lime Point Ridge
Hibernia Gl.
Green Canyon Lake
Balmat Mine
Old Colonial Mine
Dexter Basin
Carpp Mine
Senate Mine
Nugget Mine
Midnight Basin
Mountain Pride Mine
Cliff Mine
Blue Mine
Mineral Basin
Lucky Mine
Mountain Chief Mine
Mine
Lake
Creek
Gulch
Basin
Ridge
Pass
Peak
Falls
Fork
Spring
Cabin
Trail
Meridian
Continental Divide
Scenic
Recreation
Area
Boundary
Forest
Wilderness
National
Range
Mountains
Co
Co.
Rd
Rd.
Hwy
Hwy.
Rt
Rt.
Ave
Ave.
St
St.
Dr
Dr.
Ln
Ln.
Ct
Ct.
Pl
Pl.
Blvd
Blvd.
Cir
Cir.
Pkwy
Pkwy.
Sq
Sq.
Ter
Ter.
Trl
Trl.
Way
Way.
Aly
Aly.
Bnd
Bnd.
Cv
Cv.
Grv
Grv.
Hts
Hts.
Jct
Jct.
Mdw
Mdw.
Mnr
Mnr.
Mtn
Mtn.
Pt
Pt.
Rdg
Rdg.
Shr
Shr.
Sq
Sq.
Ter
Ter.
Trl
Trl.
Vly
Vly.
Wy
Wy.


R. 13 W.
NATIONAL
PINTLER
RANGE
Mt Tiny
Storm Lake Pass
Mt Howe
Mt Evans
DEERLO
Rainbow Mtn
Queener Mtn
Beavernead Mtn
Cataway Pass
Fish Pk
Hicks Lake
Emerald Lake
LOWER SEYMOUR LAKE
West Goat Pk
East Goat Pk
Needle Pk
Tower Pk
Long Pk
Nipple Pk
Hudd Lake
Fishtrap Creek
SPORTSMAN PARK
Calvert Hill
Pine Hill
Nichols Ranch
Pintler Creek
Trimmer Spr
Tremey
PINTLER


ALTERNATIVE B
ZONE I
ZONE II
ZONE III
ZONE IV
R. 17 W.
R. 16 W.
R. 15 W.
DEERLODGE
COPPER CREEK
MOOSE LAKE
ANACONDA
PINTLER
FOREST
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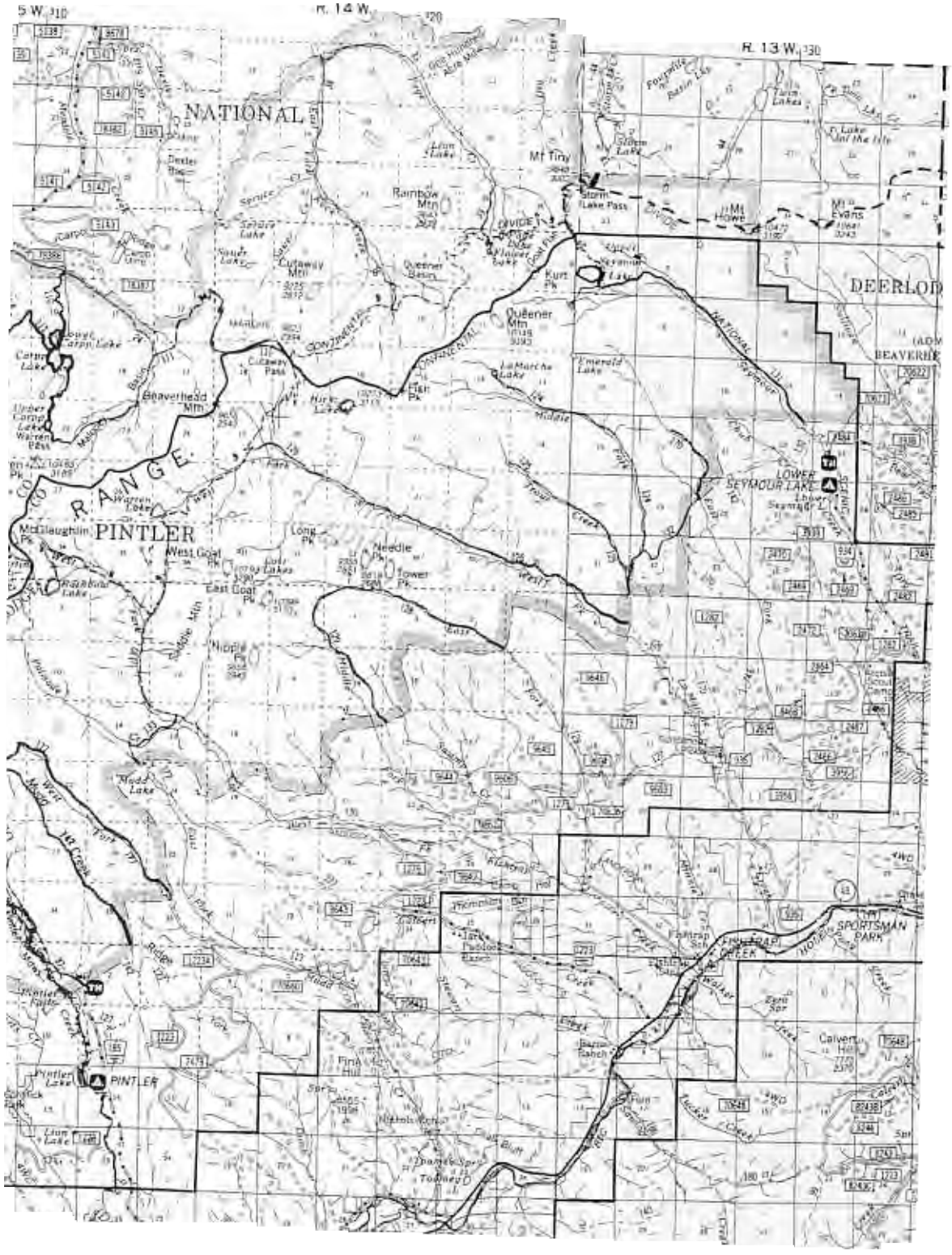
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Fina Hill
Burnt Fork
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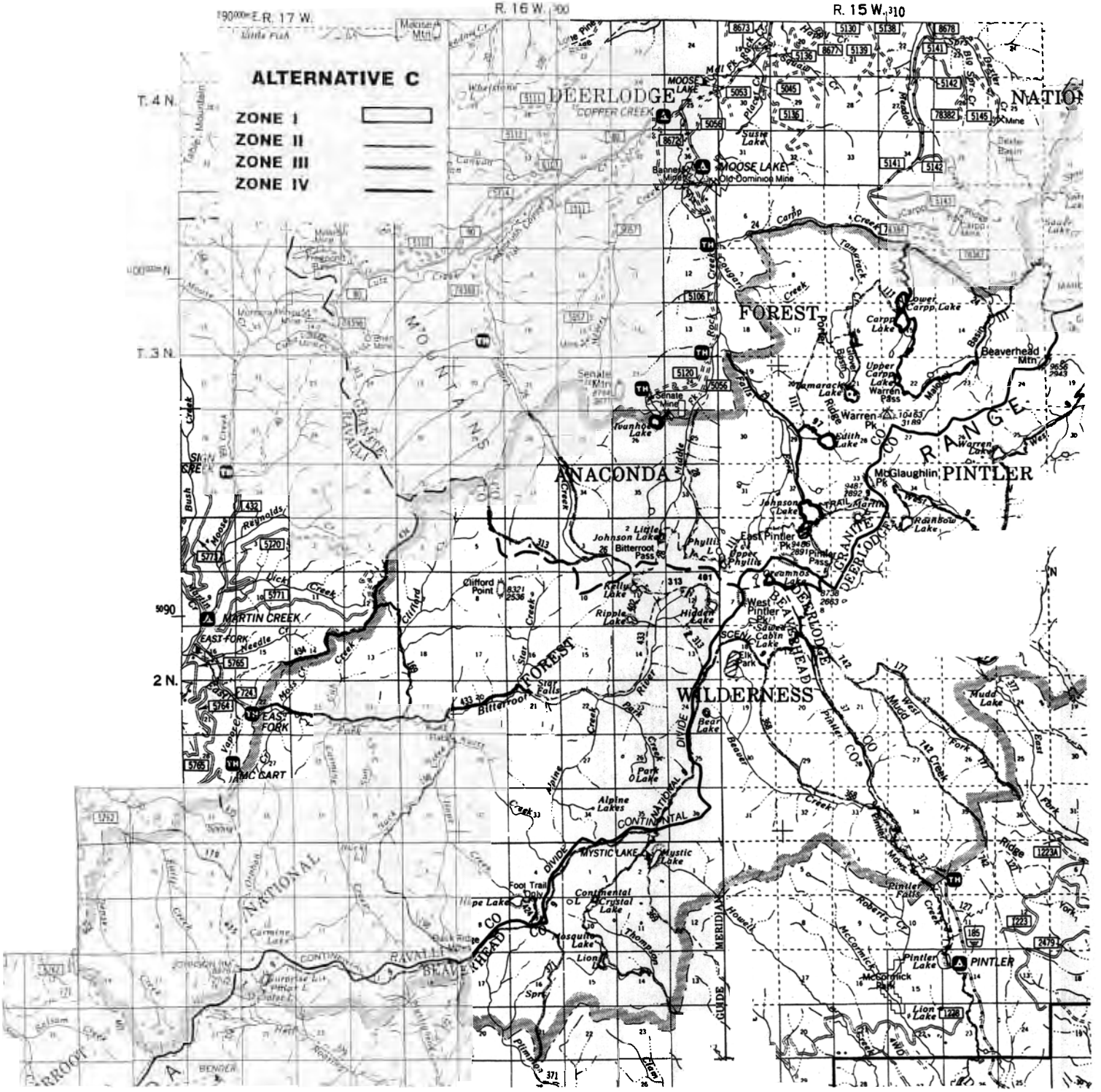
Fun Creek
Rocky Mtn Scout Camp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MOOSE LAKE
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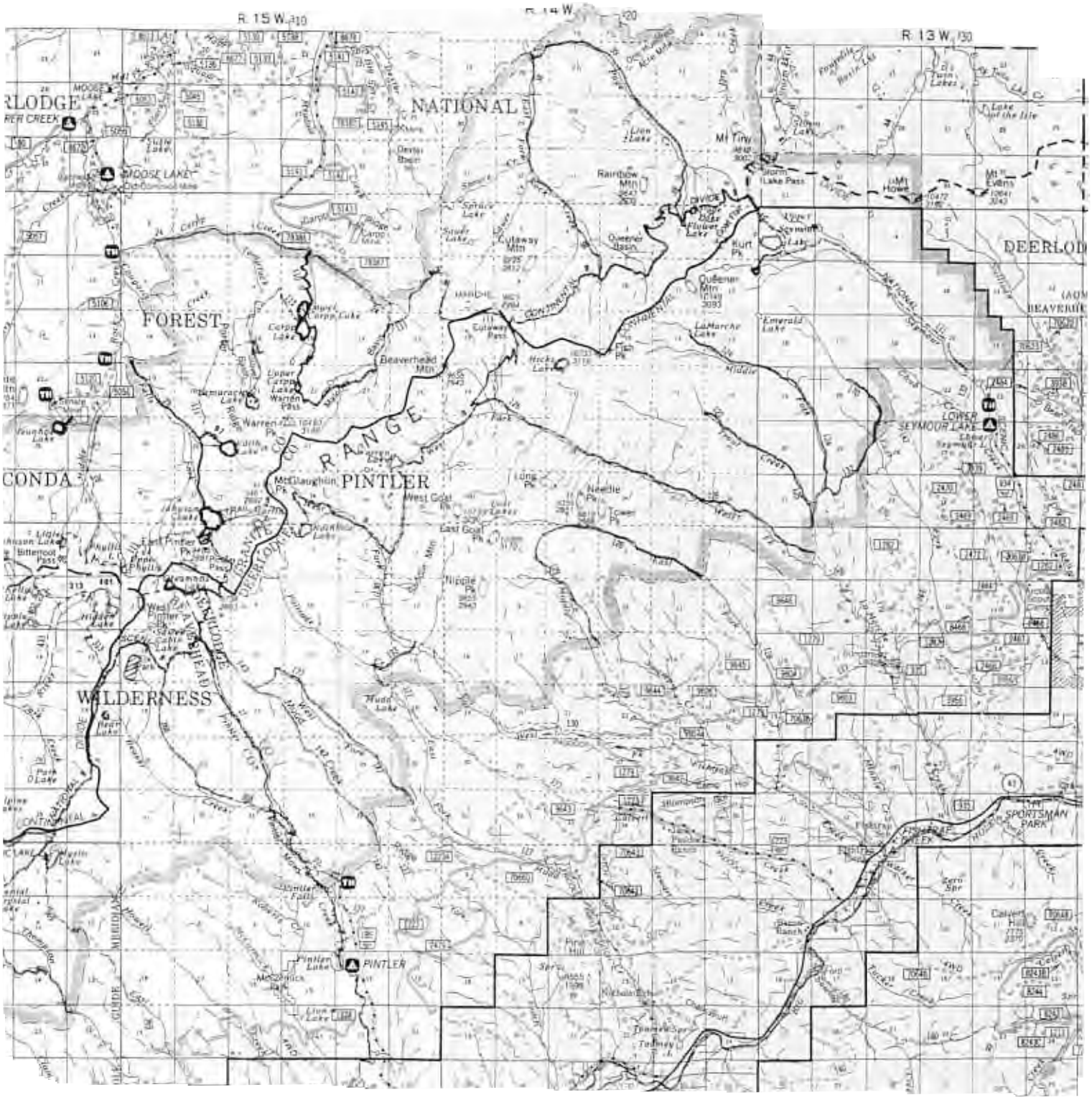
EAST FORK
MC CART
Bitterroot
Warren Pk
McGlaughlin Pk
East Pintler Pk
West Pintler Pk
Beaverhead Mtn
Clifford Point
Bear Lake
Mystic Lake
Continental Crystal Lake
Pintler Lake
Lion Lake
Senate Mine
Carpp Creek
Copper Creek
Rock Creek
Bitterroot Pass
Pintler Pass
Warren Pass
Continental Divide
Beaverhead Divide
Pintler Creek
Pintler Falls
Alpine Lakes
Park Lake
Hidden Lake
Ripple Lake
Johnson Lake
Rainbow Lake
Mudd Lake
Lower Carpp Lake
Upper Carpp Lake
Tamarack Lake
Edith Lake
Foot Trail Only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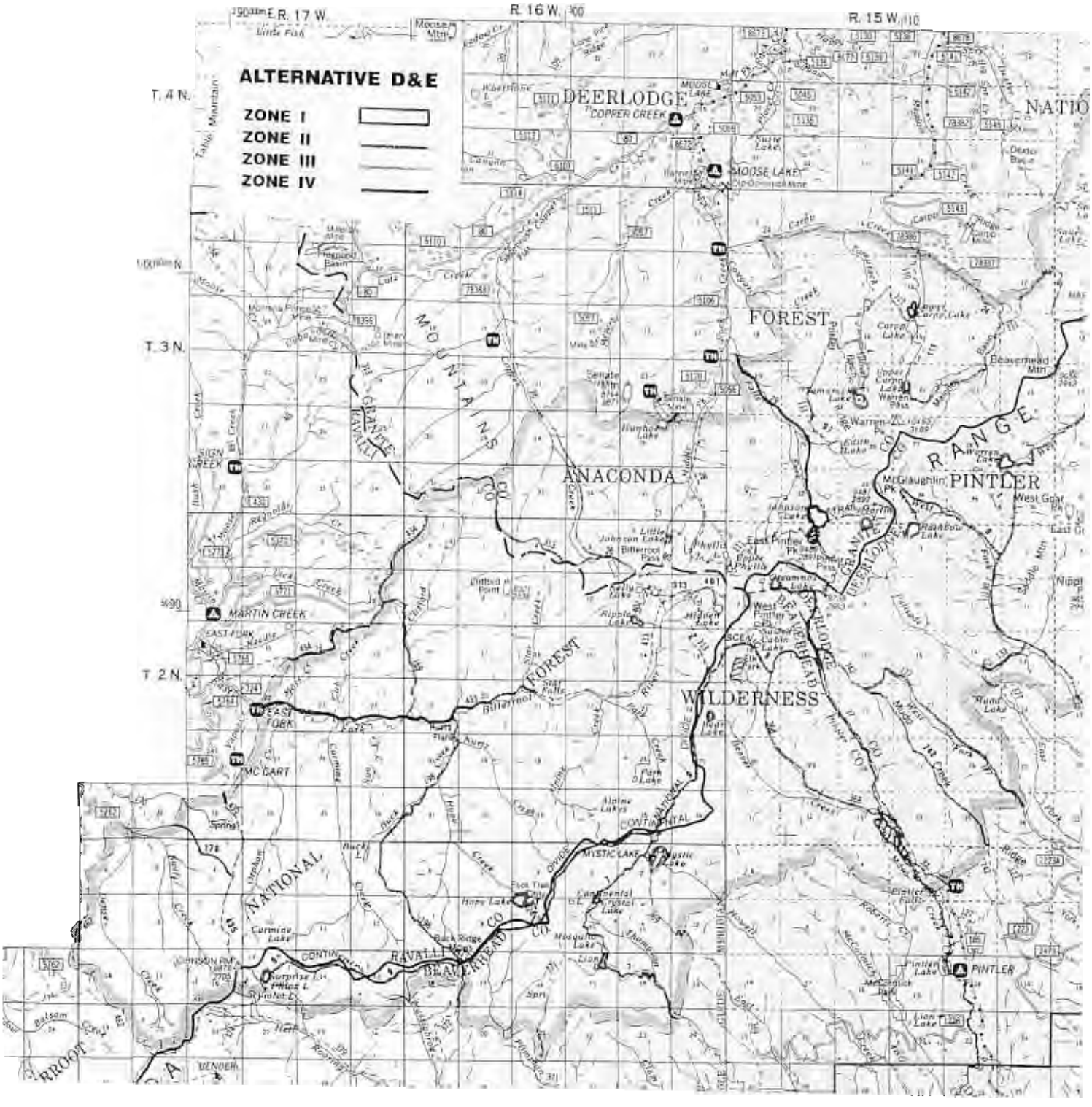
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Saddle Mtn
Senate Mtn
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Rainbow Lake
Johnson Lakes
Ripple Lake
Hope Lake
Mosquito Lake
Lion Lake
Pintler Lake
Rock Lake
Ruby Lake
Trout Creek
Rock Creek
Willow Creek
Bitterroot River
Big Hole River
Deer Lodge
Flint Creek
Warm Springs Creek
Silver Bow Creek
Lost Creek
Fish Creek
Mill Creek
Cabin Creek
Carpp Lake
Upper Carpp Lake
Lower Carpp Lake
Warren Lake
Silver Lake
Johnson Lake
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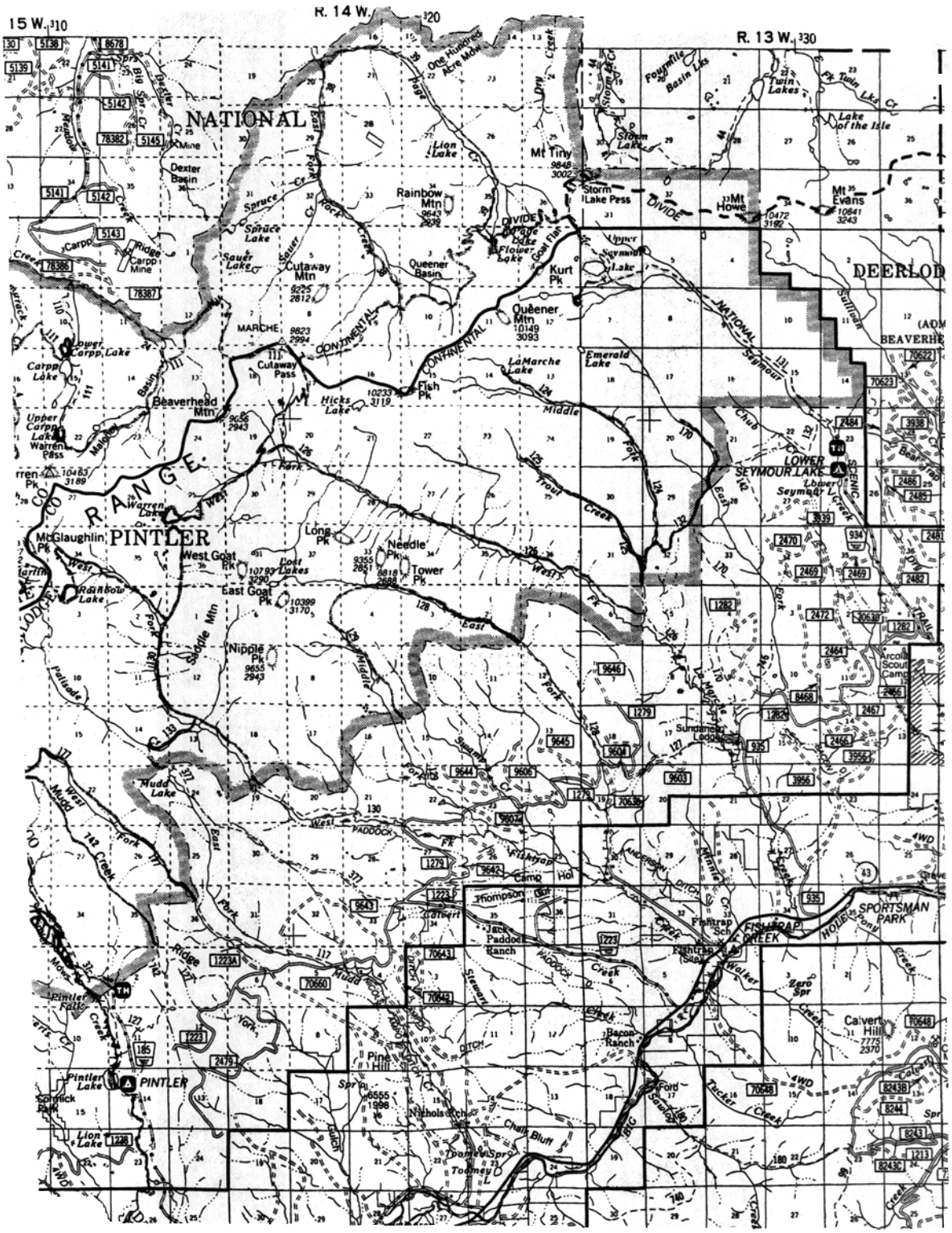
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Pintler Lake
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Upper Carpp Lake
Warren Lake
Lost Lakes
Emerald Lake
LaMarche Lake
Storm Lake
Twin Lakes
Lake of the Isle
Upper Seymour Lake
Lower Seymour L.
Sundance Lodge
Fishtrap Camp
Fishtrap Sch
Jack Paddock Ranch
Thompson Golf
Bacon Ranch
Ford Campground
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McGlaughlin Pk
Mt Howe
Mt Evans
Calvert Hill
Pine Hill
Chalk Bluff

United States
Department of
Agriculture

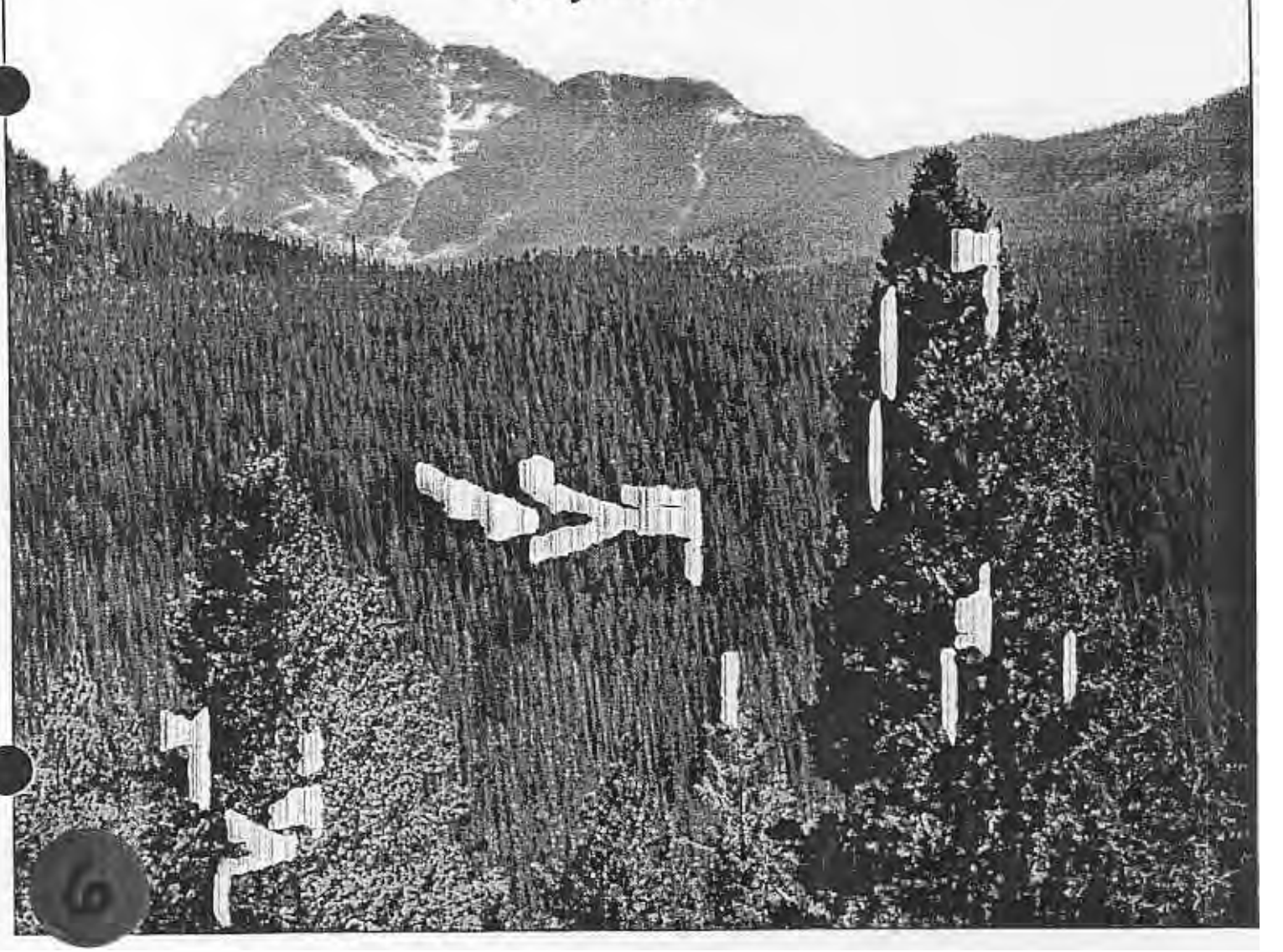
Forest
Service

Beaverhead-Deerlodge
& Bitterroot
National Forests

Anaconda Pintler Wilderness

Fire Management Guidelines

July 2000



ANACONDA PINTLER WILDERNESS

FIRE MANAGEMENT GUIDELINES

JULY 2000

July 9, 2000

APPENDICES

SUMMARY

The Fire Management Plan for the Anaconda Pintler Wilderness was completed in 1979. The Anaconda Pintler (A-P) Wilderness Fire Management Guidelines were prepared for the implementation of prescribed natural fire and updated in 1993. A second update of the A-P Wilderness Fire Management Guidelines occurred in 2000. The reasons for the updates and a description of the reasons for the changes in the Guidelines are described in the following sections.

2000 UPDATE

The Federal Wildland Fire Management Policy and Program Review was completed in December of 1995. As a result of new federal policies regarding wildland fire suppression, wildland fire use and prescribed fire have been implemented. These new policies include changes in terminology, planning and implementation of fire management activities. One of the more significant changes was the development of the Wildland and Prescribed Fire Management Policy Implementation Reference Guide (Implementation Guide). Forest Service Manual 5140.32 instructs fire management staff and line officers to comply with the direction in the Implementation Guide. The direction in the Implementation Guide that pertains to wildland fire use in the A-P Wilderness is the reason for the 2000 update. Some of the more significant changes to the A-P Wilderness Fire Management Guidelines consist of the following:

- New terminology has been incorporated into the document that is consistent with the current Federal Wildland Fire Management Policy. The term **prescribed natural fire** is no longer used. It has been replaced with **wildland fire use.**

- The planning process and documents associated with the implementation of a wildland fire use project have changed. A **Wildland Fire Implementation Plan (WFIP)** replaces the **Prescribed Natural Fire Burn Plan**. The decision process consists of three stages and a periodic assessment in which the decision authorities, time frames and activities for each stage differ significantly from the former process that consisted of three decision levels.

  Graphs and charts displaying climatological information and fire behavior outputs have been updated.

  The format and arrangement of the document have been altered. Obsolete sections and forms have been eliminated and new ones added. All forms, graphs and maps have been moved to the appendix along with the delegation of authority letters and other information that is updated annually.

There were no changes that would alter or invalidate the original NEPA decision that allowed the use of fire in the Anaconda Pintler Wilderness. The area in which fire is allowed to play its natural role in the wilderness did not change. One minor change was made to the objective statement regarding fire fighter and public safety.

As with the previous update, this document will be incorporated into each Forest's Fire Management Plan which will direct the wildland fire use program in the Anaconda Pintler Wilderness.

1993 UPDATE

Following the 1988 fire season, a national task force was created to study the federal "prescribed natural fire" policy. The task force recommended tightening guidelines in existing fire management plans. In response to the review team's recommendation, the Forest Service developed criteria, in manual direction under 5140, which must be addressed in fire management plans.

To comply with the new direction, an interdisciplinary team was formed to update the 1979 Fire Management Plan for the Anaconda Pintler Wilderness. This plan allowed for the use of prescribed natural fire. The team found that the 1979 plan addressed most of the points. However, the plan needed some changes. The most notable changes are as follows:

- Incorporated drought information which will be used when evaluating risk. The other factors used to determine risk include time of year, location, forest fuel type, distance from the wilderness boundary, and the estimated size the fire could attain under normal and extreme weather conditions.

- Updated weather and fire behavior runs for each of the five fire zones.

  A maximum allowable perimeter, a boundary which the fire should not exceed, will be established for each fire. If the fire burns beyond the maximum allowable perimeter, it will be declared a wildfire and appropriate suppression actions taken.

- Incorporated stricter provisions for daily revalidation that include availability of equipment and resources to keep the prescribed fire within prescription. Each day the decisions about the fire will be reevaluated and approved by the responsible official.

- Updated burn plan format which includes all the requirements listed under 5140 in the Forest Service Manual.

This document will be incorporated into each Forest's Fire Management Plan which will direct the prescribed natural fire program in the Anaconda Pintler Wilderness. It will provide a consistent and coordinated approach among the two forests and four ranger districts involved.

This plan does not address management ignited fire. The line officers from the Forests decided early in the review process to only address 5140 FSM direction as now required. They agreed to stay with the basic direction given in the 1979 Anaconda Pintler Fire Management Plan. If monitoring shows we are not returning natural fire to the wilderness, then this decision will be revisited based on that data.

CHAPTER 1 - OBJECTIVES

Wilderness is defined in the Wilderness Act of 1964. . ."as an area where the earth and its community of life are untrammeled by man. . .retaining its primeval character and influence. . . which is protected and managed so as to preserve its natural conditions and which. . .generally appears to have been affected primarily by the forces of nature. . . ."

1.1 GOALS

Permit lightning caused fires to play, as nearly as possible, their natural ecological role within wilderness.

Reduce, to an acceptable level, the risks and consequences of wildfire within or escaping from the wilderness.

1.2 OBJECTIVES

1.2.1 Safety

No personal injuries. Fire fighter and public safety is the first priority in every fire management activity.

1.2.2 Ecology

Lighting fires are a primary, natural disturbance in the Anaconda Pintler Wilderness. Decisions to allow fire to play its natural role will **not** be based on benefits to wildlife, maintenance of certain vegetative types, improvements in forage, or enhancement of recreational corridors. Instead fire, not human whims or wishes, should define the landscape to the extent life and property are not unduly threatened.

Fire may occur in a variety of ways ranging from low intensity, creeping ground fires to high intensity stand replacement fires encompassing large acreages. A successful program will permit fire to operate at all levels of the ecological spectrum which, as past history indicates, will result in a mixture of successional stages of vegetation.

Specific indicators that ecological objectives are being achieved:

- A perpetuation of the fire dependent forest ecosystems within the wilderness
- A continuation of a natural mosaic of vegetation which will produce fires of a more natural size and intensity
- A maintenance of plant and animal interrelationships that have evolved with fire
- Natural levels of fuel accumulation

Current research, records, and study in the Anaconda Pintler are not sufficient to provide quantitative measures for the above considerations. However, the knowledge we do have and studies in other areas tell us that suppression has substantially changed the natural condition. The amount of change varies with each fire zone and is discussed, to a limited extent, in Chapter 2.

Wilderness gives us an opportunity to assess ecological integrity of entire landscapes. We lose some of this integrity if we eliminate fire. Wilderness provides an invaluable link in ecosystem management. Wilderness, if fire is playing as natural a role as possible, provides a relatively unmodified reference area for assessing and monitoring natural/baseline conditions and their variation. It provides an area for assessing long term variation. Wilderness provides an area to learn about composition, structure, and function of natural systems that are substantially free of manipulation. If natural fire is kept out, this becomes a form of "manipulation" and the system may no longer give us the same answers.

In addition to natural variability, wilderness provides us with an opportunity to look at various scales, especially larger and longer scales, than are possible on fragmented lands. Wilderness also conserves biological diversity, on many scales, and provides an opportunity to study and understand ecological function. Vegetation is discussed in more detail in Chapter 2.

1.2.3 Air Quality

Does not violate federal air quality standards in any communities from wildland fire use in the Anaconda Pintler Wilderness. These standards are outlined in the State Implementation Plan developed by the State of Montana's Air Quality Bureau. The Clean Air Act classified wilderness as Class I areas that are to be protected from human caused air pollution.

1.2.4 Recreation

Provide opportunities for the public to observe natural processes occurring from and within areas where it is safe to camp and travel.

1.2.5 Resource and Social Impacts

Protect life and property.

1.2.6 Fish and Wildlife

Fire operating as a natural process sustains the biodiversity of the plant communities, fisheries, and wildlife populations within the wilderness.

1.2.7 Wildfire

Suppression efforts protect the integrity of the wilderness and do not cause undue damage. The primary objective for suppression in wilderness will be to take the appropriate suppression response, which results in the least-cost-plus-loss, while still meeting land management objectives. Minimum impact suppression tactics give direction on fire fighting activities. Minimum impact suppression guidelines will be a part of Fire Management Plans, all guard schools, and pre-season briefings of crews.

CHAPTER 2 - DESCRIPTION OF AREA

2.1 INTRODUCTION

The Anaconda Pintler Wilderness Fire Management Unit, with proposed additions, has been divided into five zones (Table 1). Each zone has fuel characteristics that differ from adjacent zones and physical properties that would require different fire management considerations or risks from its neighbors. These zones are delineated on a map in Appendix A.

Table 1. Anaconda Pintler Wilderness Fire Management Zones.

Fire Management Zones	Name	Acres
Zone 1	High Elevation proposed addition*	45,280 4,100
Zone 2	Cutaway proposed addition*	11,460 2,600
Zone 3	Northwest Slope proposed addition*	40,366 3,100
Zone 4	Mystic proposed addition*	35,980 23,900
Zone 5	Wise River proposed addition*	26,000 None

*These areas will be included in this plan should they become wilderness.

Each of the above defined zones has some similar fuel characteristics and some unique fuel characteristics. In an attempt to characterize fuel conditions and fire effects within each of the zones, we will refer to Fire Groups (Fischer and Clayton, 1983) and Fuel Models (Deeming and others, 1977).

Fire Groups are based on the forest habitat types of Montana and are grouped in Fire Groups based primarily on fire's role in forest succession. For each Fire Group, information is presented on the relationship of major tree species to fire, fire effects on the undergrowth, forest fuels, the natural role of fire, fire and forest succession, and fire management considerations. Further information on the specific Fire Groups for the habitat types east of the Continental Divide can be found in "Fire Ecology of Montana Forest Habitat Types East of the Continental Divide, Fischer and Clayton, GTR #INT-141".

Fuel Models are mathematical models that quantify a rating of the fire behavior of a given set of fuels. Fuel properties are organized into four groups: grass, shrub, timber, and slash. These mathematical models require descriptions of the fuel properties as inputs to calculate fire danger indices or fire behavior potential. Further information on Fuel Models can be obtained by reading "Aids to Determining Fuel Models for Estimating Fire Behavior, Anderson, 1982, GTR #INT-122".

Refer to Appendix A for fire group and fuel map for the Anaconda Pintler Wilderness.

Table 2. Fire Occurrence for Anaconda Pintler Wilderness Fire Management Zones and Proposed Additions (1979-1999).

	Zone I		Zone II		Zone III		Zone IV		Zone V	
Size (class/acres)	W	PA	W	PA	W	PA	W	PA	W	PA
Lightning Caused (Wildfire)										
A <.25	7				17	1	33	5	1	
B (.25-9.9)	4		1		1		15	8	2	
C (10-99.9)							4		1	
D (100-299.9)	1						2			
E (300-999.9)										
Human Caused (Wildfire)										
A	3		1		3		1			
B	1				3		3		3	
C										
D										
E										
Wildland Fire Use										
A	1				3					
B	1									
C					1		1			
D							1		1	

W = Designated Wilderness PA = Proposed Addition

During the time the previous wilderness fire management plans were in effect, between the years 1979 and 1999, there were a total of nine wildland fire use projects (including projects formerly identified as prescribed natural fires) in the A-P Wilderness. The fires ranged in size from 0.10 acre to 150 acres. The two largest fires were the East Fork Fishtrap Fire (125 acres) and the Star Falls Fire (150 acres). A 40 acre fire occurred in Dense Creek and a 35 acre fire near Bitterroot Pass. Other fires include one Class A fire near Rainbow Lake on Wise River District, three on the Sula District in the Dense and Swift Creek areas, and one in the Spruce Creek area on the Pintler District.

2.2 ANACONDA PINTLER ZONE DESCRIPTIONS

2.2.1 Zone 1 - High Elevation

Description

Fire Management Zone 1, the high elevation zone, occupies both sides of the Continental Divide, generally above 8,000 feet in elevation. All four Ranger Districts have administrative responsibilities for their respective portion of the zone. The zone is National Forest land with the exception of Section 31, T4N, R13W, which is in private ownership. The only known structure in this zone is Sawed Cabin on Pintler Creek near Sawed Cabin Lake in Section 7, T2N, R15W. This structure is being nominated to the National Register of Historic Places. There is no continuous fuel near the structure.

Most of the zone is made up of the barren, rugged topography associated with the Rocky Mountain Continental Divide. Generally the slopes are greater than 40%. Prevailing winds during the summer months are generally from the west and can be quite strong and erratic over the Divide; however, weather records from Wise River and Philipsburg indicate wind speeds normally in the range of 3 to 11 mph. Generally the Continental Divide runs southwest to northeast, making the overall aspect northwest and southeast. Precipitation ranges from 40 to 60 inches in this zone.

Forest Plan allocation along the wilderness boundary generally consists of rock scree. The area is classified primitive roadless or semiprimitive. Most of Zone 1 is surrounded by the other four fire zones; very little Zone 1 exists along the boundary.

Less than 40% of the zone is forested with continuous timber. Timbered areas are primarily in the upper headwaters of the major drainages. The balance of the zone could experience fire starts, but a lack of fuel would prevent significant spread. The fuels in Zone 1 are categorized in Table 3.

Table 3. Zone 1 - High Elevation Acres by Fire Group and Fuel Model

Fire Group	Fuel Model	Acres	Map Key
VIII	8	7,700	8-VIII
VIII	10	3,000	10-VIII
VI	10	3,800	10-VI
V	8	1,300	8-V
VII	10	900	10-VII
Rock scattered timber, alpine X		28,600	X
Approximate Land Area in Zone 1		45,300	

There have been no large fires on record originating in this zone; however, portions of two large fires, one on the west side of the Divide in Queener Basin and one on the east side in the Middle Fork of LaMarche Creek, burned into the zone from lower elevations. There have been 18 smaller fires occurring in the zone since 1926. Twelve of these were lightning caused wildfires, four were human caused wildfires, and two were wildland fire use projects natural fires. The largest fire occurred in 1940 and reached 128 acres.

The natural fire occurrence is about one fire every fifth year. The lack of large fires in the zone is undoubtedly due to the short season, moist conditions and discontinuous fuel. However, a conservative estimate is that six of the eighteen (approximately 45%) fires occurring since reliable records have been kept showed growth potential, i.e., those that went to size Class B or larger, regardless of suppression activities. Undoubtedly more would have shown growth potential if suppression action had not been taken. An assumption can be made that since natural fires occur in the zone about once every fifth year, and of these, there is a 45% chance that the ignition will coincide with weather conditions conducive to fire spread, then at least once every ten years we can expect a fire in Zone 1 with growth potential. The last Class B or larger fire in this zone occurred in 1968.

Fire Behavior Estimate

The continuous timber component in this zone is primarily in the stringer bottoms of the drainages, and they are surrounded by barren, rocky areas. About 46% of the continuous timber is in late successional stages, and the accumulated fuels are available for fire spread. Fuel loading in these areas ranges from 15 to 30 tons per acre. These fuels have been characterized by NFFL Fuel Model 10. Local fire weather records were used to estimate fire behavior potential with the BEHAVE program. For Zone 1, Philipsburg fire weather was used to represent the west side of the Divide and Wise River fire weather for the east side. An estimate of expected fire behavior characteristics is shown in Tables 4 and 5.

Table 4. Zone 1 - High Elevation Fire Behavior Estimates. *Weather data was derived from the **PHILIPSBURG** fire weather station. Fire behavior inputs included 4 mph mid-flame wind speed, 50% slope and **FUEL MODEL 10**.*

Level[1]	A	B	C	D
Percentile[2]	20-50	50-80	80-95	95+
ERC	21	29	39	54
Forward Rate-of-Spread (chains/hour)	6-8	7-9	8-10	9-12
Growth Rate (acres/hour)	1-2	1-2	2-3	3-5
Fireline Intensity (BTU/S/FT)	100-150	120-180	150-220	200-275
Crown Scorch[3] (feet)	15-25	20-30	20-40	30-45
Flame Length (feet)	3-5	3-6	4-7	5-8

[1] Energy Release Component (ERC) percentile level selected to represent moderate (A), high (B), very high (C), and extreme (D) fire weather.
[2] Percentile level selected from ERC frequency distribution graphs.
[3] Based on selected daily fire weather records for each percentile level.

Table 5. Zone 1 - High Elevation Fire Behavior Estimates. *Weather data was derived from the **WISE RIVER** fire weather station. Fire behavior inputs included 4 mph mid-flame wind speed, 50% slope and **FUEL MODEL 10**.*

Level[1]	A	B	C	D
Percentile[2]	20-50	50-80	80-95	95+
ERC	28	38	46	59
Forward Rate-of-Spread (chains/hour)	6-9	9-11	10-12	10-14
Growth Rate (acres/hour)	.5-1	1-3	2-4	3-5
Fireline Intensity (BTU/S/FT)	100-180	175-230	250-300	275-325
Crown Scorch[3] (feet)	15-25	20-30	20-50	25-60
Flame Length (feet)	3-6	4-6	5-7	6-8

[1] Energy Release Component (ERC) percentile level selected to represent moderate (A), high (B), very high (C), and extreme (D) fire weather.
[2] Percentile level selected from ERC frequency distribution graphs.
[3] Based on selected daily fire weather records for each percentile level.

About 54% of the forest area is in Fuel Model 8. These are more open Douglas-fir, whitebark pine, and subalpine fir stands with sparse undergrowth and a thin layer of ground fuels but still considered as continuous fuels. A simulation of expected fire behavior in these fuels is illustrated in Tables 6 and 7.

Table 6. Zone 1 - High Elevation Fire Behavior Estimates. *Weather data was derived from the **PHILIPSBURG** fire weather station. Fire behavior inputs included 4 mph mid-flame wind speed, 50% slope and **FUEL MODEL 8**.*

Level[1]	A	B	C	D
Percentile[2]	20-50	50-80	80-95	95+
ERC	21	29	39	54
Forward Rate-of-Spread (chains/hour)	1-3	1-4	2-50	2-5
Growth Rate (acres/hour)	.1-.5	.1-.5	.5-1	.5-1
Fireline Intensity (BTU/S/FT)	6-15	6-15	10-20	10-20
Crown Scorch[3] (feet)	1-2	1-2	1-3	1-3
Flame Length (feet)	1-2	1-2	1-3	2-3

[1] Energy Release Component (ERC) percentile level selected to represent moderate (A), high (B), very high (C), and extreme (D) fire weather.
[2] Percentile level selected from ERC frequency distribution graphs.
[3] Based on selected daily fire weather records for each percentile level.

Table 7. Zone 1 - High Elevation Fire Behavior Estimates. *Weather data was derived from the **WISE RIVER** fire weather station. Fire behavior inputs included 4 mph mid-flame wind speed, 50% slope and **FUEL MODEL 8**.*

Level[1]	A	B	C	D
Percentile[2]	20-50	50-80	80-95	95+
ERC	28	38	46	59
Forward Rate-of-Spread (chains/hour)	2-3	2-4	2-40	3-5
Growth Rate (acres/hour)	0-.1	.1-.5	.5-1	1-2
Fireline Intensity (BTU/S/FT)	5-15	5-15	10-20	10-25
Crown Scorch[3] (feet)	1-3	1-3	2-3	2-4
Flame Length (feet)	1-2	1-2	1-2	1-3

[1] Energy Release Component (ERC) percentile level selected to represent moderate (A), high (B), very high (C), and extreme (D) fire weather.
[2] Percentile level selected from ERC frequency distribution graphs.
[3] Based on selected daily fire weather records for each percentile level.

Fireline intensities are quite low producing low intensity ground fires in most cases which burn through surface fuels and remove a portion of the litter and duff.

Fire Effects

Fire Group 5: Fire Group Five occupies 1,300 acres at the lower limits of this zone. These are cool dry Douglas-fir habitat types. Fires controlled stocking levels and thinned out suppressed trees and maintained stands in an open, park-like condition. Periodic low intensity surface fires minimized the occurrence of stand replacement fires. Fire exclusion has allowed the development of dense, stagnant, multi-storied stands that will burn as wind-driven crown fires when conditions are favorable. It is in this group, where fires were most frequent, that fire suppression has had the greatest effect.

Fire Group 6: Fire Group Six occupies nearly 4,000 acres in this zone. These are relatively moist Douglas-fir habitat types with lodgepole pine occurring as a major seral component.

Fire history studies conducted in Fire Group Six stands in southeastern Montana indicate a mean fire interval of 42 years for presettlement stands.

Fire was important as a thinning agent and as a stand replacement agent. Low to moderate intensity fires converted dense pole-sized or larger stands to a fairly open condition.

Repeated low intensity burning maintained stands in a park-like condition. High intensity fires probably occurred in dense, fuel-heavy stands and resulted in stand replacement.

Fire has a demonstrable effect on wildlife habitat in Group Six through its effects on food plants. The combination of opening up stands by killing overstory trees, reducing competition by removing understories, and rejuvenating sprouting plants through top kill, can significantly increase the availability of palatable browse and forage.

Fire's role as a stand replacement agent becomes more pronounced when the natural fire-free interval is increased through fire suppression.

Fire Group 7: Fire Group Seven occupies less than 1,000 acres in this zone. These are cool habitat types usually dominated by lodgepole pine. Periodic wildfires seem to maintain these stands in lodgepole pine regardless of the indicated potential climax on these sites.

About 7,500 feet in elevation, the role of fire in these lodgepole pine forests differs from the classic pattern. At these altitudes the fire season is relatively short, productivity is low, mountain pine beetle activity is inhibited by low temperatures and the short growing season, and the overall pattern of fire dependence is correspondingly subdued. Fire frequency more closely resembles that of subalpine forests (about 150 years in the Northern Rockies). Romme (1980) has estimated a mean fire interval of 300 to 400 years for stand replacing fires in subalpine forests of Yellowstone National Park. Ordinarily, the spread of fires is extremely limited. Small, lightning-caused fires burn out patches of forest several acres in area and then die out. The result is a mosaic of age classes, not the uniform single-aged forests prevalent on many lower elevation sites (Day 1972).

Fire Group 8: In this zone, Fire Group Eight occupies over 10,000 acres where spruce or subalpine fir are the indicated climax species. These habitats occur at the upper cold limits of Douglas-fir. Where Douglas-fir does occur on these habitats, it is often frost-stunted. The seedling/sapling stage on such habitats will often be populated about equally with lodgepole pine, spruce, and subalpine fir. Fires occurring in this stage will return shrubs and herbs to dominance. In the absence of fire, a mixed species pole stand develops that is susceptible to destruction by a moderate to high intensity fire. Some lodgepole pine could survive a low intensity fire, resulting in an open pole stand with predominantly lodgepole pine regeneration. Subsequent low intensity fire would keep the understory open.

In the absence of fire, an open mature lodgepole forest would develop with a spruce and fir understory. Periodic fire in this stage could maintain lodgepole on the site. In the absence of fire, the more tolerant spruce and fir will eventually attain dominance.

Without fire, the original mixed species pole stand will develop into a mature mixed species forest. A moderate to high intensity fire at this stage could destroy the stand. A moderate intensity fire could, however, spare some lodgepole. The continued absence of fire will allow a near climax spruce and subalpine fir forest to develop and, theoretically, a climax subalpine fir forest. Both of these forests would be highly susceptible to moderate to high intensity fires. Succession following such fires would be without lodgepole pine since lodgepole pine is not a member of the near-climax forest. Lodgepole pine and often spruce dominate most seral stands. Whitebark pine occurs as an accidental or minor seral species. Fire history data for this group east of the Continental Divide is lacking. However, observed fire scars show the occurrence of periodic low to moderate intensity ground fires at 40-70 year intervals with stand replacement fires occurring in stringer bottoms at 100-150 year intervals.

Fire Group 10: Fire Group Ten occupies the majority of the rock and scattered timber in the upper subalpine zone. These are high elevation forests near and at the timberline. All the stands lie above the climatic limits of Douglas-fir, and many stands are above the cold limits of lodgepole pine. Whitebark pine is usually well represented. Englemann spruce is also a major long-lived seral species. Lodgepole pine may occur on some upper subalpine sites.

Timberline forests are composed of alpine larch, whitebark pine, Englemann spruce, and subalpine fir. Trees characteristically grow in groups with open areas in between. Undergrowth is usually sparse.

Fire is secondary to site factors (climate and soil) as an influence on forest development on these sites. The cold, moist, rocky, snowbound, unproductive, and otherwise fire-resistant environment that makes up much of this group not only makes fires infrequent but severely limits their extent. Lightning does ignite fires, but the paucity of continuous fine surface fuels coupled with the rain that commonly accompanies thunderstorms effectively limits fire spread and intensity. Fire frequencies ranging from 35 to 300 years have been reported for individual sites (Romme 1980). Such figures are difficult to interpret because a fire may involve only one or two trees in a stand. For this reason, the concept of fire frequency does not apply well in upper subalpine and timberline sites.

In the more continuous forests of this group, the most pronounced fire effect is to produce stand replacing fires at long intervals, perhaps 200 years or more. Stand replacement fires in Group Ten are most likely to occur during extended drought conditions when wind-driven crown fires develop in the forests below and burn into the upper subalpine and timberline forests. Vegetation recovery following such fires is usually slow because of the extremely short growing season and cold climate.

Extensive areas of whitebark pine in this zone are dead from mountain pine beetle, old age, and succession to subalpine fir. Whitebark pine forests have been found to be important food producers for Clarks nutcrackers, bears, and squirrels. These sites are fragile and easily damaged by firefighting suppression tactics. It is essential in these ecosystems to allow fire to play its natural role.

Summary for Zone 1

Most of the continuous timber areas have not experienced a stand replacement fire for at least 90 years. We can expect a fire, with potential to spread, about once every ten years. When this occurs, the fire will probably burn upslope into timberline, killing portions of the overstory. The fire will die out of its own accord, leaving behind a mosaic of burned and unburned islands producing uneven-aged groups of trees and brush. Drainage bottoms should revegetate quickly to grasses, forbs and shrubs and to trees within 10 to 20 years; however, upper slopes may remain barren for many years, slowly producing grasses and forbs as the soil mantle returns. Because of the nature of the soils and parent materials in this zone, no erosion damage outside the wilderness boundary should occur from fires burning entirely within Zone 1.

The majority of the fires occurring in this zone will remain small, usually less than one-quarter acre, burning on the ground and possibly torching out small groups of trees. These fires will usually burn out naturally, but may smoulder until conditions allow for spread.

A probability analysis of the weather records for the Philipsburg and Wise River weather stations was done to estimate the occurrence of fire ending events and significant fire spread events. Philipsburg weather records for the period from 1955 through 1992 were analyzed. Wise River weather records for the period from 1961 through 1992 were also analyzed.

Using the model it is estimated that both weather stations have the potential for a fire ending event (the occurrence of .25 inches of rain or more, coinciding with a significant reduction in the daily ERC for two or more days) to occur in July, September and October. A low probability was shown for a wetting rain or

significant ERC reduction in August. Wetting rains were historically shown in July, August, September, and October.

Waiting time probability distributions for both stations were generated (see Appendix B). The probability of a critical spread event occurring before a fire ending weather event is graphically illustrated on the following pages. From the graph it can be observed that the distribution of possible waiting-times for the tenth critical spread event resides far to the right of the waiting-times for the fire ending event. Because the waiting-times for a fire ending event are so much shorter than for the critical spread event (except for a small amount of overlap around 60 days from July 1), there is only a slight chance that the wait for the tenth critical spread event would be less than the wait for the fire ending weather event. For a more detailed discussion refer to Appendix B.

2.2.2 Zone 2 - Cutaway

Description

Fire Management Zone 2 is entirely on the Pintler District on the west side of the Continental Divide. It lies against the wilderness boundary in the northeast corner of the wilderness. It is the smallest Fire Management Zone in the Anaconda Pintler. It has been designated a separate zone because it is isolated from the other continuous fuel zones. The zone is entirely National Forest land and there are no known structures within it. The upper portions of the zone are at about 8,000 feet and the lower boundary is about 7,500 feet in Dry Creek and 6,200 feet in the East Fork of Rock Creek. Slopes are generally over 40%. These two major drainages run north out of the zone, making aspects generally westerly and easterly. Average annual precipitation is from 30 to 40 inches.

Prevailing winds are westerly, making that portion of the boundary east of Dry Creek the most vulnerable area for fires to escape from the wilderness. Most of this boundary, however, is a rocky ridge running north from Mount Tiny with very little fuel, except at the extreme northeast comer of the boundary.

Approximately 90% of Forest Plan allocation along the boundary is large blocks of undeveloped land with primitive and/or semiprimitive dispersed recreation. It is a mix of forest and grassland types. Only 10% is productive timber land. With the exception of the East Fork of Rock Creek road, there is not roaded access to Zone 2.

About 90% of the zone is forested with fuels capable of supporting fire spread. The balance is barren areas and scattered timber areas with fuels too sparse to support significant spread. The fuels in Zone 2 are categorized in Table 8.

Table 8. Zone 2 - Cutaway Acres by Fire Group and Fuel Model.

Fire Group	Fuel Model	Acres	Map Key
VI	10	5,000	10-VI
VI	8	800	8-VI
VIII	10	2,200	10-VIII
VIII	8	400	8-VIII
V	8	1,500	8-V
VII	10	400	10-VII
Rock, scattered timber X		1,200	X
Approximate Land Area in Zone 2		11,500	

Two major wildfires of record have occurred in the East Fork of Rock Creek in Zone 2. The first occurred in 1919 (1,000 acres); the second was in 1939 (1,200 acres). It is believed that these were human caused.

There have been two smaller wildfires occurring in this zone since 1926. One of the fires was a Class A (.25 acres) and one was a Class B (.25 to 9.99 acres). Considering the effects of fire suppression, a conservative estimate is that one of the two fires showed growth potential, i.e., those that went to size Class B regardless of suppression activities. The Class B fire occurred in the zone in 1973.

Fire Behavior Estimate

About 74% of the forested area in this zone is in late successional stages and accumulated fuels are available for fire spread. Typical fuel loading is from 15 to 20 tons per acre. These fuels have been characterized by NFFL Fuel Model 10. Using weather records from the Philipsburg weather station in the BEHAVE program, an estimate of fire behavior characteristics is summarized in Table 9.

Table 9. Zone 2 - Cutaway Fire Behavior Estimates. *Weather data was derived from the **PHILIPSBURG** fire weather station. Fire behavior inputs included 4 mph mid-flame wind speed, 50% slope and **FUEL MODEL 10**.*

Level[1]	A	B	C	D
Percentile[2]	20-50	50-80	80-95	95+
ERC	21	29	39	54
Forward Rate-of-Spread (chains/hour)	6-8	7-9	8-10	9-12
Growth Rate (acres/hour)	1-2	1-2	2-3	3-5
Fireline Intensity (BTU/S/FT)	100-150	120-180	150-220	200-275
Crown Scorch[3] (feet)	15-25	20-30	20-40	30-45
Flame Length (feet)	3-5	3-6	4-7	5-8

[1] Energy Release Component (ERC) percentile level selected to represent moderate (A), high (B), very high (C), and extreme (D) fire weather.
[2] Percentile level selected from ERC frequency distribution graphs.
[3] Based on selected daily fire weather records for each percentile level.

The historical fire record and the extent of continuous fuels in this zone indicate that fires could reach maximum sizes of about 1,000 acres. In most cases, with the exception of the area around Hundred Acre Meadows and the extreme northeast corner of the wilderness east of Dry Creek, fires can be expected to burn upslope into sparse fuels at timberline and burn themselves out.

The ERC used for this zone would be as measured at the Philipsburg Fire Weather Station on a daily basis.

About 26% of the forested area is in Fuel Model 8. Of this about half is in 60 to 80 year old lodgepole pine that resulted from the 1919 and 1939 fires. These stands are relatively fire proof with very little fuels on the ground. The balance of Fuel Model 8 is in open Douglas-fir or subalpine fir at the higher elevations, with sparse undergrowth and a thin layer of ground fuels. Typical fuel loading was about 10 to 15 tons/acre. Fuel Model 8 areas should be evaluated as possible fuel breaks when predicting actual fire behavior and spread. A simulation of expected fire behavior in these fuels is illustrated in Table 10.

Table 10. Zone 2 - Cutaway Fire Behavior Estimates. *Weather data was derived from the **PHILIPSBURG** fire weather station. Fire behavior inputs included 4 mph mid-flame wind speed, 50% slope and **FUEL MODEL 8**.*

Level[1]	A	B	C	D
Percentile[2]	20-50	50-80	80-95	95+
ERC	21	29	39	54
Forward Rate-of-Spread (chains/hour)	1-3	1-4	2-5	2-5
Growth Rate (acres/hour)	.1-.5	.1-.5	.5-1	.5-1
Fireline Intensity (BTU/S/FT)	6-15	6-15	10-20	10-20
Crown Scorch[3] (feet)	1-2	1-2	1-3	1-3
Flame Length (feet)	1-2	1-2	1-3	2-3

[1] Energy Release Component (ERC) percentile level selected to represent moderate (A), high (B), very high (C), and extreme (D) fire weather.
[2] Percentile level selected from ERC frequency distribution graphs.
[3] Based on selected daily fire weather records for each percentile level.

Fire Effects

Fire Group 5: Fire Group Five occupies 1,500 acres in this zone and occurs primarily on the east side of Page Creek. Douglas-fir is the indicated climax species and dominates most seral communities at the lower elevations.

The role of fire in Group Five is not well defined. Fire probably occurred less frequently than it did in ponderosa pine habitat types or in the warmer Douglas-fir habitat types (Group Four). The relatively light fuel loads, sparse undergrowth, and generally open nature of the stands would appear to favor long fire-free intervals. However, Arno and Gruell (1983) estimate a mean fire interval of 35 to 40 years in presettlement stands in southwestern Montana.

Fire probably played an important role in favoring ponderosa pine on some sites. Without fire, ponderosa pine would be slowly replaced by Douglas-fir on these sites. Fire's role in seedbed preparation on most Group Five sites is confounded by the difficulty of regeneration to progress beyond the seedling stage on the droughty sites because of undergrowth and overstory competition. Where dense regeneration does occur, fire probably played a role as a thinning agent in sapling and pole-sized stands. Low to moderate intensity surface fire probably maintained many mature stands in an open, park-like condition. Many presettlement stands were actually scattered groves. Fire suppression has allowed these groves to become forest stands (Arno and Gruell, 1983).

Fuels are continuous at the lower elevations but thin out and give way to rock further upslope. However, a forested draw, leading into One Hundred Acre Meadow, provides a continuous fuel bed to the wilderness boundary.

Fire Group 6: Fire Group Six occupies 6,000 acres in this zone. Douglas-fir is the indicated climax with lodgepole pine as a major seral component. Whitebark pine is well represented on ridgetops and the head of drainages at the higher elevations. Fire Group Six stands are quite variable depending on site conditions, stand history, and successional stage.

The theoretical climax condition on Group Six sites is a multi-storied Douglas-fir stand, although a fire-maintained open forest condition was the normal situation during the presettlement period. Following a stand replacing fire grass, forbs, and shrubs dominate the site. Subsequent fires in this stage perpetuate grass, forbs, and shrubs. Douglas-fir seedlings become established on most sites in the absence of fire. Lodgepole pine may also become established or even dominate the seedling stage if a seed source is available or if lodgepole pine was present in the previous stand.

A fire in the seedling stage will return the site to grass, forbs, and shrubs. Similarly, a fire in the sapling and pole stage will revert the site to the herbaceous condition.

A high intensity fire in the pole stage will either revert the site to grass, forbs, and shrubs, or if serotinous cone bearing lodgepole pine are present, the fire will help establish a lodgepole pine stand. A low intensity fire in a large diameter pole stand or a small-sawtimber-sized stand would thin out Douglas-fir and leave an open, park-like stand.

The historical fire records show that stand replacement fires have occurred as evidenced by the 1919 and 1939 fires in this zone.

Fire Group 7: Fire Group Seven occupies 400 acres. This group is very limited in Zone 2. The same fire effects described in Zone 1 also appear here.

Fire Group 8: Fire Group Eight occupies 2,600 acres in this zone. These are the lower subalpine fir habitat types that are dominated by lodgepole pine and occur at lower elevations than the Group Eight stands found in Zone 1. Douglas-fir is present with lodgepole pine at the lower elevations.

Fire history data for Fire Group Eight habitat types east of the Continental Divide are lacking. Arno (1980) has, however, summarized available fire history data for lower subalpine forests from other parts of the Northern Rocky Mountains.

The occurrence of periodic low to moderate intensity fires favors Douglas-fir and lodgepole pine. Such fire set back invasion by the more tolerant spruce and subalpine fir, which, in the absence of fire, form dense understories and eventually take over the site. Fires of moderate intensity probably help Douglas-fir maintain a position of dominance or co-dominance with lodgepole in many Group Eight stands. The more fire resistant Douglas-fir has a better chance of surviving such fires and is able to successfully regenerate in fire-created openings where mineral soil has been exposed. Stand replacing fire will generally favor lodgepole pine on many of these sites. Some large, thick-barked Douglas-fir trees will often survive fires severe enough to kill all lodgepole pine trees, thereby assuring the presence of Douglas-fir in the new stand.

Fire frequencies for this group probably fall between those reported for Fire Group Seven lodgepole pine stands (about 50 years) and those identified for the more moist lower subalpine types of Fire Group Nine (90 to 130 years).

The theoretical climax forest on Fire Group Eight habitat types is either subalpine fir or spruce. Either climax situation requires a very long fire-free period to develop and is, consequently, rarely found. More common is a near climax situation characterized by a dense forest of subalpine fir and spruce, with abundant Douglas-fir, lodgepole pine, and often spruce in the overstory.

A stand replacing fire in the climax (or near climax) stage results in a shrub/herb stage followed by a seedling and sapling stage. On most Group Eight sites Douglas-fir, lodgepole pine, and, on some sites, spruce seedlings will dominate.

Any fire in the seedling/sapling stage will revert the site to shrubs and herbs. Pole-sized stands are usually mixed stands of Douglas-fir and lodgepole, except as previously indicated. A low to moderate intensity fire in such a stand will favor the more fire resistant Douglas-fir over the more fire susceptible lodgepole pine. A high intensity fire, however, will destroy the stand, thereby favoring the early serotinous cone producing lodgepole pine over Douglas-fir. Periodic fire could result in a fire-maintained lodgepole pine stand on some sites.

In the continued absence of fire, a mature stand will develop. Lodgepole pine and Douglas-fir will dominate the overstory, but a dense understory of spruce and subalpine fir is likely on many sites. A low intensity fire will remove much of this fire-susceptible understory and some of the lodgepole overstory, thereby favoring the Douglas-fir. A high intensity fire can destroy the stand and revert the site to shrubs and herbs. Again, the serotinous-coned lodgepole will have an advantage in regenerating itself in the new stand. Periodic fire could maintain a lodgepole stand on some sites. If fire is absent for very long, a near climax or climax forest will develop.

Fire Group 10: Rock and scattered timber occupy 1,200 acres in this zone. Fire effects described in Zone 1 are the same here.

Summary for Zone 2

We can expect a lightning caused wildfire with spread potential at least once every 50 years or so in this zone. The last such fire was in 1973. There is some potential, under extreme burning conditions, for a large acreage fire (1,000 acres) in the Dry Creek area. This fire will most likely spread rapidly upslope, torching out clumps of trees and the understory during favorable burning conditions. The majority of the fire activity will most likely be a surface fire spreading through understory vegetation. This same pattern can be expected in the East Fork of Rock Creek, except that the young lodgepole pine stands should dampen fire spread and maximum fire size may be less than 1,000 acres. The balance of the time, we can expect a lightning caused fire every 10 to 15 years that may burn a small group of trees, but would burn itself out at less than .25 acres.

The Philipsburg weather station was used to represent this zone. Refer to the probability estimates as described in the Zone 1 summary. The same probabilities for a fire ending weather event and a critical spread event are appropriate here.

2.2.3 Zone 3 - Northwest Slope

Description

Fire Management Zone 3 borders the northwest side of the wilderness on the Sula and Philipsburg Districts. It is on the west side of the Continental Divide. The lands are entirely National Forest status except for a patented claim in Section 3, T2N, R16W. A modern cabin exists on this site (see Chapter 3 for protection considerations). The fuel complex is similar to Zone 4, with relatively heavy and continuous fuels. It has been designated a separate Fire Management Zone because of its proximity to the wilderness boundary. The zone generally ranges from 7,000 to 8,000 feet with the exception of the lower Bitterroot River, which leaves the wilderness at about 5,000 feet. Topography is strongly dissected and steep. Slopes in the northeast half of the zone are generally 20 to 40% and in the southwest half generally greater than 40%. Several drainages run north out of the zone in the northeast half and generally west into the Bitterroot River in the southwest half of the zone.

Prevailing winds during the summer are generally westerly. This tends to promote local upslope and up canyon winds away from the wilderness boundary; however, strong variable local winds can occur from eddy effects caused by drainages lying at right angles to the prevailing winds. These winds, coupled with heavy fuels in the Carpp Creek drainage and west of Copper Creek, make these portions of the boundary the most vulnerable areas for fires to escape. The TeePee Point weather station records were used for the southwest portion of Zone 3 and Philipsburg weather station records for the northeast portion. For both stations, wind speeds taken at 2 p.m. (MDT) were seldom greater than 10 mph. Both stations indicated winds occurring from 3 to 11 mph about 73% of the time. The aspects are quite variable within the zone. Average annual precipitation is from 30 to 40 inches.

Forest Plan allocations along Zone 3 are 55% primitive and semiprimitive dispersed recreation settings. About 45% is productive timber land. Timber harvest is evident with clearcuts adjacent to the boundary. Natural fuel loads tend to be high along the boundary.

Over 90% of the zone is forested, and fuel continuity is capable of supporting significant fire spread. The balance of the zone is in scattered timber, barren areas, or riparian zones where ignitions could occur but a lack of available fuel would prevent significant spread. The fuels in Zone 3 are categorized in Table 11.

Table 11. Zone 3 - Northwest Slope Acres by Fire Group and Fuel Model.

Fire Group	Fuel Model	Acres	Map Key
VI	10	13,200	10-VI
VI	8	5,200	8-VI
VIII	10	6,100	10-VIII
V	8	4,500	8-V
V	10	2,700	10-V
VII	10	4,100	10-VII
Rock, scattered timber, riparian X		4,600	X
Approximate Land Area in Zone 3		40,400	

Several large fires of record have occurred in Zone 3 - Northwest Slope: in the year 1896 (700 acres), in 1900 (2,000 acres), in 1905 (5,000 acres), and in 1919 (1,500 acres).

There have been 24 fires occurring in this zone since 1926. Twenty of these were lightning caused wildfires. This is an occurrence of about one lightning fire every three years. Eighteen of the lightning fires were Class A, one was Class B, and one was Class E. Three of the human caused wildfires were Class A and one was Class B. The smaller fire size since 1926 is undoubtedly due to fire suppression activities. The large fire record and the vegetation itself indicate a history of past larger fires. The largest fire in the Anaconda Pintler in the last 30 years was the Orphan Creek Fire. It was a lightning start on 8/26/81 and increased to 475 acres before it was declared out at the end of October. The fire was not readily accessible, was in steep rugged terrain with heavy fuels, and presented a risk to crews. Most of the burning occurred in the first 3 weeks despite some cloudy days with rain. The fire was suppressed with a contain strategy along the western edge near the edge of the wilderness. It was allowed to burn freely on the eastern front and burned into the wilderness. As with most fires, the burning pattern was mixed, leaving a vegetation mosaic on the landscape.

There have been three small wildland fire use projects in the zone.

Fire Behavior Estimate

About 73% of the forested area in the zone is in late successional stages and accumulated forest fuels are available for fire spread. Typical fuel loading ranges from 30 to 45 tons per acre. These fuels have been characterized by NFFL Fuel Model 10. Using weather records from TeePee Point and Philipsburg weather stations in the BEHAVE program, a simulation of expected fire behavior in these fuels is illustrated in Tables 12 and 13.

Table 12. Zone 3 - Northwest Slope Fire Behavior Estimates. *Weather data was derived from the **TEEPEE POINT** fire weather station. Fire behavior inputs included 4 mph mid-flame wind speed, 50% slope and **FUEL MODEL 10**.*

Level[1]	A	B	C	D
Percentile[2]	20-50	50-80	80-95	95+
ERC	21	29	39	54+
Forward Rate-of-Spread (chains/hour)	7-9	7-9	8-11	10-12
Growth Rate (acres/hour)	1-2	1-3	2-4	2-5
Fireline Intensity (BTU/S/FT)	150-200	200-250	200-270	240-290
Crown Scorch[3] (feet)	20-30	20-30	20-40	24-45
Flame Length (feet)	3-6	3-6	3-6	4-7

[1] Energy Release Component (ERC) percentile level selected to represent moderate (A), high (B), very high (C), and extreme (D) fire weather.
[2] Percentile level selected from ERC frequency distribution graphs.
[3] Based on selected daily fire weather records for each percentile level.

Table 13. Zone 3 - Northwest Slope Fire Behavior Estimates. *Weather data was derived from the **PHILIPSBURG** fire weather station. Fire behavior inputs included 4 mph mid-flame wind speed, 50% slope and **FUEL MODEL 10**.*

Level[1]	A	B	C	D
Percentile[2]	20-50	50-80	80-95	95+
ERC	21	29	39	54+
Forward Rate-of-Spread (chains/hour)	6-8	7-9	8-10	9-12
Growth Rate (acres/hour)	1-2	1-2	2-3	3-5
Fireline Intensity (BTU/S/FT)	100-150	120-180	150-220	200-275
Crown Scorch[3] (feet)	15-25	20-30	20-40	30-45
Flame Length (feet)	3-5	3-6	4-7	5-8

[1] Energy Release Component (ERC) percentile level selected to represent moderate (A), high (B), very high (C), and extreme (D) fire weather.
[2] Percentile level selected from ERC frequency distribution graphs.
[3] Based on selected daily fire weather records for each percentile level.

About 27% of the forested area is in Fuel Model 8. More than half of this area burned at the turn of the century and is now 70 to 80 year old lodgepole pine with light fuel loading. The balance of the area is in open Douglas-fir and ponderosa pine with sparse undergrowth. A simulation of expected fire behavior in these fuels is illustrated in Tables 14 and 15.

Table 14. Zone 3 - Northwest Slope Fire Behavior Estimates. *Weather data was derived from the TEEPEE POINT fire weather station. Fire behavior inputs included 4 mph mid-flame wind speed, 50% slope and FUEL MODEL 8.*

Level[1]	A	B	C	D
Percentile[2]	20-50	50-80	80-95	95+
ERC	31	43	54	68+
Forward Rate-of-Spread (chains/hour)	2-3	2-3	2-4	2-5
Growth Rate (acres/hour)	.1-.3	.1-.3	.1-.4	.1-.5
Fireline Intensity (BTU/S/FT)	9-15	9-15	9-15	9-15
Crown Scorch[3] (feet)	1-3	1-3	1-3	1-3
Flame Length (feet)	1-2	1-2	1-2	1-2

[1] Energy Release Component (ERC) percentile level selected to represent moderate (A), high (B), very high (C), and extreme (D) fire weather.
[2] Percentile level selected from ERC frequency distribution graphs.
[3] Based on selected daily fire weather records for each percentile level.

Table 15. Zone 3 - Northwest Slope Fire Behavior Estimates. *Weather data was derived from the **PHILIPSBURG** fire weather station. Fire behavior inputs included 4 mph mid-flame wind speed, 50% slope and **FUEL MODEL 8**.*

Level[1]	A	B	C	D
Percentile[2]	20-50	50-80	80-95	95+
ERC	21	29	39	54+
Forward Rate-of-Spread (chains/hour)	1-3	1-4	2-5	2-5
Growth Rate (acres/hour)	.1-.5	.1-.5	.5-1	.5-1
Fireline Intensity (BTU/S/FT)	6-15	6-15	10-20	10-20
Crown Scorch[3] (feet)	1-2	1-2	1-3	1-3
Flame Length (feet)	1-2	1-2	1-3	2-3

[1] Energy Release Component (ERC) percentile level selected to represent moderate (A), high (B), very high (C), and extreme (D) fire weather.
[2] Percentile level selected from ERC frequency distribution graphs.
[3] Based on selected daily fire weather records for each percentile level.

These are areas that should be considered for natural fuel breaks when predicting actual fire behavior and spread.

Fire Effects

Fire Group 5: Fire Group Five sites occupy 7,000 acres in this zone. Douglas-fir is the indicated climax. Fire effects are the same as those discussed in Zone 2.

Fire Group 6: Fire Group Six occupies 18,400 acres in Zone 3. Douglas-fir and lodgepole pine dominate these sites. The tendency toward overstocking and the development of dense understories contribute to high fuel loads. Suppression mortality, snow breakage, blowdown, and insect and disease mortality operate at a high level in many stands. Fires often sit and smolder undetected in the duff until burning conditions become favorable for fire spread.

One of the Group Six sites that will support lodgepole pine as well as Douglas-fir succession in the absence of fire is similar to that described for Douglas-fir sites, except that lodgepole pine is usually a major component of seral stands. Fire-free succession progresses from the herbaceous stage to a mixed species seedling and sapling stage, a pole-sized tree stage, a young forest stage, the mature forest, and eventually the climax forest. Any fire in the seedling/sapling stage reverts the site to the herbaceous condition. High intensity fires have a similar result. Low intensity surface fires in young and mature forests have little effect on succession.

Moderate intensity fires favor the more fire-resistant Douglas-fir trees over the lodgepole pine and can result in an open, park-like Douglas-fir stand or Douglas-fir/lodgepole pine stand which will be maintained by subsequent fires.

A low to moderately intense fire in the mixed species pole stage can result in scattered Douglas-fir poles with abundant lodgepole pine regeneration, assuming that the burned lodgepole pine have serotinous cones. Lack of fuel would probably preclude a stand replacing fire in this stage, and a low intensity surface fire would probably have minimal impact. In the absence of fire, a lodgepole pine stand would develop beneath the scattered Douglas-fir overstory. Such a stand would be susceptible to destruction by a high intensity fire. A low to moderately intense fire could destroy the lodgepole pine understory and result in an open, park-like Douglas-fir stand. Subsequent fire would maintain this condition, but the lack of fire would allow a lodgepole pine and Douglas-fir understory to develop. Continued lack of fire would allow the development of a mature lodgepole pine stand with a Douglas-fir understory. Subsequent fire can result in a fire-maintained lodgepole pine stand, while lack of fire allows a mature Douglas-fir forest to develop.

Fire Group 7: Fire Group Seven occupies 4,000 acres in this zone. These are the cool habitat types dominated by lodgepole pine. Subalpine fir, spruce, Douglas-fir, and whitebark pine occur in varying amounts with lodgepole pine. Many mature stands are characterized by densely stocked, clean-boled trees with large amounts of deadfall on the forest floor from a mountain pine beetle epidemic in the late 1930's. In habitats below 7,500 feet, the role of fire in seral lodgepole pine forests is one that perpetuates it. Large accumulations of dead material caused by periodic beetle infestations result in high intensity fires.

Without periodic disturbances, the shade-tolerant species replace lodgepole because it does not regenerate well on duff or under shaded conditions. Fire interrupts the course of succession and increases the proportion of lodgepole with each burn. Within 50 to 100 years following a high intensity fire in a lodgepole-dominated stand, a reestablished lodgepole pine forest will exist even though shrubs and herbaceous cover may become dominant immediately following the burn.

Large stand replacing fires play a definite role in the ecology of lodgepole pine stands. The natural periodicity of fire in seral lodgepole stands probably ranges from less than 100 years to about 500 years (Hendrickson 1970). The interval between any two fires in one area might be only a few years (Brown

1975). Recurring low intensity fires may thin the stand or otherwise rejuvenate it without doing serious damage. Stands greater than 60 to 80 years old, however, become increasingly flammable due to overcrowding (suppression mortality), mountain pine beetle outbreaks, dwarf mistletoe infestations, and fire-killed timber (snags) from previous fires. In these areas a fire has the potential to impact thousands of acres. Vast tracts of lodgepole can develop in this way as the serotinous cones open and shower the burn with seeds. The Sleeping Child Burn on the Bitterroot National Forest in western Montana is an extreme example in modern times.

Examination of fire scars on slopes less than 35% shows periodic ground fires at 30-50 year intervals with stand replacement fires at 150-200 years. On slopes greater than 35% stand replacement fires occurred at 70-100 year intervals.

Following a stand replacing fire on a Group Seven site, a short-lived herb/shrub stage dominates. This stage is short-lived in the sense that lodgepole pine seedlings quickly become established and overtop the undergrowth. A fire in the herb/shrub stage will, however, extend its period of dominance. Recurring fire at frequent intervals could conceivably maintain the site in herbs and shrubs. A fire during the seedling/ sapling stage will also return the site to herbs and shrubs. The likelihood of a fire at this stage is not great on most Group Seven sites.

The effect of a fire during the pole stage will depend on fire intensity. A low intensity fire will thin the stand while a high intensity fire may replace the stand. Since pole-sized lodgepole pine usually contain serotinous cone crops, periodic fire at this stage can result in a fire-maintained lodgepole pine stand. The effect of the fire in a mature lodgepole forest is essentially the same as in the pole forest. A low intensity fire thins the stand and a high intensity fire recycles the stand. The probability of a stand replacing fire greatly increases as a previously unburned mature stand starts to break up and an understory of climax species develops. It is usually at this stage rather than the climax stage that fire recycles the stand.

Fire Group 8: Fire Group Eight occupies 6,000 acres in this zone; fire effects discussed under Zone 2 apply here.

Fire Group 10: Rock and scattered timber occupy 4,600 acres in this zone on the Continental Divide. Fire effects discussed under Zone 1 apply here.

Summary for Zone 3

Fire records indicate that we can expect a lightning caused fire once every six years and that 90 percent of the time it will be a low to moderate intensity surface fire. A high intensity fire may occur about 10 percent of the time. Fire behavior will most likely exhibit low to moderate rates of spread, occasional upslope runs that may replace portions of the stands, and scattered torching of individual or groups of trees. This will result in a natural vegetation mosaic.

Philipsburg and TeePee Point weather stations best represent this zone. Weather records for TeePee Point have only been kept since 1985. Statistically this amount of records will not generate valid probabilities. Due to this the Philipsburg station discussed in Zone 1 will be used to represent the probabilities of significant fire events occurring; please refer to Zone 1 summary for this discussion.

2.2.4 Zone 4 - Mystic

Description

Fire Management Zone 4 is the southwest portion of the wilderness straddling the Continental Divide generally below 8,000 feet. Most of the zone is forested. The highest elevation is about 9,000 feet on the Continental Divide next to Zone 1. The lowest elevations are at 6,000 feet where the drainages leave the zone. Slopes east of the Divide are generally 21 to 40%. West of the Divide they are generally more than 40% with the exception of the Park Lake area which is an alpine meadow/subalpine forest complex with less than 20% slopes. Drainages run southeast and northwest out of the zone making aspects mostly southwest and northeast.

The lands are entirely National Forest status. The Mystic Administrative Cabin is within this zone. Administrative responsibilities lie with the Sula District west of the Divide and with the Wisdom District east of the Divide.

The Continental Divide in this zone is more rounded and timbered than in Zone 1; therefore, the prevailing westerly winds usually create local upslope winds west of the Divide and downslope winds east of the Divide. With strong westerlies, however, eddies can create upslope winds at times east of the Divide. The TeePee Point weather station records were used for developing fire behavior estimates west of the Divide and the Wise River weather east of the Divide. Wind speeds were seldom greater than 10 mph at TeePee Point or Wise River. Average annual precipitation ranges from 30 to 50 inches.

Forest Plan allocation adjacent to the wilderness boundary in Zone 4 involves seasonal management areas. Forty percent of the area between Mussigbrod Lake and Pintler Creek is allocated to wildlife, 25% to noncommercial timber, and the remaining 25% to suitable timber. Mussigbrod Lake to Schultz Saddle is classified as "noncommercial", then grades downslope into suitable timber lands. Timber harvest has occurred throughout this management area. Fuel loading is heavy (> 50 tons/acre), in unharvested stands, from a mountain pine beetle epidemic in the late 1930's.

About 90% of the zone is forested with continuous timber types capable of supporting fire spread. The balance of the zone is in scattered timber or barren areas where ignitions could occur but a lack of available fuel would prevent significant spread. The fuels in Zone 4 are categorized in Table 16.

Table 16. Zone 4 - Mystic Acres by Fire Group and Fuel Model.

Fire Group	Fuel Model	Acres	Map Key
VI	10	23,900	10-VI
VIII	10	5,100	10-VIII
VII	10	4,500	10-VII
V	8	500	8-V
Rock, scattered timber, barren X		3,800	X
Approximate Land Area in Zone 4		37,800	

Several large fires of record occurred in Zone 4 since records have been kept: 1914 (700 acres), 1919 (2,500 acres), 1920 (200 acres), 1934 (300 acres and 100 acres).

There have been 57 fires occurring in this zone since 1926. Fifty-five of them were lightning caused wildfires. Two were human caused wildfires. This is an occurrence of about one lightning caused wildfire every year and a quarter. Thirty-four of the lightning fires were Class A (1/4 acre), eighteen were Class B (1/4 to 9.99 acres), and three were Class C (10 to 99.9 acres). One human caused fire was Class A and one was Class B. There have been no wildland fire use projects in this zone.

Considering the effect of fire suppression, a conservative estimate is that 22 of the 57 fires showed growth potential. These are the Class B and larger, for about 39%. Since lightning caused fires occur in the zone about once every year and a quarter, and of these, there is a 39% chance that the ignition will coincide with weather conditions conducive to fire spread, then at least once every fifth year we can expect a fire in Zone 4 with growth potential. The last Class B or larger fire in this zone was a 75 acre burn in 1974.

Fire Behavior Estimate

Over 98% of the forested area is in Fuel Model 10, typified by overmature stands with accumulations of litter and downed woody material. Typical loading is 30 to 35 tons per acre. Loading is heavier west of the Divide than east of the Divide.

Table 17. Zone 4 - Mystic Fire Behavior Estimates. *Weather data was derived from the **TEEPEE POINT** fire weather station. Fire behavior inputs included 4 mph mid-flame wind speed, 50% slope and **FUEL MODEL 10.***

Level[1]	A	B	C	D
Percentile[2]	20-50	50-80	80-95	95+
	31	43	54	68+
Forward Rate-of-Spread (chains/hour)	7-9	7-9	8-11	10-12
Growth Rate (acres/hour)	1-2	1-3	2-4	2-5
Fireline Intensity (BTU/S/FT)	150-200	200-250	200-270	240-290
Crown Scorch[3] (feet)	20-30	20-30	20-40	24-45
Flame Length (feet)	3-6	3-6	3-6	4-7

[1] Energy Release Component (ERC) percentile level selected to represent moderate (A), high (B), very high (C), and extreme (D) fire weather.
[2] Percentile level selected from ERC frequency distribution graphs.
[3] Based on selected daily fire weather records for each percentile level.

Table 18. Zone 4 - Mystic Fire Behavior Estimates. *Weather data was derived from the **WISE RIVER** fire weather station. Fire behavior inputs included 4 mph mid-flame wind speed, 50% slope and **FUEL MODEL 10**.*

Level[1]	A	B	C	D
Percentile[2]	20-50	50-80	80-95	95+
ERC	28	38	46	59+
Forward Rate-of-Spread (chains/hour)	6-9	9-11	10-12	10-14
Growth Rate (acres/hour)	.5-1	1-3	2-4	3-5
Fireline Intensity (BTU/S/FT)	100-180	175-230	250-300	225-325
Crown Scorch[3] (feet)	15-25	20-30	20-50	20-50
Flame Length (feet)	3-6	4-6	5-7	6-8

[1] Energy Release Component (ERC) percentile level selected to represent moderate (A), high (B), very high (C), and extreme (D) fire weather.
[2] Percentile level selected from ERC frequency distribution graphs.
[3] Based on selected daily fire weather records for each percentile level.

Fuel Model 8 is limited to a few small areas near Hope Lake and near the Bitterroot River. It makes up less than 2% of the continuous timber in this zone.

Fire Effects

Fire Group 5: Five Group Five stands occupy only 500 acres in this zone. These are the cool, dry Douglas-fir stands near the upper limits of this type. Regeneration is often difficult on these habitats. Undergrowth is sparse. This factor plus the usual open nature of the stands results in a low probability of a high intensity stand replacing fire. These stands will be maintained as open Douglas-fir stands with or without fire.

Fire Group 6: Fire Group Six occupies the largest area, 24,000 acres, in this zone. Lodgepole pine is the major seral species. Fuel conditions vary according to stand density and species composition. Fuel conditions in lodgepole pine stands tend to be less hazardous than in Douglas-fir stands. Ladder fuels in lodgepole pine are much less prevalent, so the probability of fire going from the forest floor to the crowns is not as great. The general fire effects described under Zone 2 apply here as well.

Fire Group 7: Fire Group Seven stands occupy 7,500 acres in this zone. This group of habitat types, mostly old growth subalpine fir and Englemann spruce, occupy the drainage bottoms and benches around Park Lake. General forest succession and fire effects are the same as those discussed for this group in Zone 3.

Fire Group 8: Fire Group Eight stands occupy 5,000 acres in this zone. Succession to subalpine fir is occurring under the lodgepole pine and contributes significantly to the overall fire hazard during dry conditions. The fire effects described for this group in Zone 2 are the same.

Fire Group 10: Rock and scattered timber occupy nearly 4,000 acres on ridgetop and upper cirque basins along the Continental Divide. Fire effects described for this group in Zone 1 apply here.

Summary for Zone 4

In Zone 4, we can expect an ignition with the potential for significant spread to occur about once every five years. It is uncertain just how great the chances are that a low to moderate intensity fire will grow to any significant size considering the predominance of old growth timber and flammable fuel in the zone. Chances seem greater that such a fire will burn a very small area, smolder under poor burning conditions for several days or months, then, when burning conditions improve, come to life with the potential for a high intensity fire.

Refer to the Zone 1 Summary for the discussion of the probability of significant fire events.

2.2.5 Zone 5 - Wise River

Description

Fire Management Zone 5 lies along the southeast boundary of the wilderness essentially on the Wise River District. There is a very small portion on the Wisdom District west of Pintler Creek. All of the zone lies east of the Continental Divide. The upper elevations are at about 8,000 feet and the lower elevations where drainages leave the zone are about 6,500 feet. Slopes vary considerably but are generally greater than 20%. Drainages generally run southeast out of the zone making aspects mostly southwest and northeast.

The lands are entirely in National Forest status. Structures in the zone are irrigation ditches in Palisade Creek and the Middle Fork of Fishtrap Creek.

In this zone prevailing winds are generally from the southwest down the Big Hole River. The northwest-southeast oriented drainages generally turn the winds upslope in the daytime hours. Down canyon winds are the norm at night. The Wise River weather station records were used for developing fire behavior estimates in this zone. Windspeeds were seldom greater than 10 mph at the Wise River station. Average annual precipitation ranges from 30 to 50 inches.

About 88% of the zone is forested with continuous timber types capable of supporting fire spread. The balance of the zone is in scattered timber, barren areas, or riparian zones where ignitions could occur but a lack of available fuel would prevent significant spread. The fuels in Zone 5 are categorized in Table 19.

Table 19. Zone 5 - Wise River Acres by Fire Group and Fuel Model.

Fire Group	Fuel Model	Acres	Map Key
VI	10	11,500	10-VI
VIII	10	3,700	10-VIII
VIII	8	1,200	8-VIII
VII	10	3,400	10-VII
V	8	3,000	8-V
Rock,scattered timber, barren, riparian X		3,200	X
Approximate Land Area in Zone 5		26,000	

There have been eight smaller fires occurring in this zone since 1926. Four of them were lightning cause wildfires and three were human caused wildfires. There has been one wildland fire use project, the East Fork of Fishtrap, in 1981 burning 125 acres.

Fire Behavior Estimate

About 82% of the forested area is in Fuel Model 10, typified by overmature stands with accumulations of litter and downed woody material. Typical loading is 20 to 30 tons per acre.

Table 20. Zone 5 - Wise River Fire Behavior Estimates. *Weather data was derived from the **WISE RIVER** fire weather station. Fire behavior inputs included 4 mph mid-flame wind speed, 50% slope and **FUEL MODEL 10**.*

Level[1]	A	B	C	D
Percentile[2]	20-50	50-80	80-95	95+
ERC	28	38	46	59+
Forward Rate-of-Spread (chains/hour)	6-9	9-11	10-12	10-14
Growth Rate (acres/hour)	.5-1	1-3	2-4	3-5
Fireline Intensity (BTU/S/FT)	100-150	175-230	250-300	225-325
Crown Scorch[3] (feet)	15-25	20-30	20-50	20-50
Flame Length (feet)	3-6	4-6	5-7	6-8

[1] Energy Release Component (ERC) percentile level selected to represent moderate (A), high (B), very high (C), and extreme (D) fire weather.
[2] Percentile level selected from ERC frequency distribution graphs.
[3] Based on selected daily fire weather records for each percentile level.

The extent of continuous fuels in this zone indicates that fires could reach sizes of about 1,000 acres or so before burning out at timberline. But, the narrowness and shape of this zone and the length of the wilderness boundary in this zone dictates that careful considerations be made in the burning plan prescription and pre-attack plan for the zone.

About 18% of the forested area is in Fuel Model 8. These are areas of more open Douglas-fir, subalpine fir, and whitebark pine with sparse undergrowth and a thin layer of ground fuels. Fires are low intensity with slow rates of spread.

Fire Effects

Fire Group 5: Fire Group Five sites occupy 3,000 acres in this zone. These open Douglas-fir habitat types are important in this zone because of their fuel break potential along the wilderness boundary. These types, along with rock slopes, isolate the areas of continuous timber to long north-south oriented drainages. The fire effects described under the other zone descriptions apply here.

Fire Group 6: Fire Group Six sites occupy 11,500 acres in this zone. These habitat types are dominated by lodgepole pine and are quite variable. They range from old growth lodgepole pine to doghair thickets.

Fire effects will differ depending on stand conditions, but the general effects described under Zone 2 apply here.

Fire Group 7: Fire Group Seven sites occupy 3,400 acres in this zone. Succession on these sites has advanced to spruce and subalpine fir in the understory with patches of lodgepole in the overstory. Stand replacement fires may occur under dry, windy conditions. Such fires are limited to a brief period during the summer. Fire effects described in Zone 3 for this fire group are the same.

Fire Group 8: Fire Group Eight sites occupy 5,000 acres in this zone. Lodgepole pine, subalpine fir, and whitebark pine dominate these habitat types. The role of fire and fire effects described under Zone 3 apply here.

Fire Group 10: Fire Group Ten occupies over 3,000 acres near and at timberline. Fire is secondary to site factors as an influence on forest development on these sites. The cold, moist rocky fire resistant environment makes fires infrequent and severely limits their extent. The details described under Zone 1 fit this fire group across the entire wilderness.

Summary for Zone 5

Due to the isolation of continuous timber in this zone and the predominantly upslope winds, we can expect fires to burn out at timberline into Zone 1.

These fires will most generally be low intensity ground fires. Some torching of individual or groups of trees will occur. Short, upslope runs will also occur where the fuel conditions and topography will allow them.

Refer to the Zone 1 Summary for a discussion on the probability of significant fire events.

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CHAPTER 3 - CONSIDERATIONS FOR DECISION PROCESS

3.1 INTRODUCTION

This chapter discusses the general risks associated with a wildland fire use program in the A-P Wilderness and identifies forest improvements and structures, private inholdings and resources that may need to be protected. Specific protection considerations in the A-P Wilderness are listed for each Ranger District and for different resources and fire management concerns.

3.2 GENERAL RISKS

Implementation of a wildland fire use program has some inherent risks. Occasionally a wildland fire use project may burn beyond wilderness boundaries. This infrequent occurrence is most likely when an abnormal weather pattern or event takes place in conjunction with a large fire. On the other hand, suppressing all fires can set the stage for future problems by allowing forest fuels to build beyond natural levels. In the long run, fuel buildups because of suppression, infrequent fire, or few large fires will produce fires of higher intensity and larger size than a carefully monitored wildland fire use program.

The A-P Wilderness is a relatively small, narrow area along the Continental Divide. Its present size is just under 160,000 acres. Additions of various sizes are proposed. Even with additions, the A-P Wilderness will still require careful analysis to determine when and where the risk of a wildland fire use project can be accommodated.

Much of the wilderness is high elevation with discontinuous fuel. Areas along the wilderness boundary often have heavy fuels. So do many of the long drainages. Fire starts are most frequent on the southwest end of the wilderness. In general, winds are from the west; however, strong and erratic wind patterns can occur in the dissected drainages along the crest of the range. Generally, the Continental Divide runs southwest to northeast making the overall aspect northwest and southeast. Many of the large drainages are at right angles to the Divide. Prevailing winds tend to be cross drainage rather than with the drainage.

The five Fire Management Zones recognize the differences between areas. The risk assessment charts for each zone take into account the factors that would cause a fire to go out of prescription. Risk is also addressed in the "Go-No-Go" Decision Flow Chart, Wildland Fire Implementation Plan (WFIP), and through the Daily Revalidation process.

The ecological benefits of a wildland fire use program are complex and long term. In contrast, the social, economic, and political impacts of a natural fire program tend to be short term. Although public concern may arise during a wildland fire use project, there has been widespread support for the wildland fire use program.

A wildland fire use project could temporarily disrupt recreation activities, including outfitting and guide services. Outfitting is not a major use in the Anaconda Pintler. There are no base camps which would be impacted.

Fires are a primary, natural disturbance in the Anaconda Pintler Wilderness. Fire maintains the natural diversity and allows natural processes to take place. The importance of fire cannot be denied. The risk is better managed by allowing fire to occur in prescribed conditions than by attempting to suppress all fire.

3.3 PROTECTION CONSIDERATIONS

The intent of any applied fuel treatment measures would have the explicit objective of protecting identified private property, facilities, and those perimeter areas that are susceptible to a fire crossing them. Acceptable methods of fuel treatment that may be used to reduce the risk to these protected areas include:

Planned ignition and/or mechanical fuel manipulations outside of wilderness boundaries.

Planned ignitions inside boundaries where there is no feasible alternative to treat outside the wilderness boundary.

It is intended that these actions be planned and scheduled prior to a wildland fire use event. The objective of these actions is to increase the probability of success of the program and substantially reduce the threat of escape from the area or significant damage to capital investments.

Key perimeter areas that are susceptible to a fire crossing from inside the wilderness to outside must be identified. Topography, fuels characteristics, and historical records need to be evaluated by fire behavior and fuel management experts to determine where these vulnerable areas are located. The degree of vulnerability of these perimeter areas should also be determined on the basis of potential risk of escape. Examples may range from "no chance to defend" to "1 in 1,000 chance of fire escaping." Prioritization for dealing with these areas should be based on this assessment of risk probability. Some logical preventative measures are to modify the fuels characteristics within these areas to increase the probability of suppression actions being successful or to exclude the vulnerable areas by modifying the wildland fire use management unit boundary so that it is located in a more defensible location. This boundary could move either inside or outside the wilderness.

Actions planned to suppress a wildfire that threatens these vulnerable areas should be thought out. Those responsible for development of the individual wildland fire implementation plan must be careful not to exclude these identified vulnerable perimeters during the determination of the Maximum Manageable Area.

When protecting individual sites or facilities, other alternatives become available. Along with the possibility of physically modifying the fuels around these sites, some may be more appropriately protected by the use of heat reflective coverings and/or the judicious use of foams, sprinkler systems, and pumps. These techniques have proved to be very effective measures in protecting certain sites under low to moderate risk situations.

It is the responsibility of the wilderness coordinator to identify, prioritize, and schedule treatments for the areas that need to be protected or modified. The fire management staff will assist in this endeavor where fire behavior expertise is required and will have the responsibility of implementing any plans to be developed. Funding for treatments should be multi-functionally based.

3.3.1 Wisdom Ranger District

Forest Improvements and Structures

Mystic Cabin

Location: T1N, R16W, Section 2, Elevation 7,900', Mystic Lake

The long term objective for Mystic Cabin is to maintain it in a fashion that allows for its use by Forest Service employees on official business, protects it from deterioration, and presents the image of a building actively maintained and cared for by the Forest Service. Maintenance and rehabilitation will be done in a fashion that meets the standards of management for a historic structure eligible for listing under the National Register of Historic Places.

Fire prevention activities, such as cutting overhanging limbs and removing debris from the cabin roof, will be conducted as needed to prevent human caused fires.

In the event of a wildfire or wildland fire use project in the vicinity of the cabin, measures will be taken to protect the cabin from fire. Advance measures to "fire proof" the cabin through major vegetation manipulation will not be undertaken.

Bender Cabin

Location: T1N, R17W, Section 28, Elevation 8,000'

In the event of a wildfire or wildland fire use project in the vicinity of the cabin, measures will be taken to protect the cabin from fire. Advance measures to "fire proof" the cabin through major vegetation manipulation will not be undertaken.

Inholdings

There are no inholdings within the A-P Wilderness on the Wisdom Ranger District.

3.3.2 Pintler Ranger District

Forest Improvements and Structures

The Pintler District has numerous trail bridges and puncheons that would be very costly to replace if they were destroyed by fire. Protection of these structures with gravity sock sprinklers, fire shelters, and other minimum impact strategies would be appropriate. Major vegetation modification measures should not be taken.

Page Creek Bridge (36 foot bridge)

Location: Page Creek Trail #39 approximately .4 miles toward Page Lake from its junction with the East Fork Trail #3

East Fork Bridge (36 foot bridge)

Location: East Fork Trail #38 approximately 3.5 miles from the East Fork Trailhead

Queener Basin Puncheon (160 foot puncheon)

Location: Continental Divide Trail #9 approximately 6.8 miles from the East Fork Trailhead

Beaverhead Puncheon #1 (3 puncheons totaling 155 feet)

Location: Hi-line Trail #111 approximately .5 miles toward Beaverhead Pass from its junction with the Carpp Creek Trail #24

Beaverhead Puncheon #2 (2 puncheons totaling 106 feet)

Location: Hi-line Trail #111 approximately 1 mile toward Beaverhead Pass from its junction with the Carpp Creek Trail #24

Carpp Creek Bridge (35 foot bridge)

Location: connecting trail from the Carpp Creek Trailhead to the Carpp Creek Trail #24 where it crosses Carpp Creek

Carpp Lake Puncheon (90 foot puncheon)

Location: Carpp Lake Trail #110 approximately 2.5 miles toward Carpp Lake from the Carpp Creek Trailhead

Tamarack Creek Bridge (45 foot bridge)

Location: Hi-line Trail #111 approximately 700 feet toward Carpp Lake from its junction with the Glover Basin Trail #171

Glover Basin Puncheon (70 foot puncheon)

Location: Hi-Line Trail #111 approximately .2 miles toward Porter Ridge from its junction with the Tamarack Lake Trail #4

Edith Lake Puncheon (108 foot puncheon)

Location: Edith Lake Trail #97 approximately .5 miles toward Edith Lake from its junction with the Hi-line Trail #111

Middle Fork Bridge (40 foot bridge)

Location: Falls Fork Trail #29 where the trail crosses the Middle Fork of Rock Creek

Falls Fork Puncheon (2 puncheons totaling 150 feet)

Location: Falls Fork Trail #29 approximately .75 miles toward Johnson Lake from the Middle Fork Trailhead

Falls Fork Bridge (60 foot bridge)

Location: Falls Fork Trail #29 where it crosses the Falls Fork of Rock Creek approximately 2 miles toward Johnson Lake from the Middle Fork Trailhead

Johnson Lake Inlet Puncheons (2 puncheons totaling 60 feet)

Location: connecting trail between the Continental Divide Trail #9 and the Hi-line Trail #111 at the inlet to Johnson Lake

Middle Fork Bridge and Puncheons (1 bridge and puncheon)

Location: approximately on the first 1/2 mile of the Middle Fork Trail #28 after it crosses the Middle Fork of Rock Creek

Inholdings

Clipper Lode Mine, Survey #10579, Mineral Entry #073448 (Weaver's Patented Mining Claim and Cabin)

Location: 20 acres at the head end of Copper Creek, T2N, R16W, SE1/4 Section 3, Elevation 7,800'

Fires which threaten this land or cabin will be suppressed.

Pintler District Ranger discussed the protection needs in the vicinity of this claim with owner, Jim Weaver. Mr. Weaver is aware of wildland fire use policy. He does not want fuel breaks created as advance protection measures along the borders of the claim, nor does he have a problem with "a corner" of the claim burning. He **does** want the cabin protected.

The claim lies at the top of the Copper Creek drainage near Forest Service Trail #26. The drainage is heavily timbered. The area around the claim is primarily old growth spruce and subalpine fir. This north aspect tends to be damp with numerous seeps. The clearing which surrounds the cabin would not carry fire readily. The one room cabin is made of dimension timber, milled on site. It has a steel roof. There is a creek nearby which could provide a pump chance.

Patented Mining Claim

Location: approximately 20 acres, T4N, R14W, Section 28, Elevation 8,200'

This claim has no structures and has had no activity for years. It is near the top of peak 8,285. Area is primarily rock. Likelihood of fire is very small; however, private land is under State protection and fires will be suppressed.

North of Continental Divide, T4N, R13W, Sections 32 and 33, fall under State protection and fires will be suppressed.

3.3.3 Sula and Wise River Ranger Districts

No protection needs for structures, improvements or inholdings have been identified.

3.4 THREATENED, ENDANGERED, AND SENSITIVE SPECIES

There are no threatened or endangered plant species known to occur in the Anaconda Pintler Wilderness. However, several U.S. Forest Service listed sensitive plant species do occur within the wilderness. Forest Service policy mandates that management decisions "must not result in the loss of species viability or create significant trends toward Federal listing for populations of sensitive plant species (FSM 2670)". The natural reintroduction of fire in the Anaconda Pintler Wilderness is likely to benefit plant species whose roots are adapted to a regular fire regime, as well as annual species with soil scarification requirements.

The extent to which any sensitive plant species and their habitats have been impacted by past fire suppression activities is not known. It is probable that more suitable habitat existed prior to suppression activities, in which case continued fire suppression would only lead to more fuel loading in these fire adapted habitats. This could increase the risk of a stand replacing fire event in habitats where more frequent, low intensity fires historically occurred. A stand replacing fire would be more prone to injuring plant root crowns, thereby preventing new growth of sensitive plant species. It may be necessary to monitor wildland fire use in areas with known occurrences of sensitive plants to determine whether some type of action is needed to protect these populations.

A GIS layer containing sensitive plant locations is available for planning purposes. The Forest Botanist, Ecologist or Sensitive Plant Coordinator should be contacted when a wildland fire use project is being planned to determine whether mitigation will be needed to protect plant populations.

3.5 NOXIOUS WEEDS

A growing concern among botanists and ecologists has been the influx of noxious weed populations in areas where fire historically occurred. Species such as spotted knapweed (*Centaurea maculosa)* and sulfur cinquefoil *(Potentilla recta)* have become major components of the grassland and open ponderosa pine habitats in western Montana. The Anaconda Pintler Wilderness has fortunately had only minor problems with spotted knapweed.

Spotted knapweed prefers the warm, dry ponderosa pine and Douglas-fir habitat types which historically burned at an interval of 5 to 25 years. As noted above, fire suppression activities have increased fuel loadings and the potential for a high intensity fire event in these areas. Although there is little scientific evidence of the impacts of burning on spotted knapweed spread, a recent review points to some anecdotal evidence that underburning on a site where knapweed currently exists will cause it to increase (Rice and Sacco 1995). Low intensity burns usually don't kill individual knapweed plants because of their deep tap roots and are usually not hot enough to kill seeds buried in the soil. However, high intensity burns would cause more disturbance and bare soil than under historical conditions, and a greater likelihood of knapweed colonization from off-site. For this reason it would be important to monitor sites where spotted knapweed has been known to occur (e.g. Kurtz Flats) in the event a wildfire strikes and is allowed to burn naturally. This also emphasizes the importance of using weed seed free hay for livestock and keeping boots and camping gear free of knapweed seed when entering the Anaconda Pintler Wilderness.

3.6 PROPOSED NATURAL RESEARCH AREAS

Establishment records have been completed for two proposed Research Natural Areas (RNAs) in the Anaconda Pintler Wilderness: Goat Flat and East Fork Bitterroot RNAs. A decision notice establishing these two RNAs will be signed in Fiscal Year 2000. Maps showing the location of the RNAs are located in Appendix A. The appropriate resource specialist(s) should be included on the analysis team for any wildland fire use project that may involve one of the RNAs.

The Goat Flat RNA is located in the Anaconda Pintler Range of southwestern Montana along the Continental Divide 14 miles southwest of Anaconda, Montana. Total area of the RNA is 1,376 acres. A segment of the RNA, approximately 679 acres, lies within the Anaconda Pintler Wilderness. The remaining 697 acres of non-wilderness land within the RNA consist of reserved federal lands. The Goat Flat RNA consists of alpine communities and subalpine fir on sedimentary and igneous rock. It contains a wide variety of upper subalpine and alpine plant communities with nearly 190 species represented including Species of Special Concern and five listed as sensitive within Region 1 of the Forest Service.

The East Fork Bitterroot RNA is located in the southeastern portion of the Bitterroot National Forest on the Sula Ranger District and is entirely within the Anaconda Pintler Wilderness. The central features are beaver dams and ponds and riparian communities dominated by various willows and sedges. The RNA includes a wilderness segment of the East Fork of the Bitterroot River. The size of the RNA is 298 acres; approximately 125 acres or 43% of the RNA supports beaver ponds and willow-sedge communities.

It is possible we may face situations where fuel loadings in one component of the landscape mosaic are now, or will be, set up to influence adjacent landscape elements in ways that would not have occurred naturally.

Once these Research Natural Areas are designated, they need to be included on all maps used when determining actual natural fire prescriptions. This will ensure that RNAs are not forgotten, and that minimum impact will indeed occur.

If a fire occurs in an RNA, the Forest RNA Coordinator and the Regional RNA Coordinator need to be notified. This will help facilitate opportunities to conduct followup monitoring work within the RNAs.

3.7 HERITAGE RESOURCES

The Anaconda Pintler Wilderness has a number of prehistoric and historic heritage resources. Very few of these heritage resources have been formally inventoried and evaluated for National Register of Historic Places eligibility.

Wildfire is not seen as a significant threat to surface visible prehistoric archeological sites. Wildfire may thermally alter lithic material, causing it to resemble culturally heat-treated archeological artifacts. However, surface sites lack the archeological context necessary to determine if archeological lithic material was purposefully heat treated by prehistoric people, or thermally altered as the result of previous wildfires burning over the site.

Historic sites, especially those with standing structural remains, are vulnerable to having any significant cultural or historic values associated with them destroyed by wildfire. In order to determine what significant heritage values may be at risk from wildfire, a systematic inventory for heritage resources was begun in fiscal year 1993.

If archeological/historic inventory, and consultation with the State Historic Preservation Officer and the Advisory Council on Historic Preservation, determine that other management action is appropriate, then we will change our management strategy.

We have consulted with the Salish Kootenai Culture Committee and elders. They are comfortable with returning natural fire to the wilderness and have not identified sites which need protection. They indicated, in a very general sense, that parts of the Anaconda Pintler were historically used for travelways, gathering, and spiritual purposes. No specifics of historic use or current use were mentioned.

3.8 SMOKE

The impact of smoke on airsheds will be evaluated in making the initial recommendation. If the local airshed coordinator feels the potential smoke load is too great, it may be necessary to take action to reduce the amount of smoke generated.

All smoke management decisions will be made in accordance with the Montana State Airshed Group Operative Plan. The number of fires burning, location, elevation, extent, duration of smoke, atmospheric conditions, and public sentiment are some factors which would influence the decision. Forecasted smoke dispersal predictions will aid in making smoke management decisions. The Montana Air Quality Bureau monitors the weather closely in the fall to advise of inversions.

If smoke threatens communities, the State Air Quality Bureau will be contacted. The Bureau will be kept informed on an ongoing basis. They will then advise residents of potential health threats.

Section 118 of the Clean Air Act (USC 7401-7626) states that each officer, agent, or employee of the Federal Government must comply with Federal, State, interstate, and local requirements concerning control and abatement of air pollutants to the same extent as any other person. Smoke generated by fires in the wilderness may spread into adjacent airsheds and into smoke sensitive areas. When action is taken on prescribed fires for control of smoke, a large portion of the control efforts will be concentrated on the smoldering edges.

In the fall, valleys are prone to inversion layers which trap smoke. Lower elevation wilderness fires will contribute more to this problem than high elevations fires. During this season, elevation will be a major factor that influences smoke management conditions. Fall, more than any other season, is the time when problems are likely to occur because of stagnant air. These conditions can also impair the ability to detect and suppress wildfires, or adversely impact the slash burning programs of agencies and private companies.

Butte is a "non-attainment" area for air quality purposes; however, smoke disperses well in summer months. Attainment problems are generally in fall and winter. In the case of a large fire, there could also be smoke impacts in summer months.

The magnitude of smoke will vary from visible smoke within the wilderness boundary to smoke haze persisting for several days over downwind valleys. Smoke may impact Anaconda and Butte airsheds and to a lesser degree Georgetown Lake, Philipsburg, Wisdom, and Wise River. Ash and sediment could temporarily impact water quality.

3.9 FIRE STARTS OUTSIDE THE WILDERNESS AND BURNS INTO THE WILDERNESS

Historically some of the fires in the Anaconda Pintler, particularly on the Beaverhead side, came in from outside the boundary. Current policy is clear. If a fire begins outside wilderness, it is a wildfire and must be suppressed. If it burns into the wilderness from outside, it is still a wildfire and cannot be designated a wildland fire use project.

3.10 ECONOMIC EFFICIENCY

Part of the process in determining the appropriate management response to a wildland fire includes an economic analysis that incorporates fire fighter and public safety, resource objectives and social values. Implementation of a fire suppression action or a wildland fire use project should be economically viable based on the values to be protected, costs, and land and resource management objectives.

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CHAPTER 4 - OPERATIONS/PROCEDURES

4.1 INTRODUCTION

This chapter along with the referenced appendices contains all the necessary information to implement a wildland fire use project through the development of a Wildland Fire Implementation Plan (WFIP). A preseason exercise will be conducted every year in May or June to review the process.

Federal Wildland Fire Management Policy requires a WFIP be initiated for all wildland fires. The WFIP consists of three stages: (1) Initial Fire Assessment, (2) Short-term Implementation Actions, and (3) Long-term Assessment and Implementation Actions. The level of completion is dependent on the management strategies (i.e. fires managed for resource benefits will have 2 - 3 stages completed while some fires that receive a suppression response may only have a portion of Stage I completed). The following pages describe in detail the processes and steps for a wildland fire use project in the Anaconda Pintler Wilderness. Table 21 contains a summary of the stages for implementing a wildland fire use project. A more detailed description of each stage of the process is described in Sections 4.2 - 4.5.

Table 21. Summary of WFIP Implementation, Decision Authorities, and Time Frames.

WFIP Stages	Decision Authority	Planning and Assessment Element	Maximum Completion Timeframe
WFIP Stage I: Initial Fire Assessment	District Ranger	Report Fire to Responsible District Dispatch Air Observer Fire Situation Decision Criteria Checklist (Initial Go/No Go Decision) Recommended Response Action Assign a Fire Use Manager (FUMA) as needed	2 hours after fire detection
WFIP Stage II: Short-term Implementation Action	District Ranger[1]	Identify Wildland Fire Use Analysis Team Short-term Fire Behavior Prediction and Risk Assessment Short-term Implementation Actions Complexity Analysis Stage III Need Assessment Chart	24 hours after Stage I completion or as expected fire behavior indicates (rate of spread, flame length, size)
WFIP Stage III: Long-term Implementation Action	District Ranger[1] Forest Supervisor	Maximum Manageable Area Definition Fire Behavior Predictions Long-term Risk Assessment Long-term Implementation Actions	As Periodic Fire Assessment indicates the need
Periodic Fire Assessment	District Ranger	Part 1: Revalidation Part 2: Stage III Need Assessment Chart	On assigned frequency
Wildland Fire Situation Analysis (WFSA)			Before implementing new strategy

[1]The Forest Supervisor has the decision authority for wildland fire use projects that involve more than one ranger district's jurisdiction.

The Wildland Fire Management Policy Implementation Reference Guide contains a thorough description of the process for preparing a WFIP. Forest Service Manual 5140 Fire Use and 2320 Wilderness Management should be referenced for policies and processes specific to the Forest Service and Northern Region. Copies of all the required forms with instructions for completing a WFIP are located in Appendix C. The forms are also available in computer software program (WFSA Plus). Other forms that are not part of the WFIP, but may still need to be filled out during a wildland fire use project are also located in Appendix C. These additional forms include the Wildland Fire Use Observation Record, Wildland Fire Use Evaluation, and a form for collecting information for the State of the Wilderness (SOW). The information on the SOW form is similar to that used to complete the Decision Criteria, but is formatted to facilitate inclusion into the SOW report. The line officer may choose to use the supplemental information from the Fire Information for SOW Report form to determine issues that may preclude wildland fire use.

Forest Service Manual (FSM) Chapter 5140 - Fire Use, states that the decision authority and responsibility for approving a wildland fire implementation plan (WFIP) belongs to the Forest Supervisor. This authority may be delegated to a District Ranger, but only if the District Ranger has the prerequisite knowledge, experience, and staff available. The Northern Region FSM 5140 Supplement contains more specific direction regarding delegation of authority and prerequisite knowledge and experience. Direction pertaining to wildland fire use at the national and regional level is subject to change and should be reviewed prior to each fire season. Appendix D contains the letters with the delegations of authority from the Forest Supervisors. These letters will be updated annually or as needed when changes in personnel and policy occur.

4.2 STAGE I: INITIAL FIRE ASSESSMENT

Decision Authority: District Ranger
Maximum completion timeframe: 2 hours after confirmation of fire start

Stage I is the Initial Fire Assessment. This is the preliminary stage of the WFIP and establishes documentation groundwork for further stages. It is both an information gathering stage and decision making stage. This information provides location, fire cause, administrative information, fuel conditions, weather, and fire behavior situation: it is documented using the Fire Situation, Initial Go/No-Go Decision Criteria Checklist, and Recommended Response Action forms.

Federal Wildland Fire Policy requires Stage I completion within 2 hours after fire confirmation. The time of detection on the fire detection report (FSM 5182, form R1-5120-28), if confirmed, establishes the start point of the two-hour decision window. A copy of the detection report will be included with the Initial Fire Assessment documentation. Time constraints on the initial fire assessment are imperative so an appropriate range of management responses remain available to the fire manager.

4.2.1 - Fire Situation

The information needed for this step comes directly from the initial fire assessment or size-up. This information will be recorded on the Fire Situation form and can be transferred, as needed, to later planning stages or to the Wildland Fire Situation Analysis (WFSA).

4.2.2 - Decision Criteria Checklist (Initial Go/No-Go Decision)

The Decision Criteria Checklist provides the agency administrator/line officer with standard decision elements to determine if the current wildland fire meets criteria to be managed as a wildland fire use project. These decision elements assess threats from the fire, potential effects of the fire, risk from the fire, and effects of other fire activity on management capability; they also allow the agency administrator to evaluate other, possibly unforeseen or unanticipated issues.

To complete the checklist, the agency administrator evaluates the criteria, based on staff input, and determines the appropriate management response. A "Yes" response to any of the decision elements indicates that management should consider a suppression-oriented management response. All "No" answers to the decision elements indicate that the fire is a viable wildland fire use project candidate.

Detailed explanations of the decision elements follow:

- **Is there a threat to life, property, or resources that cannot be mitigated?**

Does the current fire have a high probability of impacting inholdings, permitted facilities, or administrative sites or structures?

Protection of human life is reaffirmed as the first priority in wildland fire management. Protection of property and natural and cultural resources is secondary to firefighter and public safety (U. S. Departments of Interior and Agriculture 1995). In the event that resources are committed to a wildland fire, safety of the personnel becomes the first priority for management of that fire.

Outfitter itineraries provide Forest Service personnel the means to furnish ample warning for the protection of life and property under forecast conditions. Indications that camps are occupied can be monitored by routine air patrol, and contacts can be made by wilderness rangers.

General areas where an ignition may pose a threat to property under specified conditions have been identified on the fire plan map. In response to the interagency fire policy review, structure protection will be based on estimates of suppression costs commensurate with values to be protected (U. S. Departments of Interior and Agriculture 1995). Site protection plans provide specific guidance regarding structure defensibility under various conditions and describe resource and equipment needs to protect structures. Included are reasonable cost estimates to implement these plans. Document mitigating factors (e.g. wet season, late in season, Normalized Difference Vegetation Index (NDVI) greenness, fuel loading and arrangement) which support wildland fire use for resource benefit in the risk zones.

Forest Service officials shall avoid giving the agency the appearance of being prepared to serve as a structure fire suppression organization (FSM 5138.2). Forest Service personnel shall limit structural fire suppression actions to structure protection (FSM 5138.3).

- **Are potential effects on cultural or natural resources outside the range of acceptable effects?**

This decision element relates to the objectives found in Chapter 1 and resource concerns in Chapter 3. Potential outcomes will be closely related to burning conditions and fire behavior. Identify RNAs, cultural sites or other resources within the immediate fire area. Refer to the RNA descriptions in Chapter 3 for specific fire management direction. If the ignition is outside designated wilderness, fully discuss the fire and land management objectives of the area. This discussion should address the cost plus net value change of allowing wildland fire use in this area. If the projections indicate possible impact to historic sites, refer to Site Protection Plans (Appendix C) and evaluation worksheets for specific objectives and level of fire protection needed for their protection. Refer to suppression guidelines for anadromous habitat if holding actions are anticipated.

- **Are relative risk indicators and/or risk assessment results unacceptable to the appropriate Agency Administrator? Is there a threat to the boundary? What is the fire potential?**

This decision element involves risk assessment for the fire. Since the decision to suppress or manage the fire is time constrained (2 hour decision space), it is not possible to determine a long-term assessment of risk such as the Rare Event Risk Assessment Process (RERAP). In lieu of the quantitative long-term risk assessment, there are two qualitative assessment processes available for use. The first consists of Risk Assessment Charts (Appendix C) that have been developed for each of the fire management zones in the Anaconda Pintler Fire Management Unit (FMU). These charts use fire danger adjective ratings that are based on Energy Release Components (ERCs) for an assigned weather station for each zone and time of the year to determine the risk. The fire management zones were based on the following characteristics or conditions:

- Wilderness management objectives/constraints
- Successional stages or vegetative conditions
  Orientation of drainages in relation to prevailing winds
- Proximity of barriers or boundaries to prevailing winds
- Downslope winds east of the Continental Divide
- Values at risk outside boundary

The second qualitative risk assessment process that may be in conjunction with the Anaconda Pintler FMU Risk Assessment Charts is the Wildland Fire Relative Risk Rating chart that is presented in the Implementation Procedures Reference Guide to the Federal Wildland and Prescribed Fire Management Policy as an alternative relative fire risk rating process. The Wildland Fire Relative Risk Rating Chart is included in Appendix C.

These qualitative analyses help examine the risk of a fire crossing the Anaconda Pintler FMU boundary and weigh climatological and fuels data to determine fire potential. To complete this assessment, it will be most efficient to fill in the Threat to Boundary and Fire Potential sections of the Fire Information Form for the SOW report.

- **Additional Risk Indicators to Consider**

Determine the value for the current day's ERC for Fuel Model G with the weather station which best represents conditions at the fire location. Compare the value against the climatology for the representative station. Also determine the values for the all-weather average, for the 80th percentile value, and for the Keetch-Byram Drought Indices (KBDI) of the current day. Compare the relationship between the current year-to-date trend and the current day's ERC with the curves (1993 - wet year and 1994 - dry year, 80th percentile, and all-weather average) which have been plotted for reference.

If the ignition occurs within an elevated risk zone, document circumstances (*e.g.* wet season, late in season, Normalized Difference Vegetation Index (NDVI) greenness, fuel loading and arrangement) which might mitigate the threat to the boundary and preclude the need to initiate appropriate management response. Should the initial analysis determine that the fire is a wildland fire use candidate, the added risk within the shaded zones might justify consultation with the next higher level of authority regarding the wildland fire use recommendation. For further discussion and information regarding risk zones, fire behavior estimates, energy release components, and weather see Chapter 2 and Appendix B.

If a new ignition falls within an existing Maximum Manageable Area (MMA) and the implementation plan analysis documented no new starts be allowed to burn within this MMA, the appropriate management response will be initiated on the new ignition.

- **Is there other proximate fire activity that limits or precludes successful management of this fire?**

Do concurrent wildland fires on the Forest, in the region, or nationally make it probable that management and holding forces are or will not be available to manage the fire?

National preparedness levels IV and V no longer preclude the ability to consider or manage a wildland fire use project; however, consultation with regional level agency representatives at level IV and national level representatives at level V must occur prior to decision. The goal is to permit individual unit fire management plans to operate while still acknowledging the importance of each decision on the national situation (FFALC 1995). The process for wildland fire use implementation at national or regional preparedness level IV or V is outlined in the National Interagency Mobilization Guide, Chapter 26.3.5.

Once an ignition is declared a wildland fire use project, it is considered on an equal basis with concurrent wildland fire activity for allocation of resources. When multiple ignitions occur but cannot all be managed for wildland fire use, prioritization due to fire regime type or other consideration should be documented on the Decision Criteria Checklist.

- **Are there other Agency Administrator issues that preclude wildland fire use?**

This decision element allows agency administrator/line officer discretion when making the decision to manage as a wildland fire use project.

Once the Decision Criteria Checklist is complete, managers can determine the appropriate management response. At the bottom of the Decision Criteria Checklist is a check box for the recommended management response (suppress or manage as a wildland fire use project) followed by the agency administrator's (or other delegated individual's) signature and date. This will complete the Initial Assessment.

4.3 - STAGE II: SHORT-TERM IMPLEMENTATION ACTIONS

Decision Authority: District Ranger
Maximum completion timeframe: 24 hours after Stage I completion
or as expected fire behavior indicates (rate of spread, flame length, size)

The WFIP, Stage II, Short-term Implementation Actions, represents the initiation of management for resource benefits. It includes validation of short-term implementation actions as a decision. This stage provides predictions of where the fire may go, how intense it may burn, and how fast it may spread. Several questions are answered during this stage: What are the necessary short-term management actions? What is the full complexity? The need to move directly to the long-term management actions (Stage III) section is also evaluated. Although this stage is generally completed within 24 hours of Stage I, it may be acceptable to defer completion of Stage II in cases where the current and expected fire behavior and growth is expected to be minimal.

4.3.1 - Identify Wilderness Fire Analysis Team

A Wilderness Fire Analysis Team will need to be formulated for Stage II. If local qualified team members are unavailable, positions may be filled through Dispatch on a resource order. The managing unit may want to consider ordering a Wildland Fire Use Team to manage the fire and to prepare the WFIP for Stages II and III. The team configuration is displayed in Table 22.

Table 22. Wilderness Fire Analysis Team Positions.

Position	Function
Fire Use Manager (FUMA)*	Implements the WFIP and may be involved in the development of all or part of the WFIP. Determines the organization and expertise necessary to successfully manage the wildland fire. Manages the organization assigned to the fire and assesses fire behavior and size for consistency with WFIP objectives and constraints. May conduct Periodic Fire Assessment.
Wilderness Specialist	Describes impacts on wilderness resource for different scenarios.
Fire Behavior Analyst (FBAN or LTAN)*	Predicts extent and intensity of fire and develops maps for fire area under expected weather conditions and for experienced severe weather conditions.
Resource Advisor(s)	Describes impacts to given resources, e.g., fish, water, soil, cultural, air quality, etc.
Public Affairs Specialist	Provides timely and accurate information to the public.

*Must be included on all Wilderness Fire Analysis Teams

4.3.2 - Fire Behavior Predictions and Risk Assessment

Short-term fire behavior predictions are generated through the Fire Behavior Prediction System using the BEHAVE software to obtain predictions of fire intensity and rate of spread based on fuel model, wind, topography, and fuel moisture conditions. These predictions are important because they provide the following supportive information:

Estimates of fire size and shape at a given time
Models of management alternatives
Determination of resource needs, production rates, and requirements
Placement of resources
Estimates of behavior under different weather conditions
Estimates of fire intensity and duration inputs for First Order Fire Effects
Models for contingency action planning
Developing prescriptions through historical weather records
Opportunities to calibrate and improve future predictions

Risk assessment may be quickly made for this stage by again referring to one of the two methods described in the risk assessment section of Stage I. Appendix B should also be consulted, as there is an array of graphs that display historical weather data and ERC values for different weather stations. If the unit has the capability to complete full long-term risk assessments using RERAP and Fire Area Simulator (FARSITE), it is strongly encouraged to begin assessment in preparation for Stage III.

4.3.3 - Short-term Implementation Actions

The Short-term Implementation Action form will be completed to describe what the immediate implementation actions will be. These actions can vary significantly, depending upon the specific circumstances of the particular fire. In cases where the fire may be fuel-limited, surrounded by sparse fuels or natural barriers with only limited spread potential, monitoring may be specified as the necessary implementation action. In other cases, monitoring plus some form of limited mitigation actions may be necessary. Conversely, fuel types in which the fire is burning may require immediate actions to delay, check, or direct the spread of fire.

In describing the Short-term Implementation Actions, the following action items will be considered:

- Objectives and desired effects
- Safety considerations
- External concerns
- Environmental concerns
- Threats
- Estimated costs

The Short-term Implementation Action form is found in Appendix C.

4.3.4 - Complexity Analysis

The Wildland Fire and Prescribed Fire Complexity Analysis has been developed to evaluate the overall complexity of specific fires. This analysis incorporates an assigned numeric complexity value for specific complexity elements that are weighted in their contribution to overall complexity. The weighted value is multiplied by the numeric value to provide a total element rating. The total values are added to generate the summed complexity numeric value. Breakpoint values are provided for low, moderate, and high complexity.

Complexity elements that have been established include:

- Safety
- Threats to boundaries
- Fuels and fire behavior
- Objectives
- Management organization
  Improvements to be protected
- Natural, cultural, and social values to be protected
- Air quality values to be protected
- Logistics
- Political concerns
- Tactical concerns
- Interagency coordination

The form used to complete the above analysis (Wildland and Prescribed Fire Complexity Rating Worksheet) and a supplemental guide to facilitate determination of numeric values are located in Appendix C.

4.3.5 - Stage III Need Assessment Chart

The assessment chart provides the agency administrator and staff with an aid to determine if the Stage III, Long-term Assessment and Implementation Actions, need to be developed, documented, and implemented immediately, or if the fire can be managed through the established short-term implementation actions until indicated otherwise by the Periodic Fire Assessment. For many wildland fires, fuel continuity and spread potential will be low. In other situations, environmental conditions will preclude active burning and spread. For instances such as these, immediate completion of Stage III of the WFIP will not need to occur until specific thresholds are reached. These thresholds are assessed subjectively on this chart or through the continued tracking provided by the Periodic Fire Assessment (see Periodic Fire Assessment section).

The following Stage III Need Assessment Chart will help agency administrators prioritize planning needs for multiple fires and ensure that those having the greatest need will receive the necessary planning in response to management capability and time constraints. To complete the assessment, local fire managers evaluate the criteria and determine if the fire warrants completion of the long-term implementation actions (Stage III) at this time or if Stage II implementation directions are adequate. If Stage II actions continue, the Periodic Fire Assessment will determine if and when Stage III will be initiated.

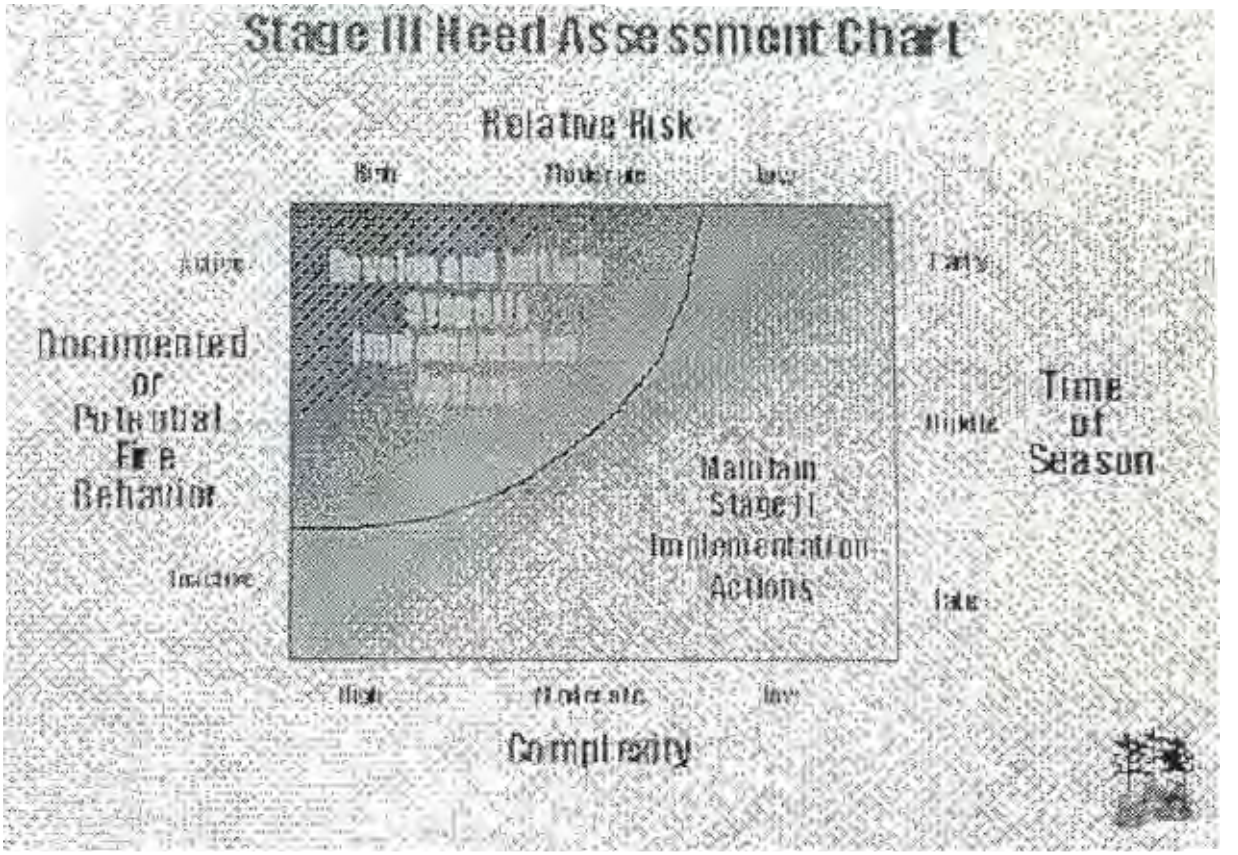
The chart evaluates the following variables:

- **Complexity** - determined from the Wildland and Prescribed Fire Complexity Rating, including the review of objectives and type of fire behavior required to achieve those objectives (i.e., low intensity, surface fire, high intensity, stand replacement burning, etc.).

- **Time of the Fire Season** - this element is important in determining whether or not Stage III should be completed immediately. Past observations of local fire behavior can be used to identify when specific fuel types exhibit a transition between benign and severe fire behavior. The factors contributing to this transition become important determinants of risk associated with this fuel type. For example, fuel types where fire occurs infrequently but at high intensities, factors of drought, high Energy Release Components (ERCs), low relative humidities, high temperature, and high winds combine to result in sustained high intensity crown fire activity. The importance of this information lies in the identification of the current point in time and its proximity to the fire behavior transition point. *Where the affected administrative unit is temporally in relation to this threshold is a critical consideration determining the level of WFIP planning and implementation to be done. The closer to this point, the greater the need to prepare WFIP Stage III.*

  Relative risk - can be determined from the Wildland Fire Relative Risk Rating Chart (this chart is used in Stage I and is located in Appendix C) or from long-term risk assessment procedures such as RERAP or FARSITE.

- **Fire Behavior** - determined from short-term and long-term fire behavior predictions and forecasts.



4.4 - STAGE III: LONG-TERM ASSESSMENT AND IMPLEMENTATION ACTIONS

Decision Authority: Forest Supervisor
Maximum completion timeframe: Within 24 hours after Stage II
or as Periodic Fire Assessment indicates need

This stage represents completion of long-term implementation actions necessary to successfully accomplish the desired objectives. The WFIP has been progressively developed throughout all stages. This represents the final stage. It presents tactical implementation information and will be attached to information developed in previous stages.

This stage will define the Maximum Manageable Area (MMA), the geographic area in which the fire will be allowed to burn. It will consider long-term fire behavior predictions and risk assessment. It will assess the probability of the fire reaching the MMA perimeter, and it will document those operational management actions necessary to manage long duration fires that will need mitigating measures to strengthen and defend the MMA.

Stage III, as presented in the standard format (Stage III: Long-term Implementation Actions form) outlined in Appendix C, consists of the information shown below:

Objectives and Risk Assessment Considerations

* Natural and cultural resource objectives and constraints/considerations

- MMA Definition and Maps

Fire Projections and Maps

Weather Season/Drought Discussion and Prognosis

- Long-term Risk Assessment
- Probability of Success
- Threats
  * Threats to MMA
  * Threats to public use and firefighter safety
  * Smoke dispersion and effects
  * Other
- Monitoring Actions
- Holding Actions

Resources Needed to Manage the Fire

- Estimated Costs of Long-term Implementation Actions
- Contingency Actions
- Information Plan

- Post-Burn Evaluation
- Signatures and Date

Completion of this stage is triggered by indications from Need Assessment Chart, Stage II, WFIP, or through the Periodic Fire Assessment, Part 2. Once Stage III has been completed, the WFIP is completely developed.

4.4.1 - MMA Decision Authority

As previously stated, decision authority to approve wildland fire use for resource benefit lies with the Forest Supervisor, but may be delegated to a District Ranger and delegated Acting District Ranger where appropriate. In order to ensure management oversight, the districts will forward copies of approved WFIPs to the Fire Staff at the Supervisor's Office, who in turn forwards copies of the plans to the Regional Fire Use Specialist.

MMAs that cross administrative boundaries require approval from all the affected units. The following outlines the necessary approval authority:

- MMAs exclusively on one Ranger District: Forest Supervisor or delegated District Ranger have wildland fire use approval authority (Delegation of Authority Letters, Appendix D).

  MMAs on two Ranger Districts of the same forest: Forest Supervisor or as delegated in the Delegation of Authority Letter (Appendix D). The District where the wildland fire use project originated will be responsible for management, unless otherwise agreed upon in writing.

  MMAs on two or more forests: Each Forest Supervisor or as delegated in the Delegation of Authority Letters (Appendix D). The district recommending the wildland fire use approval shall take the lead in developing the WFIP, with input from the other affected districts. The lead district will be responsible for management of the fire unless otherwise agreed to in writing.

4.4.2 - MMA Determination

The appropriate management response strategies where the WFIP planning has progressed to Stage III will have a defined MMA. This will ensure a clear and common understanding of the authorized size and location of the fire among agency administrators and cooperators.

The MMA delineates the geographic area within which the fire will be allowed to burn. It provides for closely directed wildland fire use in a specific area defined by resource objectives, fire and weather prescription elements, social needs, political considerations, and management capability.

MMAs will be governed by the following rules:

- They will be based on predetermined MMAs or be developed as part of WFIP, Stage III.
  They will be fixed and not subject to change once established and approved by the agency administrator.
  They will serve as a definition of firm limits of management capability to accommodate the social, political, and resource impacts for all wildland fire managed for resource benefits or other management considerations.
- If a new ignition falls within an existing Maximum Manageable Area (MMA) and the implementation plan analysis documented no new starts be allowed to burn within this MMA, the appropriate management response will be initiated on the new ignition.

Note - the Wildland and Prescribed Fire Management Policy Implementation Procedures Reference Guide provides the following direction: *The complex nature of fires and land management precludes the ability of managers to write a set of guidelines or directions that cover all the potential situations. Past experiences and recognition of potential future situations require the following consideration regarding the rigid nature of drawing lines on a map.*

There may be isolated cases where formal implementation of the Wildland Fire Situation Analysis (WFSA) process is not prudent or logical because a wildland fire exceeded the MMA. In these situations, experience may indicate that the MMA will be exceeded by the wildland fire on a very small or nonthreatening scale. Management options in this situation include:

Constraining the fire spread to the small or non-threatening overrun of the original acceptable area using the available holding forces, and identified in the WFIP, Stage II or III. This must be accomplished within two burning periods.

In the case of relatively long-range spotting, treat an isolated spot generated by this natural process as a separate fire. Determine the appropriate management response for this new ignition separately from the original wildland fire, based on criteria specific to the new ignition.

If the agency administrator and FUMA determine that the fire cannot continue to be managed within the original approved boundary, a WFSA will be utilized to analyze new strategic and tactical alternatives and to select an appropriate management response

4.4.3 - Long-term Risk Assessment

Decision making associated with managing wildland fire for resource benefits may have critical impacts. It is important to ensure informed and reasoned decisions. The importance of risk assessment is reinforced through the Guiding Principles from the Federal Wildland Fire Policy and Program Review (USDI/USDA 1995) recommendations that state, "Sound risk management is a foundation for all fire management activities," and "Fire management plans are based on the best available science."

An array of decision making support aids are available to address and assess wildland and prescribed fire risk. These technological tools are appropriate when a specific tool can clarify the uncertainty, reduce the

risk of undesirable outcomes, and facilitate a reasoned decision. Reference Appendix B for information to assist in long-term assessment.

The choice of technique will depend on the information needed and the state of knowledge regarding the subject area. Techniques may range from a subjective, descriptive comparison to a very objective, in-depth analysis using sophisticated models.

Specific assessment products useful in evaluating risk include:

- Probability of the fire reaching the MMA perimeter
- Probability of a season-ending weather event
- Indications of where the fire may spread, or total area that may be burned by the fire
- How fast the fire will spread
- How soon the fire may reach critical sites or the MMA perimeter
- Predictions of fire intensity and severity
  Fuel conditions, moisture conditions, departure from average conditions
- Fire dynamics - indicators of potential rapid escalation in fire behavior
- Analysis of fire behavior indicators, comparison with 10 years' statistics
- Fire history reviews, records of past fires in terms of area burned and type of fires (i.e. low-moderate intensity, surface fire, stand replacement, etc.)
- Predictions of the range of potential fire effects on natural and cultural resources
- Probability of adverse smoke effects and dispersal

There are no mandatory requirements for risk assessment. However, an assessment must be completed that yields the above information ensuring an informed decision making process. Units are encouraged to acquire and utilize available long-term risk assessment techniques, such as the Rare Event Risk Assessment Process (RERAP) and the Fire Area Simulator (FARSITE). As the quality of risk assessment increases, the quality of subsequent decisions and probability of achieving the desirable outcomes increases. Units should strive for an informed and reasoned decision making process.

4.5 - PERIODIC FIRE ASSESSMENT

Decision Authority: District Ranger or Designated Acting
Maximum completion timeframe: based on assigned frequency

This provides a process to evaluate the continued capability of the local unit to manage the fire for resource benefits and determine if the fire is escalating in complexity and/or operational needs. If complexity and operational needs are escalating, the assessment indicates the need to fully define an MMA, develop long-term fire behavior predictions, conduct long-term risk assessment procedures, and define detailed long-term implementation actions (WFIP, Stage III). If the assessment indicates inadequate resource capability to manage the wildland fire use project, this may be a trigger point to develop a WFSA.

This assessment is completed as frequently as specified by the local unit (depending on fire activity and predicted weather conditions) but no longer than every 1-5 days in shrub/timber types and daily in grass

fuel types. Active wildland fire use projects require daily assessment, whereas inactive fires may be assessed less frequently. Active status is defined as a burning period in which fire perimeter growth is expected to increase by 10 percent or 10 acres, whichever is less. Inactive status is any burning period where this does not occur (FSM 5142, R1 Supplement 1991).

When multiple fires are being assessed daily, additive effects of all fires must be considered along with assessment of each individual fire. Management oversight during the Periodic Fire Assessment phase is maintained through dialogue with SO and RO staff regarding resource availability and by forwarding copies of updated assessments and projections to the next higher level.

4.5.1 - Decision Authority.

A Periodic Fire Assessment record is kept with each WFIP and is signed by the approving line officer or designee. The decision authority for the Periodic Fire Assessment belongs to each Forest Supervisor. This responsibility can be delegated to an Acting Forest Supervisor or District Ranger. This authority may also be delegated in writing to an acting line officer, a deputy or assistant line officer, a primary staff individual with fire credentials, or the assigned fire use manager (FUMA).

In the event that the MMA crosses administrative boundaries, for efficiency of coordination, a single line officer or designee will be appointed as the responsible official for signing the Periodic Fire Assessment. This should be determined through consultation and documented in the development of the WFIP, Stage III.

The Periodic Fire Assessment consists of three components:

- Part 1: Revalidation Checklist
- Part 2: Stage III Need Assessment Chart

  Part 3: Signature Table

4.5.2 - Part 1: Revalidation Checklist

The Revalidation Checklist consists of the same decision elements present in the Decision Criteria Checklist. At this point in the implementation process, it is necessary to periodically review management capability. In order to accomplish this, an additional decision element has been added, "Do expected management needs for this fire exceed known capabilities?"

During Part 1, the local fire manager or FUMA will review and complete the assessment checklist. Once this form is completed, it does not have to be redone, but it must be reviewed and documented on the signature table. The local unit must note the valid dates and the frequency of the assessment on the form. The "Valid Dates" include those dates where the assessment remains valid, as indicated by the dated signature. When any decision elements change from a "No" to a "Yes", a new checklist must be completed for documentation purposes. The assessment frequency is how often the assessment will be reviewed. This frequency can be daily, but if the unit desires, it can be less frequent.

When completing Part 1 of the checklist, a "Yes" answer to one or more of the decision elements indicates inability to continue management of the fire within defined limits of the current response. This triggers preparation of the WFSA to guide selection of a different appropriate suppression response alternative.

4.5.3 - Part 2: Stage III Need Assessment

Part 2, the Stage III Need Assessment, is a process that validates the level of implementation actions. It must be completed periodically for all wildland fires managed for resource benefits where Stage III has not yet been completed. This portion of the Periodic Fire Assessment utilizes the Stage III Need Assessment Chart (see Stage II chapter of this guidebook). If the chart indicates that WFIP Stage III is needed, it must be prepared within 24 hours.

4.5.3 - Part 3: Signature Table

Once completed, this assessment will be periodically reviewed for validity. The signature table provides documentation for this process.

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CHAPTER 5 - COMMUNICATIONS PLAN

5.1 INTRODUCTION

Effective communication is an important component of any wildland fire use program. This section identifies when, with whom, and how communication needs are met.

Communication falls into broad categories based on time frames. 1) Pre-season planning and review is necessary internally and with other agencies. 2) In the event of a prescribed fire numerous contacts are necessary. Contacting landowners with nearby properties is a priority for District Rangers. Keeping other agencies informed, especially when there is an ongoing fire, is also critical. 3) A ongoing public education effort, emphasizing the role of natural fire, increases program success. Fire outbreaks in the wilderness or elsewhere on the two forests provide an opportunity to share the natural fire message. Information needs to include the effects of fire suppression for the last 80 years. Concepts to focus on are: 1) Fire is an important ecological factor for habitat types of the Northern Rockies. 2) Increased, unnatural, fuel loading will lead to larger, higher intensity fires. 3) Wilderness fire is inevitable--it is not a question of "if", it's a question of "when".

Appendix E contains a list of phone numbers for agencies, permittees and private landowners that may need to be contacted in the event of a wildland fire in the Anaconda Pintler Wilderness.

5.2 INTER/INTRA AGENCY COORDINATION

5.2.1 - Preseason Planning and Review

Assure coordination in wildland fire use program. The following agencies should be involved.

Federal Agencies

- All Forests and Districts Involved with the A-P Wilderness
- Fish and Wildlife Service
- BLM
- NPS, Big Hole Battlefield National Monument

Montana Agencies

- Fish, Wildlife and Parks
- Department of State Lands
- Air Quality Bureau

City/County Governments

Local Airshed Coordinators

5.2.2 - In the Event of a Wildland Fire

As appropriate, keep the following agencies informed of fire status. This is especially critical if the fire has the potential to spread into the protection jurisdiction of another agency or if there are concerns, such as smoke, which impact downwind communities.

Federal Agencies

- All National Forest Supervisor and Ranger District offices in the A-P Wilderness including line officers, PAOs and dispatch offices
- Federal Aviation Administration
- Fish and Wildlife Service
- Bureau of Land Management

Montana State Agencies

- Air Quality Bureau
- Department of State Lands, Local Land Office and/or Unit
- Fish, Wildlife and Parks, Regional Headquarters
- Department of Commerce, Aeronautics Division
- Highway Department/Highway Patrol

City/County Governments

- Local Airshed Coordinator
- County Board of Commissioners
- County Sheriff
  City/County Health Department, Air Pollution Control Officer

5.2.3 - For Fires Projected to Cross National Forest Administrative Boundaries

Evaluate each fire with potential to cross administrative boundaries with a Wilderness Fire Analysis Team of designated representatives from all units involved. Evaluation will be for each individual fire.

Our objective is to allow wildland fire to burn across administrative boundaries when within the Maximum Manageable Area contained in the Wildland Fire Implementation Plan. The Maximum Manageable Area is established once, during preparation of the plan, and does not change.

Dispatchers on the two Forests will develop a procedure to keep each other informed of the status of each wildland fire. Coordination of aerial overflights will be part of this procedure.

5.2.4 - Coordination in the Event of Multiple Starts

In the event of multiple starts throughout the wilderness, it is important that close coordination take place.

If there are multiple starts in the Anaconda Pintler it is very likely that the Selway Bitterroot and Frank Church River of No Return Wildernesses will have many starts also.

Bitterroot Dispatch and the Zone Beaverhead/Deerlodge Dispatch will need to stay in close contact regarding fire status and new starts.

If the situation becomes sufficiently complex a Wilderness Fire Coordinating Group will be formed. This group will be responsible for gathering and disseminating wilderness fire information, internally, and assisting the Forests and Region in establishing the status of new fire starts. This coordination group will be implemented by the Region or by a Forest if the situation warrants. The authority of the group will come from the Forest Supervisor(s) through the lead Forest, determined at the time of activation, by considering such factors as: current fire complexity, critical social, political, or economic considerations. As a minimum the organization will include the following:

- Wilderness Fire Coordinator/Manager
- Wilderness Resource Advisor assigned by the involved Forest(s)

The group must include at least one member from each involved Forest. Other specialists such as a Fire Behavior Analyst and other resource specialists should be considered.

The Wilderness Fire Coordinator/Manager must be familiar with the wilderness fire management direction and be a fully qualified Fire Use Manager. The Resource Advisor must be familiar with fire, the wilderness fire management program, and preferably have knowledge of the Anaconda Pintler.

5.3 - INFORM AND INVOLVE ACTIONS

The following "Inform and Involve" plan will guide wildland fire information efforts within the Anaconda Pintler Wilderness. Agency and public action items are identified in one of the following four categories.

5.3.1 - Fire Planning and Revisions: These activities address fire plan as well as general awareness of the wildland fire use program.

Action Item	Tools	Responsibility	When
1. Notify public and other agencies of plan revisions.	Information Letter	Forest Supervisor, Fire Review Task Force	Upon completion of review
2. Notify media of plan revisions.	News Release	Forest Supervisor, Fire Review Task Force	Upon completion of review
3. Present plan revisions to Forests/Districts.	Family Meetings	Forest Rec/Fire Staffs, Forest PAO, District Resource Asst., FMO	Upon completion of review
4. Increase understanding of wilderness objectives, wildland fire use, and fire ecology. Target employees.	Brochures, Videos, Training, Family Meetings, Field Trips	Region Office PAO and A&FM, Forest Supervisor	Ongoing
5. Increase understanding of wilderness objectives, wildland fire use, and fire ecology. Target the public.	Brochures, Videos, Posters, Field Tours	Regional Office PAO and A&FM, Forest Supervisors	Ongoing
6. Increase understanding of wilderness objectives, wildland fire use, and fire ecology. Target elected officials.	Briefing Paper, Field Tours, Phone	Regional Office PAO and A&FM, Forest Supervisor	Ongoing
7. Increase understanding of wilderness objectives, prescribed natural fire, and fire ecology. Target the media.	Field Tours, News Releases	Regional PAO and A&FM, Forest Supervisor	Ongoing

5.3.2 - Preseason Activities: These activities prepare the A-P Steering Group for the upcoming fire season.

Action Item	Tools	Responsibility	When
1. Review procedures for restricting areas and trails during a fire.	Meeting	A-P Steering Group	Winter/Spring A-P Coordination Meeting
2. Maintain contact with outfitters, permittees, and private in-holders affected by wilderness fire. Develop a plan that provides direction in the event fire threatens improvements.	Meeting, Phone	District Rangers	By May of each year
3. Maintain a contact list of potentially affected outfitters, permittees and private landowners and other agencies within and immediately adjacent to the wilderness.	Meeting, Phone	District Rangers	By May of each year
4. Prepare a packet for outfitters that explains the wildland fire use program so that they can communicate this information to their clients.	Information Packet	Wilderness Coordinator	By May of each year
5. Prepare annual preseason news article on wilderness fire policy/ecology.	News Release	Supervisor's Office IO and A&FM	By June of each year
6. Present wilderness fire policy and procedures to permanent/seasonal employees.	Forest/District Orientation	Forest Rec/Fire Staffs, District Resource Assistant, FMO	By field season of each year
7. Post "wilderness fire" information signs at appropriate trailheads.	Posters, Signs	District Rangers	As needed

5.3.3 - Wildland Fire Use in Progress: These activities keep the public and affected parties informed.

Action Item	Tools	Responsibility	When
1. Brief appropriate Line Officer(s) on fire status.	Meeting, Phone, Briefing Paper, Computer Updates	Fire Use Manager, Wilderness Fire Analysis Team	When fire starts, daily, and significant changes occur
2. Post "fire caution" signs at appropriate trailheads. Coordinate with all A-P Districts.	Posters, Signs	District Rangers, Wilderness Coordinators	When a wildland fire use is burning in the area
3. Determine the need for fire closure. Coordinate with affected and/or adjoining Forests, agencies, landowners, and permittees.	Meeting, Phone	Regional Forester, Forest Supervisor, Fire Use Manager, District Rangers	Determined by current and expected fire status
4. Post "fire closure" signs at appropriate trailheads. Coordinate throughout the A-P. Inform permittees, public and the media.	Posters, Signs, Phone	District Rangers, Wilderness Coordinator	When closure is put into effect for area, trail, and/or road
5. Establish a public information organization, as appropriate, and commit organization to support of fire(s) until no longer needed.	Support Organization	Forest Supervisor, District Rangers	Determined by current and expected fire status
6. Brief interested and affected parties (outfitters, permittees, and private landowners and other agencies) on wildland fire use project status. Implement the plan of action identified preseason, if appropriate.	Meeting, Phone, Field Tour, Weekly Newsletter, Letter to the Public A-P Mailing List	Forest Supervisor, Fire Use Manager, District Rangers	When fire starts and significant changes occur
7. Keep wilderness rangers, trail crews, and receptionists informed about wildland fire use project status.	Meeting, Field Tour, Briefing Paper, Computer Updates	Forest Supervisor, Fire Use Manager, District Rangers	When fire starts and significant changes occur
8. Brief the appropriate elected officials and their staff on wildland fire use project status.	Meeting, Field Tour, Phone, Briefing Paper	Forest Supervisor, Fire Use Manager	When fire starts and changes occur
9. Keep the media informed of wildland fire use project status. Note: All Forest-level news releases will require Forest Supervisor and/or District Ranger approval.	Interview, Field Tour, Phone, Meeting, News Release	Forest Supervisor, Fire Use Manager, PAOs	When fire starts and significant changes occur
10. Brief the general public on wildland fire use project status. Note: All Forest-level news releases will require Forest Supervisor and/or District Ranger approval.	Media, Weekly Newsletter, Community Bulletin Boards	Forest Supervisor, Fire Use Manager, District Rangers, PAOs	When fire starts and significant changes occur
11. Document fire ecology/effects for future training courses and/or presentations.	Photos, Slides, Videos, Fixed Plots	Fire Use Manager, District Rangers, Wilderness Advisors and Research	Ongoing

5.3.4 - Post-Season Activities: These activities provide for follow-up.

Action Item	Tools	Responsibility	When
1. Review past season's information effort.	Meeting	PAOs, Wilderness Coordinator	Fall/Winter A-P Coordination Meeting
2. Consider follow-up contacts with other agencies, affected outfitters, permittees, and private landowners contacted during the past season's fires.	Meeting, Phone	District Rangers	Within 3 months of the end of the season
3. Prepare article on the past season's fire activity.	News Release, Letter to the Public A-P Mailing List	Regional Office PAO and A&FM, Forest Supervisor	By November of each year, if appropriate

5.3.5 - Additional Tools

Fire Education in General

School Outreach: Designate and train fire education people from both forests. Meet with local teachers to find out their needs for fire-related educational materials and programs (a "Fire Box"?).

Provide teachers with packets of materials including: "Fire in the Mountains, Fire in the Mind," a FS-NPS teacher's guide, Fire: the Story Behind a Force of Nature, "Fire's Role in Nature" (a poster), a video on fire in wilderness or the A-P Wilderness specifically, the map of the A-P Wilderness, lesson plans developed with local teachers.

Tours of Old Burns: Identify easily reached burns for feature stories by news reporters and public field trips for citizen's groups and school groups. Orphan Creek or Sula R.D. is ideal. It is also near the historic McCart Lookout.

Interpretive Trails: We should look for an opportunity to put in a fire interpretive trail near the A-P Wilderness, where we can explain the role fire plays and why we treat fire differently in and out of wilderness. Such a site, while not in the A-P Wilderness itself, could be where press and VIP tours are conducted, where participants don't have time for a longer trip into the A-P Wilderness.

Possible sites include: the Gibbon Fire, near Hogan Cabin; McCart Lookout; and the Barker Creek Fire.

Employee Briefings: Present the plans for managing fire in the A-P Wilderness to all-employee gatherings at both Forest's S.O.'s and at the affected district offices.

Feature Stories: Issue "feature story" news releases as the opportunity arises. Include the Northern Region News in the list of news outlets receiving the stories.

PAO Education: Conduct the two forests' Public Affairs Officers on a trip into the wilderness to gather still and video photographs and make them familiar with A-P Wilderness geography.

Exhibits: Put together a "before-during-and-after" exhibit for use at malls, fairs, and professional society meetings. Include animated video showing changing landscapes and the role fire plays.

Highway Signs/Radio: Prepare mobile highway signs explaining that a fire is burning and telling motorists to tune their car radios to AM 1610 for more information. Include funding for remotely programmable radio transmitters and for a mobile fire interpretive specialist in future budgets.

A-P Wilderness Map: Include a message about fire (and weeds) in the next printing of the A-P Wilderness Map.

"Urban Interface": As development near the A-P Wilderness and the two forests increases, we need to become more aggressive in educating landowners of their responsibilities on nearby lands.

Fire Season Activities

Fires: Fires in the A-P Wilderness present an opportunity to tell our special story. Prepare sound-bite messages for incident commanders, line officers, and fire information officers to use when reporting on fires in the wilderness. Give these messages and this plan to any fire information organization set up for a large incident.

Internal Briefings: Brief Regional Office and Supervisors Offices staff on plans for the coming year.

Press Briefings: Brief news reporters in May or June (before fire season, after the fire plan is in place) to acquaint them with our plans, the language of fire fighting, and how they can get access to A-P Wilderness fires and information about them.

Hold briefings in Butte, Dillon, Hamilton, and Philipsburg.

Smoke Briefings: Hold community briefings in affected downwind towns and cities during fires.

Landowner Briefings: Keep adjacent landowners up to date on current fires through personal contacts by line officers.

Video:	Use existing footage plus footage shot in the A-P Wilderness at an A-P fire to produce a 10-minute program about fire and its role in the A-P Wilderness. Use the video for presentations to civic groups and upper elementary and high school students.
Press Access:	This needs special attention. Remote fires will not get much attention and so won't offer us a chance to explain our special messages if reporters can't get to them. We need to provide special aircraft time for press overflights and for fire information officers to take pool footage and photographs.

CHAPTER 6 - MONITORING, EVALUATION AND DOCUMENTATION

6.1 INTRODUCTION

Monitoring and evaluation are important at several phases of the wildland fire use program. These phases are: 1) Ongoing (during the fire), 2) Post-Fire (mostly within six months), and 3) Programmatic. Guidelines describing when and what will be monitored are provided in this chapter.

6.2 ONGOING

Any ongoing wildland fire will be monitored. Fire size chronology, management actions (e.g. flights, holding actions, closures), and expenditures are all categories of information that must be tracked. Monitoring will be done with the Periodic Assessment form as well as the SOW Report form, Wildland Fire Use Observation Record, and other WFIP forms. All these forms and others are located in Appendix C. This information will be used for local/regional data base development. It will be filled out during the fire by the FUMA or other members of the fire. **If multiple fires occur, it is important to document each separately**. Such items as visibility impairment, days of trail closure, etc., should be noted.

A primary reason for monitoring is to check predicted expectations.

6.3 POST-FIRE

Immediately after a fire, the Wildland Fire Use Evaluation form identifies items that need to be captured on all fires size Class B and above. In some cases, it might also be helpful to fill out this form for Class A fires. This would be indicated if there were problems with process or if special circumstances relating to ecological or social concerns (e.g. Threatened and Endangered Species or concentrated public use) were present.

This information for the Wildland Fire data base would be collected on District or Forest within six months of the fire. The wild Fire Manager and Resource Advisor at a minimum need to be involved. For fires over 50 acres, an onsite interdisciplinary review will be conducted. This review would collect the following information:

Fire Intensity Mapping (with Photo Corroboration)

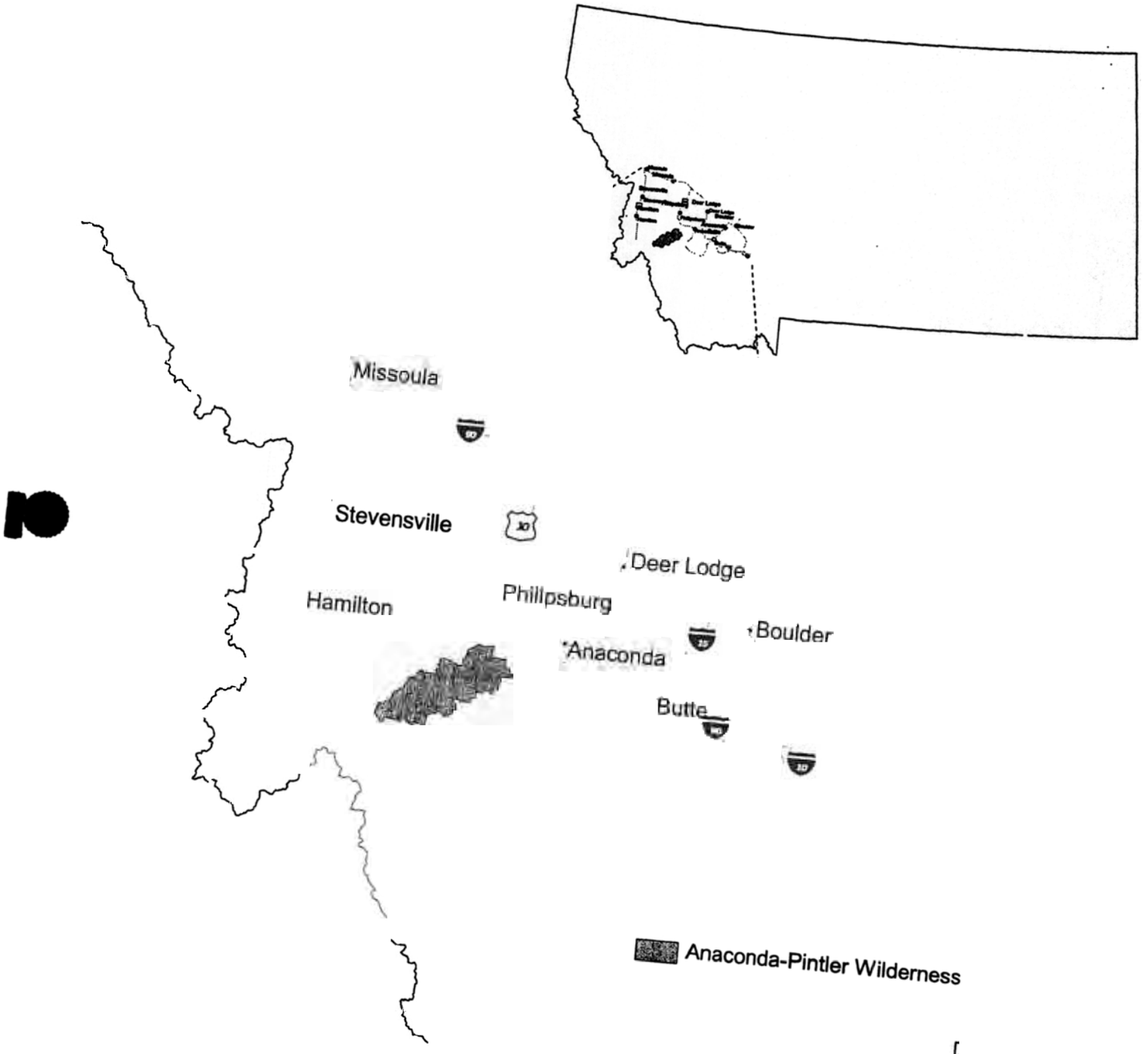
- Fire Area (Acres)
- Crown fire, % of Acres
- Lethal underburn, % of Acres
- Non-lethal underburn, % of Acres
- Un-burned area within fire perimeter, % of Acres
- Indicate vegetation or habitat type and fuel model

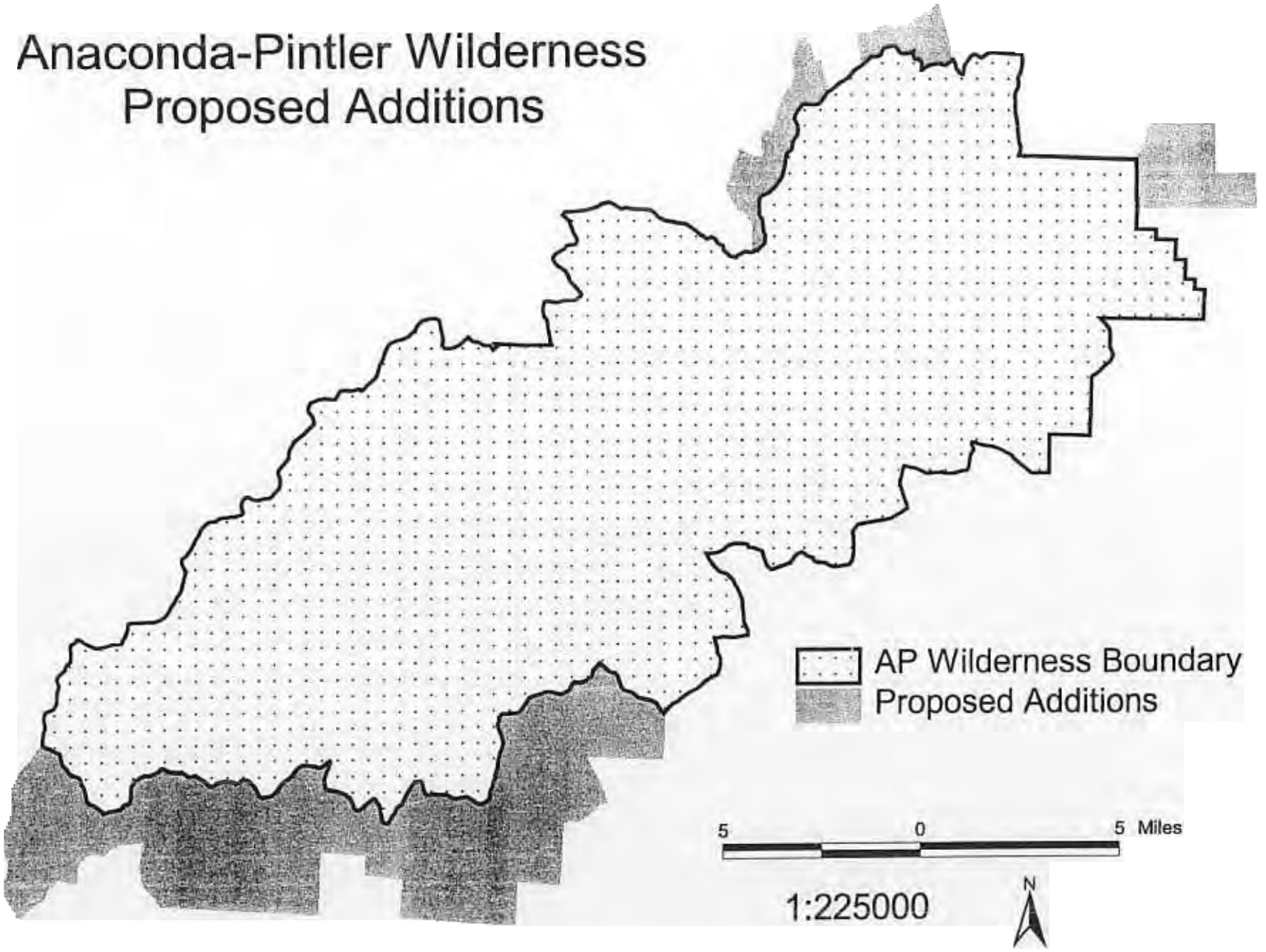
APPENDIX A

MAPS

- Anaconda Pintler Wilderness Location
- Anaconda Pintler Wilderness with Proposed Additions
- Anaconda Pintler Fire Management Unit and Zones
- Anaconda Pintler Fuel Models and Fire Groups
- Montana Airsheds
- Research Natural Areas

Anaconda-Pintler Wilderness
Vicinity Map




Anaconda-Pintler Wilderness
Proposed Additions
AP Wilderness Boundary
Proposed Additions
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0
5 Miles
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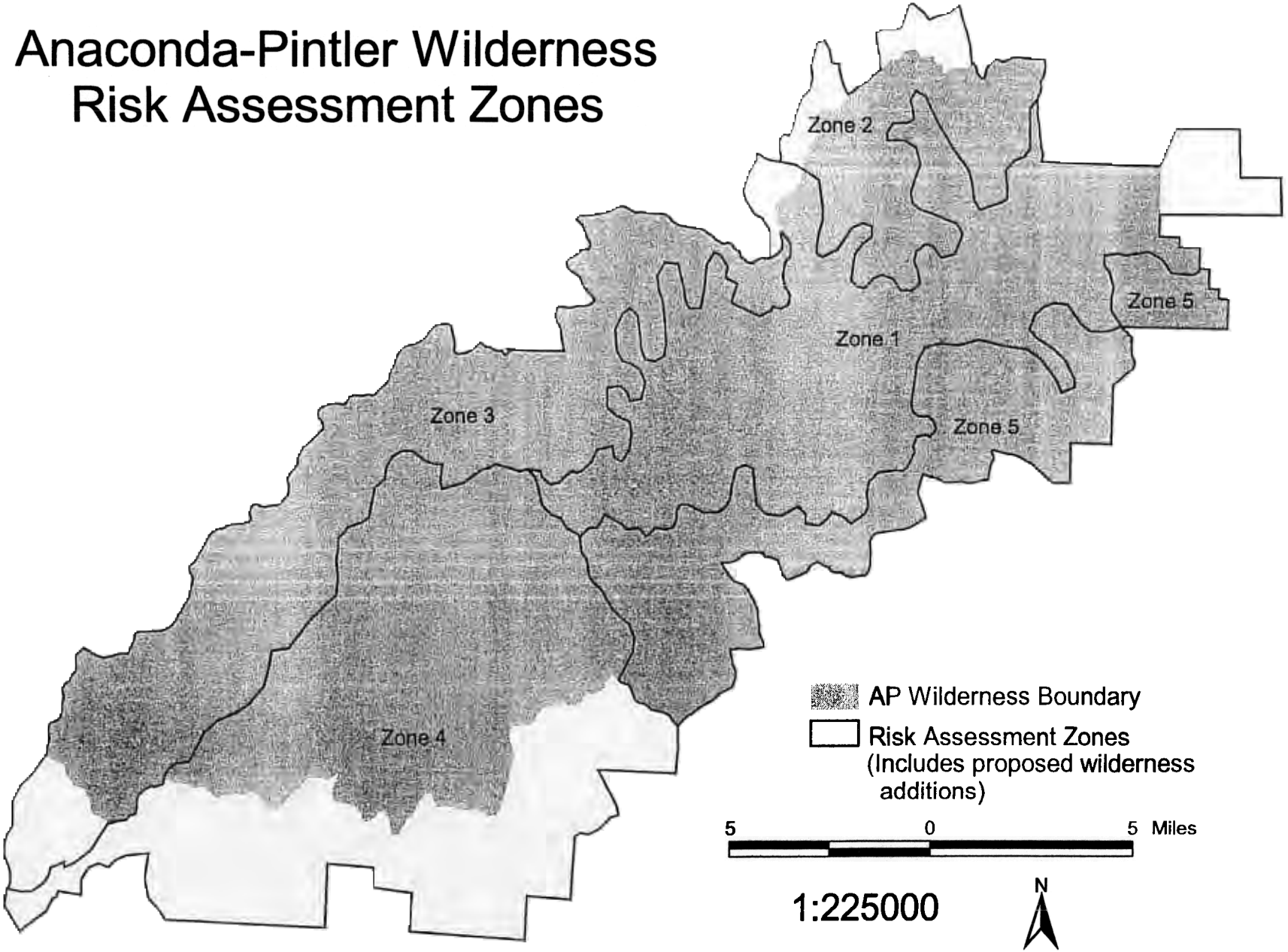
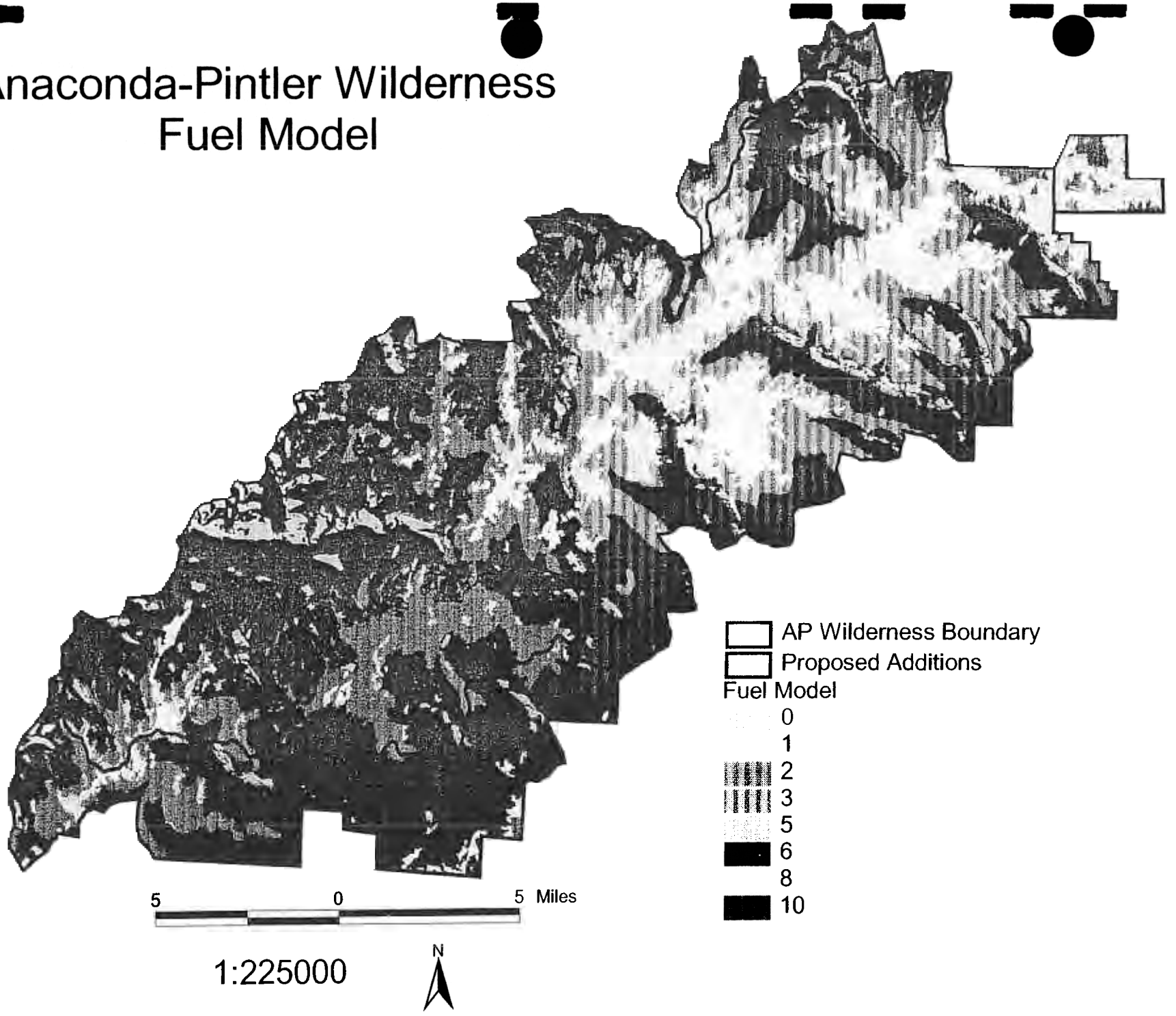
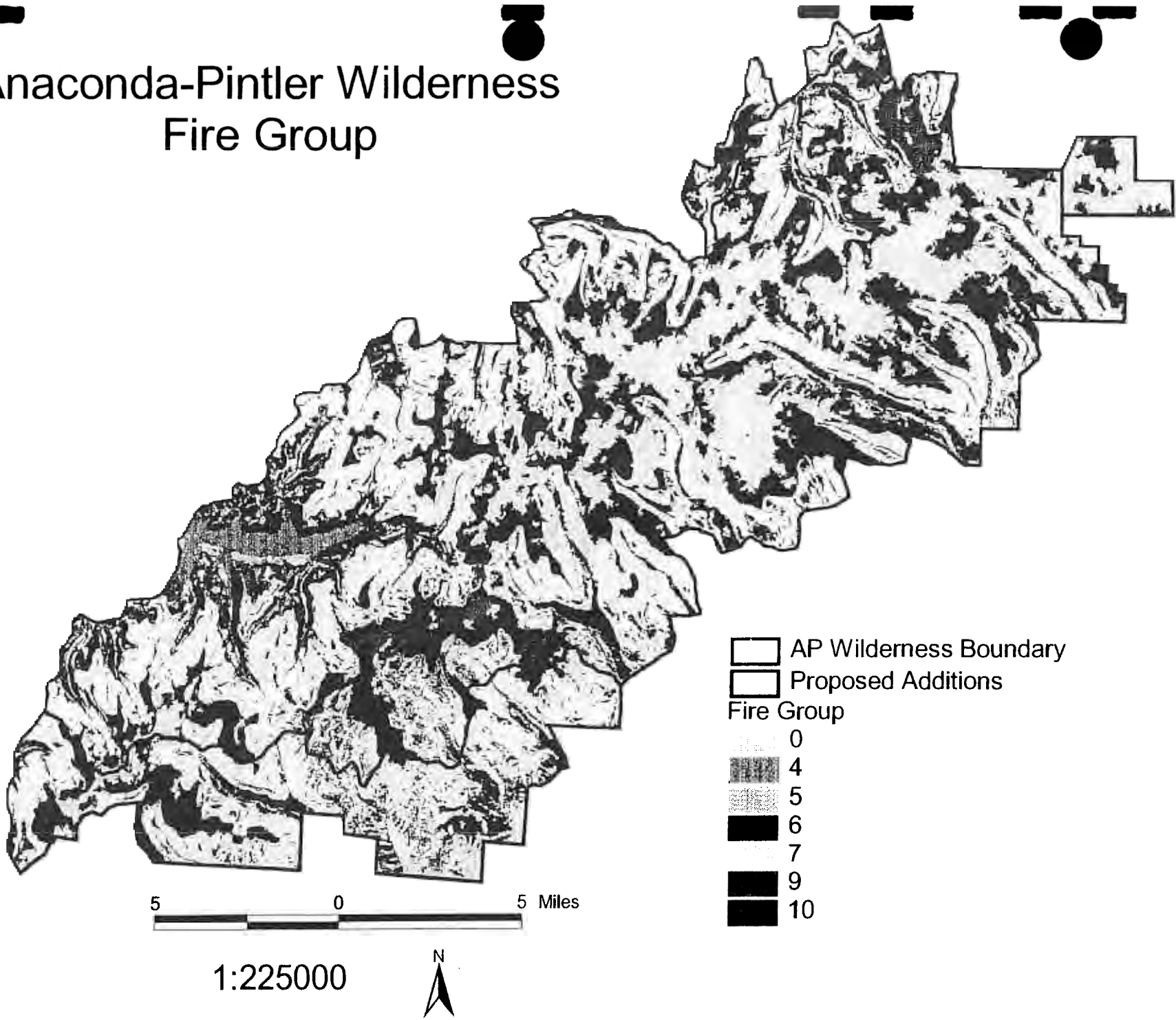
Anaconda-Pintler Wilderness Risk Assessment Zones



Anaconda-Pintler Wilderness
Fuel Model



Anaconda-Pintler Wilderness Fire Group



MONTANA AIRSHEDS

AIRSHED LEGEND

1. Kootenai
2. Flathead
3. Blackfoot-Clark Fork
4. Bitterroot
5. Upper Clark Fork
6. Helena
7. Beaverhead
8. A. Gallatin
   B. Park
10. Yellowstone

APPENDIX B

LONG-TERM RISK ASSESSMENT INFORMATION AND GRAPHS

- Rare Event Risk Assessment Process
- Philipsburg WS Energy Release Component Graph
- Philipsburg WS Precipitation Duration Graph
- Philipsburg WS Waiting-Time Probability Distribution Graph
- Philipsburg WS Cumulative Waiting-Time Probability Distribution Graph
- Wise River WS Energy Release Component Graph
- Wise River WS Precipitation Duration Graph
- Wise River WS Waiting-Time Probability Distribution Graph
- Wise River WS Cumulative Waiting-Time Probability Distribution Graph
- Teepee Point WS Energy Release Component Graph
- Teepee Point WS Precipitation Duration Graph
- Teepee Point WS Waiting-Time Probability Distribution Graph
- Teepee Point WS Cumulative Waiting-Time Probability Distribution Graph

RARE EVENT RISK ASSESSMENT PROCESS

The Rare Event Risk Assessment Process (RERAP) was developed for Prescribed Fire Behavior Analysis by Marc Wiitala of Region 6. RERAP is a set of mathematical models that were developed specifically for the purpose of estimating the risk associated with fire movement and smoke incidents during the management of prescribed fires--natural and/or management ignited.

The models may be applied more generally to problems involving the risk that one of two independent events will arrive before the other. The arrival time for one of these independent events must be governed by the Weibull probability model; the other by an exponential probability model. Examples of questions addressed by the models are: "What is the probability a fire will exceed some distance before being terminated by a fire ending weather event?" "During management of prescribed fire, what is the probability of receiving the third major smoke event before a fire ending weather event?" or for the daily bus rider, "What is the probability that the bus will arrive before the bus rider arrives at the bus stop?"

Rare and significant fire spread events in many instances pose the greatest source of uncertainty for predicting fire movement. Fires that move one or more miles in a day can travel a lot of distance in an undesired direction. Variability in the number of these events that might be received over a period of time dictates the degree of risk faced by prescribed fire managers.

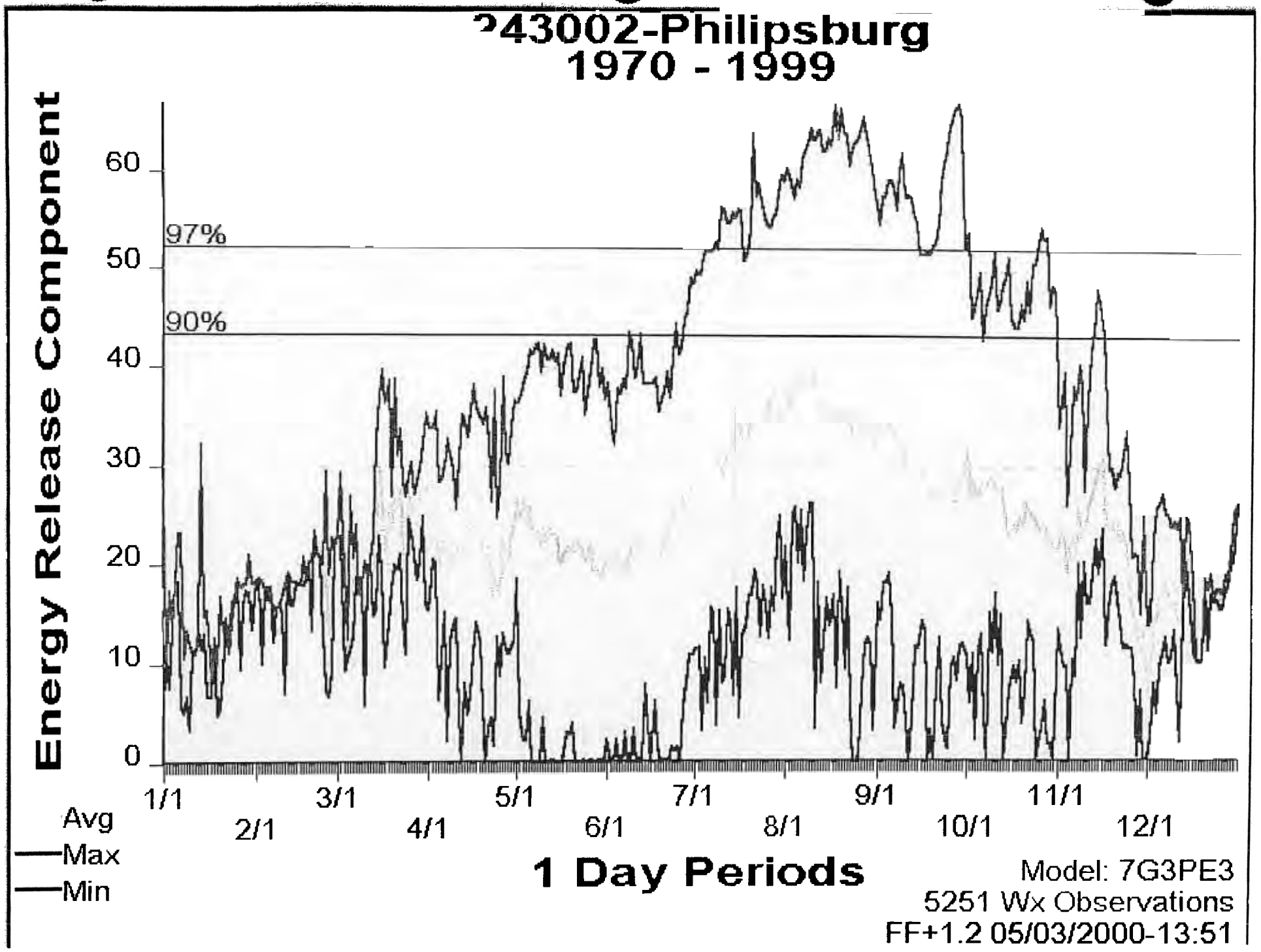
Based on historical data, the analyst must identify for each year in the sample the first occurrence of weather conditions during a fire season that would be sufficient to put the fire out (or assure no major spread events for the remainder of the year). The number of days between the beginning of the fire season and the fire ending event is called the "waiting time". Using weather data, waiting times are generated for significant fire spread events and significant fire ending weather events. Frequency distributions are generated, Weibull distributions and parameters are generated. A best fit for the historical data is attempted through a regression of the data.

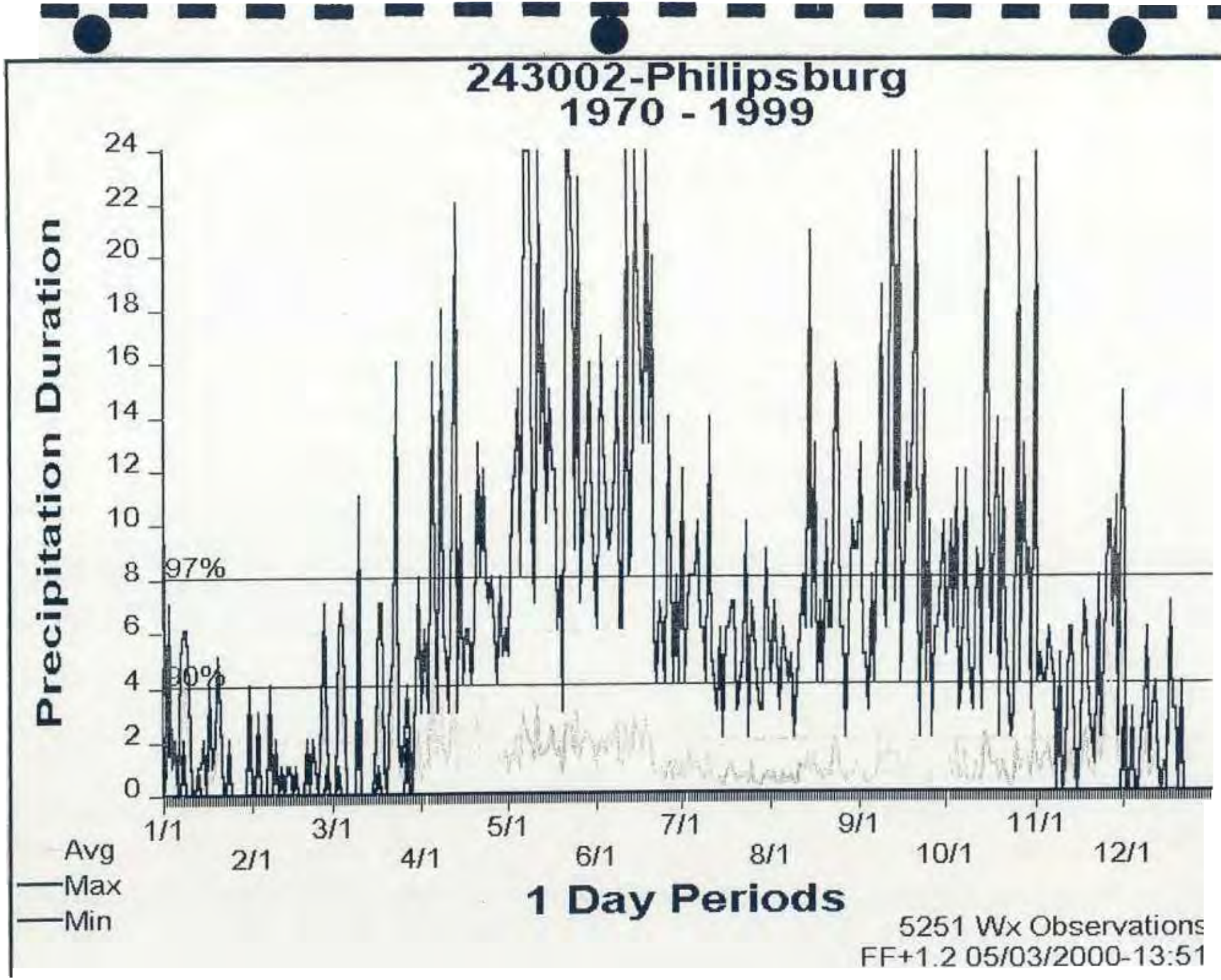
Once the base line historical data has been analyzed, additional analysis of ongoing prescribed fires is possible. Given an ignition in the Anaconda Pintler Wilderness, an analysis of the spread and direction of the fire can be quickly accomplished. Then estimates made for the length of time the fire may be allowed to burn before it may threaten the boundary, an historic cabin site, or improvements such as bridges, puncheons, etc. These time estimates would be used by managers as a planning aid for developing plans for preventing the prescribed fire from reaching the wilderness boundary or an improvement in its path.

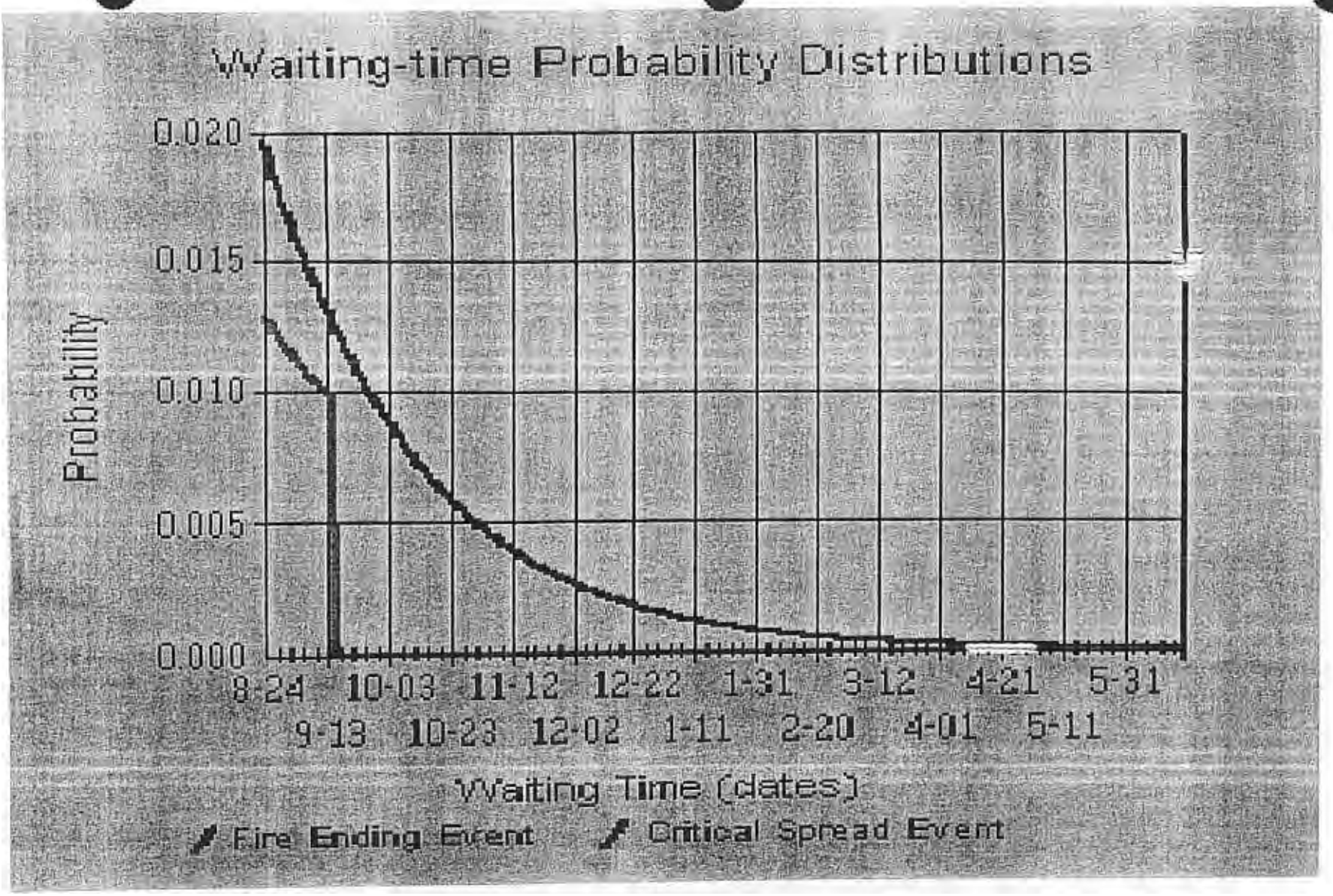
The critical spread event or Nth spread event is that spread event that will breach the wilderness or Maximum Allowable Perimeter (MAP) boundary. The model allows the use of up to twenty spread events. For purposes of the analysis, I used ten events for the Anaconda Pintler. This was due to my evaluatoin of the average number of significant frontal passages as evidenced by the precipitation "spikes" that occurred during the summer months for the Philipsburg and Wise River stations.

Fire ending weather events are a combination of the amount of precipitation received and the duration of that precipitation. A corresponding drop in the Energy Release Component (ERC) was also analyzed. Graphs of the Wise River and Philipsburg weather stations were generated to analyze these events. Analysis of these graphs show that on the average a significant amount of rainfall precipitation and duration occurs during July, August and September. A corresponding drop in the ERC is shown for these time periods.

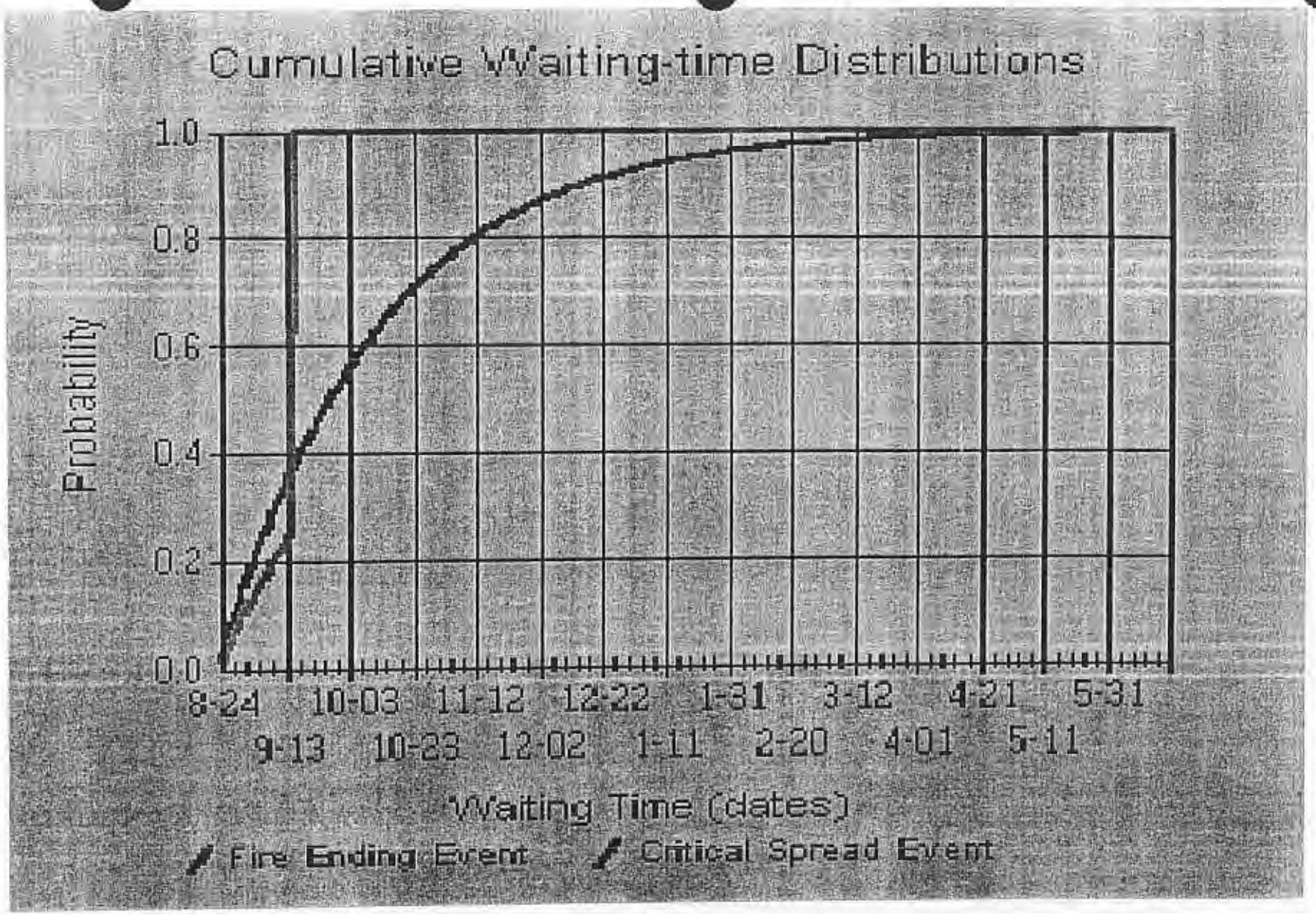
Further documentation is being developed by Region 6 for this model. Additional program development is occurring and updates should be available in the near future.


243002-Philipsburg
1970 - 1999
Energy Release Component
60
50
40
30
20
10
0
97%
90%
1/1
2/1
3/1
4/1
5/1
6/1
7/1
8/1
9/1
10/1
11/1
12/1
Avg
Max
Min
1 Day Periods
Model: 7G3PE3
5251 Wx Observations
FF+1.2 05/03/2000-13:51

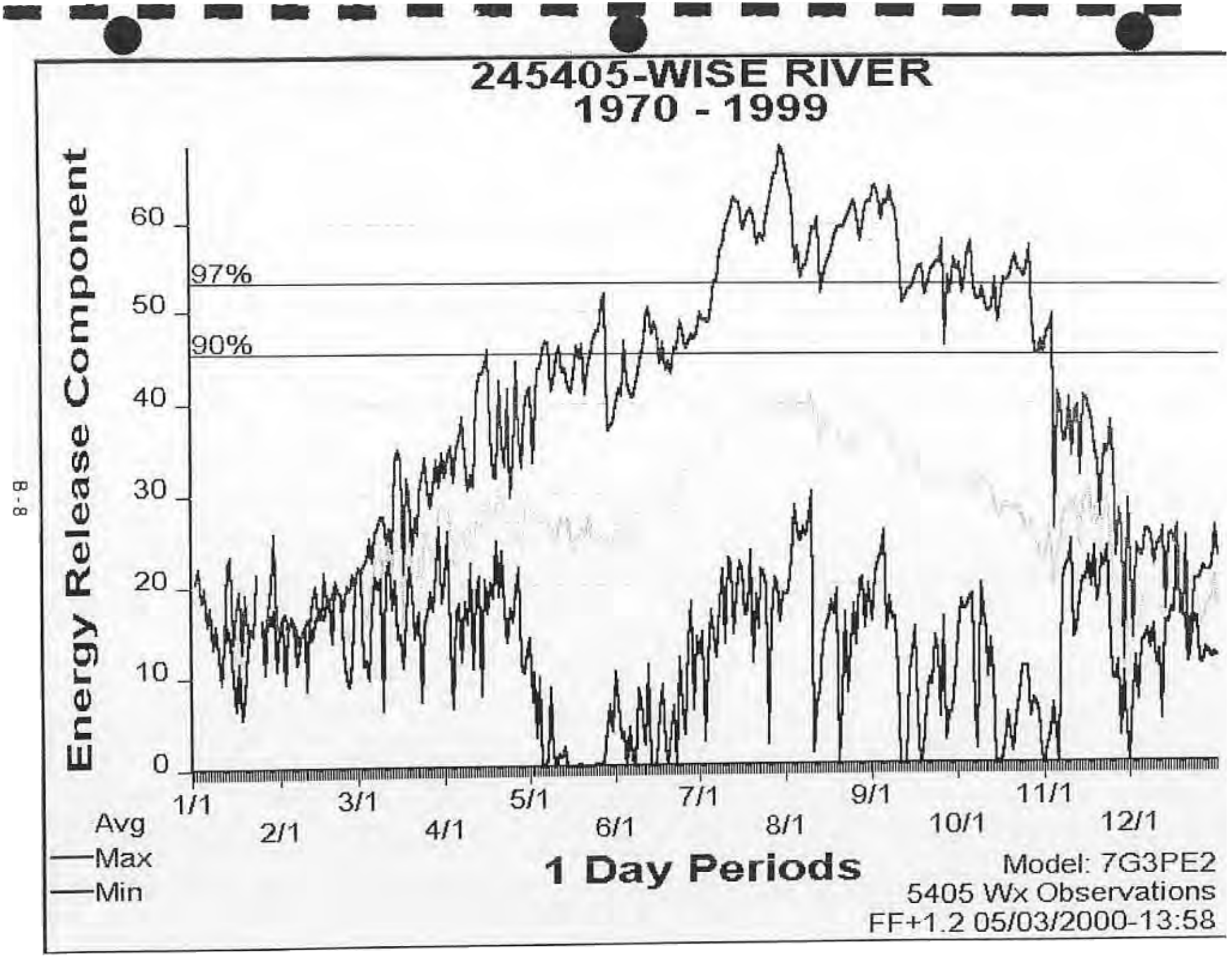

243002-Philipsburg
1970 - 1999
Precipitation Duration
24
22
20
18
16
14
12
10
8
6
4
2
0
97%
30%
1/1
2/1
3/1
4/1
5/1
6/1
7/1
8/1
9/1
10/1
11/1
12/1
Avg
Max
Min
1 Day Periods
5251 Wx Observations
FF+1.2 05/03/2000-13:51

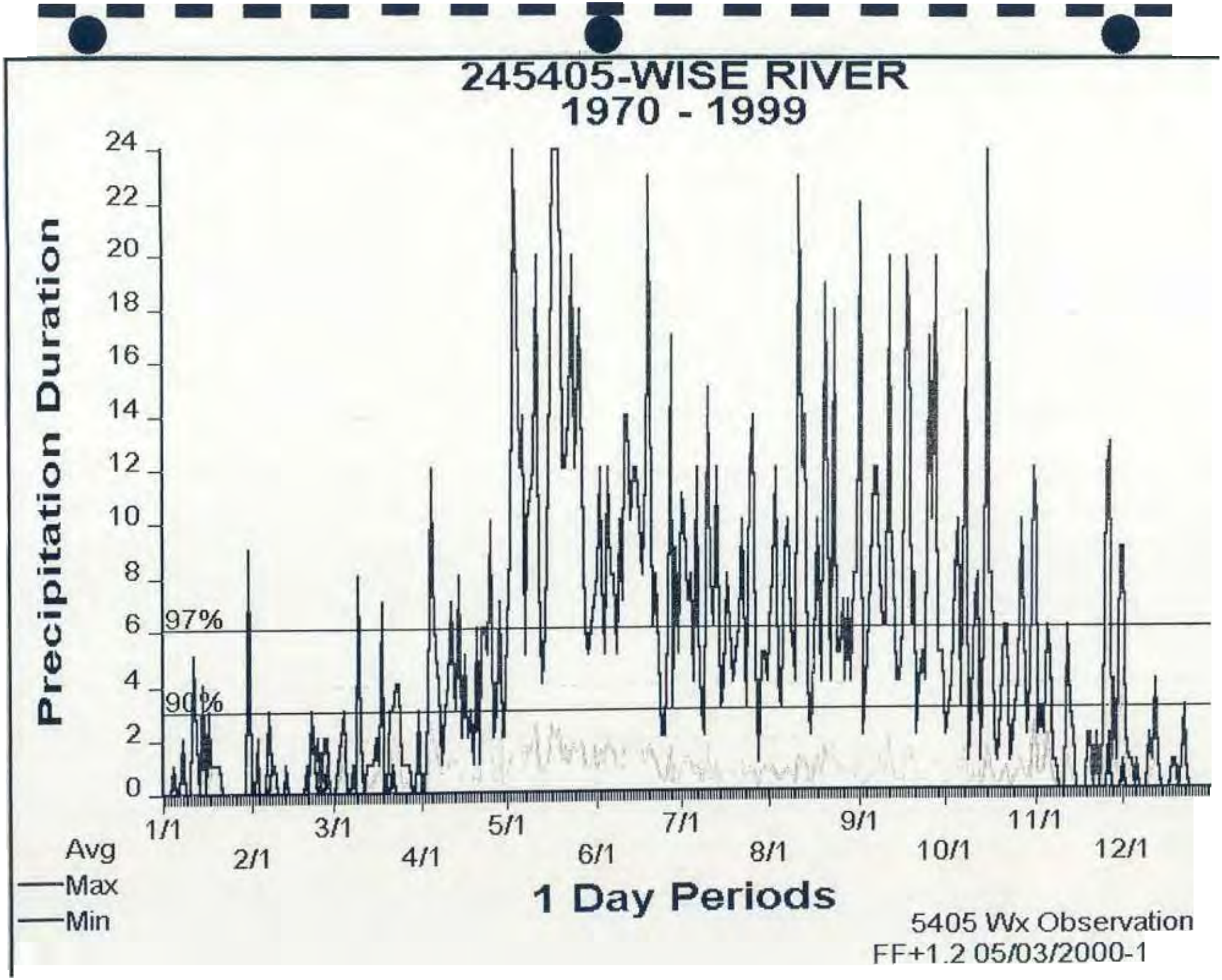


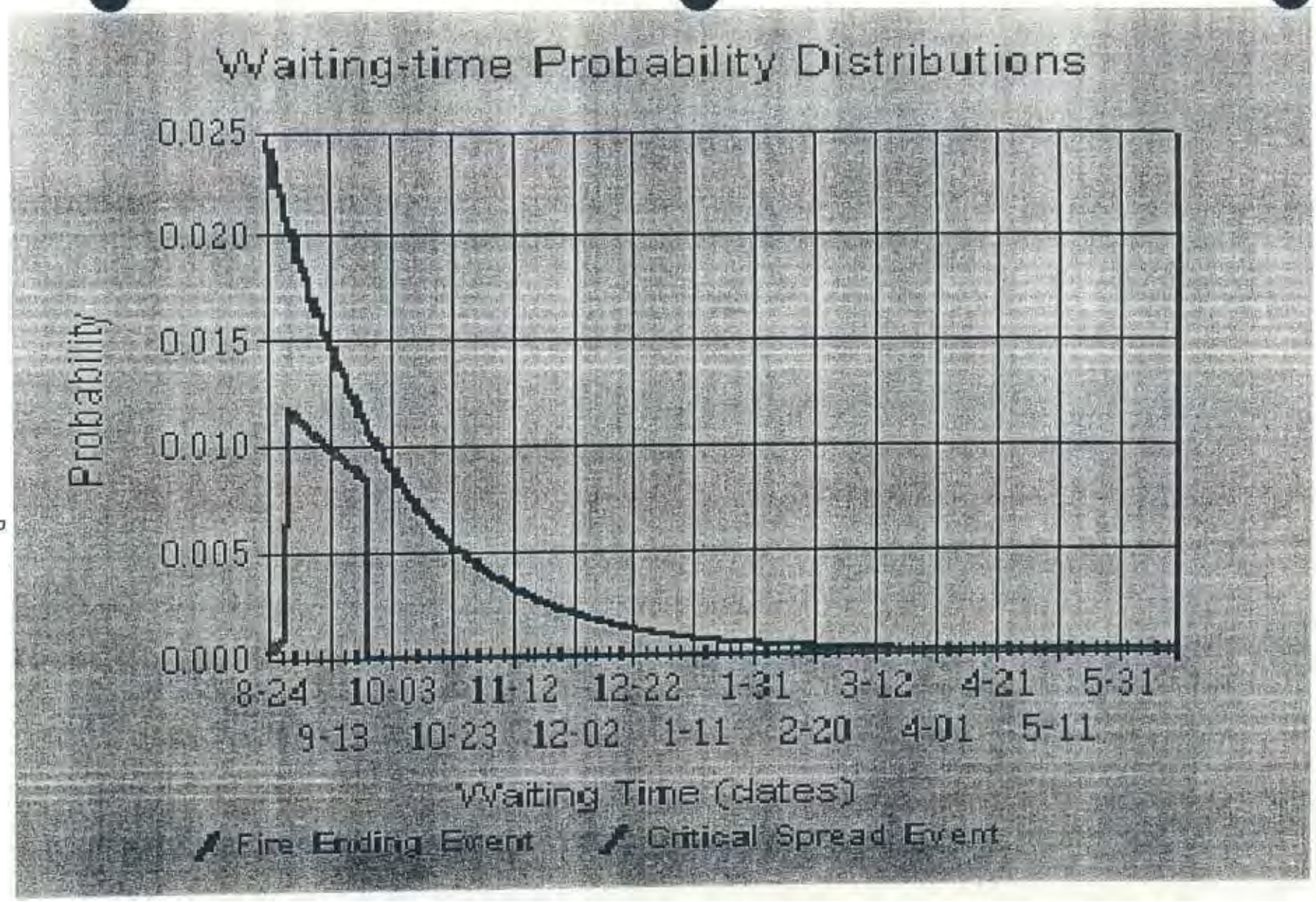
Ph l psburg Weather Stat on



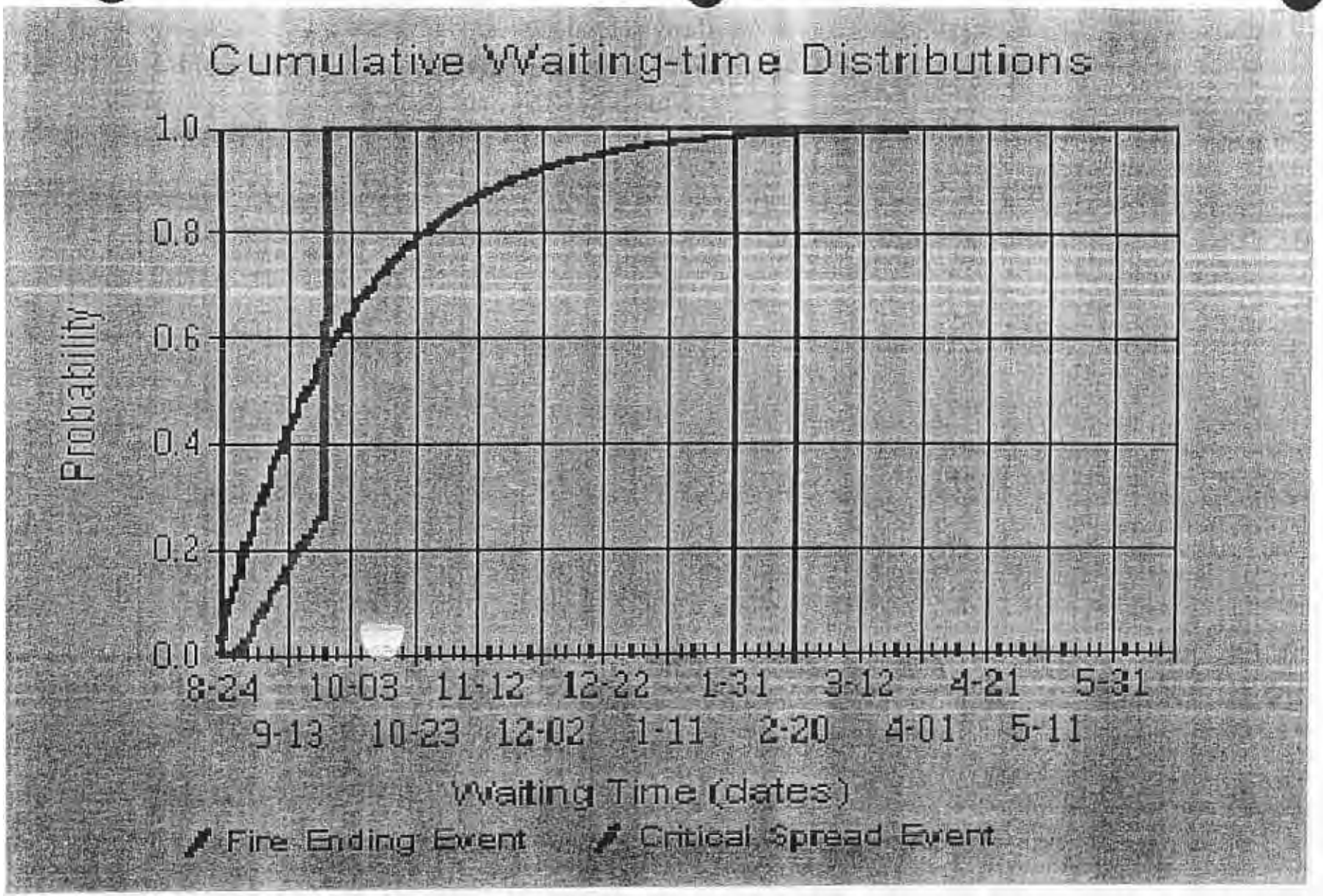
Ph l p burg Weather Stat on


245405-WISE RIVER
1970 - 1999
Energy Release Component
60
50
40
30
20
10
0
97%
90%
1/1
2/1
3/1
4/1
5/1
6/1
7/1
8/1
9/1
10/1
11/1
12/1
Avg
Max
Min
1 Day Periods
Model: 7G3PE2
5405 Wx Observations
FF+1.2 05/03/2000-13:58

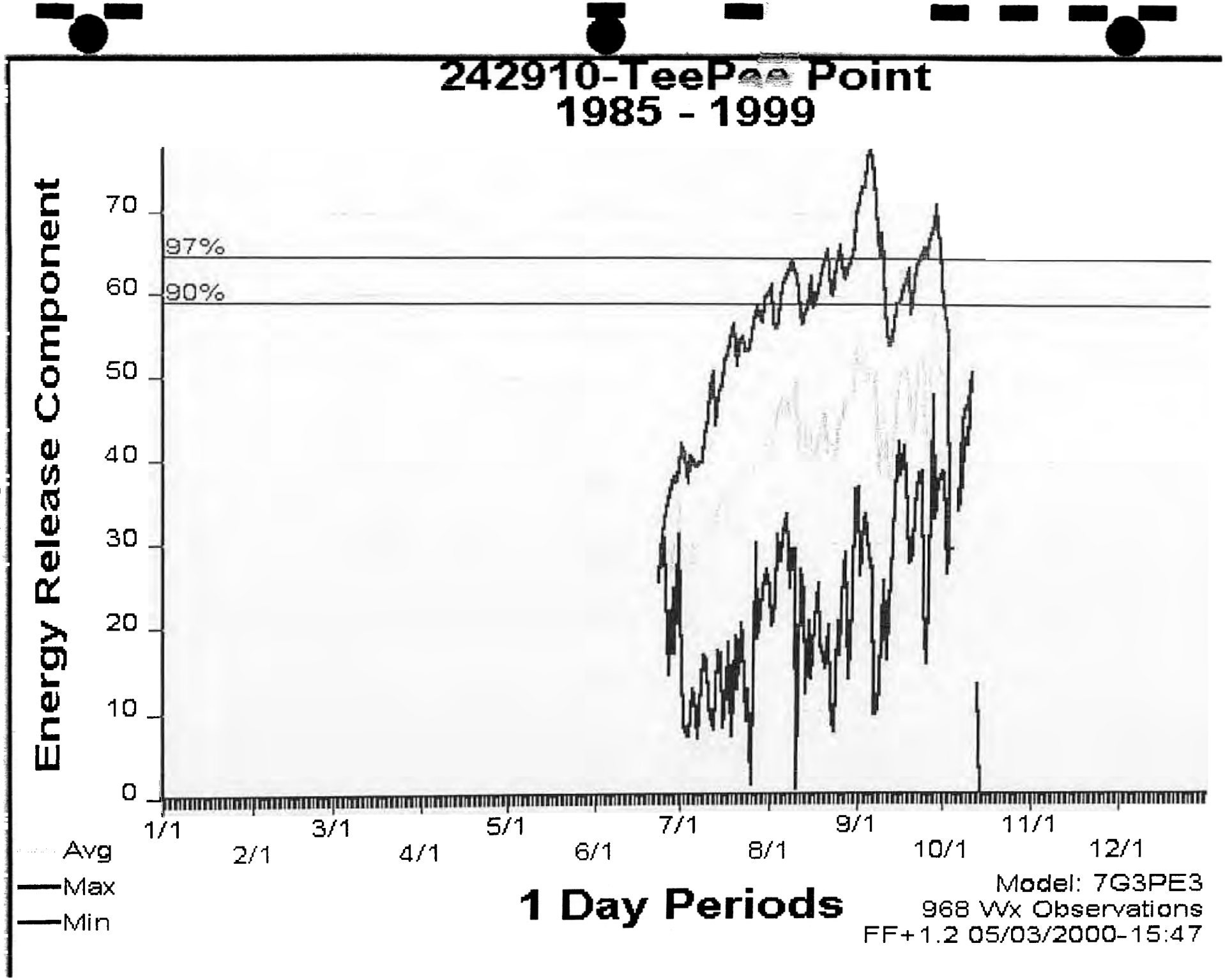

245405-WISE RIVER
1970 - 1999
Precipitation Duration
24
22
20
18
16
14
12
10
8
6
4
2
0
97%
90%
1/1
2/1
3/1
4/1
5/1
6/1
7/1
8/1
9/1
10/1
11/1
12/1
Avg
Max
Min
1 Day Periods
5405 Wx Observation
FF+1.2 05/03/2000-1

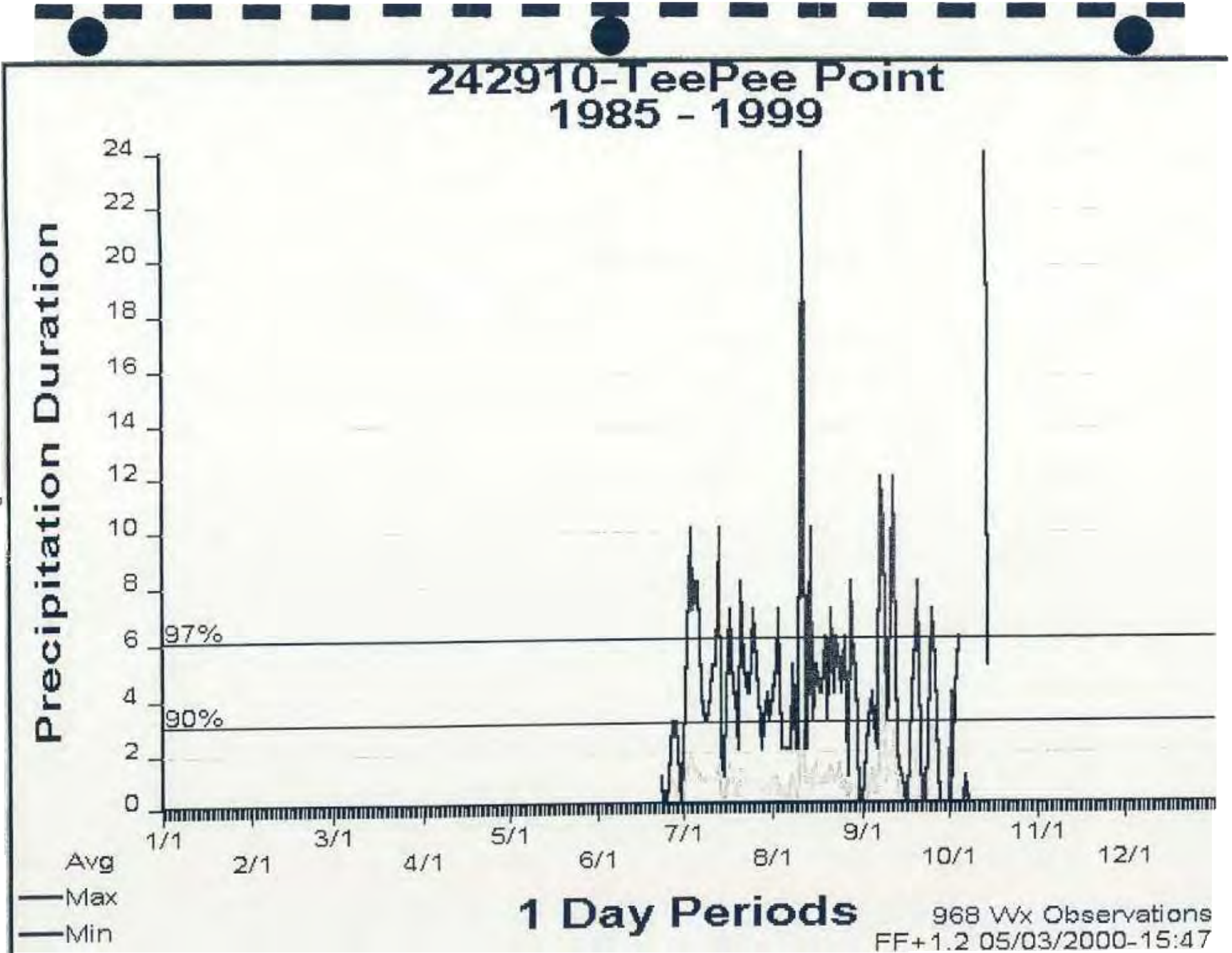


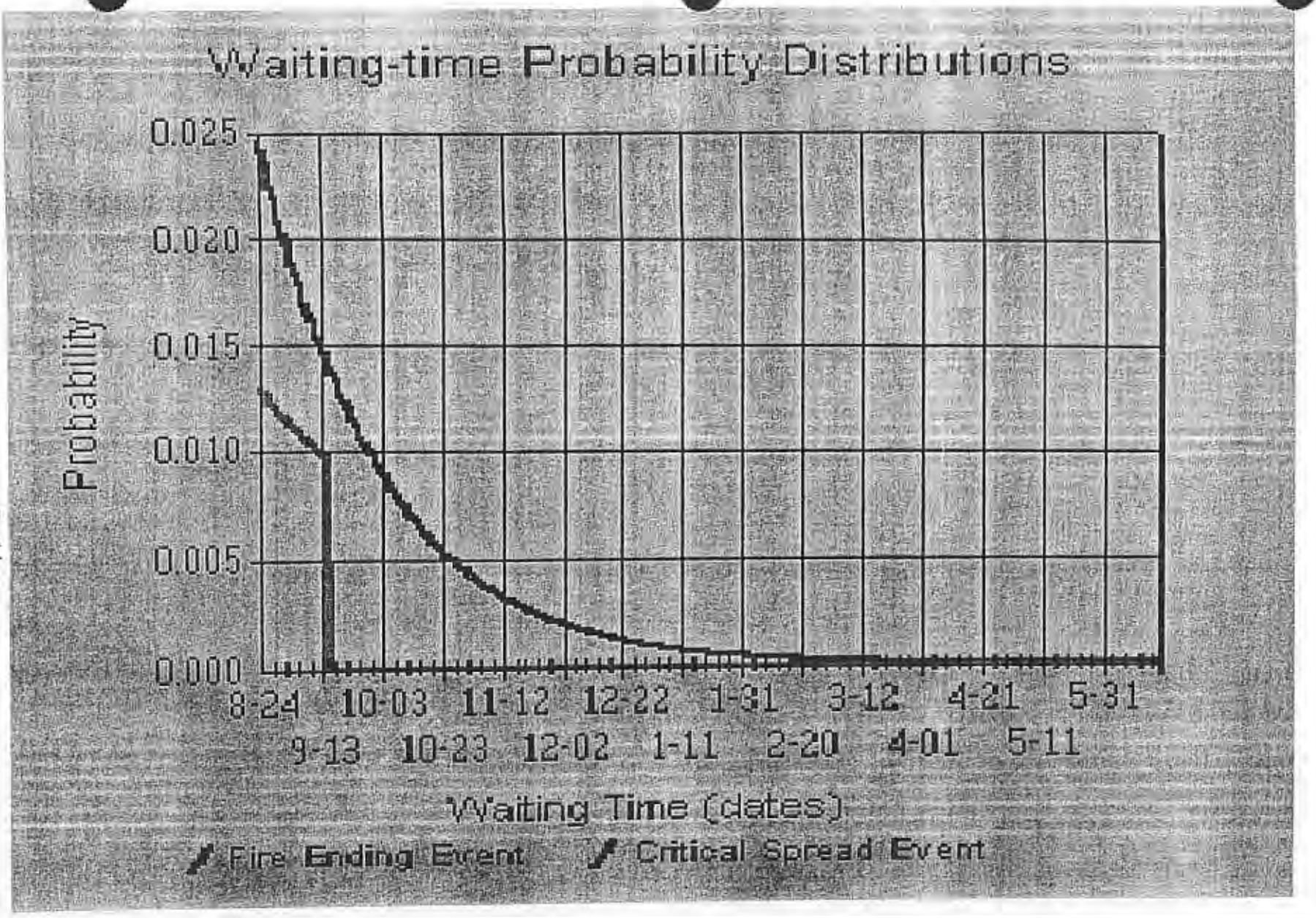
W se River Weather Stat on



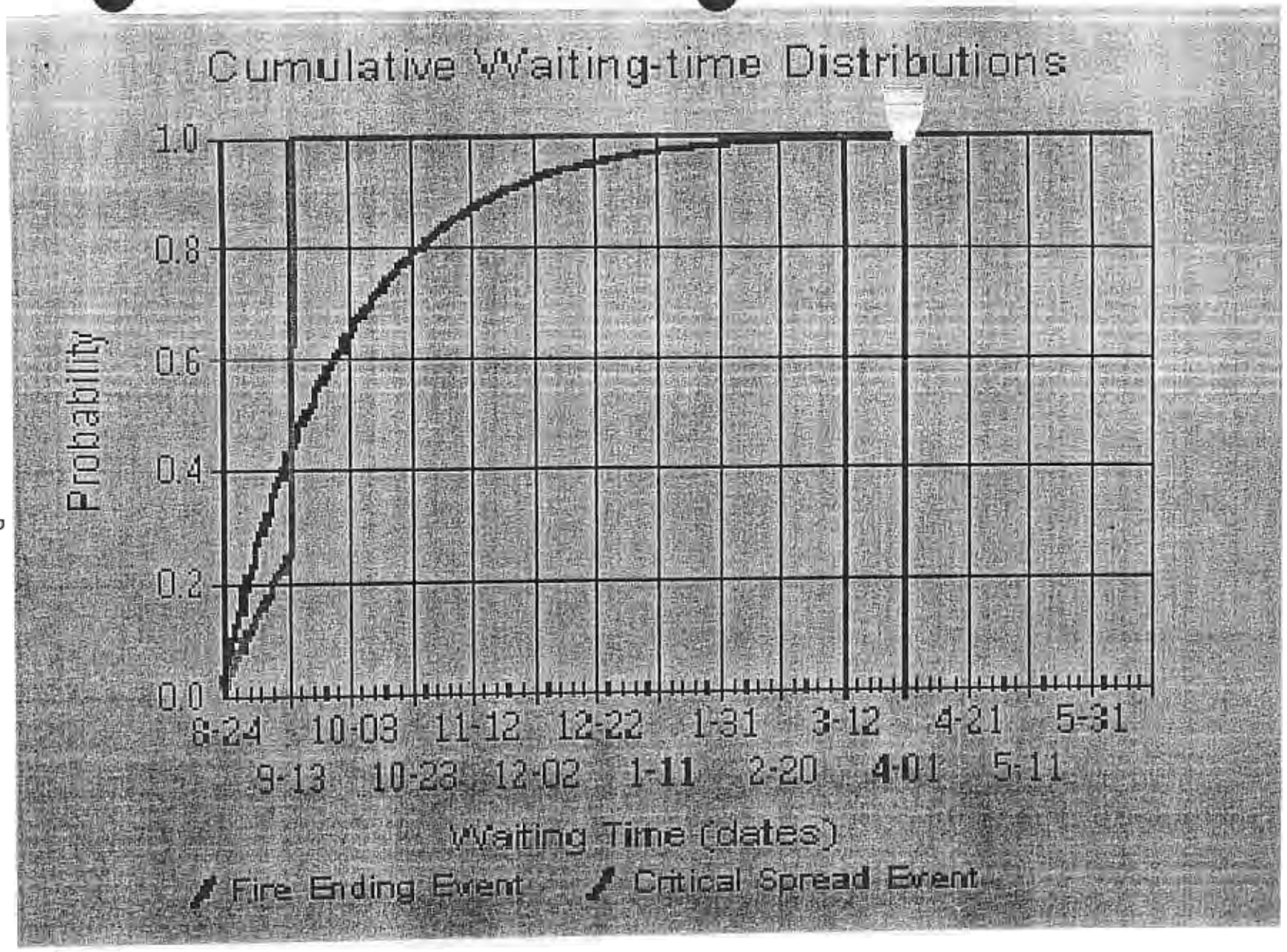
Wiser River Weather Station


242910-TeePee Point
1985 - 1999
Energy Release Component
70
60
50
40
30
20
10
0
97%
90%
1/1
2/1
3/1
4/1
5/1
6/1
7/1
8/1
9/1
10/1
11/1
12/1
Avg
Max
Min
1 Day Periods
Model: 7G3PE3
968 Wx Observations
FF+1.2 05/03/2000-15:47


242910-TeePee Point
1985 - 1999
Precipitation Duration
24
22
20
18
16
14
12
10
8
6
4
2
0
97%
90%
1/1
2/1
3/1
4/1
5/1
6/1
7/1
8/1
9/1
10/1
11/1
12/1
Avg
Max
Min
1 Day Periods
968 Wx Observations
FF+1.2 05/03/2000-15:47



Tee Pee Po nt Weather Stat on



Tee Pee Po nt Weather Stat on

APPENDIX C

WFIP FORMS AND INSTRUCTIONS

This appendix contains reproducible forms and instructions for use in documenting implementation activities for wildland fires use projects in the Anaconda Pintler Wilderness. Included in this section are:

WFIP - Stage I: Initial Fire Assessment
- Fire Situation
- Initial Go/No Go Decision
- Anaconda Pintler Risk Assessment Charts (Zones 1 - 5)
- Wildland Fire Relative Risk Rating Chart

WFIP - Stage II: Short-Term Implementation Actions
- Short-Term Fire Behavior/Predictions and Risk Assessment
- Short-Term Implementation Action
- Complexity Analysis
- Stage III Need Assessment Chart

WFIP - Stage III: Long-Term Implementation Actions
- Long-Term Implementation Action

Periodic Fire Assessment
- Part 1, Revalidation
- Part 2, Stage III Need Assessment

Other Forms and Reports
- Wildland Fire Use Record
- Wildland Fire Use Observation Record
- State of the Wilderness Report
- Structure Evaluation Worksheet
- Site Evaluation Worksheet
- Wildland Fire Use Evaluation

FIRE SITUATION

FIRE NAME:			**FIRE NUMBER:**	
Jurisdiction(s):				
Administrative Unit(s):				
FMP Unit(s):				
Geographic Area:				
Management Code:				
Start Date/Time:				
Discovery Date/Time:				
Current Date/Time:				
Current Size:				
Legal Description(s):	**T.**	**R.**	**Sec.**	**Sub.**
Latitude:				
Longitude:				
County:				
Local Description:				
Cause:				

FUEL MODELS / CONDITIONS:

WEATHER - Current:

WEATHER - Predicted:

FIRE BEHAVIOR - Current:

FIRE BEHAVIOR - Predicted:

AVAILABILITY OF RESOURCES:

Decision Criteria Checklist

Decision Element	YES	NO
Is there a threat to life, property, or resources that cannot be mitigated?		
Are potential effects on cultural and natural resources outside the range of acceptable effects?		
Are relative risk indicators and/or risk assessment results unacceptable to the appropriate Agency Administrator?		
Is there other proximate fire activity that limits or precludes successful management of this fire?		
Are there other Agency Administrator issues that preclude wildland fire use?		

The Decision Criteria Checklist is a process to assess whether or not the situation warrants continued wildland fire use implementation. A "YES" response to any element on the checklist indicates that the appropriate management response should be suppression-oriented.

Recommended Response Action (check appropriate box)

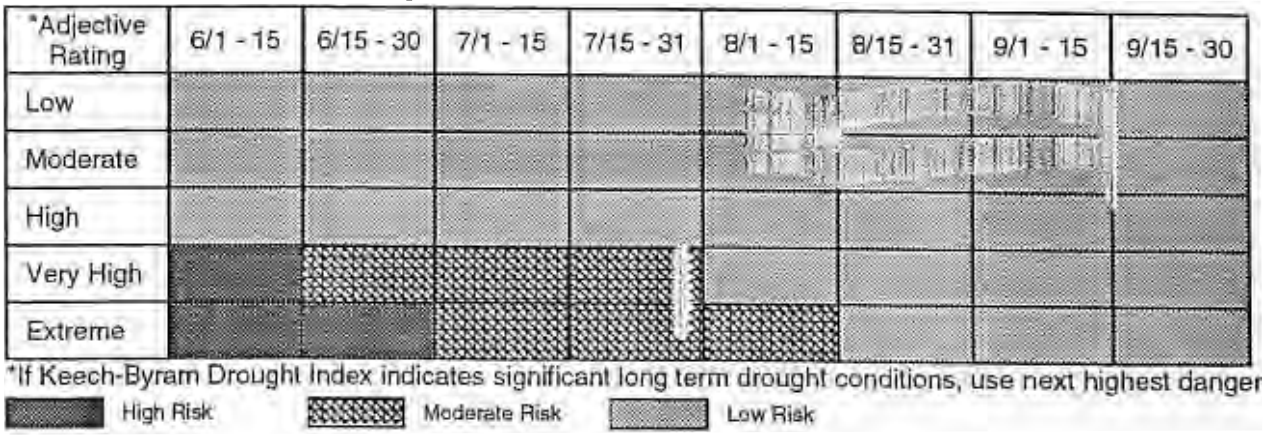
NO-GO (Initial attack/suppression action)	
GO (Other appropriate management response)	

Signature:_____ **Date:**_____

STAGE 1
ANACONDA PINTLER RISK ASSESSMENT CHARTS

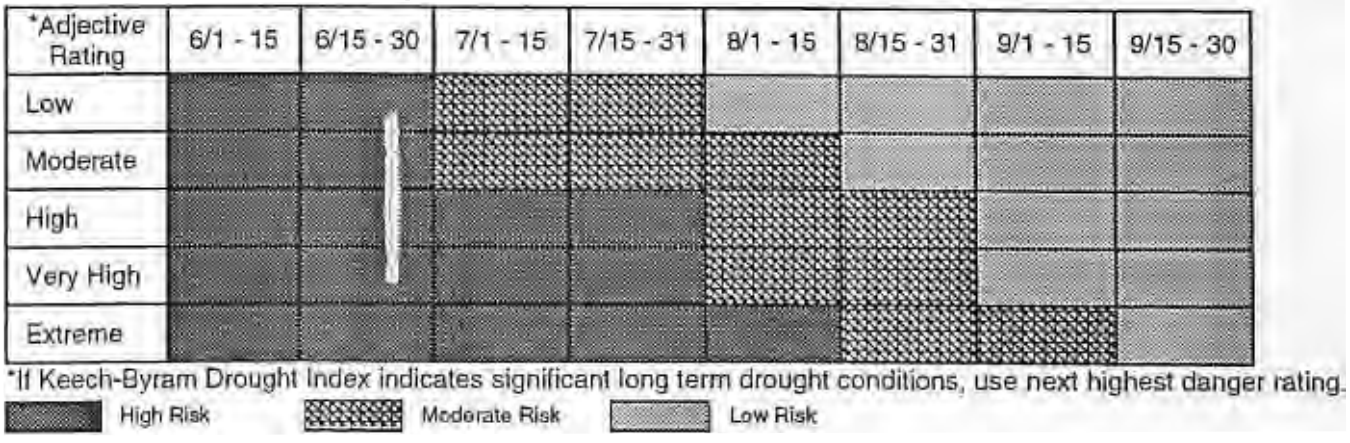
High Elevation - Zone 1

Weather Station: Philipsburg



Cutaway - Zone 2

Weather Station: Philipsburg



Northwest Slope - Zone 3

Weather Station: Teepee Pt./Philipsburg

*Adjective Rating	6/1 - 15	6/15 - 30	7/1 - 15	7/15 - 31	8/1 - 15	8/15 - 31	9/1 - 15	9/15 - 30
Low								
Moderate								
High								
Very High								
Extreme								

*If Keech-Byram Drought Index indicates significant long term drought conditions, use next highest danger rating.

High Risk Moderate Risk Low Risk

Mystic - Zone 4

Weather Station: Teepee Pt./Wise River

*Adjective Rating	6/1 - 15	6/15 - 30	7/1 - 15	7/15 - 31	8/1 - 15	8/15 - 31	9/1 - 15	9/15 - 30
Low								
Moderate								
High								
Very High								
Extreme								

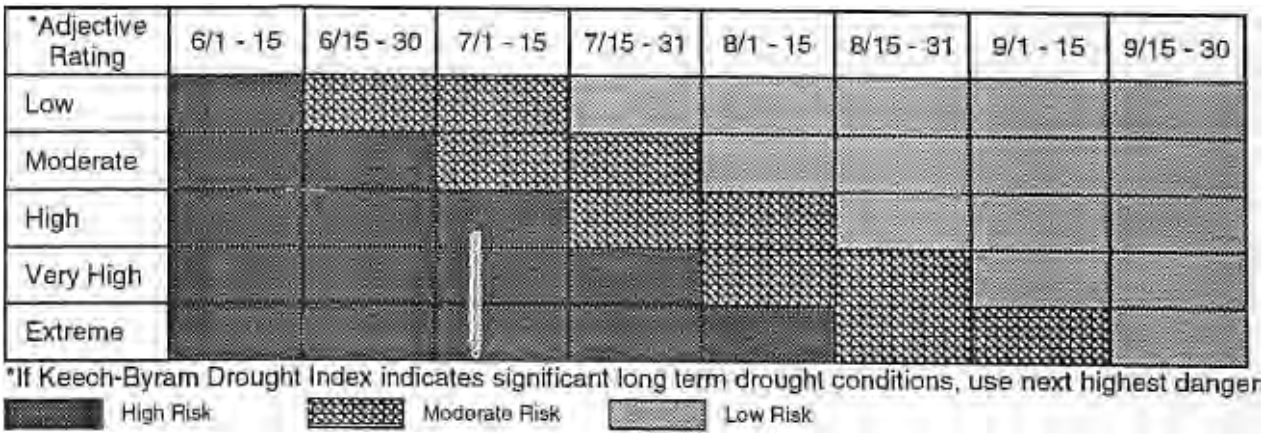
*If Keech-Byram Drought Index indicates significant long term drought conditions, use next highest danger rating.

High Risk Moderate Risk Low Risk

STAGE 1
ANACONDA PINTLER RISK ASSESSMENT CHARTS

Wise River - Zone 5

Weather Station: Wise River



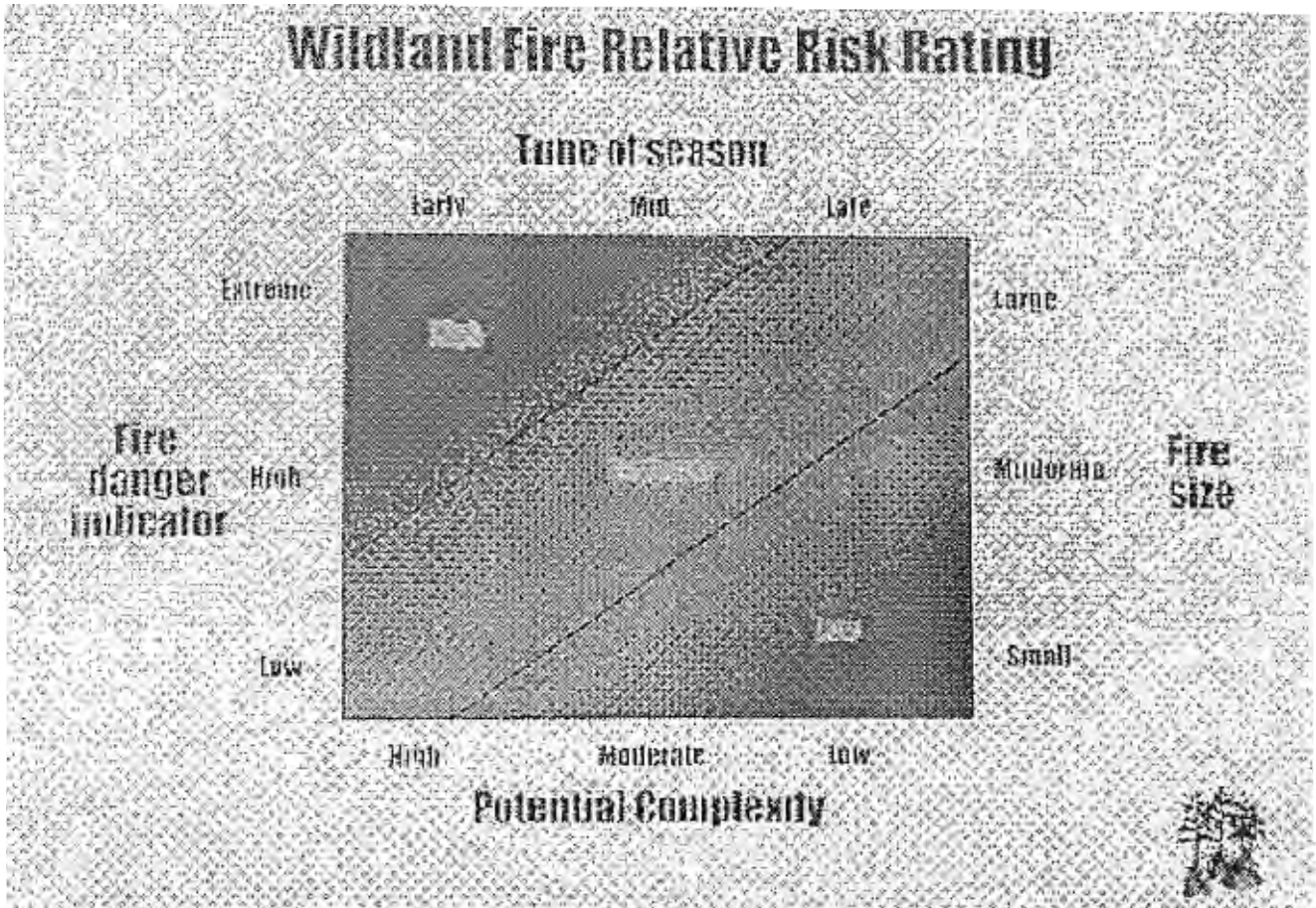
Instructions for Anaconda Pintler Risk Assessment Charts

1. Select the chart for the zone in the fire is located. For fires located near the boundary of two zones it may be necessary to evaluate the risk for both zones.

2. Determine the adjective rating for the selected zone by determining the ERC value for NFDRS Fuel Model G for the appropriate weather station. The adjective rating is stratified by percentile rank (0-20th Low, 21-50th Moderate, 51-80th High, 81-95th Very High, 95th+ Extreme) of the ERC value. The ERC values and corresponding adjective ratings can be obtained from the fire management plan. When selecting the adjective rating it is important to look at the overall trend and average over several days and not just one days reading.

3. Select the column with the time period in which the fire is being assessed and crossmatch it with the row of the appropriate adjective rating.

4. From the intersection of the selected row and column determine the risk rating based on the shaded area in which the intersected cell is located.



Determination of Relative Risk Rating for Wildland Fires. To obtain relative risk, connect lines between the top and bottom variables and the left and right hand variables. Where these lines cross represents the relative risk for this specific fire.

Instructions for Wildland Fire Relative Risk Rating Chart

To use this chart, assessments must be made of four variables:

1. Fire Danger Indicator.
The appropriate fire danger indicator can be derived from components or indexes from the National Fire danger rating system (NFDRS) outputs.

2. Time of Season.
The time of season is an indicator of the potential duration of newly ignited fires. The earlier the season, the longer the potential duration of the fire.

3. Fire Size.
The fire size represents the current fire size and should be available from the Fire Situation information.

4. Potential Complexity.
Potential complexity is an estimate of complexity. If time and sufficient information are available to complete the full Wildland and Prescribed Fire Complexity Rating (see Chapter 3), then the result of that analysis can provide this information. If sufficient time and information are not available, then complexity must be estimated by local fire staff and used for this variable.

To obtain the relative risk rating, connect the top and bottom variables with a single line, then connect the left and right variables with a single line. Determine the relative risk of this fire at the intersection of the two lines. Use the relative risk as input information for the Decision Criteria Checklist. Neither a high or low rating necessarily predispose a "yes" or "no" answer. They provide an indication, but the line officer must still decide what area of risk is acceptable.

SHORT-TERM IMPLEMENTATION ACTION

Attach Stage I information.

Action Items	*Information specific to this fire*
Objectives and Desired Effects	
Safety Considerations	
External Concerns	
Environmental Concerns	

Threats	
Short-Term Actions (describe)	
Estimated Costs	
Signature	
Title/Date	

WILDLAND AND PRESCRIBED FIRE COMPLEXITY RATING WORKSHEET

Complexity element	*Weighting factor*	*Complexity value*	*Total points*
Safety	5		
Threats to boundaries	5		
Fuels and fire behavior	5		
Objectives	4		
Management organization	4		
Improvements	3		
Natural, cultural, social values	3		
Air quality values	3		
Logistics	3		
Political concerns	2		
Tactical operations	2		
Interagency coordination	1		

Total complexity points _____

Complexity Rating (circle) **L** **M** **H**

Complexity Value Breakpoints:

Low	*40 - 90*
Moderate	*91 - 140*
High	*141 - 200*

The Wildland and Prescribed Fire Complexity Analysis provides a method to assess the complexity of both wildland and prescribed fires. The analysis incorporates an assigned numeric rating complexity value for specific complexity elements that are weighted in their contribution to overall complexity. The weighted valued is multiplied times the numeric rating value to provide a value for that item. Then all values are added to generate the total complexity value. Breakpoint values are provided for low, moderate, and high complexity values.

The complexity analysis worksheet is accompanied by a guide to numeric values for each complexity element shown. The guide is provided on the following pages.

Wildland and Prescribed Fire Complexity Rating Worksheet Numeric Rating Guide

Complexity Element	Guide to Numeric Rating		
	1	3	5
Safety	Safety issues are easily identifiable and mitigated	· Number of significant issues have been identified · All safety hazards have been identified on the LCES worksheet and mitigated	· SOF1 or SOF2 required · Complex safety issues
Threats to Boundaries	· Low threat to boundaries · POI<50% · Boundaries naturally defensible	· Moderate threat to boundaries · 50<POI<70% · Moderate risk of slopover or spot fires · Boundaries need mitigation actions for support to strengthen fuel breaks, lines, etc.	· High threat to boundaries · POI>70% · High risk of slopover or spot fires · Mitigation actions necessary to compensate for continuous fuels
Fuels/Fire Behavior	· Low variability in slope & aspect · Weather uniform and predictable · Surface fuels (grass, needles) only · Grass/shrub, or early seral forest communities · Short duration fire · No drought indicated	· Moderate variability in slope & aspect · Weather variable but predictable · Ladder fuels and torching · Fuel types/loads variable · Dense, tall shrub or mid seral forest communities · Moderate duration fire · Drought index indicates normal conditions to moderate drought; expected to worsen	· High variability in slope & aspect · Weather variable and difficult to predict · Extreme fire behavior · Fuel types/loads highly variable · Late seral forest communities or long return interval fire regimes · Altered fire regime, hazardous fuel/stand density conditions · Potential long duration fire · Drought index indicates severe drought; expected to continue

Complexity Element	Guide to Numeric Rating		
	1	3	5
Objectives	· Maintenance objectives · Prescriptions broad · Easily achieved objectives	· Restoration objectives · Reduction of both live and dead fuels · Moderate to substantial changes in two or more strata of vegetation · Objectives judged to be moderately hard to achieve · Objectives may require moderately intense fire behavior	· Restoration objectives in altered fuel situations · Precise treatment of fuels and multiple ecological objectives · Major changes in the structure of 2 or more vegetative strata · Conflicts between objectives and constraints · Requires a high intensity fire or a combination of fire intensities that is difficult to achieve
Management Organization	· Span of control held to 3 · Single resource incident or project	· Span of control held to 4 · Multiple resource incident or project · Short-term commitment of specialized resources	· Span of control greater than 4 · Multiple branch, divisions or groups · Specialized resources needed to accomplish objectives · Organized management teams (FUMT, IMT)
Improvements to be protected	· No risk to people or property within or adjacent to fire	· Several values to be protected · Mitigation through planning and/or preparations is adequate · May require some commitment of specialized resources	· Numerous values and/or high values to be protected · Severe damage likely without significant commitment of specialized resources with appropriate skill levels
Natural, Cultural, and Social Values to be protected	· No risk to natural, cultural, and/or social resources within or adjacent to fire	· Several values to be protected · Mitigation through planning and/or preparations is adequate · May require some commitment of specialized resources	· Numerous values and/or high values to be protected · Severe damage likely without significant commitment of specialized resources with appropriate skill levels

Complexity Element	Guide to Numeric Rating		
	1	3	5
Air Quality Values to be Protected	· Few smoke sensitive areas near fire · Smoke produced for less than 1 burning period · Air quality agencies generally require only initial notification and/or permitting · No potential for scheduling conflicts with cooperators	· Multiple smoke sensitive areas, but smoke impact mitigated in plan · Smoke produced for 2-4 burning periods · Daily burning bans are sometimes enacted during the burn season · Infrequent consultation with air quality agencies is needed · Low potential for scheduling conflicts with cooperators	· Multiple smoke sensitive areas with complex mitigation actions required · Health and visibility complaints likely · Smoke produced for greater than 4 burning periods · Multi-day burning bans are often enacted during the burn season · Smoke sensitive class 1 airsheds · Violation of state and federal health standards possible · Frequent consultation with air quality agencies is needed · High potential for scheduling conflicts
Logistics	· Easy access · Duration of fire support is less than 4 days	· Difficult access · Duration of fire support between 4 and 10 days · Logistical position assigned · Anticipated difficulty in obtaining resources	· No vehicle access · Duration of support is greater than 10 days · Multiple logistical positions assigned · Remote camps and support necessary
Political Concerns	· No impact on neighbors or visitors · No controversy · No media interest	· Some impact on neighbors or visitors · Some controversy, but mitigated · Press release issued, but no media activity during operations	· High impact on neighbors or visitors · High internal or external interest and concern · Media present during operations

Complexity Element	Guide to Numeric Rating		
	1	3	5
Tactical Operations	· No ignition or simple ignition patterns · Single ignition method used · Holding requirements minimal	· Multiple firing methods and/or sequences · Use of specialized ignition methods (i.e. terra-torch, Premo Mark III) · Resources required for up to one week · Holding actions to check, direct, or delay fire spread	· Complex firing patterns highly dependant upon local conditions · Simultaneous use of multiple firing methods and/or sequences · Simultaneous ground and aerial ignition · Use of heli-torch · Resources required for over 1 week · Multiple mitigation actions at variable temporal and spatial points identified. Success of actions critical to accomplishments of objectives · Aerial support for
Interagency Coordination	· Cooperators not involved in operations · No concerns	· Simple joint-jurisdiction fires · Some competition for resources · Some concerns	· Complex multi-jurisdictional fires · High competition for resources · High concerns

Stage III: Long-Term Implementation Actions

Attach Stage I and Stage II information. Update and/or revise Stage I and II as necessary.

Objectives and Risk Assessment Considerations

Natural and Cultural Resource Objectives and Constraints/ Considerations	

Maximum Manageable Area (MMA)

Acres in MMA:	
Attach Map of MMA	

Fire Projections, Weather, and Map

Projected Fire Area Under *Expected* Weather Conditions	For date: Area:
Projected Fire Area Under Experienced *Severe* Weather Conditions	For date: Area:

Weather Season/Drought: Discussion and Prognosis

Long-Term Risk Assessment and Map (if applicable)

Risk Assessment (Describe techniques utilized and outputs, include maps as appropriate)

Probability of Success

Describe Probability of Success

Threats

Threats to MMA

Threats to Public Use and Firefighter Safety

Smoke Dispersion and Effect

Other

Monitoring Actions

Describe Monitoring Actions, Frequency, Duration

Holding Actions

Describe Holding Actions, Management Action Points that initiate these actions, and Key to Map if necessary

Resources Needed To Manage the Fire

Describe resources necessary to accomplish ignition, holding, and monitoring

Estimated Costs of Managing the Fire

Describe costs in terms of resources needed, projected duration, etc.

Contingency Plans

Describe Contingency actions, management action points that initiate them, resources needed, etc.

Information Plan

Describe Information Plan, Contacts, Responsibilities, etc.

Post-burn Evaluation

Describe post-burn evaluation procedures, resource requirements, costs, duration, etc.

Signatures

Include signatures/ dates for preparing, approving, and any concurring individuals

Instructions for Completing Stage III Long-Term Implementation Actions Form

Objectives and Risk Assessment Considerations

Describe natural/cultural resource objectives and constraints/considerations.
Identify RNAs, cultural sites or other resources (wildlife, fisheries, recreation, etc.) within the severe case's projected perimeter. Refer to the RNA descriptions for specific fire management direction. If the ignition is outside designated wilderness, document and discuss the fire and land management objectives. If the projections indicate possible impact to historic sites, refer to Site Protection Plans and Evaluation worksheets for specific objectives and level of fire protection needed for their protection (Appendix X).

Maximum Manageable Area (MMA)

The term "maximum manageable area" serves as the descriptor of the wildland fire use geographic or spatial prescription element. The identification of the MMA should include input from staff specialists. An interdisciplinary team approach is recommended so that resource issues and concerns are known. The interdisciplinary team should address a strategy for additional starts within the agreed upon MMA. Should the team decide additional starts can be managed in the MMA, these fires can be analyzed in the original WFIP, Stage III, if the ignitions occur within the required specified frame. A fire occurs after this time frame is considered a separate event and a separate WFIP is required. Any new fires in an existing MMA must address the potential affects of the existing fires.

The MMA will be developed as part of the WFIP, Stage III.
All actions planned to reduce fire spread will be annotated by holding lines that are developed within the MMA and displayed in the WFIP.

- Once established in the WFIP, Stage III and approved by the Agency Administrator, this area is fixed and not subject to change.
- The MMA will define firm limits of management capability to accommodate the social, political, and resource impacts for all wildland fire use.
  An MMA can be developed across zones within the Anaconda Pintler Fire Management Unit.

Fire Projections, Weather, and Map

This portion of the analysis must be performed by a qualified FBAN or LTAN. As a minimum, BEHAVE will be used to assist with projecting fire behavior. As time and resources are available, projections will be validated using FARSITE, RERAP and other tools listed in Table 6 page 53 of the Wildland and Prescribed Fire Management Policy Implementation Procedures Reference Guide.

Expected and severe scenarios are used to describe the range of fire behavior and define the scope of the effects analysis. Issues in the analysis are addressed relative to the expected effects and consideration of potential effects should the severe scenario occur. As part of the analysis and validation process, designate the fire reaching the expected scenario perimeter as a trigger point to reassess the fire. When that point is reached, new expected and severe scenarios should be developed, and other elements of the WFIP, Stage III analysis adjusted accordingly. It is not productive to plan for events which are not expected to occur, but it is important that planning provide for an array of outcomes (see Contingency Actions below).

No restrictions are placed on fires which are projected to cross into zones of elevated risk. However, the risk assessment must address elevated risks in the zone relative to current and expected conditions.

Project fire area under **expected** weather conditions. Describe the fire projection procedures and assumptions used in determining the expected fire projection.

Project fire area under experienced **severe** weather conditions. Describe the fire projection procedures and assumptions used in determining the severe fire projection.

Weather Season/Drought Discussion and Prognosis

Discuss recent weather patterns, predicted weather, and their effects on the fire season and behavior. Discuss ERC trend, compared to 80th percentile and historic minimums and maximums. Discuss drought conditions using KBDI, 1000-hr fuel moisture, NDVI greenness imagery, or other drought indicators. Fire, weather, and drought information can be accessed via the Internet through several sources such as the Wildland Fire Assessment System (WFAS). Fire weather forecasters at the Missoula office of the National Weather Service are also an excellent source of information. They can augment the extended and 30 to 90 day forecasts trends with background information about the different weather model predictions to provide a confidence level regarding the seasonal outlook.

Long-Term Risk Assessment and Map (if applicable)

Describe risk assessment techniques utilized and outputs. Include maps as appropriate.

Probability of Success

Describe the probability of success.

Threats to MMA

As a minimum, give a qualitative assessment of expected risk to the MMA perimeter. The depth of the assessment should tier to the proximity of the expected and severe fire behavior projections to the MMA boundary. An identified trigger point may help evaluate the threat to the MMA as a fire progresses. A trigger point refers to a geographic location, point in time, or weather situation that initiates some sort of management action. Actions start with reviewing original assumptions of the WFIP and projections, and may lead to implementing the holding actions identified in the burn plan. Further analysis may result in revising the WFIP, Stage III. New fire projections, risk assessment, and approval would be required. A quantitative assessment using probability outputs from RERAP can also be used. Document inputs and data sources used in these assessments.

Threats to Public Use and Firefighter Safety

If firefighters or monitors are committed on-the-ground, their safety becomes the highest priority. Identify, in advance, safety zones and escape routes and estimate travel times to those areas. Make this information known to all those involved with the monitoring efforts.

Identify areas of anticipated threat to public use such as trails and trail heads, inholdings, outfitter camps, campgrounds, and other areas of known recreation use that are within the severe projection perimeter. If closures are anticipated, provide specific information at trail heads in addition to the Anaconda Pintler Wilderness fire management program signs which are already in place. Follow the I & E plan to inform outfitters and residents of fire status.

Smoke Dispersion and Effects

Discuss how topography, winds, and other weather patterns (such as high pressure subsidence) influence smoke dispersion, and discuss the effects to points of concern. If smoke effects cause safety hazards, for example at backcountry airstrips, address specific measures to protect public safety, and specify the threshold at which precautions will be enacted.

Monitoring Actions

All ongoing wildland fire use will be monitored during the life of the fire. Determine the amount and intensity of monitoring needed to successfully manage the fire and provide adequate information for post-fire evaluation (see Periodic Fire Assessment section in this guide). Balance the need for information with wilderness objectives to retain its primeval character and influence and provide outstanding opportunities for solitude (Act 1964). Minimize overflights during periods of low fire activity. Monitoring should include both fire activity and management activity. As a minimum, fire activity monitoring will include a progression map of the fire size displaying acreage increases and the dates they occur. Other activities to monitor include aircraft use, holding actions, closures, etc. This information can be used to track costs and assess impacts to wilderness.

Lookouts are an excellent resource to utilize as monitors. They can be in place for the duration of a fire event and can monitor weather data, smoke direction and visibility, as well as fire activity.

The primary tools to document the monitoring effort are the fire progression map, the Periodic Fire Assessment (Part 1: Re-Validation Checklist), and the wilderness fire data table. Other monitoring tools include the Wildland Fire Use Observation Record Form and radio logbooks to construct chronologies of fire events. The Wildland Fire Use Record form is the recommended format to document fire severity. Working copies of all forms may be found in the back of this guidebook.

The wilderness fire data table is updated weekly as part of the district and forest situation reporting procedures (NICC 1997). All wilderness fires, however managed, are entered into the data table. The data table is an excellent source of forest(s) and regional activity. Each forest sends their weekly updates to the regional coordination center where all forest data tables are combined and redistributed to the forest(s).

Ongoing monitoring of cumulative effects resulting from concurrent wildland fire activity in the Anaconda Pintler Wilderness will be conducted by the Anaconda Pintler fire coordinator.

Holding Actions

This section identifies holding actions that may be required to maintain the fire in prescription. Identified trigger points, when reached, initiate holding actions. If the expected fire perimeter approaches the MMA boundary, the necessary counter measures should be clearly described as part of the implementation plan. Include cost estimates for implementation. An action plan with clear direction must be developed to guide the tactical deployment of resources needed to accomplish the holding action.

Minimum Impact Suppression Tactics (MIST) will be used on all holding actions. These tactics are addressed in each Forest's Fire Management Plan.

Resources Needed to Manage the Fire

Describe the organization and skills needed to manage the fire based on the expected fire projections. Also, describe the number, type, and qualifications of resources (overhead, crews, engines, helicopters, etc.) needed to monitor and implement the holding actions.

Two positions currently are mandatory to plan and implement a WFIP. A Fire Behavior Analyst (FBAN, or LTAN) is required to predict fire growth through expected normal and severe case scenarios. These projections are completed during stage III of the WFIP. A Fire Use Manager (FUMA) is assigned during the Stage I analysis. The FUMA is directly accountable to the designated line officer for implementation, coordination, and ongoing management of the wildland fire use project, fire use managers are required to have extensive experience and knowledge in representative fuel types and have successfully performed as a Complex Burn Boss.

Estimated Costs of Managing the Fire

Calculate a total cost estimate for managing the wildland fire, itemizing costs for planning, monitoring, and holding.

Contingency Actions

Contingency actions are implemented when a wildland fire use project exceeds its prescriptive elements. Items in the contingency action plan may be the foundation for the preparation of a Wildland Fire Situation Analysis (WFSA). The level of contingency planning should be commensurate with any probable threat. If severe case projections show no threat to the MMA, then elaborate contingency plans regarding access and deployment of firefighting resources are unnecessary. Detailed contingency plans are necessary when initial projections indicate a possible threat to the MMA, or when the fire's progression causes reassessment of the original assumptions and projections. A detailed contingency plan should address the following issues:

Natural barriers, area boundaries, and other ownership
- Inter/intra coordination needs
- Tactical guidelines
- Resource needs

Implementation strategy (who, what, where, when and how)

Identify who has the decision authority to initiate a WFSA, select the appropriate suppression response, and assume command of the fire. Describe how the resources assigned to the wildland fire use project would be organized to suppression response.

Information Plan

The Wildland Fire Use Public Information Plan (Chapter 5) consists of a general information package and a list of contacts which is updated annually.

Post-Burn Evaluation

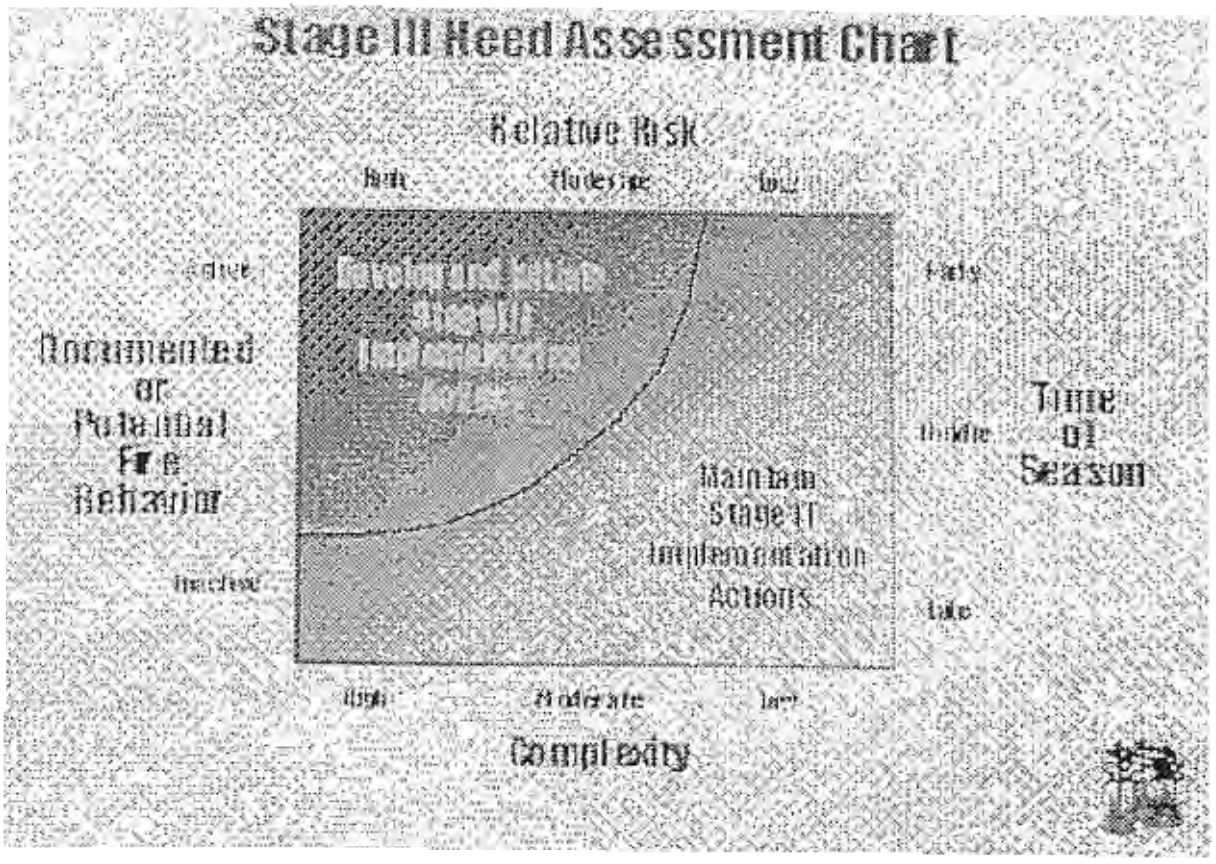
Consult Forest Service Manual 5140 for the most current reporting and evaluation requirements for wildland fires. In addition each unit has the latitude to perform field reviews as needed. The review process documents all management decisions pertinent to the fire, includes a copy of the WFIP, and develops a final incident summary comparing projections and estimates (costs, size, fire behavior, etc.). A field review to verify on-the-ground fire effects is not required; however, visiting select fires representing a range of habitat types is recommended.

When possible, the district fire manager or assistant will prepare a fire severity map for all fires 50 acres or greater. This map will be used to develop a data base of fire size and severity to carry forward research evaluating fire effects on vegetation types. Specific items to evaluate may include the following:

1. Summary of events, display of monitoring observations. The following items may be included and mapped out if possible:
    a. Fire area, list acres.
    b. Daily fire projection map and estimated rates of spread.
    c. Daily fire intensity observations.
    d. Crown fire area, list acres and % of area.
    e. Lethal underburn, list acres and % of area.
    f. Nonlethal underburn, list acres and % of area.
    g. Unburned area within fire perimeter, list acres and % of area.
    h. Estimated fuel consumption.
    i. Estimated smoke production (based on estimated fuel consumptions)
    j. Summary of weather patterns, list averages and extremes as needed.
2. Validation of fire behavior projections.
3. Holding forces used to keep fire within prescription.
4. Cost estimates.
5. Smoke impact estimates.
6. Trail closure impacts.
7. Impacts on public and private property in/out of the wilderness.
8. Evaluations of key decisions made during the life of the fire.
9. Impact to structures and trail system within wilderness.
10. Summary of monitoring field trip if one occurred.

A fire severity map, a daily progression map with the associated weather data, would be the minimum package for long-term documentation and evaluation needs and should include a summary statement. This statement describes the relationship of the risk assessment and fire

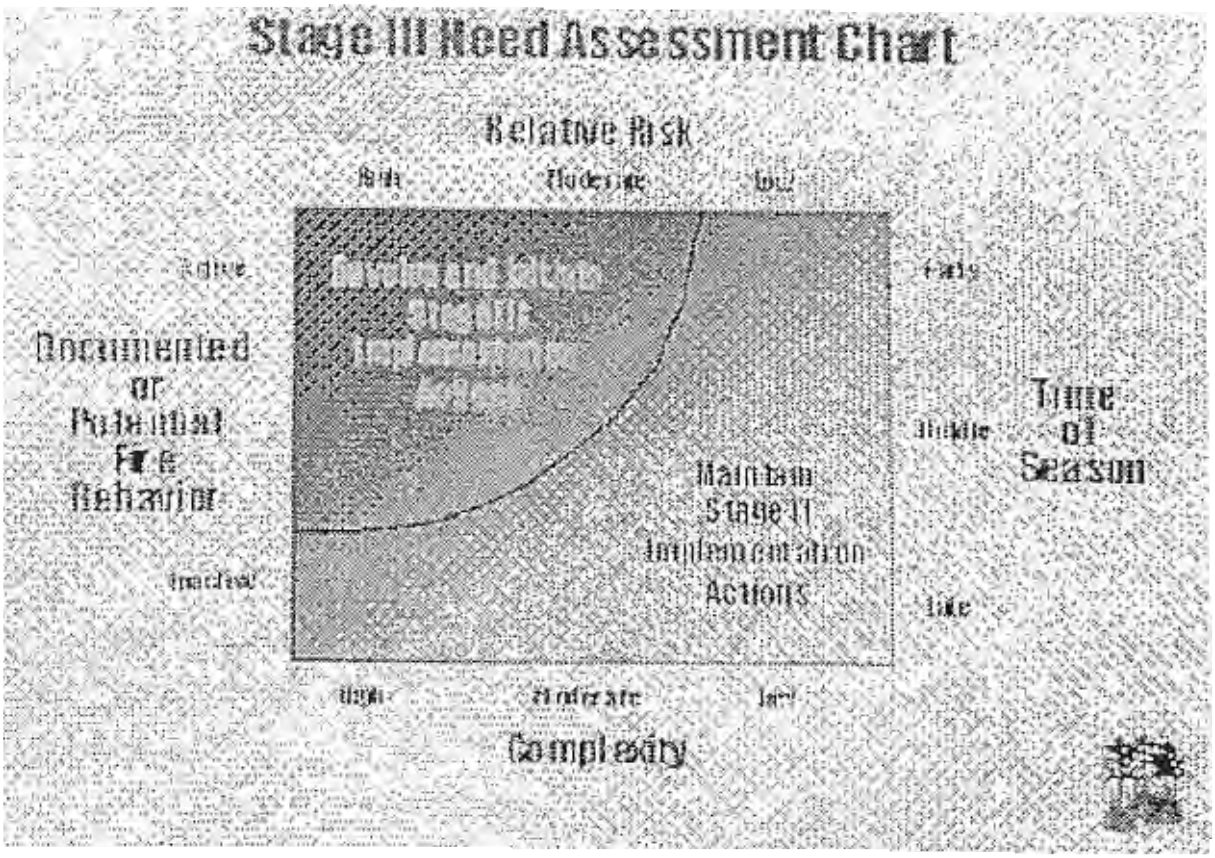
projections to the implemented actions within MMA. This summary combines the elements of the wildland fire use project and Stage III, and provides rationale for establishing the MMA based upon mitigation of the identified risks. Document the WFIP Analysis Team members in this section.


Stage III Need Assessment Chart
Relative Risk
Documented or Potential Fire Behavior
Maintain Stage II Implementation Actions
Time of Season
Complexity

PERIODIC FIRE ASSESSMENT
PART 1: RE-VALIDATION CHECKLIST

Decision Element	*Yes*	*No*
Is there a threat to life, property, or that resources that cannot be mitigated?		
Are potential effects on cultural and natural resources outside the range of acceptable effects?		
Are relative risk indicators and/or risk assessment results unacceptable to the appropriate Agency Administrator?		
Is there other proximate fire activity that limits or precludes successful management of this fire?		
Are there other Agency Administrator issues that preclude wildland fire use?		
Do expected management needs for this fire exceed known capabilities?		

PERIODIC FIRE ASSESSMENT
PART 2: STAGE III NEED ASSESSMENT



PERIODIC FIRE ASSESSMENT

SIGNATURE TABLE

Name/Title	*Date*	*Fire can continue to be managed for resource benefits (wildland fire use action).* *Y/N*	*Fire can continue to be managed under the short-term Implementation Action.* *Y/N/NA*
Assessment Frequency			
Valid Date(s)			

Instructions for Completing Periodic Fire Assessment

The Periodic Fire Assessment is a process to prevent the unchecked escalation of an individual fire situation or the total fire management situation without evaluation and adequate planning. Part 1 evaluates the capability to continue implementation of the appropriate management response to this fire for achieving resource benefits for a specified period following the assessment i.e., the next 24 hour period or longer, depending upon fire weather and fire behavior forecasts or other anticipated conditions. This assessment will be completed and periodically reviewed for validity. The "assessment frequency" box on page 1 specifies the frequency of assessing the particular fire. Assessment frequencies will be set by the local unit but are recommended to range from every day to every ten days depending upon the fuel type and geographic location of the fire. Recommendations for minimum assessment frequency include the following: grass fuel types = daily; shrub and timber fuel types = every 1-5 days; Alaska = every 1-10 days.

The "valid date(s)" box is inclusive of those dates where the assessment remains valid, as indicated by the dated signature. When any decision elements change from "no" to "yes", a new checklist must be completed for documentation purposes. A "yes" response to any element on the Part 1 checklist indicates that the selected appropriate management response is not accomplishing or will not accomplish desired objectives and that a new strategic alternative should be developed immediately through the use of a WFSA.

The Periodic Fire Assessment, Part 2 is a process that must be completed periodically for all wildland fires managed for resource benefits that do not have a completed WFIP Stage III. For isolated ignitions in fuel-limited situations, Part 2 does not have to be completed. When completing Part 2 of this checklist, if the chart indicates that WFIP Stage III is needed, it must be prepared within 24 hours.

When units establish monitoring and assessment frequency, it may be appropriate to develop a "step-up" system based on fire size or levels of fire activity. Then, as an individual fire gets larger or becomes more active, the monitoring and assessment frequency can correspondingly increase. Conversely, as fire activity lessens and fire size increases become less common, monitoring and assessment can "step-down" and become less frequent. Units must identify standards and rationale for establishing assessment frequency, especially "step-up" and "step-down" actions. If fire size is used as a determinant, then past burning rates should be used to formulate standards. If fire activity is used, then levels of burning (acres per day, etc.) must be definable and justifiable. The Agency Administrator or delegated individual must sign the Signature Page on the specified assessment frequency.

WILDLAND FIRE USE RECORD

Fire Name_____ District_____ S.O.# _____
Fire Size_____ Ignition Date_____ Ignition Location_____
Cover Type at ignition point_____Recorder/Report Date_____
Fire Suppression action taken (none, confine, contain, control)_____

Acres Burned by Severity Class and Cover Type

Vegetative Cover Type	Crown Fire	Lethal Underburn	Nonlethal Underburn	Acres Unburned	Total Acres
Total acres burned in each severity class					

Give a narrative description of fire characteristics observed. For example, was the fire predominately a backing or head fire? What were the predominate surface fuels affecting fire growth? Did the fire leave patches of unburned vegetation? What weather factors accounted for most of fire growth? Indicate whether ground or aerial observations were the source of this information.

*Map daily growth and final perimeter on a 7.5" topo. map. Quad Name*_____

Photos of the following provide useful information: burning behavior in ground fuels, panoramic shots showing burning pattern, cover types burned. Please describe type, number, and location of available photos.

WILDLAND FIRE USE OBSERVATION RECORD

Fire Name:		Fire#:	
Date:		Time:	
Management Unit:			
Current Fire Size:			
Observation Location:			

**Attach current map indicating active fire perimeter, spread direction, and other significant information.*

Vegetation type/fuel model (of area burned)
Fire Activity (narrative description of fire spread, perimeter growth, & relative intensity)
Projected fire activity (based on forecasted weather and changes in topography and fuels)
Smoke dispersal, including both plume trajectory and subsidence movement
Special concerns/threats and/or recommendations

**Attach weather observation/fire behavior observations with location/elevation - there are several tally sheets to record these observations. Units may prefer to use their own.*

Prepared by: Name, title, qualification		Date	
Reviewed by: Name, title, qualification		Date	

FIRE INFORMATION FOR STATE OF THE WILDERNESS REPORT

Fire Name:	**Number:**
Location:	**Date:**

Criterion number corresponds to reason for **not** implementing wildland fire use (WHY column) in the R1 wilderness fire data table.

1. Person Caused Indicators:			
2. Threat to Boundary Explain:			
3. Threat to Life or Property Explain:			
4. Activity Level	National Preparedness Level		Regional Preparedness Level
	Local Situation		
5. Fire Potential	3-day ERC at		weather station is
	Weather record mean	80th %ile	KBDI
	season trend		
6. Air Quality Explain:			
7. Funding Explain:			
8. Line Office Discretion Explain:			
9. Other Explain:			

Instructions for completing Fire Information for SOW Report Form

Wilderness program monitoring requires that impacts of management activities on the wilderness resource be reported annually (USDA, 1992b). The State of the Wilderness Report documents reasons for wildfire declaration within wilderness; this data is extracted from the R1 wilderness fire data table. The prescription criteria, forming the initial decision analysis have been reworded in WFIP and an additional stage added prior to making a wildfire declaration. The wildfire declaration should be documented ("why" column in the wilderness fire data table) for wilderness fire reports.

1. **Person-caused**. Present Forest Service policy (FSM 2324.22) states that a candidate wildland fire use project must have been started by lightning. Indications which suggest that a fire may be person-caused include:

- No lightning activity within the past two or three weeks.
- Point of origin is near a trail or campsite, especially during hunting season.
- No sign of a lightning strike at the fire site.

If the fire was detected by aerial patrol, often the observer can look for human activity in the area. A fire investigator may be dispatched if a fire is suspected to have been person-caused.

2. **Threat to Boundary**. Either initial ignition or projected fire perimeter has a high probability of crossing FMU area boundary. Rationale for determining that the fire was a threat to boundary is a part of the risk assessment that occurs in each stage of the wildland fire implementation process.

3. **Threat to Life or Property**. Either initial ignition or projected fire perimeter has a high probability of impacting inholdings, permitted facilities, or administrative sites or structures.

Protection of human life is reaffirmed as the first priority in wildland fire management. Protection of property and natural and cultural resources is secondary to firefighter and public safety (U. S. Departments of Interior and Agriculture 1995). In the event that resources are committed to a wildland fire, safety of the personnel becomes the first priority for management of that fire.

Indications that campsites are occupied can be monitored by air, and contacts can be made by wilderness rangers. Outfitter itineraries provide Forest Service personnel the means to provide ample warning for the protection of life and property of permittees and their clients under forecast conditions.

General areas within which an ignition may pose a threat to protected property under specified conditions have been identified on the fire plan map. In response to the interagency fire policy review, structure protection will be based on estimates of suppression costs commensurate with values to be protected (U. S. Departments of Interior and Agriculture 1995). Site protection plans provide specific guidance regarding structure defensibility under various conditions and commensurate resource needs to protect structures. Included are reasonable cost estimates to implement the plans. Document mitigating factors (*e.g.* wet season, late in

season, NDVI greenness, fuel loading and arrangement) which support wildland fire use declaration in risk zones. Document factors which support wildfire declaration.

Forest Service officials shall avoid giving the agency the appearance of being prepared to serve as a structure fire suppression organization (FSM 5138.2). Forest Service personnel shall limit structural fire suppression actions to exterior attack. (FSM 5138.3).

4. **Activity Level.** Concurrent wildland fire activity on the Forest, in the region, or nationally makes it improbable that management and holding forces are or will be available to manage the fire.

National Preparedness Levels IV and V no longer preclude the ability to declare wildland fire use project, however Regional level agency representatives must concur with the local unit recommendation for wildland fire use in Level IV, and National level representatives must concur with the Regional recommendation for wildland fire use in Level V. The goal is to permit individual unit fire management plans to operate while still acknowledging the importance of each decision to the national situation (FFALC 1995). Evaluation of significant risk is made by Regional or State agency representatives in presenting wildland fire use implementation proposal to Geographic Area MAC Group prior to prescribed fire approval (National Interagency Mobilization Guide, 1996).

Once an ignition is declared a wildland fire use project, it is considered on an equal basis with concurrent wildland fire activity for allocation of resources. When multiple ignitions occur but cannot all be managed for wildland fire use, prioritization due to fire regime type or other consideration should be documented here.

5. **Fire Potential.** Initial ignition exceeds prescription or projected fire has a high probability of breaching the FMU boundary. Evaluations of the fire potential are considered in each stage of the WFIP. The information gathered for determining that the fire was a threat to boundary is a part of the risk assessment that occurs in each stage of the wildland fire implementation process.

If a new ignition falls within an existing MMA and the burn plan analysis documents that no new starts would be considered as a wildland fire use project, the appropriate management response will be initiated on the new ignition.

6. **Air Quality.** Either initial ignition, numbers of ignitions, or projected fire activity will adversely impact air quality inside or outside of the FMU area.

The Environmental Protection Agency (EPA) recently set policy which does not excuse wildland prescribed fires from exceeding national ambient air quality standards (NAAQS) for PM-10 (particulate matter having a nominal aerodynamic diameter less than or equal to 10 microns) (EPA 1996). Even more recently, the EPA issued standards for PM 2.5 and ozone to take effect September 1997 (USDA 1997). The implementation time line proposed by the EPA calls for PM 2.5 monitors to be in place nationwide by 1998 to 2000. The EPA will develop broader guidance in the near future to address issues raised by smoke emissions from

wildland prescribed fires and other policy issues surrounding prevention of significant deterioration, conformity, visibility protection programs and regional haze.

7. **Funding**. The Wildland Fire Management appropriation will fund Wildland Fire. Wildland Fire is from unplanned ignitions. Natural ignitions that pose significant threat to resources will also receive emergency suppression responses. Natural ignitions that offer resource benefits will receive a graduated response based on approved plans. Funding for managing natural ignitions for resource objectives has been moved from preparedness to operations. Under the new appropriation, the Federal firefighting agencies do not cross-bill each other for personnel or resources used in wildland fire.

The Forest Service will use three fund codes to track Wildland Fire management funds. We will continue to use WFSU (Wildland Fire Suppression), as before, for emergency suppression responses. This work will be recorded using "P" codes (WFSU PF12). Wildland fire managed for resource objectives (natural ignition) will use the same fund code but record the work with a "G" code that permits tracking of resource benefit target accomplishments (WFSU PF241). Funding will be defined by the elements and actions associated with the site specific burn plan; the appropriate level of consultation will be initiated with the Regional Fire Use Specialist.

8. **Line Officer Discretion**. Line officer has other issues or concerns that preclude approval of a wildland fire use project.

The previous seven criteria address known factors which might adversely affect the outcome of a wildland fire use project. If the District Ranger or Forest Supervisor identifies additional concerns, these should be documented here and carried forward as issues for discussion at Anaconda Pintler Wilderness fire working group meetings.

Documentation of the appropriate management response also applies in the situation when Preparedness Levels elevate recommendation consultation to the Regional or National Levels, and the agency administrator/line officer does not concur with the recommendation for wildland fire use project wildland fire use project. If a perception of significant risk exists at the Regional or National level which was not identified at the local level, reassessment of risk identification measures should be carried forward for discussion at the next scheduled Anaconda Pintler Wilderness fire working group meeting. If the need for appropriate management response is the result of a regional or national moratorium on wildland fire use, document decision element 8 on the SOW report form and include these comments as a permanent record in the wilderness fire data table.

9. **Other**. Specify.

In areas outside wilderness, forest plan direction for the management area in which the ignition occurs may place limits on the type or amount of fire which is acceptable. Document constraints, and monitor documentation for patterns which may develop. As new sources of risk are identified, they will be evaluated for inclusion in the data by the Anaconda Pintler Wilderness fire working group.

STRUCTURE EVALUATION WORKSHEET

STRUCTURE: _____ (1 of) SITE: _____

Roof: construction type/condition _____

Siding: material/condition _____

Heat traps: gables/decks/porches/vents _____

Foundation: type/material/condition _____

Windows: exposed/covered/type _____

Overhead lines: power/phone/shutoffs _____

Underground lines: power/phone/shutoffs _____

Fuel storage: type/quantity/lines/shutoffs _____

_____

Outside combustibles: wood piles/fences/yard accumulation _____

_____

Septic tank/location: _____

Position on slope: _____

Working space - minimum clearance guide:

Slope percentage	Uphill	Actual	Sides	Actual	Downhill	Actual
Level to 20%	100 ft.		100 ft.		100 ft.	
21% to 40%	150 ft.		150 ft.		150 ft.	
41% to 60%	200 ft.	_____	200 ft.	_____	200 ft.	

Additional comments: _____

_____

_____

_____

_____

_____

Prepared by: _____ Date: _____

(attach drawings, notes, or other appropriate information)

SITE EVALUATION WORKSHEET

SITE: _____ **LEGAL:** _____

Factors influencing rate of spread:

Slope _____ Position on slope _____ Aspect Fuel model

Fuel continuity _____ Ladder fuels _____

Remarks: _____

_____

Resources:

Water supply (type and capacity) _____

_____

Equipment on site _____

_____

Available barriers _____

_____

Access/egress:

Road (width, grade, condition, bridges, etc.) _____

_____

Trails _____

Airstrip _____

Helispot _____

Boat _____

Occupancy (number, type, duration, etc.) _____

_____

Identified Protection Level:

1. _____ No protection
2. _____ Handline construction concurrent with threatening fire
3. _____ Handline and burnout concurrent with threatening fire
4. _____ Fire shelter or water system protection concurrent with threatening fire
5. _____ Fugitive retardant drops concurrent with threatening fire
6. _____ Use of heavy equipment for fireline construction concurrent with threatening fire
7. _____ Site/Structure/Improvement pretreatment fuels reduction of unnatural fuels prior to fire event
   a. Fuels reduction
   b. Flammable material movement (firewood, fuel, etc.)
   c. Change in building materials

Proposed Tactics: _____

_____

Probability of success:

		Flame length	0-2'	2-4'	4-6'	6-8'	8'+
Fair	40%+			____	____		
Good	60%+		____	____	____	____	____
Excellent	80%+		____	____	____		

Prepared by: _____ Date:

(draw site map on back; attach other notes or appropriate information)

WILDLAND FIRE USE EVALUATION FORM

Fire Name:	Date:
Evaluator:	

FOR EACH OF THE FOLLOWING STEPS INCLUDE WAYS TO IMPROVE

1. Decision flow smooth and timely: ( ) yes ( ) no	
Remarks:	
2. Accuracy of Fire Behavior Predictions:	
3. Safety Considerations:	
4. Cost Effectiveness:	
5. Smoke Management Impacts:	
6. Effects on Vegetation:	
Total Acres:	% Crown Fire:
% Lethal Underburn:	% Non-lethal Underburn:
% Unburned:	
7. Other effects (soil, water, wildlife, trails):	
8. Remarks, observations, recommendations:	

APPENDIX D

DELEGATION OF AUTHORITY LETTERS

- Beaverhead-Deerlodge National Forest Delegation of Authority Letter
- Bitterroot National Forest Delegation of Authority Letter

APPENDIX E

WILDLAND FIRE USE CONTACT LIST

Federal Agencies

National Forests:	
Beaverhead-Deerlodge N.F.	683-3900
Pintler R.D.	859-3211
Wise River R.D.	832-3178
Wisdom R.D.	689-3243
Bitterroot N.F.	363-7133
Sula R.D.	821-3201
Regional Fire staff:	
Rich Lasko	329-3232
Sandy Evenson	329-3401
Regional Wilderness Staff:	
Steve Morton	329-3522
Liz Close	329-3587
Bureau of Land Management:	
Butte, District Office	494-5059
Dillon, Resource Center	363-2337
Federal Aviation Administration	1-800-632-4810
U.S. Fish and Wildlife Service	449-5225 (Helena)
NOAA, National Weather Service	449-5204 (Helena)
US Park Service:	
Big Hole Battlefield	689-3155

Montana State Agencies

Montana Department of Fish, Wildlife & Parks:	
Gary Hammond	683-4549
Mike Frisina	782-2060
Lyn Neilson	961-4670
MDFW&P (Missoula)	542-5500
Department of State Lands:	
Ravalli	363-1585
Anaconda	563-6078
Missoula	542-4290
Air Quality Bureau (Helena)	444-4354
Aeronautics Division, Dept. of Commerce (Helena)	444-2506

Highway Dept:	
Hamilton	363-4477
Phillipsburg	859-3932
Highway Patrol	(800)525-5555

City/County Governments

Ravalli Co. Sheriff	363-3033
Ravalli Co. Commissioners	363-6200
Ravalli Co. Rd. Dept.	363-2733
Silver Bow Co. Sherriff	782-4224
Silver Bow Co. Commissioners	723-8262
Beaverhead Co. Sheriff	683-2383
Beaverhead Co. Commissioners	683-5245
Granite Co. Sheriff	859-3251
Granite Co. Commissioners	859-3771
Deerlodge Co. Sheriff	846-2711
Deerlodge Co. Commissioners	563-8421

Airshed Coordinators

04 Jack Kirkendall, Bitterroot NF	363-7135
05 BLM, Butte	494-5059
07 Judy Crandall, Beaverhead NF	683-3975

Others

MT Wilderness Assoc., Louise Bruce, Pres	683-6437
Airport, Hamilton	363-3833
Marcus Daly Hosp. Emergency Room	363-2211
Ravalli Co. Ambulance	363-3033

SULA RANGER DISTRICT

Commercial Operations

Broad Axe Lodge	821-3878
Lost Trail Hot springs	821-3574
Rocky Knob Lodge	821-3520
Camp Creek Inn	821-3508
Sula Store	821-3364
Sula Post Office	821-3852

East Fork Residents

Bill Dowden	821-3067
El Foss	821-3526
Phyllis Freisen	821-4326
Bob Metcalf	821-3542
Bud Hansen	821-3765
Red Hamilton	821-3432
Marvin Hamilton	821-3432
Jack Joem	821-4726
Bob Wetzsteon	821-3562

PINTLER RANGER DISTRICT

Special-Use Permits

Jim Weaver (Cabin, Inholding, patented mining claim head end of Copper Ck.)	721-4009
R-Y Timber, Daron Duncan (formrly Dennis Washington Properties)	266-3111
Dept. State Lands: Fire Dept. State Lands: Other	563-7944 563-6078

Adjacent Landowners

Fred Belinger (Moose Lake)	859-3493
George McArthur (work)	919-629-2131
(Senate Mine) (home)	919-824-1620
Helen Dowdall (Senate Mine)	563-2744

Outfitters

Vaughn Esper - Wildskies	859-3000
Bob Hoge	

WISE RIVER RANGER DISTRICT

Special-Use Permits

Billy Stockton	723-7685
Sundance Lodge	689-3611
Russ Smith Lance Stanchfield	859-3948 832-3152
Wilder. Ventures Jackson Hole	(307) 733-2122

Adjacent Landowners

Buzz Kirkpatrick	689-3638
Harry Humbert	689-3637
Palisades-Gunnar Kalsta Don Smith	835-3301 835-3291
Lee kirkpatrick	832-3167
Ernie Bacon Bert Bacon	689-3615 689-3616
John Anderson	689-3618
John Reinhart	832-3141
Deanne Roush	832-3154
Chuck Halvorson (Camp Arcola)	494-8416
Wise River Volunteer Fire Dept.	832-3366

WISDOM RANGER DISTRICT

Special-Use Permits

Kim Bacon, Bacon Ranch	689-3634
Pete Peterson, Arrow Ranch (Dreise Ranch now part of the Arrow)	689-3631
Blanche Buck, Buck Ranch (was the Spannuth Ranch)	689-3164
Carl Lewis (was the Wildwood Land & Cattle Co.)	689-3139
Leon Coon	689-3175
Vaughn Esper - Wildskies	859-3000

Deep Creek Residents

Frank Gardner	832-3158
Jack Hancock	832-3157
James Harrington	832-3189
Allan Howe	832-3381
Larry Jaeger	832-3319
Paul Olson	832-3164
Chris Spolar	832-3241
Al Street	832-3277
Jim Street	832-3314
Ray Tillman	832-3204
Gene Thompson	832-3151

Mining Claimants

Richard Walch	728-6411
Thomas Wheatley	728-6542

APPENDIX F

JOB HAZARD ANALYSIS

FS-6700-7 (2/98)

U.S. Department of Agriculture Forest Service	1. WORK PROJECT/ACTIVITY	2. LOCATION	3. UNIT
	Wildland Fire Use	**Various**	**BDF & BRF**
JOB HAZARD ANALYSIS (JHA) References-FSH 6709.11 and -12 (Instructions on Reverse)	4. NAME OF ANALYST	5. JOB TITLE	6. DATE PREPARED
	L. Kirkpatrick	**Forestry Tech**	**05/03/00**

7. TASKS/PROCEDURES	8. HAZARDS	9. ABATEMENT ACTIONS Engineering Controls * Substitution * Administrative Controls * PPE
*Travel to, from and on Project.	motor vehicle accidents; slippery road surfaces,soft shoulders,unimproved and narrow roadways; weather darkness,smoke	Driving Defensively. Use seat belts. Identify road conditions during briefings. Post Road Guards. Mark hazards. Use Headlights. Perform preuse inspections on equipment. Scout roads and identify turnouts. Maintain communications. Provide road system map for project. Use Backers and chock vehicle tires. Have vehicles facing out.
*Qualifications For assigned Position	lack of experience, Injuries	Workers recruited for fire assignments shall meet age,health, and physical requirements established for regular firefighting duties.(FSH 5109.16) Also meet wildland fire use qualifications.
*Briefing	lack of communications	Provide project briefing that will clarify organization responsibilities, communications, hazards, weather, and expected fire behavior.
*Protective Clothing and equipment	injuries, burns and death	Wear Hard hat with chin strap, safety glasses, Nomex Fire resistant pants and shirts. Keep sleeves rolled down. Wear leather, lace type, boots with skid resistant soles, and tops at least 8 inches high. Carry drinking water and fire shelter. Wear OSHA approved firefighting gloves. wear hearing protection when working around equipment where noise level exceeds 90 dba. Wear additional protective equipment as dictated by local conditions and exposure to special equipment.
*Hand Tool Use	injuries, rolling material	Supervisors and fellow employees should ensure hand tools are being used and maintained in a safe manner. Ensure proper spacing and be alert to items that could create hazards to crewmates (rolling logs, rocks, etc.)

*Holding/Mop Up/Patrol Crews	smoke,burns,falls, back injuries, bees, posion oak,snags, rolling material,eye injuries; heat stress. dehydration, CO poisoning	Wear PPE's listed above. LCES, Follow Standard Fire Orders and Watch out Situations. Receive briefing from Holding and Mop Up Boss. Identify hazards in work area. Flag hazards for others. Maintaining a high level of aerobic fitness is one of the best ways to protect yourself against heat stress. Drink lots of fluids before,during and after work. Periodically rotate crews from work sites with high smoke levels to areas of less smoke or smoke free areas. Protective clothing and equipment shall be the same as required for firefighting. Maintain communications with the local district/dispatch.
*Chainsaw/Crosscut Use	injuries and death	All PPE will we worn when operating chainsaw. Use lookouts and ensure folks are in the clear when doing any falling. All operators will be certified at appropriate level for size and type of timber. If tree can not be fell, ribbon off and warn others.
*Emergency Evacuation Procedures (EEP) Communication	serious illness, injuries	1) Check radio communication when arriving on site. Have extra battries for radios. 2) Provide trauma or first-aid kit. 3) Have contact with district or dispatch; if needed set-up check-in hours, or have a relay put in. 4) Give person legal description of burn site. Locate nearest helecopter landing site and its location in relation to fire, notify district/dispatch so they will know which lifeflight to notify. 5) Identify your medical people on site.
*Fire Behavior	serious injury, death	Be aware and stay on top of current and expected fire behavior. Always have escape routes and safety zones identified and known to all personnel.
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10. LINE OFFICER SIGNATURE	11. TITLE	12. DATE

LIST OF PREPARERS (2000 Update)

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Chuck Stanich	Fuels Specialist	Bitterroot National Forest
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LIST OF PREPARERS (1993 Update)

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Gerry Alcock	Dennis Havig	Susan Wetzsteon	Patty Anderson
Darrell Anderson	Terry Vaughn	Tim Gray	Margie Cameron
Sharon Frey	Moxon Hart	Denny Edwards	Dixie Dies

Amendment 19

Salmon Mountain Research Natural Area

Establishment Record

Document in permanent Forest files.

United States Department of Agriculture | Forest Service | Bitterroot National Forest | 1801 North First Hamilton, MT 59840 (406) 363-7100

File Code: 2310 **Date:** January 10, 2002

Subject: Site-Specific Travel Management Planning Priorities

To: Regional Forester

Attached are a description and map of the Bitterroot National Forest's site-specific travel management planning priorities. This is provided to fulfill the requirements of the Off-Highway Vehicle Record of Decision signed in January 2001. If you have questions, please direct them to Sue Heald, Planning Staff Officer, at (406) 363-7142.

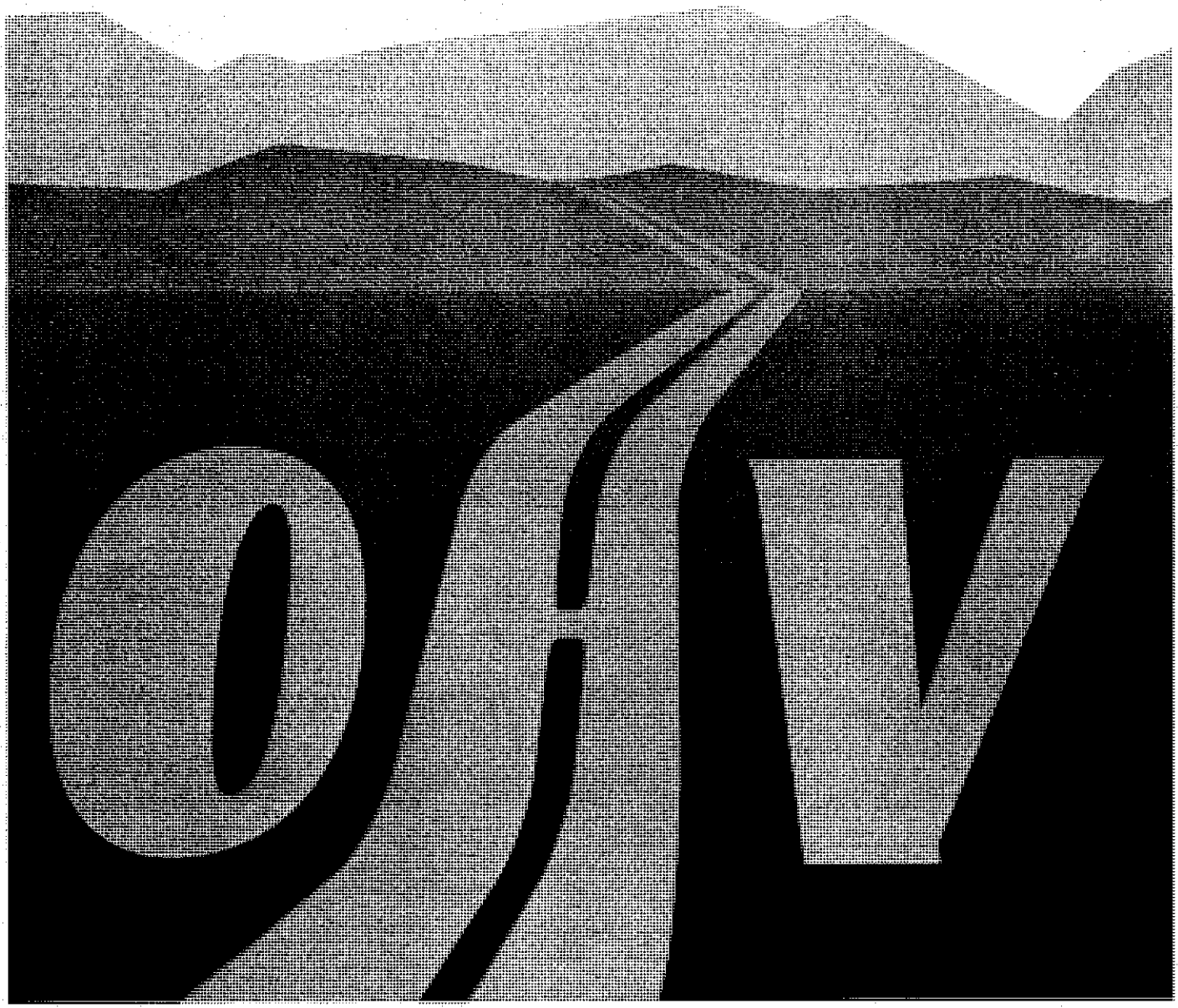
/s/ Jeff S. Amoss for
RODD RICHARDSON
Forest Supervisor

Enclosures

United States Department of Agriculture
Forest Service
Northern Region

January 2001

OFF-HIGHWAY VEHICLE
RECORD OF DECISION AND PLAN AMENDMENT FOR MONTANA, NORTH DAKOTA AND PORTIONS OF SOUTH DAKOTA



RECORD OF DECISION

Amendment to Nine National Forest
Land and Resource Management Plans
In Montana, North and South Dakota

Management Direction Related to
Off-Highway Vehicles

INTRODUCTION

The Forest Service (FS) has made a decision to the amend forest plans listed in Table 1.1. The amendment eliminates wheeled motorized cross-country travel with a few specific exceptions. The decision is based on the analysis in the Final Environmental Impact Statement (FEIS), which was prepared jointly with the Bureau of Land Management. This decision document applies to National Forest System Lands only.

Each national forest and grassland manages OHV use based on its land and resource management plan (referred to as forest plans). The Dakota Prairie Grasslands are currently covered by the Custer National Forest plan and included in that plan.

Table 1.1 FS Forest Plans
Beaverhead National Forest Plan (1986)
Bitterroot National Forest Plan (1987)
Custer National Forest Plan (1987)
(Includes Dakota Prairie Grasslands)
Deerlodge National Forest Plan (1987)
Flathead National Forest Plan (1986)
Gallatin National Forest Plan (1987)
Helena National Forest Plan (1986)
Kootenai National Forest Plan (1987)
Lewis and Clark National Forest Plan (1986)

Location of the Analysis Area

FS Northern Region in Montana, North Dakota, and portions of South Dakota administers 18.2 million acres of National Forest System (NFS) land located within nine national forests and the Dakota Prairie Grasslands. About 10 million of the 18.2 million acres of NFS lands are currently designated as available to motorized wheeled cross-country travel, either seasonally or yearlong, and would be affected by this Record of Decision (ROD). Table 1.1 displays the plans affected by this analysis. The national forests and grasslands acreage affected are listed in Table 1.2.

The scope of this analysis does not include the northern Idaho portion of the Northern Region. The north Idaho forests complicated the cooperative effort with the BLM because the whole state of Idaho falls within a different BLM administrative unit. In addition the dense forests and steeper terrain in north Idaho result in relatively fewer problems from cross-country travel by wheeled motorized OHV's.

Table 1.2

National Forests and Grasslands	Affected Acres	Total Acres
Beaverhead-Deerlodge National Forest	1,921,000	3,352,000
Bitterroot National Forest	796,000	1,117,000
Custer National Forest	758,000	1,187,000
Dakota Prairie Grasslands*	1,260,000	1,260,000
Flathead National Forest	1,211,000	2,353,000
Gallatin National Forest	780,000	1,801,000
Helena National Forest	571,000	975,000
Kootenai National Forest	1,551,000	2,220,000
Lewis and Clark National Forest	1,347,000	1,862,000
Lolo National Forest	0	2,082,000

*Dakota Prairie Grasslands are currently managed in accordance with the Custer National Forest.

Background

The increased popularity and widespread use of OHV's on public lands in the 1960's and early 1970's prompted the development of a unified federal policy for such use. Executive Order (EO) 11644 was issued in 1972 and EO 11989 was issued in 1977 (Appendix A of the FEIS). They provide direction for federal agencies to establish policies and provide for procedures to control and direct the use of OHV's on public lands so as to (1) protect the resources of those lands; (2) promote the safety of all users of those lands; and (3) minimize conflicts among the various users on those lands. The FS developed regulations in response to the EO's (36 CFR 216, 219, and 295). Under those regulations, OHV use can be restricted or prohibited to minimize (1) damage to the soil, watershed, vegetation, or other resources of the public lands; (2) harm to wildlife or wildlife habitats; and (3) conflict between the use of OHV's and other types of recreation.

External and internal reviews have identified concerns with the FS implementation of the EO's (1995, General Accounting Office, Information on the Use and Impact of Off-Highway Vehicles; 1986, Forest Service review of its OHV program; and the 1979 Council on Environmental Quality review of Off-Road Vehicles on Public Land). These reviews have identified numerous resource concerns that would be addressed by this proposal.

The FS recognizes in their respective forest plans, policy, and manual direction, that OHV use is a valid recreational activity when properly managed. Managing this use along with other recreation uses and the need to protect natural and cultural resources has become increasingly more difficult with increased public demands.

Figure 1.1 Decision Levels for Travel Planning

Decision Level One Forest Plans		Decision Level Two Site-Specific Planning At the Local Level
Provides direction for acceptable uses and protection measures. Identifies goals, objectives, standards and guidelines for future decision-making through site-specific planning. Designates areas as closed, open, or limited/ restricted to motorized wheeled cross-country travel.		Provides analysis of site-specific road and trail management designed to achieve goals and objectives of the forest plan. Includes identification of when and where individual roads and trails would be open or closed to various types of use.

Planning for units of the National Forest System involves two levels of decision (Figure 1.1). The first level, often referred to as programmatic planning, is the development or amendment of forest plans that provide management direction for resource programs, uses, and protection measures. Forest plans and associated amendments are intended to set out management area prescriptions or direction with goals, objectives, standards, and guidelines for future decision-making through site-specific planning. This includes the designation of areas as closed, open or restricted to motorized wheeled cross-country travel. The environmental analysis accomplished at the plan amendment level guides resource management decisions on National Forest System (NFS) lands and aids, through the tiering process, environmental analyses for more site-specific planning. This FEIS is a programmatic, forest plan level, document.

The second level of planning involves the analysis and implementation of management practices designed to achieve goals and objectives of the forest plan. This is commonly referred to as site-specific planning. It requires relatively detailed information that includes the location, condition, and current uses of individual roads and trails, and the identification of when and where individual roads and trails will be open or closed to various types of use. This step is accomplished through the site-specific planning process at the local level.

It is important for the reader to note that anytime a specific road, trail or area has considerable adverse environmental effects occurring from OHV use, the local manager has the responsibility and authority (36 CFR 295.5) to immediately close the road, trail or area to use until the problem has been resolved.

Purpose and Need

In general the need for a decision and the purpose of the decision is based on an evaluation of the existing condition compared to the desired condition. The following describes this process.

Purpose

The purpose of this decision is to avoid future impacts from the increasing use of OHV's on areas that are currently available to motorized wheeled cross-country travel. It amends forest plan direction to prohibit motorized wheeled cross-country travel to protect natural resource values. This would provide timely direction that would minimize further resource damage, user conflicts, and related problems associated with motorized wheeled cross-country travel, including new user-created roads, until subsequent site-specific planning is completed.

Site-specific planning would address OHV use on individual roads and trails to provide for a range of safe motorized recreation opportunities while continuing to protect resource values.

This decision does not change the current restricted yearlong or closed designations for areas. This decision does not change current road or trail designations.

Existing Condition

About 10 million of the18.2 million acres of NFS lands are currently designated as available to motorized wheeled cross-country travel, either seasonally or yearlong (Table 1.3).

Table 1.3 Affected Environment (Acres)

Open Seasonally	Open Yearlong	Total
3,848,000	6,244,000	10,092,000

During the past 10 years, OHV use and associated cross-country travel have increased in some areas. The estimated number of vehicles used off-highway across the three-state

area increased dramatically in the 1990's (Table 1.4). The increased use has resulted in environmental effects on public resources in numerous areas, including roads and trails that have developed as the result of repeated use, often referred to as user-created.

Table 1.4 Percent Increase in Estimated Number of Vehicles Used Off-Highway from 1990-1998 Across the 3-State Area *	
Trucks	13%
ATV's and Motorcycles	92%

*For additional information see Chapter 3, Economics Section in the FEIS.

Problems do not occur equally throughout the analysis area. Some OHV use has occurred in riparian areas and on highly erodible slopes. In other areas use is very light and little or no effects from motorized wheeled cross-country travel are evident. It is estimated that only about 1% of the wheeled motorized OHV users go cross-country when the whole analysis area is considered (chapter 3 of the FEIS). However the 1% is not evenly distributed and the cross-country use that occurs in more sensitive areas can result in damage from very low levels of use.

Increased use of OHV's has the potential to:

- spread noxious weeds,
- cause erosion,
- damage cultural sites,
- create user conflicts, and
- disrupt wildlife and damage wildlife habitat.

Monitoring of OHV travel at some National Forest and district offices indicates that problems exist where unrestricted motorized wheeled cross-country travel is allowed. Some forests or districts are presently reevaluating their existing travel management plans or developing new plans. These plans are designed to determine the appropriate use of roads and trails to provide a reasonable mix of motorized and nonmotorized recreation opportunities while protecting other resource values. Many offices have begun or completed site-specific planning.

Members of the public and other state and federal agencies have shared their concerns about unrestricted OHV travel on public lands (OHV project file).

Desired Condition

The goal of managing OHV's is to provide a range of safe motorized recreation opportunities, recognizing their legitimate use while minimizing the current or anticipated effects on wildlife and their habitat, soil, native vegetation, water, fish, cultural resources and other users (Appendix A of the FEIS). The long-term goal is that OHV use would occur on designated routes and intensive use areas to provide a variety of motorized and nonmotorized recreation opportunities. However, designation of specific routes requires local site-specific planning consistent with the forest plan. In the interim period before designation of travel routes can be accomplished, it is desirable to take the first step and restrict motorized wheeled cross-country travel. The designation of areas to the restricted yearlong category in the forest plans in the three-state area is a valuable step toward the long-term goal.

Need

In comparing the existing condition to the desired condition, it is evident that OHV use and associated effects have increased in many areas since forest plans were completed. The FS is concerned that continuing unrestricted use could potentially further increase the spread of noxious weeds, cause erosion, damage cultural sites, create user conflicts, disrupt wildlife and damage wildlife habitat. The trend of increased use is expected to continue. In order to minimize further resource damage in areas already experiencing increased activity and to avoid future impacts in areas not yet affected, management of OHV use needs to be reviewed.

Areas that are open seasonally or yearlong to motorized wheeled cross-country travel in current forest plans require a plan amendment to address these issues. The decision to manage the cross-country aspect of motorized wheeled vehicle use is part of the responsibility of public land managers to balance human use with the need to protect natural resources.

The FS Natural Resource Agenda has established a number of goals for maintaining and restoring the health, diversity, and productivity of the land, which include: protect and restore the settings of outdoor recreation; determine the best way to access the national forest or grassland; reduce impacts of the existing road system; restore watersheds; and provide an avenue to collaborate with communities, the private sector and other agencies. This decision will help address several of these goals.

DECISION

After careful consideration of the potential environmental impacts, the effectiveness in resolving the planning issues, responsiveness to public concern, and compliance with FS statutory authority and Executive Orders 11644 and 11989 it is my decision to adopt Alternative 5.

My decision amends the nine forest plans listed in Table 1.1 and establishes a new standard that restricts yearlong, wheeled motorized cross-country travel, where it is not already restricted. There are several specific exceptions to this restriction:

- Motorized wheeled cross-country travel would be allowed for any military, fire, search and rescue, or law enforcement vehicle used for emergency purposes.

- Motorized wheeled cross-country travel for the FS would be limited to official administrative business as outlined by internal memo (see Appendix D of the FEIS).

- Motorized wheeled cross-country travel for other government entities on official administrative business would require authorization from the local field manager or district ranger in their respective areas. This authorization would be through normal permitting processes and/or memoranda of understanding.

- Motorized wheeled cross-country travel for lessees and permittees would be limited to the administration of a federal lease or permit.

- Motorized wheeled cross-country travel to a campsite would be permissible within 300 feet of roads and trails.

This decision directs the forests/grasslands to prioritize areas across each unit as to whether they are high, medium or low priority for site-specific planning, based on the factors identified in Appendix B of the FEIS. The prioritization will be completed within six months of the release of this decision. High priority areas will have site-specific planning initiated no later than two years after this decision. Medium will be initiated within 5 years. No time limit is specified for the low priorities. Site-specific planning is the process that will result in the designation of roads and trails for their appropriate uses.

Approximately 3600 acres of drawdown area around Lake Koocanusa on the Rexford District of the Kootenai National Forest is excluded from this decision. The drawdown area is currently being addressed in the Rexford District Recreation Management Plan.

REASONS FOR DECISION

Alternative 5 was selected because it minimizes further resource damage, user conflicts and related problems, including new user-created roads, associated with motorized wheeled cross-country travel. The protection provided by alternative 5 is slightly less than alternative 1 (Chapter 3 of FEIS) because it allows more administrative and other permitted uses of OHV's cross-country. However, this use would be conducted in a controlled manner, according to permit requirements, to mitigate potential adverse effects. Examples of permit requirements include the cleaning of equipment to avoid spreading invasive weeds, avoidance of threatened or endangered species habitat, timing restrictions, etc. This slight tradeoff is made in order to maintain efficient and effective management of the public's resources by allowing limited motorized wheeled cross-country travel for conducting needed work, such as prescribed fires, treating invasive weeds, conducting monitoring or research, maintaining or constructing fences, utility structures and other types of improvements.

Alternative 5 does not allow motorized wheeled cross-country travel for big game retrieval, as in alternative 2, the preferred alternative in the draft EIS. This game retrieval restriction would: reduce the conflicts between motorized and nonmotorized users during the hunting season; reduce the potential for introducing invasive weeds; reduce the potential for soil erosion; reduce the potential for impacts to wildlife; be more responsive to numerous public concerns that were expressed about the inappropriateness of allowing an exception for game retrieval; and be consistent with the long-term goal of using vehicles on designated routes. For these reasons alternative 5 was selected instead of alternative 2.

Alternative 5 allows for dispersed camping within 300 feet of a road or trail provided recreationists use the most direct route and select their site by nonmotorized means. This greater distance than in alternative 1 (50') was important particularly in areas without any developed campgrounds. This allows people to move away from the dust and noise generated on the road or trail. Agency recreation specialists expect relatively little use of this exception, as most popular dispersed campsites already have a road accessing them.

There are parts of this three-state area with relatively little damage from wheeled motorized cross-country travel as described in the FEIS. Alternative 3 excluded the Bitterroot, Kootenai and Flathead National Forests because they are relatively steep and densely vegetated which precludes the use of OHV's in many areas. I did not choose that alternative, to prevent future problems of invasive weed introductions, the development of unclassified roads and trails, potential effects on historic and cultural resources and effects on wildlife and their habitat from developing and to provide consistency of use within the analysis area and between the BLM and Forest Service.

Alternative 5 was selected instead of alternative 4 because I felt the seasonal restrictions did not provide sufficient

protection from the spread of invasive weeds, the potential for development of more unclassified (user-created) roads and trails, damage to historic and cultural resources or adequately protect wildlife and their habitat. Particularly the protection of threatened and endangered species that may be unknowingly affected by cross-country users. This same rationale was applied for not selecting the no action alternative.

This important step towards the goal of designated roads and trails will allow the maintenance of a legitimate form of recreation while the natural and cultural resources of the national forests are maintained and user-conflicts are minimized. The designation of roads and trails allows for knowledgeable monitoring and evaluation of use and the effects of use that cannot be accounted for when large expanses of land are open for cross-country use.

Alternative 5 provides specific mitigation measures consistent with the Endangered Species Act for the threatened western prairie fringed orchid in known habitat on the Sheyenne National Grassland. It provides for positive benefits for several other listed species (Appendix C of the FEIS) as well as many other species of wildlife (Chapter 4 of the FEIS), whereas the no action alternative completely lacks these protections.

This decision is consistent with the BLM's preferred alternative in the FEIS, which provides for better service to the public, since the rules are the same and will not create confusion for the users of federal public lands.

This decision and the local site-specific planning approach it prescribes is consistent with the proposed roads rule the FS recently published (36 CFR 212). It provides a process for resolving the disposition of unclassified roads, including user-created roads and trails. It moves the agency towards designated routes, which many people, organizations and other agencies have advocated.

This decision in conjunction with the existing authority for local line officers, to immediately close any areas roads or trails that are or will cause considerable adverse effects (36 CFR 295), will substantially improve the our ability to maintain the use of OHV's as a recreational activity and meet our responsibility to protect the cultural and environmental values of the national forests.

IMPLEMENTATION

This decision will take effect 7 days after publication of legal notice in each of the newspapers of record listed at the end of this document.

The actual application of the decision will be through activities on each of the forests and grasslands affected. This will include a CFR order signed by each forest/grassland supervisor eliminating cross-country travel. This will be added to the travel management maps for each forest/grassland. Signs will be posted on the major portal roads to NFS lands prohibiting cross-country travel. These orders and signs will be in place by July 1, 2001.

ALTERNATIVES CONSIDERED

This section describes the No Action Alternative and five other alternatives for management of OHV's on public lands. All alternatives comply with the National Forest Management Act (NFMA) of 1976, and are subject to compliance with all valid statutes on NFS lands. Impacts of all resources are considered through the National Environmental Policy Act (NEPA) of 1969.

Attributes Common to All Alternatives

The FS will consult in accordance with Section 7 of the Endangered Species Act (ESA) through the U.S. Fish and Wildlife Service to ensure any site-specific plan is not likely to jeopardize the continued existence of any species listed or proposed to be listed under the provisions of the ESA, or result in the destruction or adverse modification of designated or proposed critical habitat.

Through subsequent site-specific planning, the FS will designate roads and trails for motorized use. With public involvement the agencies would continue with ongoing travel management plans and develop new travel management plans (i.e., landscape analysis, watershed plans, or activity plans) for geographical areas. Through site-specific planning, roads and trails would be inventoried, mapped, and analyzed to the degree necessary to evaluate and designate the roads and trails as open, seasonally open, or closed and determine the type of vehicle. The inventory would be commensurate with the analysis needs, issues, and desired resource conditions based on forest plan objectives for the analysis area. When addressing roads, the proposed FS roads policy will be utilized (36 CFR 212).

Site-specific planning could include identifying opportunities for trail construction and/or iinprovement, eliminating roads/trails that are causing resource problems or adding specific areas where intensive OHV use may be appropriate. A change in area designations from restricted to open would require a plan amendment. Implementation and monitoring are described in Appendix B of the FEIS. Implementation includes prioritizing areas for site-specific planning within six months of the respective agencies' Record of Decision based on the resources in the area.

Disabled access will be allowed per the Rehabilitation Act of 1973.

No Action Alternative (Current Management)

This alternative would continue current direction and was used as the baseline condition for comparing the other alternatives. The FS would continue to manage OHV's using existing direction and regulations. It addressed a number of issues and concerns raised during scoping, such as the proposal is too restrictive and effects on the ground do not warrant any change. It also addressed the concern that it is unrealistic to provide consistent management of OHV's across a three-state area due to wide variations of issues and problems that would necessitate decisions be made at the local level.

Areas currently open seasonally or yearlong to motorized wheeled cross-country travel would remain open (Table 1.3 and Map 1 in the FEIS). The table and map reflect designations identified in existing forest plans.

Site-specific planning and enforcement of OHV regulations would occur at current levels.

Alternative 1

This is the most restrictive alternative for management of OHV's. Motorized wheeled cross-country travel would be prohibited with only a few exceptions for emergency and limited administrative purposes. This alternative was developed to address concerns that OHV use needed to be restricted quickly and was overdue because of resource impacts and user conflicts. Concerns addressed were to stop the expansion of problems associated with the spread of noxious weeds, user conflicts, wildlife harassment and habitat alteration, effects on vegetation, soils and aquatic resources, and further deterioration of FS Inventoried Roadless, Recommended Wilderness and Montana Wilderness Study Areas.

The FS would restrict motorized wheeled cross-country travel yearlong (Map 1, FEIS). These lands, approximately 10 million acres, would be designated restricted yearlong under FS regulations (36 CFR 295).

Motorized wheeled cross-country travel would be allowed for any military, fire, search and rescue, or law enforcement vehicle used for emergency purposes.

Motorized wheeled cross-country travel for FS official administrative business would not be allowed without prior approval by the authorized officer (district ranger).

Motorized wheeled cross-country travel for lessees and permittees to administer federal leases or permits would not be allowed unless specifically authorized under the lease or permit.

Motorized wheeled cross-country travel would not be allowed for the retrieval of a big game animal.

Motorized wheeled cross-country travel would not be allowed for personal use permits such as firewood and Christmas tree cutting.

The following exception would apply unless currently restricted:

> Motorized wheeled cross-country travel for camping would be permissible within 50 feet of roads and trails by the most direct route after site selection by nonmotorized means. This exception does not apply where existing seasonal restrictions prohibit traveling off designated routes to a campsite.

Alternative 2

This alternative was based on the initial proposal and public comments received during scoping. It restricts motorized wheeled cross-country travel throughout the analysis area but allows some additional exceptions compared to alternative 1, for relatively infrequent activities. Similar to Alternative 1, concerns addressed were to stop the expansion of problems associated with the spread of noxious weeds, user conflicts, wildlife harassment and habitat alteration, effects on vegetation, soils and aquatic resources, and further deterioration of FS Inventoried Roadless, Recommended Wilderness and Montana Wilderness Study Areas. It meets the concern that the FS needs to allow for some exceptions for motorized wheeled cross-country travel, such as game retrieval and camping. It provides almost the same ease of enforcement and consistency between the BLM and FS as Alternative 1.

The FS would restrict motorized wheeled cross-country travel yearlong (Map 1, FEIS). These lands, approximately 10 million acres, would be designated restricted yearlong under FS regulations (36 CFR 295).

Motorized wheeled cross-country travel would be allowed for any military, fire, search and rescue, or law enforcement vehicle used for emergency purposes.

Motorized wheeled cross-country travel for FS official administrative business would be allowed.

Motorized wheeled cross-country travel for lessees and permittees to administer federal leases or permits would be

allowed, unless specifically prohibited in the lease or permit. This would not change any existing terms or conditions in current leases or permits. However, this would not preclude modifying leases or permits to limit motorized wheeled cross-country travel based on further site-specific analysis.

Motorized wheeled cross-country travel for personal use permits, such as firewood and Christmas tree cutting, could be permitted at the local level (FS ranger district) at the discretion of the authorizing officer.

The following exceptions would apply unless currently restricted:

> Motorized wheeled cross-country travel for camping would be permissible within 300 feet of roads and trails by the most direct route after site selection by nonmotorized means. This exception would not apply where existing seasonal restrictions prevent traveling off designated routes to a campsite.
>
> Motorized wheeled cross-country travel by the most direct route to retrieve a big game animal in possession would be allowed only in the following field units in Montana: Custer National Forest (NF) with the exception of the Beartooth Ranger District. Motorized wheeled cross-country travel in all other areas to retrieve a big game animal would not be allowed. Through subsequent site-specific planning big game retrieval could be restricted.

The following mitigation measures for the western prairie fringed orchid would apply:

> Motorized wheeled cross-country travel for FS official administrative business would not be allowed in known western prairie fringed orchid habitat on the Sheyenne National Grassland in eastern North Dakota without prior approval.
>
> Motorized wheeled cross-country travel for lessees and permittees to administer federal leases or permits would not be allowed in known western prairie fringed orchid habitat on the Sheyenne National Grassland in eastern North Dakota without prior approval.

Alternative 3

This alternative is based on the premise that the agencies should not restrict OHV use where problems are limited by steep terrain and dense vegetation or where existing regulations are adequate. Lands in the Flathead, Kootenai and Bitterroot National Forests in western Montana would not be affected by this alternative. Preliminary analysis indicated that even though significant amounts of federal land were open to motorized wheeled cross-country travel in western Montana, current technology of OHV's generally has limited the expansion of user-created routes because of relative steepness and dense vegetation. Concerns for the need to restrict OHV's in the remainder of the analysis area are similar to Alternative 2. Concerns addressed were to stop the expansion of problems associated with the spread of noxious weeds, user conflicts, wildlife harassment and habitat alteration, effects on vegetation, soils and aquatic resources, and further deterioration of FS Inventoried Roadless, Recommended Wilderness and Montana Wilderness Study Areas. It meets the concern that the agencies need to allow some exceptions for motorized wheeled cross-country travel, such as game retrieval and camping.

The FS would prohibit motorized wheeled cross-country travel yearlong in the Beaverhead-Deerlodge NF, Custer NF, Dakota Prairie Grasslands, Gallatin NF, Helena NF, and the Lewis and Clark NF (Map 2 in the FEIS). Approximately 6.6 million acres would be designated restricted yearlong under the FS regulations (36 CFR 295).

Motorized wheeled cross-country travel would be allowed for any military, fire, search and rescue, or law enforcement vehicle used for emergency purposes.

Motorized wheeled cross-country travel for FS official administrative business would be allowed.

Motorized wheeled cross-country travel for lessees and permittees to administer federal leases or permits would be allowed, unless specifically prohibited in the lease or permit. This would not change any existing terms or conditions in current leases or permits. However, this would not preclude modifying leases or permits to limit motorized wheeled cross-country travel based on further site-specific analysis.

Motorized wheeled cross-country travel for personal use permits, such as firewood and Christmas tree cutting, could be permitted at the local level (FS ranger district) at the discretion of the authorizing officer.

The following exceptions would apply unless currently restricted:

> Motorized wheeled cross-country travel for camping would be permissible within 300 feet of roads and trails by the most direct route after site selection by nonmotorized means. This exception does not apply where existing seasonal restrictions prohibit traveling off designated routes to a campsite.

Motorized wheeled cross-country travel by the most direct route would be allowed from 10:00 a.m. until 2:00 p.m. to retrieve a big game animal that is in possession. Through subsequent site-specific planning big game retrieval could be restricted.

Alternative 4

This alternative restricts motorized wheeled cross-country travel seasonally to lessen impacts on resource values and to minimize user conflicts. Motorized wheeled cross-country travel would be restricted to times of the year when the ground is generally frozen (December 2 to February 15) or during dryer periods (June 15 to August 31) to reduce soil and vegetation impacts, aquatic resource damage, and to minimize user conflicts. No motorized wheeled cross-country travel would be allowed during big game hunting seasons in all three states, with the exception of game retrieval, to minimize user conflicts and wildlife harassment. Game retrieval would be allowed in all open areas of the analysis area. It meets the concern that the agencies need to allow some exceptions for motorized wheeled cross-country travel, such as game retrieval and camping. It provides almost the same ease of enforcement and consistency between the two agencies as Alternative 1 because the timing and exceptions are the same throughout the three-state area.

The FS would restrict motorized wheeled cross-country travel seasonally (Map 1, FEIS). These areas would be open to motorized wheeled cross-country travel from June 15 to August 31 and from December 2 to February 15. These lands, approximately 10 million acres, would be designated limited or restricted seasonally under FS regulations (36 CFR 295).

Motorized wheeled cross-country travel would be allowed for any military, fire, search and rescue, or law enforcement vehicle used for emergency purposes.

Motorized wheeled cross-country travel for FS official administrative business would be allowed.

Motorized wheeled cross-country travel for lessees and permittees to administer federal leases or permits would be allowed, unless specifically prohibited in the lease or permit. This would not change any existing terms or conditions in current leases or permits. However, this would not preclude modifying leases or permits to limit motorized wheeled cross-country travel based on further site-specific analysis.

Motorized wheeled cross-country travel for personal use permits, such as firewood and Christmas tree cutting, could be permitted at the local level (FS ranger district) at the discretion of the authorizing officer.

The following exceptions would apply unless currently restricted:

Motorized wheeled cross-country travel for camping would be permissible within 300 feet of roads and trails by the most direct route after site selection by nonmotorized means. This exception does not apply where existing seasonal restrictions prohibit traveling off designated routes to a campsite.

Motorized wheeled cross-country travel by the most direct route would be allowed to retrieve a big game animal that is in possession. Through subsequent site-specific planning big game retrieval could be restricted.

Alternative 5 (Preferred Alternative)

This alternative was developed in response to comments on the DEIS from the public and other agencies. It restricts motorized wheeled cross-country travel throughout the analysis area to protect riparian areas, wetlands, crucial wildlife habitat, threatened or endangered species, soils and vegetation, aquatic resources, and to reduce user conflicts. The alternative addresses the concern that the agencies need to allow an exception for camping, but includes specific limitations on that exception. This alternative would limit travel for administrative use by the FS, other government entities, and lessees and permittees, but would allow motorized wheeled cross-country travel when necessary.

The FS would restrict motorized wheeled cross-country travel yearlong (Map 1, FEIS). These lands, approximately 10 million acres, would be designated restricted yearlong for motorized wheeled cross-country travel under FS regulations (36 CFR 295).

The FS recognize there are some valid needs for motorized wheeled cross-country travel. The following outlines the needs for motorized wheeled cross-country travel allowed in this alternative.

Motorized wheeled cross-country travel would be allowed for any military, fire, search and rescue, or law enforcement vehicle used for emergency purposes.

Motorized wheeled cross-country travel for the FS would be limited to official administrative business as outlined by internal memo (see Appendix D of the FEIS). Examples of administrative use would be prescribed fire, noxious weed control, revegetation, and surveying. Where possible, agency personnel performing administrative functions would locate a sign or notice in the area they are working to identify for the public the function they are authorized to perform.

Motorized wheeled cross-country travel for other government entities on official administrative business would require authorization from the local field manager or district ranger in their respective areas. This authorization would be through normal permitting processes and/or memoranda of understanding. Some examples of other agency administrative use would be noxious weed control, surveying, and animal damage control efforts. Where possible, the authorized party performing administrative functions would locate a sign or notice in the area they are working to identify for the public the function they are authorized to perform.

Motorized wheeled cross-country travel for lessees and permittees would be limited to the administration of a federal lease or permit. Persons or corporations having such a permit or lease could perform administrative functions on public lands within the scope of the permit or lease. However, this would not preclude modifying permits or leases to limit motorized wheeled cross-country travel during further site-specific analysis to meet resource management objectives or standards and guidelines. Some examples of administrative functions include, but are not limited to:

- Gas or electric utilities monitoring a utility corridor for safety conditions or normal maintenance,
- Accessing a remote communication site for normal maintenance or repair,
- Livestock permittees checking vegetative conditions, building or maintaining fences, delivering salt and supplements, moving livestock, checking wells or pipelines as part of the implementation of a grazing permit or lease, and
- Scientific groups under contract for resource assessments or research.

Motorized wheeled cross-country travel for personal use permits, such as firewood and Christmas tree cutting, could be allowed at the local level (FS ranger district) in specific areas identified for such use. In all other areas, motorized wheeled cross-country travel associated with personal use permits would not be allowed.

Motorized wheeled cross-country travel for big game retrieval would not be allowed.

The following exception would apply unless currently restricted:

> Motorized wheeled cross-country travel to a campsite would be permissible within 300 feet of roads and trails. Site selection must be completed by nonmotorized means and accessed by the most direct route causing the least damage. This exception does not apply where existing seasonal restrictions prohibit traveling off designated routes to a campsite. Existing local rules take precedence over this exception. This distance could be modified through subsequent site-specific planning.

The following mitigation measures for the western prairie fringed orchid would apply:

> Motorized wheeled cross-country travel for FS official administrative business would not be allowed in known western prairie fringed orchid habitat on the Sheyenne National Grassland in eastern North Dakota without prior approval so as to eliminate impacts to occupied habitat.
>
> Motorized wheeled cross-country travel for lessees and permittees to administer federal leases or permits would not be allowed in known western prairie fringed orchid habitat on the Sheyenne National Grassland in eastern North Dakota without prior approval so as to eliminate impacts to occupied habitat.

Table S.1 Summary of Alternatives

Management	*No Action (Current Management)*	*Alternative 1*	*Alternative 2*	*Alternative 3*	*Alternative 4*	*Alternative 5 (Preferred Alternative)*
Areas open yearlong or seasonally	Areas currently open	None	None	Flathead NF, Kootenai NF and Bitterroot NF	Open 6/15 to 8/31 and 12/2 to 2/15 in all areas currently open	None
Prohibits motorized wheeled cross-country travel	No	Yes	Yes	Yes, except in Flathead NF, Kootenai NF and Bitterroot NF	Restricted seasonally	Yes
Emergency use	Allowed	Allowed	Allowed	Allowed	Allowed	Allowed
Administrative use	Allowed	Authorization required	Allowed	Allowed	Allowed	Allowed as outlined by internal memo
Lease and permit holders	Allowed	Not allowed unless specifically authorized	Allowed unless specifically prohibited	Allowed unless specifically prohibited	Allowed unless pecifically prohibited	Allowed unless specifically prohibited
Exceptions for Motorized Wheeled Cross-Country Travel						
- Camping	Allowed	Within 50 feet of roads and trails by the most direct route	Within 300 feet of roads and trails by the most direct route	Within 300 feet of roads and trails by the most direct route	Within 300 feet of roads and trails by the most direct route	Within 300 feet of roads and trails by the most direct route
- Game retrieval	Allowed	Not allowed	Allowed by the most direct route in portions of eastern Montana.* Not allowed in other areas. Could be modified in site-specific planning	Allowed from 10 a.m. to 2 p.m. by the most direct route Could be modified in site-specific planning	Allowed by the most direct route Could be modified in site-specific planning	Not allowed. Retrieval would be allowed on roads and trails unless currently restrcicted.
- Disabled access	Allowed per Rehabilitation Act	Allowed per Rehabilitation Act	Allowed per Rehabilitation Act	Allowed per Rehabilitation Act	Allowed per Rehabilitation Act	Allowed per Rehabilitation Act
- Firewood and Christmas tree cutting	Specified by permit	Not allowed	Specified by permit at the local level	Specified by permit at the local level	Specified by permit at the local level	Specified by permit at the local level

* Game retrieval is allowed in Montana only in the following field units: Miles City FO, Billings FO, Malta FO, Lewistown FO with the exception of the Great Falls Field Station, and Custer NF with the exception of the Beartooth RD.

Table S.2 Summary of Environmental Consequences

Identified Environmental Issues	*No Action (Current Management)*	*Alternative 1*	*Alternative 2*	*Alternative 3*	*Alternative 4*	*Alternative 5 (Preferred Alternative)*
Recreation						
User Conflicts	User conflicts would continue to increase.	User conflicts associated with cross-country travel would be substantially reduced.	User conflicts associated with cross-country travel would be substantially reduced.	Effects under Alt. 2 would apply where motorized wheeled cross-country travel is prohibited. Effects under No Action would apply elsewhere.	Effects under No Action Alt. would apply from 6/15-8/31 and 12/2-2-15. Effects under Alt. 2 would apply during other time periods.	User conflicts associated with cross-country travel would be substantially reduced.
Motorized Recreation	Existing opportunities would remain.	Motorized users would have access to roads and trails. Cross-country travel eliminated.	Motorized users would have access to roads and trails. Cross-country travel eliminated.	Same as above.	Same as above.	Motorized users would have access to roads and trails. Cross-country travel eliminated.
Nonmotorized Recreation	Recreation experience would be reduced.	Recreation experience would improve.	Recreation experience would improve.	Same as above.	Same as above.	Recreation experience would improve.
Visuals	Objectives for scenic values may not be met.	Additional disturbances to visuals would be substantially reduced.	Additional disturbances to visuals would be substantially reduced.	Same as above.	Same as above.	Additional disturbances to visuals would be substantially reduced.
Roadless/Wilderness Study Areas	Motorized wheeled cross-country travel may have an effect on the naturalness of these areas.	This alt. would enhance the protection of the naturalness of these areas.	This alt. would enhance the protection of the naturalness of these areas.	Same as above.	Seasonal motorized wheeled cross-country travel may have an effect on the naturalness of these areas.	This alt. would enhance the protection of the naturalness of these areas.
Social						
Older Recreationists	Opportunity would be available to substitute motorized wheeled cross-country travel for activities that require more mobility. There is no clear evidence this is what people will choose to do as they age.	No opportunity would be available to substitute motorized wheeled cross-country travel for activities that require more mobility. There is no clear evidence this is what people will choose to do as they age.	No opportunity would be available to substitute motorized wheeled cross-country travel for activities that require more mobility. There is no clear evidence this is what people will choose to do as they age.	Opportunity would be available in some areas to substitute motorized wheeled cross-country travel for activities that require more mobility. There is no clear evidence that this is what people will choose to do as they age.	Opportunity would be available from 6/15-8/31 and 12/2-2/15 to substitute motorized wheeled cross-country travel for activities that require more mobility. There is no clear evidence this is what people will choose to do as they age.	No opportunity would be available to substitute motorized wheeled cross-country travel for activities that require more mobility. There is no clear evidence this is what people will choose to do as they age.

Identified Environmental Issues	*No Action (Current Management)*	*Alternative 1*	*Alternative 2*	*Alternative 3*	*Alternative 4*	*Alternative 5 (Preferred Alternative)*
Environmental Advocacy	This group feels that current management does not sufficiently protect resources on public lands.	This alt. may meet the desires of this group.	This alt. may meet the desires of this group.	This alt. may meet the desires of this group in most areas. In open areas, this group feels that current management does not protect resources on public lands.	This alt. would not meet the desires of this group because it may not go far enough to protect the resources on public lands.	This alt. may meet the desires of this group.
Lessees and Permittees	Motorized wheeled cross-country travel opportunities would be available to administer a lease or permit.	Motorized wheeled cross-country travel to administer a lease or permit would only be allowed under specific terms of the lease or permit.	Motorized wheeled cross-country travel opportunities would be available to administer a lease or permit.	Motorized wheeled cross-country travel opportunities would be available to administer a lease or permit.	Motorized wheeled cross-country travel opportunities would be available to administer a lease or permit.	Motorized wheeled cross-country travel opportunities would be available to administer a lease or permit.
Rural Communities/ Personal Freedom	This alt. would best respond to rural communities who prefer that current activities on public lands not be limited.	This alt. would not be consistent with rural communities' preference for leaving activities on public lands at current levels.	This alt. would not be consistent with rural communities' preference for leaving activities on public lands at current levels.	Effects under Alt. 2 would apply where motorized wheeled cross-country travel is prohibited. Effects under No Action Alt. would apply elsewhere.	This alt. would not be consistent with rural communities' preference for leaving activities on public lands at current levels.	This alt. would not be consistent with rural communities' preference for leaving activities on public lands at current levels.
Economics of OHV Industry	Minor increase in jobs is expected to increase due to projected increases in OHV's and trucks.	Minor reductions in jobs and employee compensations may occur.	Minor reductions in jobs and employee compensations may occur.	Minor reductions in jobs and employee compensations may occur.	Minor reductions in jobs and employee compensations may occur.	Minor reductions in jobs and employee compensations may occur.
Cultural Resources	This alt. would cause the greatest direct and indirect impacts to cultural sites in the analysis area.	This alt. would offer the most protection for cultural sites in the analysis area.	This alt. would offer protection similar to Alt. 1, with minor differences due to the exceptions.	Effects under Alt. 2 would apply where motorized wheeled cross-country travel is prohibited. Effects under No Action Alt. would apply elsewhere.	This alt. would cause direct and indirect impacts to cultural sites in the analysis area.	This alt. would offer protection similar to Alt. 1, with a minor difference due to the camping and permitted use exceptions.
Vegetation and Weeds	This alt. would have the greatest risk for expanding and introducing existing and new weeds to BLM and NFS lands.	This alt. would have the lowest risk for expanding and introducing existing and new weeds to BLM and NFS lands.	This alt. would have the third lowest risk for expanding and introducing existing and new weeds to BLM and NFS lands.	This alt. would have substantially less risk than the No Action Alt. because only 6.5 million acres would be open and of those lands, many acres would not be available because of dense forest cover. But it has more risk than alt. 1, 5 and 2.	Effects under this alt. would be similar to the No Action Alt.	This alt. would be similar to Alt. 1, with a minor difference due to the camping and permitted use exceptions.

Identified Environmental Issues	*No Action (Current Management)*	*Alternative 1*	*Alternative 2*	*Alternative 3*	*Alternative 4*	*Alternative 5 (Preferred Alternative)*
Wildlife	The current level of impact to wildlife and wildlife habitat would continue with this alt.	Direct and indirect effects would be reduced (habitat fragmentation, habitat abandonment, physiological effects, and indirect impacts of weeds).	Direct and indirect effects would be reduced (habitat fragmentation, habitat abandonment, physiological effects, and indirect impacts of weeds).	Effects under Alt. 2 would apply where motorized wheeled cross-country travel is prohibited. Effects under No Action Alt. would apply elsewhere.	Effects under No Action Alt. would apply from 6/15-8/31 and 12/2-2/15. Effects under Alt. 2 would apply during the other time periods. Overall, impacts to wildlife may be considerably less since closed period is when most travel occurs (fall hunting).	Direct and indirect effects would be reduced (habitat fragmentation, habitat abandonment, physiological effects, and indirect impacts of weeds).
Aquatic Resources	This alt. would provide no risk reduction for further impacts to aquatic resources.	This alt. would provide greatest risk reduction for further impacts to aquatic resources.	This alt. is similar to Alt. 5, with minor differences due to the additional exceptions.	Effects under Alt. 2 would apply where motorized wheeled cross-country travel is prohibited. Effects under No Action Alt. would apply elsewhere.	Overall, effects under this alt. would be less than those under No Action Alt. because there would be fewer days during which motorized wheeled cross-country travel could occur.	This alt. is similar to Alt. 1, with a minor difference due to the camping and permitted use exceptions.
Soils	This alt. would have the greatest potential to impact soil resources.	Impacts to soil resources would be kept to a minimum and widely dispersed.	Impacts to soil resources would be kept to a minimum and widely dispersed.	Overall accelerated soil erosion from motorized wheeled cross-country travel would be reduced, except if such travel were to occur in a concentrated manner.	This alt. would reduce soil erosion by reducing motorized wheeled cross-country travel to periods when soils are likely dry or frozen.	Impacts to soil resources would be kept to a minimum and widely dispersed.
Air	This alt. would have the greatest potential to influence short-term air quality in the immediate area.	This alt. would have reduced localized air effects from fewer user-created trails.	This alt. would have reduced localized air effects from fewer user-created trails.	Effects under Alt. 2 would apply where motorized wheeled cross-country travel is prohibited. Effects under No Action Alt. would apply elsewhere.	This alt. would offer no real difference from the No Action Alt.	This alt. would have reduced localized air effects from fewer user-created trails.
Minerals	This alt. would have no impact.	This alt. would cause increased administrative review before some routine activities could occur.	This alt. would have no impact to existing holders of mineral leases or permits. Some increase would occur in administrative review of casual use for pre-permit surveying and staking.	Effects under Alt. 2 would apply where motorized wheeled cross-country travel is prohibited. Effects under No Action Alt. would apply elsewhere.	Effects under No Action Alt. would apply from 6/15-8/31 and 12/2-2/15. Effects under Alt. 2 would apply during the other time periods.	This alt. would have no impact to existing holders of mineral leases or permits. Some increase would occur in administrative review of casual use for pre-permit surveying and staking.

PUBLIC INVOLVEMENT

The Forest Service and BLM conducted public involvement for the proposed amendments consistent with procedures required by the National Environmental Policy Act. A Notice of Intent was published in the Federal Register on January 22, 1999. Nearly 14,000 scoping letters were mailed out. The comment period was extended to May 31,1999. During that time 35 open houses were conducted, which approximately 1400 people attended. During the scoping period nearly 3,400 letters were received and reviewed and used to identify issues and develop alternatives.

The draft EIS had a 90 day comment period that ended February 24,2000. During this period 35 open houses were hosted with over 1,500 people attending. Over 2,300 letters were received and analyzed.

A thorough description of the public involvement process and responses to comments is located in Chapter 4 of the FEIS.

LEGALLY REQUIRED FINDINGS

National Forest Management Act: Finding of Nonsignificant Amendment

The NFMA significance determination is based on a review of the degree to which management direction for the area covered by a forest plan is being changed. The purpose of this amendment is to restrict motorized wheeled cross-country travel to avoid future impacts to soil, water, vegetation, wildlife and its habitat, the spread of invasive weed species, damage to cultural resources and minimize user conflicts. These problems are occurring in some areas. A major reason for this decision is preventative in nature. Given the increases in OHV use in the past ten years and the expectation of that trend to continue the decision to amend forest plans to restrict cross-country travel has been made.

NFMA provides that forest plans may be amended in any manner, but if the amendment results in a significant change in the plan, additional procedures must be followed. The Forest Service Handbook (FSH 1909.12) identifies four factors to consider in determining whether an amendment is significant. These are addressed below for this amendment.

It is important to put these decisions into context with national direction for OHV management. The Executive Orders 11644 and 11989 direct federal agencies to establish procedures to control and direct the use of OHV's on public lands so as to (1) protect the resources of those lands, (2) promote the safety of all users, and (3) minimize conflicts among the various users of those lands. The E.O.'s require the designation of areas and trails for use by OHV's. These amendments only deal with the area designation. Existing land management plans allocated lands to one of three categories: closed – no motorized travel permitted; restricted – seasonally or year-long restrictions on the use of OHV's; open – areas open to use anytime. These amendments shift lands from open and seasonally restricted to yearlong restrictions. These amendments result in minor changes in the use of the forests for motorized recreationists as discussed in chapter 3, recreation section of the FEIS. It explains that motorized recreation is just one segment of the overall suite of possible activities provided on the national forests/grasslands. And that OHV motorized wheeled cross-country travel recreation is just a small portion of the motorized forms of recreation (approximately 1%, see chapter 3, recreation section of FEIS).

The following four factors and their discussion were used in determining significance:

Timing: Identify when the change is to take place. Determine whether the change is necessary during or after the plan period or whether the change is to take place after the next scheduled revision of the forest plan.

> NFMA requires that Forest and Grassland Plans be revised at least every 15 years. These plans have been in place since 1986-1987. The plan revisions are scheduled in the next couple of years. Thus it is late in the current planning period.
>
> These OHV area designation amendments are taking place during the current planning period prior to completion of the revisions. As stated in FSH 1909.12, chapter 5.32, "the later the change, the less likely it is to be significant for the current forest plan."

Location and Size: Determine the location and size of the area involved in the change. Define the relationship of the affected area to the overall planning area.

> The following table displays the acres and percentage of each forest plan that is and is not affected by these amendments.

National Forest/ Grassland	Acres Open Yearlong	Acres Closed/ Restricted Yearlong	Total Acres	Percent of Unit Open
Beaverhead-Deerlodge*	1,921,000	1,431,000	3,352,000	57%
Bitterroot**	796,000	321,000	1,117,000	71%
Custer	758,000	429,000	1,187,000	64%
Dakota Prairie***	1,260,000	0	0	100%
Flathead	1,211,000	1,142,000	2,353,000	51%
Gallatin	780,000	1,021,000	1,801,000	43%
Helena	571,000	404,000	975,000	59%
Kootenai**	1,447,000	670,000	2,220,000	70%
Lewis & Clark	1,347,000	516,000	1,862,000	72%

*These two forests are administered as one forest but have two separate plans.
**Acreages only include lands in Montana.
***Part of the Custer NF plan. A separate plan is currently being developed.

The area involved with the change in designation ranges from 43 to 100 % of the affected forests/ grasslands, which is fairly large. However the forest/ grassland recreation experts have estimated the number of cross-country wheeled OHV users to be about 1% of all OHV users across the forests/grasslands and the range is from less than 1% to 10% (chapter 3 FEIS). Most wheeled motorized OHV use occurs on roads and trails. Roads and trails remain open within existing restrictions. As described in the environmental setting in chapter 3 much of the National Forest System lands are steep and trees and other vegetation is dense enough to preclude cross-country use by OHV's cross-country. Therefore the change in designation has a much smaller effect on OHV users than depicted by these figures since roads and trails remain open. More than three quarters of the Northern Region is forested. Because of the small magnitude of effects and the fact that much of the land is not now accessible this is not a significant amendment.

Goals, Objectives and Outputs: Determine whether the change alters long-term relationships between the levels of goods and services projected by the forest plan. Consider whether an increase in one type of output would trigger an increase or decrease in another. Determine whether there is a demand for goods or services not discussed in the forest plan.

This amendment is fully consistent with the goals in all nine of the forest plans affected. None of the goals will be altered by this decision. There are no new forest plan goals established.

This amendment is fully consistent with and does not alter the objectives of each forest plan. No new objectives are established.

There are no significant changes, in outputs projected by the forest/grassland plans, expected as a result of this decision. The greatest effect is upon motorized OHV users. This effect is relatively minor since the majority of use (estimated to be 99% in the EIS) is on roads and trails and thus is minimally altered by this decision. It is expected that most of the OHV users that have recreated cross-country will shift their activity to roads and trails rather than stop recreating altogether. There will be some benefits for wildlife habitat, slightly reduce the spread of noxious weeds, slightly improve habitat for some Threatened and Endangered species. None of these changes alter the long-term projections of goods and services projected in the forest/grassland plans.

This decision does not deal with a demand for goods or services that were not discussed in the previous planning efforts.

Management Prescription: determine whether the change in a management prescription is only for a specific situation or it would apply to future decisions throughout the planning area. Determine whether or not the change alters the desired future condition of the land and resources or the anticipated goods and services to be produced.

This amendment does not change any Management Area (MA) designations. It does change where the motorized activity within the MA's can be conducted. It eliminates the motorized wheeled cross-country travel, with a few specifically managed exceptions, but does not change the current use of roads and trails in place now.

This decision does change the designation of areas for wheeled motorized cross-country travel for future decisions not just for a specific situation.

It does not change the desired future condition of the land and resources as described in the existing plans or make a consequential change in goods and services that are produced.

Conclusion: Based on a consideration of the four factors, and considering the nine Plans being amended, I have determined that the adoption of this amendment is not significant under NFMA. This amendment is fully consistent with the current goals and objectives of the respective plans.

National Forest Management Act: Diversity and Viability Provisions for Fish and Wildlife

The National Forest Management Act requires the Secretary of Agriculture to specify "guidelines for land management plans developed to achieve the goals of the Program which provide for diversity of plant and animal communities based on the suitability and capability of the specific land area in order to meet overall multiple-use objectives" (16 U.S.C. 1604(g)(3)(B)). In accord with this diversity provision, the Secretary promulgated a regulation that provides in part: "Fish and wildlife habitat shall be managed to maintain viable populations of existing native and desired non-native vertebrate species in the planning area" (36 CFR 219.19).

The scientific community and courts recognize that NFMA does not create a concrete, precise standard for diversity. The Committee of Scientists that provided scientific advice to the Forest Service on drafting of NFMA regulations stated that "it is impossible to write specific regulations to 'provide for' diversity" and "there remains a great deal of room for honest debate on the translation of policy into management planning requirements and into management programs" (44 Fed. Reg. 26,600-01 & 26,608).

In this planning context, absolute certainty is not possible. Thus, the determination is a matter of risk or likelihood when considering the effects of the action.

In making the determination for this decision the effects displayed in chapter 4 of the FEIS, indicate alternative 5 will be beneficial for wildlife by reducing disturbance of the animals and damage to plants. It will reduce the damage to habitat and reduce the spread of invasive exotic plants. It will reduce the amount of sediment introduced to streams, result in less damage to riparian zone soil and vegetation. Therefore, I conclude this decision will positively contribute to the maintenance of diversity and viability of fish and wildlife on the national forest lands affected.

Endangered Species Act

A team of biologists and botanists prepared a Biological Assessment on this proposed amendment to the Forest Plans. This Biological Assessment, which is included as Appendix C of the Final EIS, summarizes the consultation process on the proposed plan amendment, and evaluates the potential effects of the proposed amendment on listed species and species proposed for listing. The Biological Assessment determined that the proposed amendment is may effect, not likely to adversely affect the, threatened grizzly bear, bald eagle, piping plover, bull trout and Canada lynx or bull trout, endangered gray wolf and black-footed ferret, or mountain plover and Spalding's catchfly. The last two determinations would be made if the final rule were to list them. It was determined the amendment will have no effect on the endangered least tern, whooping crane, pallid sturgeon, white sturgeon, American burying beetle or the threatened water howellia, Ute ladies' tresses and western prairie fringed orchid.

The Forest Service requested that the U.S. Fish and Wildlife Service review the Biological Assessment in a letter dated December 7, 2000. The Fish and Wildlife Service concurred and stated that it did not anticipate any incidental take of listed species as a result of the proposed amendment. As a result, they concluded that formal consultation under the Endangered Species Act is not required.

NEPA: Environmentally Preferred Alternative

The Council on Environmental Quality regulations for implementing NEPA require that the Record of Decision specify "the alternative or alternatives which were considered to be environmentally preferable" (40 CFR 1505.2(b)). This alternative has generally been interpreted to be the alternative that will promote the national environmental policy as expressed in NEPA's Section 101 (CEQ's "Forty Most-Asked Questions", 46 Federal Register, 18026, March 23, 1981). Ordinarily, this means the alternative that causes the least damage to the biological and physical environment; it also means the alternative that best protects, preserves, and enhances historic, cultural, and natural resources.

Alternative 1 is the environmentally preferred alternative since it has the greatest level of restrictions on the use of wheeled motorized OHV's traveling cross-country, therefore it would have the least effects on the biological, physical, cultural and historic resources.

Environmental Justice (Executive Order 12898)

Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," requires that Federal agencies make achieving environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health and environmental effects of their programs, policies, and activities on minority populations and low-income populations.

We have conducted a qualitative assessment of environmental justice considerations based on the information in the Final EIS. My conclusion is that the risk of such disproportionate effects on minority or low-income populations from this amendment is very low. The Final EIS consistently ranks Alternative 5 as among those with the lowest risk of adverse environmental effects from land management activities. Based on the assessment there is no evidence that the low level or risk is disproportionately placed on low income or minority populations.

Alternative 5 also does not pose any significant socioeconomic risks that disproportionately affect low income or minority populations in communities where timber producing employment opportunities and workers are located. Alternative 5 will not cause a significant change in local employment or revenue sharing with local communities. Thus, this decision should not disproportionately affect low-income or minority populations and communities.

ADMINISTRATIVE APPEAL OPPORTUNITIES

Implementation of this decision shall not occur until 7 days following publication of the legal notice of the decision in the following newspapers of record: Missoulian, Great Falls Tribune, Billings Gazette, Montana Standard, Ravalli Republic, Bismark Tribune, Rapic City Journal, Daily Interlake, Bozeman Chronicle and the Independent Record.

This decision to adopt a is subject to appeal pursuant to 36 CFR 217.

This Forest Plan Revision was developed using planning regulations that were adopted in 1982 under 36 CFR 219. On Thursday November 9, 2000 new regulations for the appeal process (36 CFR 217) and the forest planning process (36 CFR 219) were adopted through publication in the Federal Register. Instead of an appeal process an objection process will be used for any decisions made using the new planning regulation.

Since this plan was developed using the 1982 planning regulation that means there is neither an appeal or objection process for this decision. Given this situation I have decided to provide for what I am calling a voluntary appeal process on the Forest Service's part using the same procedures as outlined in the now obsolete 36 CFR 217 appeal process. Therefore, this decision is subject to administrative review pursuant to 36 CFR 217 prior to their removal. What that means is a written appeal of this decision, a nonsignificant Forest Plan amendment, must be filed in duplicate within 45 days of the date of the published legal notice. Appeals must be filed with:

Chief, USDA Forest Service
14th and Independence, SW
201 14th Street
Washington, DC 20250

Any notice of appeal must be fully consistent with 36 CRF 217.9 and include at a minimum:

- A statement that the document is a Notice of Appeal filed pursuant to 36 CFR part 217.
- The name, address, and telephone number of the appellant.
- Identification of the decision to which the objection is being made.
- Identification of the document in which the decision is contained, by title and subject, date of the decision, and name and title of the Deciding Officer.
- Identification of the specific portion of the decision to which objection is made.
- The reasons for objection, including issues of fact, law, regulation, or policy and, if applicable, specifically how the decision violates law, regulation, or policy.
- Identification of the specific change(s) in the decision that the appellant seeks.

For questions concerning the appeal process, contact:

USDA Forest Service
Attention: Ecosystem Management Staff (Steve Segovia)
P.O. Box 96090
Washington, D.C. 20090-6090
(202) 205-1066

For questions concerning this amendment, contact:

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Dale N. Bosworth
REGIONAL FORESTER, Northern Region