

ENVIRONMENTAL ASSESSMENT
REPAIR OF CABIN CREEK AIRSTRIP

APRIL 1997

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VICINITY MAP

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Table of Contents

<u>I. PURPOSE AND NEED FOR ACTION</u>	1
<u>Proposed Action</u>	1
<u>Purpose and Need for Proposed Action</u>	1
Locale Map.....	2
State of Idaho Directory Map.....	3
<u>Decisions to be Made</u>	4
<u>Management Direction</u>	4
<u>Issues</u>	5
Public Involvement.....	5
<u>Major Issues</u>	6
<u>Other Issues</u>	9
<u>Issues Not Addressed</u>	11
<u>Permits, Licenses, and other Entitlements</u>	12
<u>II. ALTERNATIVES</u>	13
<u>Introduction</u>	13
<u>Alternatives Considered and Eliminated</u> <u>from Detailed Study</u>	13
<u>Alternatives Considered in Detail</u>	19
Site Map - Alternatives 2 and 3.....	22
Site Map - Alternatives 4 and 5.....	24
<u>Mitigation Measures</u>	25
<u>Implementation and Management Requirements</u>	26
<u>Project Monitoring</u>	27
<u>III. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES</u>	28
<u>Background</u>	28
<u>Affected Environment and Environmental Effects</u>	29
Access.....	29
Wilderness.....	32
Watershed.....	39
Fisheries Habitat.....	42
<u>Other Disclosures</u>	48
<u>IV. LIST OF PREPARERS</u>	49
<u>V. PUBLIC PARTICIPATION</u>	50
<u>APPENDICES</u>	52

I. PURPOSE AND NEED FOR ACTION

Proposed Action:

The Forest Service proposes to undertake restoration of the Cabin Creek airstrip, a Forest Service maintained facility within the Frank Church - River of No Return (FC-RONR) Wilderness damaged by runoff overflow during June 7-10, 1996, to accommodate operations by Cessna 206, or equivalent, aircraft. The Proposed Action includes the following:

- * Restoration of the landing surface, using approximately 1200-1500 cubic yards of material moved from areas adjacent to the airstrip.
- * The work would be by nonmotorized methods, involving horse drawn equipment (fresnos, slips, and mechanized (wheeled) equipment such as graders, rollers and wagons...).
- * The majority of the needed fill material will be obtained in conjunction with rehabilitation of an approximately 350 foot reach of Cow Creek at the north end of the airstrip.
- * The disturbed area along Cow Creek will be stabilized with plantings of native vegetation.

The objective of the Proposed Action is to restore Cabin Creek airstrip to the same operating standard that existed prior to the June 1996. Runoff overflow from Cow Creek gullied the center section of the landing surface the length of the 1750+ foot airstrip, involving a loss of an estimated 1200 cubic yards of fill and surface material. Subsequent to that event the airstrip was closed to use.

In conjunction with this work, Cow Creek will be rehabilitated to a more natural condition, improving water quality and fish habitat conditions. Cow Creek is a tributary to Cabin Creek which is a tributary to Big Creek, an important chinook salmon fish bearing stream.

This Proposed Action is further defined and detailed in Part II (ALTERNATIVES) of this document, which also examines alternatives to the Proposed Action.

Purpose and Need for Proposed Action:

The need for the Proposed Action was triggered by the severe damage from runoff overflow suffered by the Cabin Creek airstrip. It was determined, consistent with Federal laws, regulations and policies and in accordance with direction provided by the FC-RONR Wilderness Management Plan, to be desirable and appropriate to maintain a level of opportunity to access the area by aircraft at least equivalent to that which existed prior to the damage and closure of the Cabin Creek airstrip.

INSERT LOCALE MAP

The **purpose** of the Proposed Action is to respond to the identified need by restoring, with the repair of the Cabin Creek airstrip, the same level of opportunity for aircraft access to the lower Big Creek drainage that existed prior to the damage and closure of the Cabin Creek airstrip. It is intended that the proposed action be a timely, effective response, while protecting, preserving or improving resource conditions related to soils, water quality, fish, wildlife and Wilderness.

Decisions to be Made:

The Responsible Official for the decision to implement the Proposed Action (involving the use of mechanized [wheeled] equipment) is the Regional Forester. The decisions to be made are:

1. Should the Cabin Creek airstrip be repaired?
2. If the airstrip is to be repaired: determine to what operating standard, using what types of equipment ("minimum tool" determination), with what types of resource mitigation measures.
3. If the airstrip is not to be repaired: determine what other management actions are desirable or necessary to abandon and close the airstrip and/or provide alternative access to accommodate public, administrative and commercial activities in the area.

The alternatives to the Proposed Action and the environmental impacts of those alternatives, are disclosed in this environmental document and are intended to provide a foundation for this decision-making.

Management Direction:

The Wilderness Act (1964), the Central Idaho Wilderness Act (1980), FSM and FSH (Forest Service Manual & Forest Service Handbook), and the FC-RONR Wilderness Management Plan (1985), are the primary sources of Forest Service management direction for this area. The Payette National Forest Land and Resource Management Plan (1988) incorporated the direction of the Frank Church - River of No Return Wilderness (FC-RONRW) Management Plan by reference (Chapter 1, page 2).

The Frank Church - River of No Return Wilderness was designated as Wilderness by Congress with the Central Idaho Wilderness Act (CIWA) of July 23, 1980. Section 7 of that Act specifically addresses continuation of aircraft uses: "the landing of aircraft, where this use has become established prior to the date of enactment, shall be permitted to continue... the Secretary shall not permanently close or render unserviceable any aircraft landing strip in regular use on national forest lands ... for reason other than extreme danger to aircraft, and in any case not without the express written concurrence of the agency of the State of Idaho charged with evaluating the safety of backcountry airstrips."

The current Wilderness Management Plan recognizes Cabin Creek as one of the landing strips in the Frank Church - River of No Return Wilderness maintained for public and administrative use. The Plan provides direction to "maintain present established landing dimensions and approach clearances," and further directs that: "Maintenance will generally be by primitive (nonmotorized) methods. Approval for use of motorized equipment is required from the Regional Forester or Chief on a case-by-case basis".

The Forest Service Manual (Chapter 2320 - Wilderness Management) provides direction that: "where there are alternatives among management decisions, wilderness values shall dominate over all other considerations except where limited by the Wilderness Act, subsequent legislation, or regulations." The FSM further states that: "in wildernesses where the establishing legislation permits resource uses and activities that are nonconforming exceptions to the definition of wilderness as described in the Wilderness Act, manage these nonconforming uses and activities in such a manner as to minimize their effect on the wilderness resource".

The Wilderness Act of 1964, as enacted September 3, 1964, and amended October 21, 1978 (16 U.S.C. 1131-1136) provides Congressional policy to secure for the American people an enduring resource of wilderness for the enjoyment of present and future generations. It defines wildernesses as areas untrammelled by people that offer outstanding opportunities for solitude and directs agencies to manage wilderness to preserve natural ecological conditions. With certain exceptions, the Act prohibits motorized equipment, structures, installations, roads, commercial enterprises, aircraft landings and mechanical transport.

There is no clear direction dictating Forest Service response to an "act of nature" which damages and renders unserviceable a Forest Service facility (e.g. pack bridge, trail, administrative cabin) that serves recreation or administrative purposes. In such situations the responsible Forest Service official (line officer) is generally assumed to have a certain degree of administrative discretion when he/she evaluates whether the facility is needed and whether (including how and when) the facility should be repaired or replaced.

In Wilderness, Forest Service policy directs managers to evaluate and scrutinize every planned action (such as replacement of a recreation or administrative facility) to determine if it is **necessary** to achieve the management objectives for the area. If a planned action is determined to be necessary, it should be accomplished using methods and equipment that have the least impact on the physical, biological and experiential characteristics of the wilderness. In wilderness, how you carry out the management action is as important as the end product. This is referred to as the "minimum tool concept".

Issues:

Public Involvement

The Forest Service notified the public by Legal Notice, News Release and with a direct mailing to individuals and organizations identified as having a potential interest, of the Proposed Action, stated as:

restoration of the Cabin Creek airstrip to its previous operating standard (Cessna 206 operations or equivalent aircraft), using nonmotorized, non-mechanized methods.

The News Release provided information regarding the extent of the damage to the airstrip and requested comments relative to the proposed repair action. A Legal Notice appeared in the McCall Star News and the Idaho Statesman, also requesting public comment on the proposed Forest Service action. Nearly 200 comments were received.

Public input generally supported repair of the Cabin Creek airstrip, and in the most expedient manner possible. Comments favored flying in motorized equipment to do the necessary work. There were offers to provide assistance in the repair effort. Some public comments supported repair of the airstrip, but the use of nonmotorized means.

There were comments that suggested the Forest Service focus on providing a shorter airstrip, thereby reducing the fill requirements and potential resource impacts, while making repair work easier. Other letters suggested that the airstrip be abandoned; that the cost of repair was not justified, it was not a needed facility to provide access (other access options being available) and was counter to a Wilderness experience and environment.

As the Forest initiated the decision-making process to determine a response to the Cabin Creek airstrip damage, there were questions regarding the necessity of preparing a National Environmental Policy Act (NEPA) disclosure document prior to initiating repair activities. The initial site inspections made it clear that the magnitude of the damage would require a repair effort substantially greater than could be considered "routine" maintenance.

There were three primary factors identified early on by Forest Service personnel indicating a need for careful evaluation prior to initiation of any repair effort: 1. the magnitude of the repair project involving movement of 1200-1500 cubic yards of fill material; 2. location of the project in the Big Creek drainage, an important chinook salmon bearing stream; 3. the location of the airstrip in the Frank Church - River of No Return Wilderness.

Based on these considerations the Forest Service developed a Proposed Action and solicited public comment as the initial step in assessing the scope and scale of the issues that would be of primary concern when making a final decision on action in response to the Cabin Creek airstrip damage.

Major Issues

The Forest Service considered all the comments received from the public. The major issues outlined below were identified from public comment and/or represent an area of Forest Service management concern. These major issues were used to formulate alternatives, develop mitigation measures and as the basis for discussing and comparing environmental effects. Each alternative responds to one or more of these major issues. The environmental consequences of the alternatives (as described in Part II) were then analyzed in response to these issues.

1. Access. The effect of repairing the Cabin Creek airstrip on access opportunities to lower Big Creek in the Wilderness.

Prior to the damage incident and subsequent closure, the Cabin Creek airstrip provided a point of air access for public, administrative and commercial use. Permanent closure would result in reduced air access for all these uses.

Access for visitors entering the area to hunt, fish, camp, hike or engage in other recreational activities would be more difficult and less convenient without the Cabin Creek airstrip. Public comment noted that in particular, without this point of access, use would be denied to certain individuals who, due to age, time limitations or physical handicaps, would be unable to visit the area without aircraft access.

Some commenters suggested that the airstrip not be repaired and be left closed because it did not provide needed access, and that other modes of access could be used or access was available using other other airstrips (e.g. Soldier Bar).

There were comments that the Cabin Creek airstrip offered a much better operating capability than the alternative of the Soldier Bar airstrip. Cabin Creek airstrip was noted as having a better margin of safety, and more convenient access to recreation opportunities than Soldier Bar.

The Wilderness Act, the Central Idaho Wilderness Act, the Frank Church - River of No Return Management Plan and existing policy and direction all provide for a continuation of airstrip use.

Issue Indicator:

* Availability of opportunity to access lower Big Creek by air, with or without the Cabin Creek airstrip, to a degree that would be considered equivalent to that which existed prior to damage and closure of the Cabin Creek airstrip.

2. Wilderness. The effect of repairing the Cabin Creek airstrip on the Wilderness character of the area and the need for any action to protect, preserve or improve the Wilderness environment.

The Wilderness Act, the Central Idaho Wilderness Act, the Frank Church - River of No Return Management Plan and existing policy and direction provide for a continuation of airstrip use (reference **Management Direction** section of this Part). As reflected in the **Purpose and Need** section of this Part, retaining a level of air access to the lower Big Creek drainage, equivalent to that which existed prior to the damage and closure of the Cabin Creek airstrip, was determined to be desirable and appropriate. Therefore, this issue primarily focuses on the effect on wilderness attributes of actions designed to provide this level of air access.

Some commenters felt that legislative mandate and management policy direction dictated the repair of the Cabin Creek airstrip, and that there were no other legally appropriate options. Others felt that the Cabin Creek airstrip should not be reopened, and this natural event taken as an opportunity to improve the wilderness environment as defined by the Wilderness Act, which could be accomplished by eliminating one publicly maintained airstrip. There was a

related concern that not pursuing any action to rehabilitate the damage to the Cabin Creek airstrip would result in a long term visual scar that would detract from the Wilderness setting.

There was support that if Cabin Creek airstrip was to be repaired (or any other action taken to retain equivalent opportunity for air access to lower Big Creek), it should be in a manner consistent with the Wilderness environment i.e. nonmotorized) to best protect this resource. There was feeling that care should be taken to be sensitive to the Wilderness environment, including looking for options to minimize the work and soil disturbance necessary (e.g. provide a shorter airstrip), protect natural conditions and consider opportunities when implementing repair activities that would minimize Wilderness impacts and offer a long term gain for the condition of the Wilderness resource.

Issue Indicator:

* Effects on Wilderness resource characteristics.
[attributes: natural integrity & natural appearance].

* Opportunities for Wilderness experience.
[attributes: opportunities for solitude & opportunities for primitive recreation].

3. Watershed. The effects of repairing the Cabin Creek airstrip on soil, water and riparian conditions and the need to protect or improve soil stability, water quality and riparian areas to as near a natural condition as possible.

Airstrip repair will involve movement of 1200-1500 cubic yards of soil as fill material. With the Proposed Action this fill material would come from Cow Creek rehabilitation work and possibly from some adjacent areas. Soil exposed by repair work can become a source of sediment entering the watershed. The proximity of the airstrip to Cow Creek increases this potential to impact water quality from increased sedimentation during the repair activities as fill material is borrowed and transported. Riparian vegetation along Cow Creek will be unavoidably disturbed as the rehabilitation work proceeds.

Following repair action, maintenance and use of the airstrip will have some level of on-going impacts related primarily to the landing surface condition. Past use levels, compacting the landing surface and limiting water infiltration, coupled with the naturally dry site conditions, have left the center area of the runway essentially devoid of vegetation. These conditions increase the erosive force of runoff and can be a source of sediment to the watershed.

A decision not to repair the Cabin Creek airstrip (No Action) would leave the area gullied by the effects of the 1996 runoff overflow from Cow Creek that initially caused the damage.

Issue Indicator:

* Stability of Cow Creek and potential for future runoff to damage airstrip.

- * Potential for direct sediment delivery to Cow Creek.

4. Fisheries Habitat. The effects of repairing the Cabin Creek airstrip on the natural fish populations, including listed threatened and endangered species and the need to provide as near to natural conditions as possible for fish.

The general area of the project provides habitat for a variety of fish species, including some threatened and endangered species. The Cabin Creek airstrip is located in an anadromous watershed, providing habitat for the threatened chinook salmon. Also present in the vicinity, and proposed for listing as threatened, are steelhead/redband rainbow trout. Bull trout and cutthroat trout both are present as well, and are recognized as sensitive species.

Direct impacts to fish can result from the physical work being done to repair the airstrip. There will be some unavoidable short term habitat disturbance associated with the borrowing and movement of fill material associated with an airstrip repair project. Sediment introduction has potential to lower water quality and impact fish. More indirect impacts to fish could result from the disturbance associated with the pressure of work crews, or depending on how the work is conducted, potential impacts on resource conditions from stock (work teams), equipment and fuel.

Repair of the airstrip will restore a more convenient means of accessing the area and could result in increased visitors to the area. This could mean increased potential of fish disturbance associated with recreational use of the area and a greater potential for harassment of fish in nearby streams.

Issue Indicator:

- * Risk of harassment and survival potential for chinook salmon.
- * Effects on fish populations.

Other Issues

The Forest Service assessed all issues that were surfaced in response to the Proposed Action. The following are not considered major issues because they did not provide significant differentiation between the Proposed Action or any alternative, nor necessitate specific mitigation measures under any alternative.

1. Time and Cost of Airstrip Repair

The Wilderness Act generally prohibits the use of motorized equipment except where "necessary to meet the minimum requirements for administration of the area for the purpose of this Act". Management direction provided in the FSM is to "exclude the sight, sound, and other tangible evidence of motorized equipment or mechanical transport within wilderness except where they are needed and justified." There is no special provision for repair or maintenance of airstrips. Current policy provides that this determination of need be made through a "minimum tool analysis".

Repair of the airstrip using nonmotorized equipment could take longer and be more expensive than if motorized equipment is used. Comments raised concerns that the use of nonmotorized methods would result in undue delays in reopening the airstrip, would not be economically prudent and perhaps not even feasible.

Management direction emphasizes that in wilderness, how you carry out a management action is as important as the end product. Thus, in the context of the wilderness, time and cost are not intended to be critical decision factors. The time and cost of implementing each alternative are tracked in the alternative descriptions of Part II.

2. Wildlife Habitat

A Forest Service Wildlife Biologist made an on-site inspection of the Cabin Creek airstrip in July of 1996. Information was generated regarding PETS species (proposed for listing, listed as endangered or threatened, or Forest Service designated as sensitive) as a result of this visit:

a. Peregrine falcons are potentially present during spring, summer and fall. No potential nest sites occur nearby. A "no effect" conclusion was made for this species because the proposed repair of the Cabin Creek airstrip would not affect recovery of this species; no mortality would occur and habitat would not be affected.

b. Rocky Mountain Grey Wolves are known to be present in the general area, and could appear year around. Presently there are no known dens within one mile of the airstrip, however potential den sites are present. The project area is within the Central Idaho Wolf Recovery Zone and is used by wolves. The wolf population south of Interstate 90 is currently classified as "experimental, nonessential". A "no effect" conclusion was made for this species because the proposed repair of the Cabin Creek airstrip are not likely to affect wolves.

c. Bald eagle habitat was not found in the Cabin Creek airstrip vicinity. Therefore, no further review was conducted.

d. For the following sensitive species, it was determined that either the species was not present or individuals would move from the immediate area of human activity: fisher, lynx, wolverine, Idaho ground squirrel, Boreal owl, Great Gray owl, Harlequin Duck, Northern Goshawk, Three-toed Woodpecker, Spotted frog. Therefore, a "no impact" determination was made for each of these species.

Fall elk hunting is a significant attraction to this area, and has a national reputation. The current backcountry season lasts from mid-September to mid-November. Although Cabin Creek airstrip provides hunting access throughout the season, it generally becomes most intense during the late season as the high elevation access is closed out and the animals also start moving lower.

Impacts to wildlife can result from the physical work being done to repair the airstrip. There will be some unavoidable short term habitat disturbance associated with the borrowing and movement of fill material associated with an airstrip repair project. During a repair project that involved work crews and soil disturbance there could be displacement of wildlife from the immediate

location. However, this disturbance would be minimal, and not appreciably different from daily air, horse, or foot travel through the area.

Repair of the airstrip will restore a more convenient means of accessing the area and could result in increased visitors to the immediate area of Cabin Creek. Repair of the airstrip could mean increased potential of wildlife disturbance associated with recreational use of the immediate Cabin Creek area. However, those users that would be displaced from the Cabin Creek locale if the airstrip was not reopened would be expected to simply move their activities to other areas within the wilderness with air access. Therefore, in a broader geographical sense, there would be no expected overall decrease in use, even with a permanent closure of Cabin Creek.

3. Cultural Resources

Due to the relatively open topography and natural setting at the confluence of Cabin Creek and Big Creek, there has been extensive human activity of both a prehistoric and historic nature. The Cabin Creek Ranch, which was served by the airstrip, is listed on the National Register of Historic Places (NRHP). The airstrip is within the boundaries of the NRHP site but is considered non-contributing. A Forest Service professional cultural resource manager conducted an inventory of the immediate area of the airstrip in 1996 after the damage to the airstrip, and did not discover any buried or previously unrecorded cultural material. No cultural or historic sites will be affected by the repair work. The Forest Service has consulted with the State Historic Preservation Office (SHPO) regarding the Proposed Action.

4. Vegetation

A Forest Service Botanist visited Cabin Creek in 1996 prior to the airstrip damage. No threatened, endangered or sensitive plant species, or potential habitat, were identified or are known to occur within the Cabin Creek airstrip vicinity.

5. Impacts on Outfitting Services

Commercial outfitting operations use the Cabin Creek airstrip as a point of access for their clients. In the past, two outfitting operations have used Cabin Creek airstrip as a primary point of access. Following the damage and closure of the Cabin Creek airstrip in 1996, outfitters used the Cold Meadows and Soldier Bar airstrips, with little reported impact on their activities. Use of the Soldier Bar airstrip, about seven miles downstream on Big Creek from Cabin Creek, was reported to have increased substantially.

Issues Not Addressed

The following issues, raised during public comment, will not be addressed in this Environmental Assessment because: 1. the issue is outside the scope of this project; 2. the issue has already been decided by law or relevant management direction; 3. the issue is irrelevant to the decision; 4. the issue is not supported by scientific evidence.

Wilderness. The effect of the presence of the Cabin Creek airstrip on wilderness characteristics.

The Wilderness Act, the Central Idaho Wilderness Act, the Frank Church - River of No Return Management Plan and existing policy and direction all provide for a continuation of airstrip use (reference **Management Direction** section of this Part). Some commenters felt that the presence and use of the airstrip, while legal, represented a detraction from the wilderness character.

The presence of an airstrip can reduce the sense of remoteness, isolation, solitude and untrammelled natural character Wilderness is intended to provide as described by the Wilderness Act. In addition the ease of access offered by an airstrip may impinge on the challenge, risk and self reliance available to users. People expressed concern with the noise and visual intrusion associated with aircraft operations at the Cabin Creek airstrip. Some people pointed out that the airstrip is a developed facility that is philosophically counter to the idea of Wilderness as undeveloped land in a natural state devoid of modern transportation conveniences.

This specific aspect of the issue related to wilderness will not be addressed further in this Environmental Assessment since the continuation of airstrip use is provided for by legislation and existing management direction. While there may be management discretion regarding the repair of the Cabin Creek airstrip, specifically, a decision to repair and reopen the Cabin Creek airstrip is an appropriate action consistent with law and management policy. The question of whether to reopen the airstrip at all is addressed in the No Action Alternative.

Permits, Licenses, and Other Entitlements:

The entire project area is within National Forest system lands.

The Forest Service must consult with the National Marine Fisheries Service on a Biological Assessment prepared for chinook salmon.

In compliance with the Clean Water Act, a section "404" permit would be acquired from the Army Corps of Engineers for any action that would involve work in Cow Creek as part of rehabilitating that stream.

The Federal Aviation Act, as amended (Title 49, United States Code, section 1349) establishes restrictions on using Federal funds for the construction, maintenance, or operation of any landing area. Cabin Creek has been listed with the Federal Aviation Administration (FAA) as a public landing area. Management policy is to operate all Forest Service airstrips in accordance with applicable FAA regulations and state requirements.

II. ALTERNATIVES

Introduction:

The Alternatives discussed in this Part were developed in response to the issues presented in the previous Part. The range of alternatives are intended to represent legally and technically feasible courses of action.

The legal feasibility of any alternative that would not provide for repair and reopening of the Cabin Creek airstrip, is dependent on interpretation, with regard to an act of nature, of Section 7 of the Central Idaho Wilderness Act, which provides direction regarding the closing or rendering unserviceable of airstrips.

Alternatives Considered and Eliminated from Detailed Study:

There were a variety of options that were considered as possible ways to respond to the damage of the Cabin Creek airstrip, and for a variety of reasons, after initial consideration, were eliminated from detailed study .

No Repair of Cabin Creek Airstrip While Rehabilitating Cow Creek & Stabilizing Washout

This alternative is identical to Alternative 1 (No Action) that is considered in detail in the following section of this Part (**Alternatives Considered in Detail**), with the exception that action to rehabilitate Cow Creek and stabilize the washout that gullied the airstrip's surface, would be pursued. The rehabilitation work would be done with nonmotorized/nonmechanized techniques. The objective would be to return Cow Creek and the immediate area of past disturbance related to airstrip construction and use, to a more natural condition.

It is estimated that this work, using Forest Service crews, would require approximately \$15,000 to do a minimally adequate job. This work would reduce erosion and sediment delivery potential to more natural levels. This action would be favorable for watershed, wildlife and fish. Wilderness conditions would likewise be improved with a more natural setting. A greater sense of remoteness, isolation and solitude would result with the exclusion of modern sights and sounds associated with an airstrip and aircraft operations. Without the convenience of an airstrip at this location, there would be a greater sense of challenge, risk and self-reliance that contributes to Wilderness character.

This alternative was dropped from detailed consideration since opportunities to access the lower Big Creek drainage by aircraft would be reduced under this course of action. The stated purpose and need (reference Part I) would not be satisfied with this alternative. It has been determined that a level of air access to the lower Big Creek drainage, at least equivalent to that which existed prior to the damage and closure of the Cabin Creek airstrip, is desirable and appropriate to achieve management objectives for the area.

Alternative Access Option

A possible opportunity was initially surfaced for providing a comparable level of aircraft access to the area served by the Cabin Creek airstrip, but without repair of the airstrip. The primary components of this course of action consisted of three features, intended to maintain comparable access opportunities, while improving or maintaining resource conditions of watershed, fish and Wilderness:

1. mitigate the washout damage on the Cabin Creek airstrip and rehabilitate Cow Creek to achieve more natural stream dynamics (\$15,000);
2. improve the Soldier Bar airstrip to an operating capability approximating the Cabin Creek airstrip prior to the runoff damage (\$45,000);
3. improve ground travel (alleviate need to ford Big Creek) from Soldier Bar to the north side of Big Creek to connect with the Big Creek trail. Three possible options to provide connection with the Big Creek trail (on the north side of Big Creek), with Soldier Bar (on the south side of Big Creek) without necessitating fording, were surfaced:
 - a. construction of a trail (about 3 miles) on the south side of Big Creek between Soldier Bar and Taylor Ranch (both located on south side of Big Creek). At Taylor Ranch there is a pack bridge currently in place which crosses Big Creek, allowing access to the Big Creek trail that is on the north side of Big Creek;
 - b. construction or relocation of a bridge on Big Creek below the Soldier Bar airstrip to allow more convenient and year long crossing of Big Creek to access the Big Creek trail on the north side of Big Creek;
 - c. installation of a cable car on Big Creek below the Soldier Bar airstrip to allow more convenient and year long crossing of Big Creek to access the Big Creek trail on the north side of Big Creek.

This course of action was eventually dropped from serious consideration and detailed evaluation in consideration of several factors:

1. It would require considerable infrastructure improvements (to Soldier Bar airstrip and the trail system) that overall could be as impactive to the Wilderness and other integral resources components (e.g. fish & wildlife), and were projected to be as costly as repair of the Cabin Creek airstrip;
2. It was deemed unlikely that Soldier Bar airstrip could provide a level of access equivalent to Cabin Creek airstrip even with a reasonable level of improvement. Due to the inherent topographical features of Soldier Bar, even with improvement work it would be a more limiting airstrip than Cabin Creek. The operating capability and safety margin could be slightly improved, but would still be limited and not equal to that offered by the Cabin Creek airstrip prior to the washout damage. Continuing maintenance would be necessary to retain an acceptable operating capability with the increased use levels that could be expected.

Change Emphasis & Improve Resource Conditions

Options were considered that would "change emphasis and improve resource conditions" by making significant betterment of the Cabin Creek airstrip an integral part of the work to be completed. This course of action would depart from a return to previous conditions, for the Cabin Creek airstrip specifically, but also for access and recreation opportunities in the lower Big Creek drainage. Primary components considered when formulating the possibilities offered by this course of action included the following:

1. repair of the Cabin Creek airstrip using either: 1. nonmotorized techniques, or 2. motorized methods and equipment, as determined to be "the minimum necessary tool";
2. rehabilitate Cow Creek to achieve more natural flow dynamics, in conjunction with Cabin Creek airstrip repair and betterment;
3. improve the landing surface of the Cabin Creek airstrip to accommodate current and increasing use levels. Attendant with improvement of the Cabin Creek airstrip would be an increased maintenance focus, while de-emphasizing the Soldier Bar airstrip by eliminating maintenance and with a cessation of administrative use. Three possible means of improving the Cabin Creek airstrip's landing surface were identified:
 - a. irrigation to promote natural vegetative growth and increase soil moisture to reduce soil loss during the summer season;
 - b. using soil additives to harden the landing surface;
 - c. setting paving bricks to provide a hardened landing surface.

A total of six possible alternatives could be constructed using combinations of repair techniques (nonmotorized/motorized) and the three methods of improving the landing surface at Cabin Creek.

The rationale for initially considering the options presented under this course of action was the possibility of providing equivalent access to lower Big Creek, while improving resource conditions for watershed, fish and Wilderness:

1. restoration of Cow Creek would have associated benefits of improving fish habitat through improved water quality and a decrease in sediment delivery potential;
2. improving the Cabin Creek airstrip landing surface, while de-emphasizing Soldier Bar use and maintenance, was viewed as having several potential advantages;
 - a. surface improvement on Cabin Creek airstrip would reduce fine loss from the landing surface (due to prop wash and erosion) and decrease long term maintenance requirements and needs;
 - b. surface improvement on Cabin Creek airstrip would provide an increased safety margin by improving the operating standard;

c. focusing maintenance resources at the more "user friendly" airstrip would make an upgrade at Cabin Creek more economically realistic;

d. surface betterment at Cabin Creek would be expected to improve access and there would be an increase in use resulting from a potentially larger user population resulting from the improved operating standard;

d. by focusing use at Cabin Creek, and de-emphasizing use at Soldier Bar, conditions at Soldier Bar would ideally stabilize, resulting in less surface erosion at that location;

e. focusing use at one airstrip in lower Big Creek would improve Wilderness resources conditions and opportunities for a Wilderness experience while retaining access opportunities;

f. Cabin Creek has superior opportunities to accommodate user activities due to location and topography.

Improving Cabin Creek airstrip and recognizing it as the primary point of public air access for lower Big Creek, with an attendant de-emphasis of the Soldier Bar airstrip, would work to centralize air access at the strip with the greatest operating range and safety margin. Cabin Creek has the greater range of access options (trails) and camp locations in the immediate vicinity. Soldier Bar has a history of relatively low use (primarily access for sheep hunting) and is an airstrip with difficult operating characteristics. As formulated by this course of action, the Soldier Bar airstrip would not be closed, however Forest Service administrative use would cease, and an advisory to "use at own risk and recommended for emergency use only" would be issued.

This action would allow Forest Service maintenance resources to be focused at one airstrip, rather than two, which are only seven miles apart. This action would tend to limit the potential impacts on the Wilderness environment of having two public airstrips only seven miles apart, while comparable or better air access to this area of the Wilderness would be maintained.

Despite certain identifiable potential resource advantages, this alternative was eventually dropped from serious consideration and detailed evaluation after consideration of the following:

1. it would require an infrastructure improvement to the Cabin Creek airstrip, that would be expensive, could actually increase use of the area due to improved air access to this portion of the Wilderness (as opposed to restoring the previous operating standard) and be more of a visual detraction to the Wilderness environment than was the previously existing facility;

2. it would be very controversial and perhaps politically unrealistic, to eliminate maintenance and discourage use at the Soldier Bar airstrip, even with an attendant improvement at Cabin Creek.

Return Cabin Creek Airstrip to Previous Operating Standard by Pulling Washed Material from Disposition Location

The surface and fill material that was washed from the Cabin Creek airstrip as a result of the Cow Creek runoff overflow, was deposited at the south end of the airstrip in an abandoned irrigation reservoir. Pulling this material from the area of disposition in the reservoir and moving it back up the length of the airstrip to fill the gully, was considered as a possible source of fill needed for airstrip repair.

There are advantages to using this source for fill material: a. it reuses the fill that was lost as a result of the over flow event; b. it would require no new disturbance to borrow fill from other locations; c. it empties the reservoir so that it might act as a settling pond should future overflow events occur.

Despite these possible advantages, this option was dropped from detailed consideration based on the following factors:

1. moving material up hill the length of the airstrip would increase the total work and energy requirements and logistical difficulties of repair work;
2. two other potential sources of needed fill material have been identified (as reflected in the following Part: **Alternatives Considered in Detail**) that either provide some improvement in resource considerations (Cow Creek rehabilitation), or take fill from previously used borrow sites adjacent to the airstrip, both while allowing the fill to be moved down hill and over shorter distances, reducing some of the work and energy requirements and logistical complications;
3. allowing the fill to remain in place in the reservoir provides some level of rehabilitation for that unused facility. The need to retain the reservoir as a settling pond for possible future overflow events is not considered to be an important requirement of the airstrip restoration project. It is critical that any repair of the Cabin Creek airstrip include reliable precautions to avoid any similar overflow events that would damage the airstrip again. However, there is adequate capacity remaining in the reservoir to capture additional overflow events of a similar magnitude should such an event recur.

Negotiate with the State of Idaho (University of Idaho) to Allow Public Use of the Taylor Ranch Airstrip

The University of Idaho operates a Wilderness Research Center four miles downstream from Cabin Creek on Big Creek. Prior to its acquisition by the University this was private property. There is an airstrip on the property that supports the use of the property as a Research Center. The airstrip is not open for public use.

An option was surfaced that would entail working with the State of Idaho (University of Idaho) to allow public use of the Taylor Ranch airstrip, while leaving the Cabin Creek airstrip closed and rehabilitating the gully damage and Cow Creek. Although the Taylor Ranch airstrip is on the south side of Big

Creek and the Big Creek trail, there is a pack bridge at this location that would accommodate visitor access to the Big Creek trail on the north side of Big Creek.

This alternative was eliminated from detailed consideration for the following reasons:

1. The Taylor Ranch airstrip has a more limited operating capability than Cabin Creek, and is a more limiting airstrip, and would not provide the same level of aircraft access as Cabin Creek.
2. The Taylor Ranch airstrip is on State property and there is no assurance that the State of Idaho (University of Idaho) would seriously consider an alternative that would provide for unrestricted public use of the Taylor Ranch airstrip. Indeed there are valid reasons to presume that this would not be an acceptable alternative from the landowners perspective.

Reconstruct the Cabin Creek Airstrip in a Different Location in the Immediate Vicinity

There were various suggestions made that entailed reconstructing the Cabin Creek airstrip in the same immediate area, but in slightly different locations.

One option involved moving the airstrip to the location of the airstrip that was in use prior to the construction of a new airstrip in the 1960s. This location is north of the currently existing location, on a sagebrush bench with north/south alignment. There are inherent topographical limitations at this old site, and that was the rationale for abandoning this location and constructing the airstrip in the current location. The second option that was suggested involved moving the current strip slightly to the west, and shortening the airstrip by a considerable amount. This would reduce the work requirements to restore a landing surface. The entire upper 1/4 to 1/2 of the current airstrip would be abandoned. The end result would be a short and operationally demanding airstrip with limited capabilities.

While both options under this alternative are technically feasible, they fail to meet the purpose and need as described in Part I. The resulting landing area, for either option under this course of action, would have less of an operating capability than what previously existed. The overall opportunity to access the area by air would therefore be reduced.

Place Culvert in Cabin Creek Airstrip Gully

Public input provided the suggestion to install a culvert in the airstrip gully that resulted from the overflow of Cow Creek. The suggested advantage of this course of action was that: 1. fill requirements could be reduced by placing a culvert in the gully; 2. the culvert would provide protection from future overflow of Cow Creek, providing a flow path under, not down, the airstrip.

This option was not considered in detail for the following reasons:

1. Installation of 1750 feet of culvert down the center of the Cabin Creek airstrip would represent development counter to the Wilderness Act and

Forest Service management direction to protect and propagate the naturalness of the wilderness environment to the extent feasible.

2. The possible permanent capture of a portion or all of Cow Creek, in a culvert flow path, would not be desirable. There would be impacts on riparian vegetation and fisheries if culvert flow became established. In no situations would it be desirable to have a permanent flow through 1750 feet of culvert.

3. There were concerns regarding long term maintenance of the culvert, keeping 1750 feet of culvert bedded, joined and properly covered could present long term problems.

Defer to Wilderness Plan

There was an option to keep the airstrip closed and defer any decision to the FC-RONR Wilderness Plan now being drafted which will provide programmatic direction on airstrips. This course of action would have the advantage of allowing the Forest Service to review and confirm or modify the existing programmatic direction on all airstrips. This would put the decision regarding Cabin Creek in a broad context consistent with updated direction.

This option was dismissed as a desirable course of action. It was not deemed to be responsive to the situation, and it was unclear that a delay to wait for new direction offered any significant advantages. The length of the delay was uncertain, and the possibility that a site/project specific evaluation would still be necessary was high.

Alternatives Considered in Detail:

Five alternatives were developed and considered in detail. NEPA regulations require inclusion of the No Action alternative. The other four action alternatives are designed to meet the Purpose and Need as described in Part I while responding to the issues related to this project. All action alternatives involve repair and reopening of the Cabin Creek airstrip.

Alternative 1 - No Action

NEPA regulations require the study of the No Action alternative in detail. It is intended to provide a baseline for comparing other alternatives.

The No Action alternative is defined as not restoring the Cabin Creek airstrip to accommodate aircraft operations. There would be no repair work at Cabin Creek airstrip, the airstrip would remain closed and with appropriate consultation and notification be abandoned. Past Cabin Creek users would redirect their use to alternative public airstrips or no longer visit the area.

Under this alternative there would be no action to rehabilitate the Cabin Creek airstrip washout gully or restore Cow Creek to a more natural condition. The situation would be allowed to seek its own natural balance, which would occur over a period estimated to be 20 - 50 years. There would be no direct expenditure of funds necessary to implement this Alternative.

Formulations of Action Alternatives Considered in Detail

Each of the four action alternatives considered in detail have a similar overriding objective:

Repair and restoration of the prior operational capability of the Cabin Creek airstrip to accommodate Cessna 206 (or equivalent aircraft) operations.

This would be accomplished:

- * By moving 1200-1500 cubic yards of sandy fill material from areas adjacent to the airstrip to restore the landing surface;
- * The work would be completed in conformance with Forest Service Wilderness management direction regarding the "minimum necessary tool".

Under each of the four action alternatives considered in detail, the landing surface at Cabin Creek would be returned to the extent possible to pre-washout conditions, represented by a landing surface of dirt and sparse vegetation. The operational length, which was listed in the State Directory as 1750 feet prior to the over-flow event, would be reduced 50-100 feet.

For accomplishment of this objective two variables (with two options each) were identified:

1. The source of the fill was recognized as a primary variable. There were two options identified:

- * Rehabilitate Cow Creek, and repair the airstrip using fill produced from pulling the stream banks back where they have been artificially oversteepened due to airstrip construction and maintenance, and widening the flow path to a more natural configuration;
- * Borrow fill from two hillside locations adjacent to the airstrip that evidence past disturbance and use as borrow locations.

2. Work methods to accomplish the task were viewed as a secondary variable:

- * Nonmotorized techniques (i.e. horse drawn mechanized equipment);
- * Motorized equipment.

The actual work method would be determined using the Forest Service "minimum tool" test for work in the Wilderness.

Considering each of these variables, and the two options for each, resulted in formulation of the four action alternatives considered in detailed.

Alternative 2 - (Proposed Action) - Fill Obtained in Conjunction with Rehabilitation of Cow Creek Using Nonmotorized Work Methods

Primary action components of this alternative are:

* Rehabilitation of Cow Creek

The majority of the required fill (1200-1500 cubic yards) to repair the airstrip would come from rehabilitating Cow Creek. This would entail pulling the stream banks back where they have been artificially oversteepened due to airstrip construction and maintenance, and widening the flow path to a more natural configuration. This work could result in a slight decrease in the operating length of the Cabin Creek airstrip, and include construction of a new aircraft turn-around area. The operational length, which was listed in the State Directory as 1750 feet prior to the over-flow event, would not be reduced by more than 50 - 100 feet at the north end. This should have no significant impact on the operating capability of the airstrip for Cessna 206 (or equivalent) aircraft.

Such action would provide protection against a recurrence of the overflow event that damaged the airstrip in June of 1996. The disturbed area along Cow Creek would be replanted with native vegetation.

It may be necessary to remove a small amount of fill (300 cubic yards) from identified hillside locations adjacent to the airstrip to complete the work. However, the quantity required would be small, and will be dependent on the actual fill yielded from the restoration of Cow Creek, which should provide the majority of the fill needed.

* Use nonmotorized work methods

Horse drawn equipment and hand labor would be used to conduct the repair work. The 1200-1500 cubic yards of material required to repair the airstrip would be moved and compacted as necessary to return the airstrip to its previous operating standard using horse drawn equipment (e.g. horse drawn equipment; slips, fresnos and wheeled equipment such as wagons, dumps and graders necessary to complete job). Generally, the types of equipment and the number of animals would be at the discretion of the unit/organization contractor assuming the responsibility for completing the job, in consideration of a variety of factors such as: 1. equipment availability; 2. available methods of equipment transport; 3. economic analysis of cost versus profit for a contractor.

The Forest Service would require that impacts from on-going work be minimized to the extent possible. Camp sites would be preapproved, grazing areas for stock would be rotated and within range capacity, and no animals or equipment not necessary to the project would be allowed to be moved to, or kept in, the vicinity of the work site (minimum necessary). Following completion of the work all equipment and material would be removed from the site.

* Time and Cost

Projected Repair Period: 80-120 days.
Estimated Cost: \$75,000 - \$110,000.

Alternatives 2 & 3 - Site Map

Reach of Cow Creek to be rehabilitated while providing fill for airstrip

Alternative 3 - Fill Obtained in Conjunction with Rehabilitation of Cow Creek Using Motorized Equipment

This alternative formulation consists of:

* Rehabilitation of Cow Creek

The work to be completed is identical to that described for the preceding alternative (Alternative 1).

* Use of Motorized Equipment

Use of motorized equipment is the variable of differentiation between the preceding alternative (Alternative 1) and this course of action (Alternative 2). With a determination that motorized equipment equates to the "minimum necessary tool" to conduct this work in the Wilderness, equipment would be airlifted to the worksite. In addition to equipment, fuel and supplies would be transported to the Cabin Creek worksite to support repair operations.

The type of equipment would generally be left to the discretion of unit/organization contractor assuming the responsibility for project completion. Equipment adequate to complete the job satisfactorily could vary. Small (bobcat) type equipment could be used, or larger types of equipment (front end loader, back hoes, dump trucks) might be used depending on variety of factors such as; 1. equipment availability; 2. available methods of equipment transport/support (i.e. size of helicopter and lift capacity), 3. economic analysis of cost versus profit for a contractor.

The Forest Service would require that impacts from the ongoing work be minimized to the extent possible. Camp sites would be preapproved. Routes for on-site equipment movement would be designated; parking, fuel storage and fueling areas would be preapproved. Equipment not necessary to the project would not be allowed to be transported to the work site (minimum necessary, e.g. generators for camp use would not be permissible). Following completion of the work all supporting materials and equipment would be removed from Cabin Creek.

* Time and Cost

Projected Repair Period: 40-60 days.

Estimated Cost: \$75,000 - \$110,000.

Alternative 4 - Fill Obtained from Hillside Locations Using Nonmotorized Work Methods

This alternative was formulated as follows:

* Hillside fill sources

The source of the fill material (1200-1500 cubic yards) under this alternative would come from identified borrow sites used in the past and adjacent to the airstrip - there would be no improvement of Cow Creek to

Alternatives 4 & 5 - Site Map

establish more natural flow dynamics, but the channelized portion would be extended and reinforced. There would be no loss of airstrip length with this approach.

* Use nonmotorized work methods

The considerations for nonmotorized work techniques would be the same as for Alternative 2.

* Time and Cost

Projected Repair Period: 80-120 days.
Estimated Cost: \$75,000 - \$110,000.

Alternative 5 - Fill Obtained from Hillside Locations Using Motorized Equipment

This alternative was defined by the following match of variable options:

* Hillside fill sources

Alternative 4 and this alternative (Alternative 5) are identical in this aspect of the repair project.

* Use of Motorized Equipment

This alternative (Alternative 5) reflects the use of motorized equipment in the same context as Alternative 2.

* Time and Cost

Projected Repair Period: 40-60 days.
Estimated Cost: \$75,000 - \$110,000.

Mitigation Measures:

For all action alternatives:

Measure: limit work to periods without snow, runoff or saturated soils

Objective: limit sediment production

Enforce: Reconstruction Plan/Contract - FSH 2509.22 Soil & Water Conservation Practices

Responsibility: USFS Project Coordinator, COR (Contracting Officer's Representative)

Measure: adhere to BMPs and apply USFS soils and water conservation practices (Involving specific sediment reduction measures, such as; silt fences, slash windrows, straw, timing of work during low flow and driest season.)

Objective: reduce impacts to soil and water

Enforce: Reconstruction Plan/Contract - FSH 2509.22 Soil & Water Conservation Practices

Responsibility: USFS Project Coordinator, COR

Measure: restore operating dimensions/margins that previously existed

Objective: restore aesthetic conditions that previously existed - do not change the visual impact of the airstrip due to reconstruction from that which previously existed

Enforce: Reconstruction Plan/Contract to return airstrip to previous operating dimensions and aesthetic conditions

Responsibility: USFS Project Coordinator, COR

Implementation and Management Requirements:

Contract

It is anticipated that implementation of any repair alternative would be by contract. A solicitation would be offered describing the work and requesting bids. The availability of interested and qualified contractors, bid prices and available funds, will all dictate the issuance of a contract to complete the work. The work would be flagged and staked on the ground with a Forest Service presence to oversee and monitor the contractors work as it was being conducted consistent with the terms of the contract.

The movement of any materials and equipment needed by the contractor to complete the project, under any alternative, would be consistent with regulation for management of the area. Any exception for the use of motorized and/or mechanized equipment is limited to the actual work on the Cabin Creek airstrip. Under Alternatives 3 or 5, which would provide for use of motorized equipment at Cabin Creek to repair the airstrip, any equipment would be transported by helicopter directly to/from Cabin Creek. There would be no ground transport of motorized equipment to/from Cabin Creek.

Funding Considerations

Generally Forest Service (FS) airstrips are maintained using funds appropriated for maintenance of administrative facilities (such as FS Work Stations, offices ...). This convention is based on the fact that most FS airstrips were originally constructed for administrative purposes - fire control primarily. In the case of the Cabin Creek airstrip, this was a private airstrip until purchase by the Forest Service, and its primary use since it became a public facility, has been for visitor access to the Wilderness, and secondarily for administrative purposes.

Most airstrips today only incidentally serve administrative purposes. Recreation access is the primary use of Forest Service airstrips currently. As with other facilities provided for National Forest visitors, such as campgrounds, funds appropriated for recreation or Wilderness management may be the appropriate funding source for operations and maintenance of a facility such as Cabin Creek.

Forest Service operation and maintenance budgets are generally requested several years in advance. There is limited ability to respond over a short term (1-2 years) to extraordinary events that are beyond routine maintenance and require significant facility repair/reconstruction. There is some flexibility to redirect operation and maintenance funds, however this impacts ongoing and routine operation and maintenance programs. There may be some

opportunities to redirect/reprioritize funds already approved and available for other construction/reconstruction projects. If this is not possible the funding necessary to conduct the repair work must be requested in the outyear budget process, and compete with other Forest Service projects, with no guarantee as to funding availability.

Other funding sources and options can also be explored, such as Challenge Cost Share with private sector partners to leverage whatever Federal funds are available.

Project Monitoring:

During actual work there will generally be a Forest Service presence - a designated COR or a Project Coordinator, with specific duties and responsibilities to ensure that work is conducted in compliance with the terms of the contract and any mitigation measures are implemented.

Subsequent to project completion, for any alternative that repairs the Cabin Creek airstrip, the Forest Service will: conduct annual inspections of the airstrip, monitor the flows of Cow Creek as a measure to try and prevent a recurrence of the 1996 washout of the airstrip and within budget allocation, conduct maintenance to preserve safety features and operating conditions of the airstrip.

In addition, for those alternatives that include a rehabilitation of Cow Creek, the stream will be monitored for successful functioning of the rehabilitation work (i.e. near natural flow characteristics achieved). This will be measured using the following criteria:

- * width to depth ratios
- * sinuosity
- * gradient
- * channel cross section and longitudinal profile
- * riffle to pool ratio
- * substrate
- * average bankfull width

The Project Monitoring Appendix provides specifics on the these monitoring activities.

III. AFFECTED ENVIRONMENT & ENVIRONMENTAL CONSEQUENCES

This Part provides information about the existing environment that may be affected by implementing any of the alternatives previously described, and the environmental consequences of the alternatives.

The location of Cabin Creek in designated Wilderness and in an area of salmon migration, coupled with quantity of the fill necessary to repair the airstrip, keyed the need for careful evaluation of the resource consequences from any action. This includes consideration of the effect on users for any possible action.

A variety of environmental consequences would result from implementation of any alternative: there would be impacts to both the physical resource and the social environment with all alternatives. The National Environmental Policy Act of 1969 mandates that environmental assessments disclose the consequences of a Proposed Action and the alternatives to that action.

Background:

The Cabin Creek airstrip is located one mile north of Big Creek along Cabin Creek, approximately 14 miles upstream from the Middle Fork Salmon River in the Frank Church - River of No Return Wilderness. The airstrip slopes moderately downhill to the southwest at an average grade of eight percent. The center portion of the airstrip (landing surface) is bare soil. Prior to the washout there was a reported 1750 feet of usable runway length.

The airstrip was originally constructed in the 1960's on private property for access. Prior to that time (1950's) air access used a different location, a bench north of the current airstrip, to access the same property. The property was purchased by the Forest Service in 1974. At that time general public use developed on the airstrip and subsequently the Forest Service began maintenance. It was listed as a public use facility with the FAA (Federal Aviation Agency) in 1988.

Use of the airstrip has steadily increased since it first became available for public use. Air charter services from surrounding communities use it extensively to fly in visitors, and private pilots use it for access to the area as well. Two commercial outfitting operations use it to fly in clients to the area. The Forest Service uses the airstrip administratively to move personnel into the backcountry to support management activities.

On June 5, 1996 Forest Service personnel stationed at Cabin Creek reported that Cow Creek was overflowing its banks, with a small quantity of water reaching the airstrip. Action was taken to divert the flow back into Cow Creek and the Forest Service crew then departed for scheduled trail work, not returning to Cabin Creek until June 10. During this period of absence from Cabin Creek the flow of Cow Creek increased significantly and the initial work to keep water off the runway failed, causing significant damage to the runway.

The State of Idaho, Transportation Department, Division of Aeronautics was consulted and concurred with an emergency closure of the airstrip. The Forest Service requested the FAA to issue a NOTAM (notice to airmen) that the airstrip

was closed until further notice. A closure "X" was placed and fixed-base operators known to use the strip were contacted.

An evaluation team consisting of a Forest Service Transportation Planning Engineer, a representative from the Idaho State Transportation Department, Division of Aeronautics (Ray Glidden, Flight Operations Manager), a District Facilities representative, District Wilderness Management Staff, and the Forest Aviation Officer, accessed the Cabin Creek airstrip by helicopter on June 12, 1996.

It was discovered that Cow Creek's overflow had eroded a gully for the entire length of the airstrip, up to 6.5 feet deep. Measurements of the gully at 50 foot intervals resulted in a calculation that approximately 1200 cubic yards of material had washed away. This material was deposited in an old irrigation reservoir located at the end of the airstrip. It was determined that the damage would require extensive work to re-establish safe operating limits and far exceeded what could be considered routine maintenance. No reasonable opportunities were deemed to exist for temporary use.

Affected Environment & Environmental Effects:

The following describes the various aspects of the environment associated with each issue from Part I of this document, followed by a discussion of the effect on that environmental component/issue for each alternative described in Part II. The following format will be used:

Issue: from Part I

Indicator(s): from Part I

Affected Environment: description of existing/past situation relevant to the issue and issue indicators

Environmental Consequences: effects associated with implementing the alternatives identified in Part II to be considered in detail

Cumulative Effects: effects associated with the incremental addition of the Proposed Action to other past, present and reasonably foreseeable actions or projects

Consistency with Forest Plan: how the Proposed Action meets (or does not meet) Forest Plan direction

Irreversible & Irretrievable Commitments: irreversible is a permanent loss, including the loss of future options, while irretrievable is a loss of use of some resource for a period of time.

1. Access. The effect of repairing the Cabin Creek airstrip on access opportunities to lower Big Creek in the Wilderness.

Issue Indicator:

* Availability of opportunity to access lower Big Creek by air, with or without Cabin Creek airstrip, to a degree that would be considered equivalent to that which existed prior to damage and closure of Cabin Creek airstrip.

Affected Environment:

Since the change in ownership, Cabin Creek now provides a convenient means of public and administrative access to the "heart" of the FC-RONR Wilderness.

Big Creek is a popular catch and release fishery, and during the fall big-game season hunters use the airstrip to access prime hunting areas.

On-site use observations during the 1980 - 1981 seasons (primary period of use of May - November) showed an annual level of operations (landings) for these two years averaging approximately 425. Activity during this two year period was nearly equally divided between summer (accounting for 52 percent of recorded activity) and fall (accounting for 48 percent of recorded use).

Observations during the 1994 - 1995 seasons (primary period of use of May - November) showed an annual level of operations (landings) for these two years averaging approximately 680. During this two year period, summer operations accounted for an increasing percentage of the observed use; 63 percent of the recorded landings occurred in the summer use period compared to 37 percent for the fall.

Over the fifteen year period spanning these two year periods (1980 - 1981 & 1994 - 1995) the average number of seasonal operations has increased 60 percent. This level of aircraft operations is generated by: general public aviation, commercial outfitting activities, charter service operations and Forest Service management.

A high percentage of aircraft operations (landings) at Cabin Creek are associated with short term, stop and goes or touch and goes, for pilot training and familiarization with the airstrip, or pilots "bagging" a backcountry airstrip. This use is generally concentrated in the summer period. During the summer of 1995 for example, 32 percent of the sampled landings were related to this type of use.

The longer term (+1 day) use in the summer is generally associated with fishing (Big Creek), camping and hiking. Many summer visitors will use Cabin Creek as the starting or ending point of a hiking trip, taking advantage of the airstrip to enter or leave the wilderness by air.

The fall use is focused on big game hunting. During this period Cabin Creek provides convenient access to the "heart" of the area for hunting elk and/or deer. Aircraft use associated with outfitting operations based in this part of the wilderness increases during this period, and makes up an increasing percentage of the aircraft operations as clients are flown in/out, supplies transported in and game flown out.

The Cabin Creek airstrip is about one mile up Cabin Creek from Big Creek. The Big Creek trail follows the creek from the road end upstream, to the mouth of Big Creek at its confluence with the Middle Fork of the Salmon River, a

distance of about 42 miles. At this point the Big Creek trail junctions with the Middle Fork and the Waterfall Creek trails on the Salmon-Challis National Forest. The Big Creek trail is a main travel route in the Frank Church - River of No Return Wilderness. The trip by trail, from the Big Creek trail head to Cabin Creek, is about 28 miles and can take 1 - 2 days. Many visitors who access Cabin Creek by air will also use the Big Creek trail during their visit.

The Soldier Bar airstrip is a Forest Service maintained airstrip that also provides air access to lower Big Creek. Soldier Bar is located seven miles downstream from Cabin Creek on Big Creek. The use at Soldier Bar is more limited than the Cabin Creek airstrip due to its difficult operating characteristics.

The Cold Meadows airstrip is approximately 10 air miles due north of Cabin Creek and at an elevation 7030 feet is +2740 higher than Cabin Creek. Due to its location, elevation and distance from Big Creek, Cold Meadows generally serves a different geographical area and recreation emphasis.

With the closure and unavailability of the Cabin Creek airstrip in 1996, much of the established traffic was re-routed to other points of access. The outfitting operations diverted their use to the Cold Meadows and Soldier Bar airstrips, with little reported impact on their activities. Use of the Soldier Bar airstrip, about seven miles downstream on Big Creek from Cabin Creek, was reported to have increased significantly.

Environmental Consequences:

Alternative 1 (No Action) would continue the current displacement of users that previously accessed the area using the Cabin Creek airstrip. The remaining four action alternatives all provide for repair of the Cabin Creek airstrip, and would restore this access opportunity.

Alternative 1 - No Action

Opportunities to access lower Big Creek by aircraft would be permanently reduced with a closure of the Cabin Creek airstrip. Users that used Cabin Creek as an access point in the past would continue to be displaced. Recreation use levels at Cabin Creek would be permanently lowered due to the decreased convenience of getting to Cabin Creek. Use would be expected to remain at other airstrips, certainly at Soldier Bar, and likely at Cold Meadows as well, which provides alternative air access to a portion of area served by Cabin Creek.

The Soldier Bar airstrip, which is seven miles downstream on Big Creek from Cabin Creek has difficult operating characteristics as has been previously noted, and could not serve aviators with the same degree of safety. Not all aviators that have used Cabin Creek in the past, would or should, use Soldier Bar airstrip as an alternative point of access.

Without an airstrip Cabin Creek might become a more attractive location for travelers using other modes of access (hikers/stock users). Eventually, this type of use could possibly fill the use vacuum created by the displacement of the users that previously accessed the area using the Cabin Creek airstrip.

Alternative 2, 3, 4 & 5

Each of these alternatives provides for repair of the Cabin Creek airstrip and restores the previously existing level of air access. Following repair, use levels would be expected to return immediately to previous levels and without restrictions, likely to continue to increase. It is impossible to predict with any certainty a likely rate of increase. It may be necessary to consider restricting use (operations) at some point in the future to preserve the landing surface as well as to protect the available recreation and Wilderness experience. A future consideration in lieu of use restrictions might be improvement of the landing surface to increase the airstrip ability to accommodate use.

Cumulative Effects:

Primary activities in this area are associated with recreation activities, and Forest Service maintenance of user facilities such as trails, bridges and airstrips. Natural events, such as fires, floods and windstorms, will influence the environment, effect the condition of user facilities and modify use patterns. Human reaction to a natural event (fire suppression, trail repair, airstrip restoration) can cumulatively effect the environment.

Action to repair Cabin Creek would not have any substantial cumulative effect on access opportunities to lower Big Creek. Repair of the Cabin Creek airstrip would restore an access opportunity that previously existed, and is not strictly a new opportunity that would increase access opportunities. There are no other changes in access to the Big Creek area planned or foreseen and the effects on access are those already disclosed.

Consistency with Forest Plan:

The Payette National Forest Land and Resource Management Plan (1988) incorporated the direction of the Frank Church - River of No Return Wilderness (FC-RONRW) Management Plan by reference (Chapter 1, page 2). The current Wilderness Management Plan recognizes Cabin Creek as one of the landing strips in the Frank Church - River of No Return Wilderness available for public and administrative access. Alternatives which restore the airstrip are consistent with the direction (page 81) in the FC-RONRW Wilderness Management Plan for continued public and administrative use of airstrips, including Cabin Creek.

Irreversible & Irretrievable Commitments:

If the airstrip is not reconstructed, there would be an irretrievable loss of aircraft access to lower Big Creek. This loss is not irreversible.

2. Wilderness. The effect of repairing the Cabin Creek airstrip on the Wilderness character of the area and the need for action to protect, preserve or improve the Wilderness environment.

Indicator:

* Effects on Wilderness resource characteristics.
[attributes: natural integrity & natural appearance].

* Opportunities for Wilderness experience.

[attributes: opportunities for solitude & opportunities for primitive recreation].

Affected Environment:

The Wilderness Act of 1964 both recognizes and defines the values and purposes of Wilderness protection and preservation.

The Wilderness Act defines wilderness in the following terms:

"A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where earth and community of life are untrammelled by man, where man himself is a visitor who does not remain."

The Act further defines wilderness as:

"...retaining its primeval character and influence ... protected and managed so as to preserve natural conditions generally appears to have been affected by the forces of nature, with the imprints of man's work substantially unnoticeable has outstanding opportunities for solitude or primitive and unconfined type of recreation ..."

Thus, in accord with these elements of definition from the Act, wilderness resource characteristics can be viewed in terms of having an untrammelled, unaltered, natural functioning, and undisturbed ecosystem. These features are considered to be represented by the attributes of **natural integrity and natural appearance**.

Opportunities for a wilderness experience consistent with the Act's definition can be expressed in terms of: solitude, remoteness, primitive recreation, isolation, challenge and risk. These experiential factors are represented by the attributes of **opportunities for solitude and opportunities for primitive recreation**.

Wilderness can be viewed as a "bundle" of contributing resources; wildlife, recreation, soils, vegetation, scenery, cultural resources and other human uses are all a part of Wilderness. As such Wilderness can be viewed as a "composite" resource, and management must be focused on the whole and not the component parts. Yet Wilderness must also be considered as a distinct resource - apart - and any action must consider and analyze the effects on the Wilderness resource.

The location of the Cabin Creek airstrip inside a designated Wilderness makes it somewhat unique. The Wilderness Act provides for the continuation of established aircraft use as a "special provision". The Central Idaho Wilderness Act likewise includes a specific provision for continuation of established aircraft use (reference the Management Direction portion of this document in Part I). The Forest Service Manual provides direction to "minimize the impact of those kinds of uses and activities generally prohibited by the Wilderness Act, but specifically excepted by the Act or subsequent legislation".

The Frank Church - River of No Return Wilderness, at 2.3 million acres, is the largest designated Wilderness in the continental United States. This particular Wilderness has a tradition of aircraft access. There are two other publicly maintained airstrips in the Big Creek drainage (Big Creek, which is two miles outside the Wilderness boundary approximately 30 miles upstream from Cabin Creek and Soldier Bar, a wilderness airstrip about seven miles downstream from Cabin Creek on Big Creek) in addition to two private airstrips (Taylor Ranch and Monumental Ranch). There are also four unmaintained landing areas which were developed originally to provide access to private property (similar to Cabin Creek) and now receive occasional use, primarily by air charter services, although the Forest Service recommends emergency use only.

In the immediate area of the Cabin Creek airstrip wilderness resource characteristics, represented by the attributes of **natural integrity** and **natural appearance**, have obviously been compromised by past activity. Evidence of the past homesteading and ranching efforts are readily apparent to the visitor. However, over the wider area of the Frank Church - River of No Return Wilderness, natural integrity and natural appearance is high.

During the period 1918 - 1930 four homestead patents were issued for adjoining acreage (totaling 620 acres) along Cabin Creek. These homesteads were eventually consolidated under one ownership, and purchased by the Forest Service in 1974. Under private ownership there was considerable development of the property, including; construction of numerous buildings, a system of irrigation ditches, a hydro-electric dam and penstock on Cabin Creek, a levee along Big Creek to control its flow and allow cultivation of hay in the flood plain along Big Creek and construction of an airstrip to make access more convenient.

The purchase of the property by the Forest Service was intended to further management of the area as Wilderness. Under Forest Service ownership most of the buildings were removed, the dam on Cabin Creek was removed, irrigation and hay cultivation ceased and the airstrip become a public use facility. There are several ruins remaining on the Cabin Creek property and two buildings maintained by the Forest Service for administrative use and as examples of the past history and use of the area. There also is considerable other evidence of past activities that remain visible, such as irrigation ditches, the levee along Big Creek, roads that lead from one end of the property to another (e.g. from the airstrip area to Big Creek) and leveled areas where buildings had been located.

The Cabin Creek airstrip is relatively busy when operational, averaging five to six landings a day during the primary use season of May to November, reducing of **opportunities for solitude** and **opportunities for primitive recreation** in the immediate area of Cabin Creek airstrip. Over the wider area of the wilderness, given the size, topographical diversity and relatively low use that characterizes the Frank Church - River of No Return, there are wonderful opportunities to capture a sense of solitude and have a primitive recreation experience.

The Cabin Creek airstrip is situated one mile up Cabin Creek from Big Creek. The Big Creek trail, which follows Big Creek its length, from the trail head at the end of the road to its confluence with the Middle Fork of the Salmon River (a distance of about 42 miles) is a main travel route in the Frank Church River of No Return Wilderness. The Cow Creek trail takes off from the north end of

the airstrip and follows the Cow Creek drainage to its head, where it junctions with other Forest Service maintained trails that lead north toward Cold Meadows or can be followed to the Salmon River. Another Forest Service trail fords Big Creek near the mouth of Cabin Creek and provides access to the area south of Big Creek (Rush Creek and toward Thunder Mountain). There are several trails in the Cabin Creek area that no longer receive Forest Service maintenance, such as the Cabin Creek and Spring Creek trails, that still receive some use, mainly associated with fall hunting activity, and can be challenging to travel.

The Wilderness Act specifically prohibits use of "motor vehicles, motorized equipment ... mechanical transport" except to "meet the minimum requirements for the administration of the area for the purpose of this Act". The Forest Service Manual (FSM) contains direction to "exclude the sight, sound and other tangible evidence of motorized equipment or mechanical transport within wilderness except where they are needed and justified."

The FSM defines "minimum needs for protection and administration of the area as wilderness", justifying motorized equipment use to include:

A delivery or application problem necessary to meet wilderness objectives (which) cannot be resolved within reason through the use of nonmotorized methods.

An essential activity (which) is impossible to accomplish by nonmotorized means because of such factors as time or season limitations, safety, or other material restrictions.

Once an action is determined to be necessary (essential), it should be accomplished using methods and equipment that have the least impact on the physical, biological and experiential characteristics of the wilderness. In wilderness, how you carry out the management action is as important as the end product. This is referred to as the "minimum tool concept".

Environmental Consequences:

There will be short and long term consequences to the Wilderness resource with implementation of any alternative. Effects to key elements of the physical characteristics of the wilderness resource (influencing and related to natural integrity and natural appearance) will be further discussed under the Watershed and Fish headings of this Part of the document.

Alternative 1 - No Action

Under this course of action natural forces would be allowed to operate freely to restore the natural equilibrium of the system over the long term. There would be impacts to natural appearance during the period that the airstrip continued to deteriorate. During that period elevated sedimentation levels would occur, with a negative influence on the natural integrity of the wilderness system.

Without action to repair or stabilize the 1996 washout there will be a 20 - 50 year period as the stream system stabilizes itself and reaches a natural appearance and integrity, with a functional flood plain. This could entail a

recurrence of the 1994 overflow of Cow Creek onto the airstrip gully, or eventually the total capture of Cow Creek into this flow path.

Since No Action equates to no repair activities for restoration of the Cabin Creek airstrip, this course of action would meet Wilderness management direction to limit visitor exposure to mechanized and/or motorized equipment. Under this course of action there would be no potential disturbance to visitors caused by a repair effort. Visitor **opportunity for solitude** and a **primitive recreation experience** would be enhanced in the immediate area of Cabin Creek due to this absence of repair activities.

Additionally, over the longer term, a No Action alternative would meet Wilderness management direction to limit visitor exposure to motorized equipment and maintenance of a primitive recreation experience since the airstrip would not be repaired to accommodate aircraft use. The difficulty and challenge of accessing this location is increased without an airstrip. Visitors using other modes of travel that visited this location would have an increased Wilderness experience as the **opportunity for solitude** and a **primitive recreation experience** would be enhanced.

While, the No Action alternative is consistent with the purpose of the 1964 Wilderness Act, "...to assure that an increasing population, accompanied by expanding settlement and growing mechanization, does not occupy and modify all areas within the United States...", this Act specifically provided for a continuation of aircraft use, where such use had been established. Further, a No Action alternative may not represent compliance with the Central Idaho Wilderness Act, that requires landing strips with regular use not be permanently closed.

Alternative 2, 3, 4, 5

Each of these four action alternatives restores the Cabin Creek airstrip to its previous operating standard. During the duration of the repair activities, there would be an impact on the **opportunity for solitude** and a **primitive recreation experience** that would result from the presence of equipment and work crews. Alternatives 2 & 4 employ nonmotorized methods, which would still intrude on the **solitude** of the area, however such techniques are "primitive" (not modern) and could be considered as an enhancement to a visitors **primitive recreation experience**. Alternatives 3 & 5 allow for the use of motorized equipment, which would be expected to have a greater (although shorter) level of disturbance - not only reducing the opportunity for solitude, but eliminating the opportunity for a "primitive" recreation experience due to the presence of machinery (presence of modern sights, sounds, smells ..).

Since each of these alternatives restores the Cabin Creek airstrip to its previous operating standard, the **opportunities for solitude** and a **primitive recreation experience** in the immediate area of the Cabin Creek airstrip would be returned to that which existed prior to the airstrip's damage and subsequent closure. There will be opportunities for users to encounter modern equipment (aircraft), associated disturbance (noise) and other users (ease of access). The difficulty and challenge of accessing this remote location is decreased with an airstrip. Access is easier and more convenient for those with aircraft or can afford to hire an air charter service.

On the other hand, this course of action represents strict, if not legally required, compliance with the Central Idaho Wilderness Act, that requires landing strips with regular use not be permanently closed. Ease of access to the wilderness would be enhanced with repair of the airstrip.

One of the objectives of Alternatives 2 & 3 is restoration of the **natural integrity and appearance** of Cow Creek. This would include constructing a near natural channel and flood plain capable of handling base flow, bank full and flood flows. This would be accomplished by excavating the banks back several feet (6-8 feet) to create a wider flood plain channel and then designing the bank full and base flow channels within that channel. Characteristics of the natural stream (width/depth ratio, meander belt width, sinuosity, riffle/pool ratio) would be replicated to extent feasible. Native plant species would be planted as part of the restoration.

With Alternatives 4 & 5 the fill required to repair the airstrip is borrowed from previously disturbed hillside locations. Cow Creek would remain dysfunctional, with potential for continued sediment production high. Therefore, these alternatives offer limited improvement to the **natural integrity or appearance** of the area. The airstrip washout gully is repaired, reducing, at least for the short term, the erosion potential from this source. The hillside borrow sites are re-disturbed, further impacting **natural integrity**

and **appearance**. These alternatives do offer the advantage of staying out of the existing flow path of Cow Creek, thereby reducing any potential for short term impacts associated with a watershed improvement project.

Alternatives 2 & 4 provide for repair of the Cabin Creek airstrip using nonmotorized methods (horse drawn equipment). Alternative 3 & 5 allow for use of motorized equipment to complete the necessary repair work to reopen the Cabin Creek airstrip to aircraft use.

In accord with the Forest Service Manual, a decision to employ the motorized option to repair the Cabin Creek airstrip must find that one of the following two conditions exists:

A delivery or application problem necessary to meet wilderness objectives cannot be resolved within reason through the use of nonmotorized methods.

An essential activity is impossible to accomplish by nonmotorized means because of such factors as time or season limitations, safety, or other material restrictions.

This represents application of the "minimum tool concept", ensuring that the methods and equipment used will have the least impact on the wilderness resource. In this context the following considerations are key when selecting between nonmotorized and motorized methods for accomplishing the repair work:

a. There will be some short term impacts associated with having work crews camping in the area for the period necessary to complete the work. Work crews would likely be on-site longer if using nonmotorized methods than if motorized equipment were employed. There are adequate camping areas in the immediate area of the work project.

b. There will be short term impacts to range by having stock at Cabin Creek for the period necessary to complete the work with the nonmotorized

approach. This would not be a consideration if motorized equipment were used. The Cabin Creek area contains a good supply of forage for pack and saddle stock and this is not considered a constraining factor.

c. Use of nonmotorized methods might take twice as long on the average as motorized equipment. At the high end of the range, use of nonmotorized techniques could require as much as 60 additional days of work time. If work were to commence July 15 with either method, and using the high end of the estimated work period, nonmotorized methods might not have the airstrip available for use until early to mid November, while motorized equipment could be expected to have the airstrip open by the end of September.

d. There is a valid question regarding the availability of contractors interested and capable of undertaking a major reconstruction job such as this using nonmotorized techniques. However, there have been indications of interest in such a job. The Mahoney airstrip on the Middle Fork of the Salmon River was successfully reconstructed in the late 1980's by contract using nonmotorized methods. So, while the feasibility can legitimately be questioned based on the availability of contractors with the necessary expertise, there is no valid reason to presume that the job could not be accomplished if the equipment, and expertise could be located. There is the added advantage of promoting the retention of these types of "nonmotorized" skills by offering a contract for this type of job. Offering a contract also provides a means of determining what level of interest and expertise is available for this type of work.

e. Using nonmotorized methods would still intrude on the **solitude** of the area, however such techniques are "primitive" (not modern) and could be considered as an enhancement to a visitors **primitive recreation experience**. The use of motorized equipment would have a greater (although shorter) level of disturbance - not only reducing the opportunity for solitude, but eliminating the opportunity for a "primitive" recreation experience due to the presence of machinery (presence of modern sights, sounds, smells ..). A valid counter point is that following the repair work, aircraft operations will resume at Cabin Creek, and opportunities for solitude and a primitive recreation experience in this immediate area will be compromised in any case.

f. Use of motorized equipment would be expected to require a high level of helicopter support, to move in equipment and fuel and retrieve the equipment when the project was completed. The level of air support (helicopter in particular) for a nonmotorized repair effort would be smaller. Therefore, this is a differential in wilderness impacts (**solitude and primitive recreation experience**) resulting from helicopter overflights between the two methods of airstrip repair.

Based on these considerations, Alternative 2 & 4, employing nonmotorized methods, would have the least overall impact on the experiential component of the wilderness resource, representing the **minimum necessary tool** to complete the repair of the Cabin Creek airstrip. This determination is tempered by the recognition that skills, talents, expertise and specialized equipment to complete the job with nonmotorized means is a critical factor. Without the availability of these elements this minimum tool determination would need to be

modified to reflect that motorized equipment is the minimum necessary tool to complete the required repair work.

Cumulative Effects:

Primary activities in this area are associated with recreation activities, and Forest Service maintenance of user facilities such as trails, bridges and airstrips. Natural events, such as fires, floods and windstorms, will influence the environment, effect the condition of user facilities and modify use patterns. Human reaction to a natural event (fire suppression, trail repair, airstrip restoration) can cumulatively effect the environment.

In terms of the Wilderness resource, over the short term repair of the Cabin Creek airstrip would be an additional work activity in the Wilderness directed toward maintenance of user facilities. Over the longer term, restoration of the airstrip would maintain the same number of facilities that currently exist, and detract from a natural wilderness natural setting. There are no other currently planned or foreseen projects or activities that would alter wilderness characteristics in the vicinity of the Cabin Creek airstrip.

Consistency with Forest Plan:

The Payette National Forest Land and Resource Management Plan (1988) incorporated the direction of the Frank Church - River of No Return Wilderness (FC-RONRW) Management Plan by reference (Chapter 1, page 2). The current Wilderness Management Plan recognizes Cabin Creek as one of the landing strips in the Frank Church - River of No Return Wilderness maintained for public and administrative use. Alternatives that restore the Cabin Creek airstrip are consistent with the FC-RONRW Wilderness Management Plan, the Central Idaho Wilderness Act and the Wilderness Act.

Irreversible & Irretrievable Commitments:

Reconstruction of the airstrip would be an irretrievable commitment of the resource to a use not typically associated with wilderness, although provided for by the Wilderness Act and Central Idaho Wilderness Act.

3. Watershed. The effects of repairing the Cabin Creek airstrip on soil, water and riparian conditions and the need to protect or improve soil stability, water quality and riparian areas to as near a natural condition as possible.

Indicator

- * Stability of Cow Creek and potential for future runoff to damage airstrip.
- * Potential for direct sediment delivery to Cow Creek.

Affected Environment:

The Cabin Creek airstrip is located on a gently sloping terrace/alluvial fan landform adjacent to Cow Creek. The north end of the airstrip encroaches on the stream.

The immediate area of the Cabin Creek airstrip has undergone significant modification. During construction of the airstrip, a borrow source was developed on the north side of Cow Creek and a crossing constructed. Logs were placed along the stream banks and Cow Creek channelized, with the airstrip constructed by filling across the alluvial fan of Cow Creek. Some of these logs remain in place. At this location Cow Creek is deeply incised, with near vertical banks. The south bank is approximately 5-6 feet high and actively eroding. On the north side the bank ranges from 5 to 12 feet high, with sections of the bank collapsing directly into the creek. Without correction, there will be major long-term, chronic erosion associated with the collapsing of these oversteepened banks.

Upstream from the airstrip the Cow Creek channel is in a near-natural condition, with the banks and floodplain heavily vegetated. During high flow events channel capacity can be typically exceeded in a natural functioning system and water dispersed onto the floodplain. The high flow channels within the Cow Creek flood plain were modified with airstrip construction, directly contributing to the water flow diverting onto the airstrip. The concave shape of the airstrip confined the water flow, causing erosion the entire length of the airstrip. At the south end of the airstrip the flow entered a small, abandoned reservoir, with nearly all the sediment being captured.

Prior to Forest Service ownership, Cabin Creek had been diverted for irrigation and power production while Cow Creek was used for irrigation. Evidence of this past modification is very visible, and has resulted in associated degradation of the soil and water quality with sediment introductions above what would be natural for an undisturbed system.

The Forest Service purchased the Cabin Creek property for the purpose of enhancing and furthering management of the area as wilderness. The Forest Service Manual (Chapter 2320 - Wilderness Management) provides direction for management of soil and water resources in Wilderness and provides for watershed improvements "to restore watersheds where deteriorated soil and hydrologic conditions caused by humans or their influences create a serious threat to or loss of wilderness values".

The FSM further directs the use of nonmotorized equipment to accomplish improvement objectives. Only imminent threat to important values downstream justifies the use of motorized equipment". While the repair of the Cabin Creek airstrip is not intended to be primarily a watershed improvement project, an opportunity was identified to improve soil and water conditions in conjunction with the repair project.

Environmental Consequences:

Alternative 1 - No Action

Under this course of action natural forces would be allowed to operate freely to restore the natural equilibrium of the system over the long term. During the period that the airstrip continued to deteriorate elevated sedimentation levels would occur with a negative influence on water quality.

Without action to repair or stabilize the washout of the airstrip there will be a 20 - 50 year period as the stream system stabilizes itself and reaches a natural equilibrium, with a functional flood plain. This could entail a

recurrence of the 1996 overflow of Cow Creek onto the airstrip gully, or eventually the total capture of Cow Creek into this flow path.

Alternative 2 & 3

One of the objectives of these alternatives is to restore the natural functioning of Cow Creek. This would include constructing a near natural channel and flood plain capable of handling base flow, bank full and flood flows. This would be accomplished by excavating the banks back several feet (6-8 feet) to create a wider flood plain channel and then designing the bank full and base flow channels within that channel.

Characteristics of the natural stream (width/depth ratio, meander belt width, sinuosity, riffle/pool ratio ..) would be replicated to the extent feasible. Native plant species would be planted as part of the restoration. This work would be consistent with FSM direction for restoring watersheds.

Material excavated in this restoration would be used as the primary source of fill for airstrip repair. The airstrip would be shortened by 50 - 100 feet as a result of this work. There would be some expected minor degradation of soil and water quality while repair work was taking place. Mitigation measures would be in place to limit these impacts (e.g. silt fence, slash windrows, straw, timing of work during low flow at driest season). Over the long-term, the increased stability of the stream would result in an overall decrease in sediment introduction.

Alternative 2 accomplishes the restoration of Cow Creek using nonmotorized means, while Alternative 3 provides for motorized equipment use. In this regard Alternative 2 meets FSM direction to accomplish watershed improvement using nonmotorized techniques, and is consistent with the **minimum tool evaluation**.

Alternative 4 & 5

Under these alternatives the fill required to repair the airstrip is borrowed from previously disturbed hillside locations. Cow Creek would remain dysfunctional, with potential for continued sediment production high with continued bank collapse.

These alternatives offer no improvement to the natural functioning of the stream system. These alternatives do offer the advantage of staying out of the existing flow path of Cow Creek, thereby reducing any potential for short term impacts associated with a watershed improvement project.

Alternative 4 accomplishes the repair of the airstrip using nonmotorized means, while Alternative 5 provides for motorized equipment use. In this regard Alternative 4 is consistent with the **minimum tool evaluation**.

Cumulative Effects:

Primary activities in this area are associated with recreation activities, and Forest Service maintenance of user facilities such as trails, bridges and airstrips. Natural events, such as fires, floods and windstorms, will influence the environment, effect the condition of user facilities and modify

use patterns. Human reaction to a natural event (fire suppression, trail repair, airstrip restoration) can cumulatively effect the environment.

Past development activities on the private land prior to acquisition by the Forest Service have contributed to watershed disturbance and sediment introduction over what would otherwise be natural. There are no planned or foreseeable future activities with significant potential for affecting watershed conditions of Cow Creek other than the alternative actions described in this document.

Consistency with Forest Plan:

The Payette National Forest Land and Resource Management Plan (1988) incorporated the direction of the Frank Church - River of No Return Wilderness (FC-RONRW) Management Plan by reference (Chapter 1, page 2). All alternatives are consistent with soil and water objectives in the Payette Forest Plan (IV-70) and direction in the FC-RONRW Wilderness Plan (pages 38-40). Alternatives which provide for rehabilitation of Cow Creek as part of the airstrip restoration project would be conducted consistent with management direction for soil and water and are projected to provide a greater level of water quality improvement as compared to the other repair alternatives.

Irreversible & Irretrievable Commitments:

In alternatives where the airstrip is restored, soil resources could be irreversibly committed to uses other than production of a natural vegetative cover for as long as the airstrip remained.

4. Fisheries Habitat. The effects of repairing the Cabin Creek airstrip on the natural fish populations, including listed threatened and endangered species and the need to provide as near to natural conditions as possible for fish.

Indicator:

- * Risk of harassment and survival potential for chinook salmon.
- * Effects on fish populations.

Affected Environment:

The Cabin Creek airstrip is located in an anadromous watershed. The north end of the airstrip encroaches on the small stream of Cow Creek. Effects on fish/fish habitat are largely a function of watershed conditions and the level of ground disturbing activities. Due to past activities that modified the area to accommodate an airstrip the natural functioning of Cow Creek, and the fish habitat provided or influenced by Cow Creek, has been compromised (reference previous discussion pertaining to watershed conditions of Cow Creek).

Cow Creek is a tributary of Cabin Creek, which then enters Big Creek approximately 14 miles upstream from the mouth of Big Creek. Habitat quality is near pristine throughout lower Big Creek below Cabin Creek, with the exceptions of some historically altered streambanks in the vicinity of Cabin

Creek and Taylor Ranch. Cabin Creek has a watershed of 61,232 acres and a mainstream length of about six miles. Cow Creek enters Cabin Creek about one mile upstream from Big Creek.

Cabin Creek was historically diverted for irrigation and power production. A diversion dam was located about a mile upstream from the mouth. This dam was removed in 1980 by the Forest Service after the purchase of the property. The stream remains impacted in the vicinity of the airstrip from the historical diversion, airstrip construction, and other alterations. Existing dam footings constrict the channel, the stream course has been narrowed and channelized and devegetated streambanks provide little shade, riparian diversity or source of woody debris.

The lower 1/2 mile of Cow Creek has been altered by airstrip construction and other development. Several hundred feet upstream of the airstrip the channel is in near natural condition, with banks and flood plain heavily vegetated. In this stretch, during high flows and/or when the channel becomes naturally blocked with debris, the channel capacity can be exceeded and the water will be naturally dispersed into flood plain channels protected by riparian vegetation. When this occurred in 1996, this natural flood plain flow was intercepted by the airstrip, causing extensive gullying to the landing surface.

Chinook salmon and steelhead spawn, migrate, over winter and/or rear throughout lower Big Creek and its tributaries. Populations of chinook salmon and steelhead in Big Creek are depressed, following the same trend as those throughout Idaho. Cabin Creek provides anadromous habitat in the lower two miles. Cow Creek does not contain anadromous fish populations.

During a 1996 on-site visit by a Forest Service Fishery Biologist, rearing chinook salmon were observed at the mouth of Cabin Creek and 1/4 mile upstream. Bull trout, cutthroat, resident rainbow and juvenile rainbow/steelhead were also observed in this same vicinity. Cutthroat were observed at the mouth of Cow Creek and in Cabin Creek above the mouth of Cow Creek.

Chinook salmon are listed as federally threatened species, steelhead/redband rainbow trout are federally proposed to be listed as a threatened species, while bull trout are being reviewed for proposal as threatened. Bull trout and cutthroat trout are recognized by the US Forest Service, Region 4, as sensitive species.

Big Creek is a well known cutthroat fishing stream. Idaho State Fish and Game regulations limit this activity to catch and release trout fishing. Fishing activity draws considerable traffic to the lower Big Creek area during the summer season.

The Decision Notice for the Environmental Assessment addressing **Interim Strategies for Managing Anadromous Fish-producing Watersheds in Eastern Oregon and Idaho, Washington and Portions of California** (commonly referred to as "PACFISH") establishes management requirements intended to protect anadromous habitat. Any activity to restore the Cabin Creek airstrip would need to be consistent with PACFISH EA/DN requirements. Direction provided by this document defines six Riparian Management Objectives (RMOs) related to habitat components (pool frequency, water temperature, large woody debris, bank stability, lower bank angle and width/depth ratio) and establishes Riparian

Habitat Conservation Areas (RHCAs). Standards and Guides applicable to all RHCAs, and to projects and activities outside them that might degrade any RHCA, are also established by this document. The relevant standards and guides from this document for this project are:

- RM-1. Design, construct and operate recreation facilities ... in a manner that does not retard or prevent attainment of Riparian Management Objectives and avoids adverse effects on listed anadromous fish(page C-13)
- RA-4. Prohibit storage of fuels and other toxicants within Riparian Habitat Conservation Areas. Prohibit refueling within RHCAs (page C-17)
- WR-1. Design and implement watershed restoration projects in a manner that promotes the long-term ecological integrity of ecosystems, conserves genetic integrity of native species, and contributes to attainment of RMOs. (page C-18)
- FW-1. Design and implement fish and wildlife habitat restoration and enhancement actions in a manner that contributes to attainment of the RMOs. (page C-18)

In accord with definitions established by the PACFISH EA/DN, the Cabin Creek airstrip is located in a key watershed. Priority in these watersheds is to "protect or restore habitat for listed stocks, stocks of special interest or concern or salmonid assemblages of critical value for productivity or biodiversity". Consistent with the PACFISH EA/DN, a watershed analysis for this project is not required.

The Forest Service Manual (Chapter 2320 - Wilderness Management) provides the following direction for managing fisheries in wilderness:

Emphasize quality and naturalness

The objective of all projects (manipulation of fish habitat) must be to perpetuate the wilderness resource.

While the repair of the Cabin Creek airstrip is not designed to be a fish habitat manipulation project, an opportunity has been identified to improve fish habitat conditions (with watershed improvement) in conjunction with the repair project.

Environmental Consequences:

Effects to fish and fish habitat are directly related to watershed conditions. Estimates of effects are based on professional judgement due to the difficulty in actually quantifying effects. Improvement of watershed conditions will be beneficial to fish and fish populations, if the impacts of achieving the improvements do not outweigh benefits.

Alternative 1 - No Action

Leaving Cow Creek to reach its natural equilibrium over a 20 - 50 year period would result in negative impacts on fish habitat and fish populations during

that period resulting from elevated (over natural) sediment levels. After this period of natural stabilizing action, there would be long term benefit associated with a naturally functioning stream.

A No Action alternative would reduce the ease of access to the immediate area of Cabin Creek. It would be expected that there would be less visitation to the Cabin Creek airstrip area as a result. Reduced visitation would have the attendant result of reducing impacts on fish from human presence, since there would be less potential for purposeful harassment, or disturbance associated with recreation activities (e.g. fishing, camping, etc.).

Alternative 2, 3, 4, 5

Each of these alternatives provides for repair of the Cabin Creek airstrip. There could be some short term impacts associated with having work crews at Cabin Creek for the period necessary to complete the work. There could be some non-intentional disturbance of fish and some legal recreation fishing.

With project completion and reopening of the Cabin Creek airstrip, use levels would be expected to immediately return previous levels, and likely continue to increase. Potential for purposeful harassment of fish increases with visitation. As visitation increases there is also higher pressure on fisheries through angler use. Likewise, disturbance associated with appropriate recreation activities that could have indirect impacts on fisheries due to resource impacts, increases with visitation. In general, the natural integrity of a system can be expected to decline as use levels (human related impacts) increase. The availability of Cabin Creek airstrip, which increases the ease and convenience of access, contributes to use at this location, beyond that which would likely occur if this type of access were not available.

Alternative 2 & 3

These alternatives provide for rehabilitation of Cow Creek to achieve a system functioning as near to natural as possible, while still accommodating an airstrip. These alternatives promote the restoration of the system's natural functioning in the immediate term and a reduction in sediment levels. This would be beneficial to fish habitat and fish populations provided by or influenced by, Cow Creek.

There would be short term (less than 3 years) impacts associated with work in Cow Creek involving bank excavation, installation of in-channel structures and movement of fill material. These impacts would be controlled with appropriate mitigation measures (e.g. silt fence, slash windrows, straw, timing of work during low flow and driest season) to extent possible.

The short term increase in sediment production is projected to cease within three years, when the new channel stabilizes and the riparian vegetation is established. The short term increase in sediment would be minimal compared to the long term improvement in the condition of the channel in its reconstructed, more stable state.

Action under these alternatives would involve work within the RCHAs as defined by PACFISH EA/DN. The net effects of temporarily manipulating the RHCAs would be an overall decrease in long term sediment production, and an increase in the quality of the riparian area, both which would avoid chronic effects to chinook

salmon and steelhead. Several PACFISH EA/DN Riparian Management Objectives (RMOs) would be improved by activities that would occur within the PACFISH defined RHCAs; pool frequency would increase, bank stability would increase, the lower bank angle would increase and width to depth ratios would increase.

Site specific information on the altered, unstable nature of Cow Creek supports modification of the PACFISH EA/DN RHCAs to improve habitat conditions. Management modification of the PACFISH RHCAs would not prevent attainment of PACFISH EA/DN RMOs, and would represent progress toward attaining improvement of impaired RMOs. These conclusions are based on the long term sediment reduction that would result from undertaking the Proposed Action. The long term reduction would outweigh the short term sediment increase associated with in stream work. The stabilizing techniques that would be used in implementing the Proposed Action have been shown to be successful in reducing long term sedimentation.

Alternative 4 & 5

Under Alternative 4 & 5 the fill material for airstrip repair would be borrowed from previously disturbed hillside locations. Cow Creek would remain dysfunctional, with potential to contribute elevated (over natural) sediment to the stream system. There would be no improvement to the natural function of the Cow Creek system, conditions for fish would not be significantly improved. These alternatives offer the advantage of reducing the potential for short term elevation of sediment introduction that would be associated with work to restore Cow Creek. There would still be some increase in short term sediment introduction associated with crossing of Cow Creek to access the borrow area and movement of fill, but it would be significantly less. The encroachment on PACFISH EA/DN defined RHCAs would still occur, but to a substantially lesser extent.

Repair of the Cabin Creek airstrip under these alternatives would result in a reduction of potential sediment production from continued erosion of the 1996 wash out gully. Under these alternatives, a future recurrence of a Cow Creek overflow event, that would wash out the airstrip, would have a greater possibility than for Alternatives 2 & 3, which attempt to restore Cow Creek to a more natural function.

These alternatives would use two primary sources of borrow. Mitigation would be applied to reduce the surface erosion and rehabilitate the borrow locations after the work was completed.

Alternative 3 & 5

These alternatives provide for the work project to be completed using motorized methods. The transport of equipment and fuel would present a potential hazard to fish if fuel were to enter the watershed. Under these alternatives it is estimated that up to 1500 gallons of fuel (~550 gasoline & ~950 diesel) would be transported to the work location, by helicopter (or other approved airlift methods), in 55 gallon drums.

A fuel storage area and refueling area would be designated (projected to be the level area near the existing wind sock), ~300 feet away from live water. Appropriate spill containment measures would be required, consisting of an

impervious liner properly placed to capture fuel spills. A Spill Containment Plan would be required as part of the contract and prior to initiating work.

Alternative 2 & 4

These alternatives provide for the work to be completed using nonmotorized methods. This would result in stock (up to 10 head) being maintained and kept in the area for the period of the work project. Stock would be grazed and watered in the area. Requirements to minimize stock related impacts would be included in the project plans. The Cabin Creek area offers good opportunities to maintain stock while minimizing impacts on resource conditions. Grazing and watering stock could disturb fish, but it should not be significant. Past outfitting operations have based operations at Cabin Creek and kept pack and saddle stock in the area from May through November.

Cumulative Effects:

Primary activities in this area are associated with recreation activities, and Forest Service maintenance of user facilities such as trails, bridges and airstrips. Natural events, such as fires, floods and windstorms, will influence the environment, effect the condition of user facilities and modify use patterns. Human reaction to a natural event (fire suppression, trail repair, airstrip restoration) can cumulatively effect the environment.

Past development of the private property prior to ownership by the Forest Service lowered fish habitat quality and likely lowered fish populations. The **Biological Assessment for Spring / Summer Chinook, Middle Fork Salmon River Tributaries (NW) and Main Salmon River Tributaries (SE)** (1994) prepared by the Payette National Forest considered effects of all identified ongoing and proposed projects within this large drainage area. All determinations were either "not likely to adversely affect" (NLAA) or "beneficially effect" (BE).

There are no other activities or projects planned in the immediate vicinity of Cabin Creek that would affect fish habitat or populations. Human presence, primarily associated with recreation activities, could cause minor disturbance of fish.

Consistency with Forest Plan:

The Payette National Forest Land and Resource Management Plan (1988) incorporated the direction of the Frank Church - River of No Return Wilderness (FC-RONRW) Management Plan by reference (Chapter 1, page 2). All alternatives are consistent with the Forest Plan goal for fish habitat as described on page IV-37 and direction in the FC-RONR Wilderness Plan for wildlife and fish (pages 29-31).

The Decision Notice for the Environmental Assessment addressing **Interim Strategies for Managing Anadromous Fish-producing Watersheds in Eastern Oregon and Idaho, Washington and Portions of California** (commonly referred to as "PACFISH") establishes management requirements intended to protect anadromous habitat which have been amended to management direction for National Forest system lands in the relevant geographical areas. All action will be consistent with this management direction. Several PACFISH EA/DN Riparian Management Objectives (RMOs) would be improved by alternatives that rehabilitate Cow Creek.

Irreversible & Irretrievable Commitments:

Alternatives that do not attempt to limit the chronic sediment introduction to Cow Creek (restoration of the airstrip without Cow Creek rehabilitation) would be expected to have a greater impact on fish habitat and populations than those that lower sediment introduction (with a rehabilitation of Cow Creek). Impacts to fish habitat are translated to impacts to fish populations, which could be an irretrievable commitment. If fish populations become low enough, the commitment may become irreversible. However, the impacts to fish habitat from any alternative are expected to be extremely small.

Other Disclosures:

Public Health & Safety

There will be no substantial risks to public health and safety associated with the Proposed Action to repair the Cabin Creek airstrip.

Prime Farmlands & Ecologically Critical Areas

There are no prime farmlands or identified ecologically critical areas that would be effected by any alternative.

Wild and Scenic Rivers

The Cabin Creek airstrip is located one mile up stream on Cabin Creek from Big Creek. Big Creek is a Wild & Scenic study river. The Proposed Action to repair the Cabin Creek airstrip will have no impact on Big Creek as it pertains to its status as a Wild & Scenic study river, or its possible designation as a Wild & Scenic river in the future.

Consistency with Other Laws and Requirements

Public involvement and consultation with other agencies indicate that there are no conflicts between the Proposed Action and the goals, objectives and regulations of other government entities.

IV. LIST OF PREPARERS

Primary contributors to project evaluation and document preparation:

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Betsy Rickards, Intermountain Region, Regional Office

V. PUBLIC PARTICIPATION

Direct Involvement - Other Agencies:

Ray Glidden, Flight Operations Manager, State of Idaho Department of Transportation, Division of Aeronautics

Jan Pisano, Fish Biologist, National Marine Fisheries Service

Public Involvement:

The following actions were taken to involve the public and keep interested individuals informed of the decision making process:

* Legal Notices requesting comments on the Proposed Action for repair of the Cabin Creek airstrip appeared in the Star News, McCall, ID, and Idaho Statesman, Boise, ID, on June 27, 1996.

* A direct mailing of a News Release requesting comments on the Proposed Action for repair of the Cabin Creek airstrip was made on June 28, 1996 to the following:

MEDIA

Council Record
Long Valley Advocate (Cascade, ID)
Weiser Signal
KMCL - McCall Radio

Star News (McCall, ID)
KORT - Grangeville Radio
Lewiston Tribune
Statesman (Boise, ID)

OUTFITTERS AND GUIDES

Big Creek Lodge and Outfitters Inc.
River Odessys West Inc.
Chamberlain Basin Outfitters
Mackay Bar Corporation
Salmon River Lodge
Whitewater Outfitters
Willey Ranch Outfitters
Wapiti Meadow Ranch and Outfitters
Heavens Gate Outfitters
Stanley Potts Outfitters

Flying Resort Ranches
American Adrenaline - Taylor Ranch
Mile High Outfitters of Idaho, Inc.
Robert J. Gillihan
Sevy Guide Service
Idaho Outfitters & Guides Licensing Board
Monumental Outfitters
High Llama Wilderness

AIR CHARTER SERVICES

Arnold Aviation
Wilderness Aviation
Salmon Alpine Air Service Inc.
Pioneer Aviation

Salmon Air Taxi
McCall Air Taxi
Bob's Aircraft
Mountain Air Charter

ORGANIZATIONS

Idaho Aviation Association Inc.
Washington Pilots Association
Wilderness Society

Idaho Outfitters & Guides Assc
Wilderness Watch
Idaho Conservation League

AGENCIES

Idaho Division of Aeronautics
Nez Perce National Forest
Payette National Forest

Boise National Forest
Salmon Challis National Forest
U of I Wilderness Research Center

INDIVIDUALS

Boyd Miller
Jim Weaver
Joe Corlett
Larry Taylor
Jerry Terlisner
Denny Colson
Suzi Mink
Bill Miller
Bob Cannon

Brian Kotara
Wayne Blickenstaff
Dave Hedditch
James Neils
C Duncan
Matt, Bill, and Steve Bybee
Jim Lafferty
Les and Susan Bechdel
Jim and Betty Holmes

These actions generated over 200 comments.

Two status reports were sent to a mailing list of commenters and interested parties in July 1996 and January 1997

APPENDICES

APPENDIX 1

Mid-1980 Photo and schematic of Cabin Creek airstrip

APPENDIX 2

June 1996 photos of damage to Cabin Creek airstrip

APPENDIX 3

Project Monitoring

PAYETTE NATIONAL FOREST
MONITORING SUMMARY FORM

DISTRICT: Krassel Ranger District

PROJECT NAME: Cabin Creek Airstrip Repair

MONITORING OBJECTIVE: Airstrip operating conditions and status of overflow protection

MONITORING TYPE: Effectiveness of repair work

PRIORITY: High

PARAMETERS: Surface conditions of airstrip and overflow channels open

METHODOLOGY: District/Forest/Regional Aviation and Wilderness management personnel - make and document inspections.

FREQUENCY/DURATION: Inspections annually - early in season - used to plan maintenance program

DATA STORAGE: District files - Cabin Creek Airstrip

REPORT: N/A

PROJECTED COSTS: \$300/year

PAYETTE NATIONAL FOREST
MONITORING SUMMARY FORM

DISTRICT: Krassel Ranger District

PROJECT NAME: Cabin Creek Airstrip Repair

MONITORING OBJECTIVE: Success of work to restore near natural function of
Cow Creek

MONITORING TYPE: Implementation and project success

PRIORITY: High

PARAMETERS: Width to depth ratio, gradient, sinuosity, channel cross section
and longitudinal profile, riffle to pool ratio, substrate, average
bankfull width

METHODOLOGY: Secure measurements for each parameter

FREQUENCY/DURATION: 1-3 year period following work

DATA STORAGE: District Fisheries/Soil and Water Files

REPORT: Monitoring report

PROJECTED COSTS: \$500

