



United States Department of the Interior



BUREAU OF LAND MANAGEMENT
Glennallen Field Office
P.O. Box 147
Glennallen, Alaska 99588
<http://www.blm.gov/ak>

Jack River Trail Rehabilitation Environmental Assessment, DOI-BLM-AK-A020-2014-0007-EA

Case File: n/a

DECISION RECORD

Background

The Bureau of Land Management Glennallen Field Office (BLM) proposes to perform trail rehabilitation activities along the first two miles of the Jack River Trail. Techniques including the installation of trail hardening panels, drainage and erosion control features, and culverts are proposed to develop a sustainable trail tread. Work would begin in July 2014 and would be performed by BLM employees with the assistance of a youth conservation crew.

The Jack River Trail is located at mile 131 of the Denali Highway, approximately four miles east of Cantwell, Alaska. The trail is an Alaska Native Claims Settlement Act (ANCSA) 17(b); the trail provides access through Ahtna, Inc. native lands to public lands.

The proposed project is a partnership project between Ahtna Inc., the Student Conservation Association, the State of Alaska Department of Natural Resources, and the BLM.

Decision

I have decided to select *Alternative 2 – Proposed Action* for implementation. This decision is based on site specific analysis found within the *Jack River Trail Rehabilitation Environmental Assessment* (DOI-BLM-AK-A020-2014-0007-EA). This decision is further supported by management decisions contained in the Record of Decision for the East Alaska Resource Management Plan (RMP/ROD; BLM 2007).

Specifically, it is my decision to authorize:

- Trail rehabilitation work occurring in July and August, 2014.
- The installation of 1,000 linear feet of trail hardening panels.
- The use of a mechanized excavator and low ground pressure dozer to construct drainage features along the trail.
- The installation of one 24” culvert, if needed, at mile 0.30 of the trail.

The Finding of No Significant Impact (FONSI) indicates that the selected alternative has been analyzed in an Environmental Assessment (EA) and has been found to have no significant environmental effects. Therefore, an Environmental Impact Statement is not required and will not be prepared.

Rationale for the Decision

The No Action Alternative was not selected because it would not meet the BLM's purpose and need and would further subject the trail to erosion, trail braiding, and ponding of water. This alternative would perpetuate an unsustainable trail tread.

Alternative 2 was selected because it meets the BLM's purpose and need and will eliminate the issues of trail degradation while promoting and providing for a sustainable trail tread. Although the Jack River Trail is an ANCSA 17 (b) easement through Native lands, this trail provides access to BLM-managed public lands. Therefore, the selected alternative supports the RMP/ROD decision to, "Manage trails to access public lands, recreation, and subsistence opportunities," (BLM 2007).

Laws, Authorities, and Land Use Plan Conformance

The EA and supporting documentation have been prepared consistent with the requirements of various statutes and regulations, including but not limited to:

- National Historic Preservation Act as Amended 1992
- North America Wetlands Conservation Act of 1989 (as amended 1990 and 1994)
- Executive Order 11987 of May 1977 (Exotic Organisms)
- Executive Order 11990 of May 1977 (Protection of Wetlands)
- Executive Order 11644 of February 1972
- Executive Order 11989 of May 1977
- Migratory Bird Treaty Act of 1918 (as amended 1936, 1960, 1969, 1974, 1978, 1986, and 1989)

The East Alaska Resource Management Plan and Record of Decision (RMP/ROD) provides the overall long-term management direction for lands encompassed by the proposed project (BLM 2007). The proposed action and alternatives are consistent with the RMP/ROD (EA, p. 3).

Public Involvement, Consultation, and Coordination

A scoping notice was placed in the Copper River Record on January 30, 2014. Notice of the Proposed Action and solicitation of comments were also placed in prominent locations during the week of January 27, 2014 in the community of Cantwell, Alaska. No public comments were received.

A summary of the proposed project was also posted to the BLM's national NEPA register website, ePlanning on March 5, 2014.

Appeal Opportunities

This decision may be appealed to the Interior Board of Land Appeals, Office of the Secretary, in accordance with the regulations contained in 43 CFR § 4. To appeal you must file a notice of appeal at the BLM Glennallen Field Office, P.O. Box 147, Milepost 186.5 Glenn Highway, Glennallen, Alaska 99588, within 30 days from receipt of this decision. The appeal must be in writing and delivered in person, via the United States Postal Service mail system, or other common carrier, to the Glennallen Field Office as noted above. *The BLM does not accept appeals by facsimile, email, or other electronic means.* The appellant has the burden of showing that the decision appealed from is in error.

If you wish to file a petition pursuant to regulation 43 CFR § 4.21 (58 FR 4939, January 19, 1993) for a stay of the effectiveness of this decision during the time that your appeal is being reviewed by the Board, the petition for a stay must accompany your notice of appeal. Except as otherwise provided by law or other pertinent regulation, a petition for a stay of decision pending appeal shall show sufficient justification based on the following standards: (a) The relative harm to the parties if the stay is granted or denied, (b) The likelihood of the appellant's success on the merits, (c) The likelihood of immediate and irreparable harm if the stay is not granted, and (d) Whether the public interest favors granting the stay.

Copies of the notice of appeal and petition for a stay must also be submitted to each party named in this decision and to the Interior Board of Land Appeals and to the Office of the Solicitor (see 43 CFR § 4.413); Office of the Regional Solicitor, Alaska Region, U.S. Department of the Interior, 4230 University Drive, Suite 300, Anchorage, Alaska 99508; at the same time the original documents are filed with this office. If you request a stay, you have the burden of proof to demonstrate that a stay should be granted.

/s/ Dennis C. Teitzel

4/22/2014

Dennis C. Teitzel
Glennallen Field Manager

Date

References

BLM. 2007. East Alaska Resource Management Plan and Record of Decision. September, 2007.

Attachments

Finding of No Significant Impact (FONSI) for DOI-BLM-AK-A020-2014-0007-EA
Jack River Trail Rehabilitation Environmental Assessment, DOI-BLM-AK-A020-2014-0007-EA



United States Department of the Interior



BUREAU OF LAND MANAGEMENT
Glennallen Field Office
P.O. Box 147
Glennallen, Alaska 99588
<http://www.blm.gov/ak>

Jack River Trail Rehabilitation Environmental Assessment, DOI-BLM-AK-A020-2014-0007-EA

Case File, n/a

FINDING OF NO SIGNIFICANT IMPACT

Background

In March 2014, the Bureau of Land Management (BLM) prepared an Environmental Assessment (EA) (DOI-BLM-AK-A020-2014-0007-EA) analyzing the effects of performing trail rehabilitation activities along the first two miles of the Jack River Trail near Cantwell, Alaska.

The proposed rehabilitation techniques include the installation of trail hardening panels, drainage and erosion control features, and culverts would be used to develop a sustainable trail tread. Work would begin in July 2014 and would be performed by BLM employees with the assistance of a youth conservation crew.

Finding of No Significant Impact

This action and its effects have been evaluated consistent with the Council on Environmental Quality regulations for determining *significance*. Per 40 CFR § 1508.27, a determination of *significance* requires consideration of both context and intensity. The former refers to the relative context in which the action would occur such as society as a whole, affected region, affected interests, etc. The latter refers to the severity of the impact.

Context

The project would occur on previously disturbed soils and vegetation damaged through the use of off-highway vehicles (OHVs) along a linear transportation route. Disturbances and effects created from trail braiding and pioneering of routes within the area is currently affecting approximately 230 acres. Upon project completion the area of impact would be reduced from 230 acres to 0.6 acres. The trail is located in a sparsely populated area in interior Alaska. The anticipated impacts are local in nature.

Intensity

1. Impacts that may be both beneficial and adverse.

The EA considered and disclosed potential beneficial and adverse effects of the alternatives. For example, the EA discloses that the Proposed Action could indirectly cause a small increase in visitor use due to trail improvements (EA, p. 10). The EA also acknowledges that this increased use could have impacts to untreated sections of the trail beyond the project area (EA, p. 7). Conversely, the EA also acknowledges that the No Action Alternative would result in the continuation of vegetation trampling, soil compaction, erosion, and diminished water quality within the immediate area (EA, p. 7, 8, and 11). The EA also discloses that the 230 acres currently affected by trail beyond would likely expand under the No Action Alternative and have increasing impacts on wildlife species utilizing wetland areas (EA, p. 11).

2. The degree to which the proposed action affects public health and safety.

Trail rehabilitation and the installation of trail hardening panels along the first two miles of Jack River Trail would reduce potential health and safety issues associated with trail use in this area. Improving the trail and providing a sustainable trail tread would eliminate occurrences of users becoming stuck along the trail, rolling or tipping OHVs, or even losing the trail route all together.

3. Unique characteristics of the geographic area such as proximity of historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.

No unique characteristics would be affected by the Proposed Action. Work would take place on previously disturbed soils primarily within a wet area which has minimal potential for containing any cultural resources or artifacts (EA, p. 4). Although work would take place within a wet area it is not considered unique in relation to context of the landscape along the Denali Highway and Alaska Range foothills. Improvements made through Proposed Action would promote the restoration and overall health and recovery of the wetlands in the surrounding areas.

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

There is no known controversy concerning the effects of this Proposed Action on the quality of the human environment. A scoping notice was placed in the Copper River Record on January 30, 2014. Notice of the Proposed Action and solicitation of comments were also placed in prominent locations during the week of January 27, 2014 in the community of Cantwell, Alaska. No public comments were received (EA, p. 3-4).

5. The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.

There are no unique or unknown risks associated with the Proposed Action. Specialized tasks would be performed by BLM employees with experience conducting projects similar in nature to

the Proposed Action. To date, the BLM has installed over 9,000 linear feet of trail hardening panels and utilized machinery to perform trail rehabilitation on over 30 miles of multiple use trail. The possible effects of the Proposed Action on the human environment are not highly uncertain nor do they involve unique or unknown risks.

6. *The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.*

This decision would not set a precedent for future actions with significant effects. No significant effects were revealed in the EA and future projects similar in nature would be individually analyzed in separate NEPA documents.

7. *Whether the action is related to other actions with individually insignificant but cumulatively significant impacts.*

No cumulatively significant impacts were identified within the EA.

8. *The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historic resources.*

The proposed project would not affect any scientific, cultural, or historic resources (EA, p. 4). The Jack River Trail was inventoried for cultural resources in 2010 to trail mile 2.75. At that time, no cultural or historic resources were located. The project location within a wetland and the relatively low-lying elevation of terrain in the surrounding area results in a low likelihood of any resources of significance being discovered.

9. *The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.*

There are no threatened or endangered species within the project area (EA, p. 4).

10. *Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.*

The Proposed Action does not threaten to violate any law. The East Alaska Resource Management Plan and Record of Decision (RMP/ROD) of September 2007 provide the overall long-term management direction for lands encompassed by the Proposed Action (EA, p. 3).

Conclusion

Therefore, on the basis of the information contained in the EA, and all other information available to me, it is my determination that:

1. None of the environmental effects identified meet the definition of significance as defined by context and intensity considerations at 40 CFR § 1508.27;
2. The alternatives are in conformance with East Alaska RMP/ROD (2007); and

3. The Proposed Action and alternatives do not constitute a major federal action having a significant effect on the human environment.

Therefore, neither Environmental Impact Statement nor a supplement to the existing EA is necessary and neither will be prepared.

/s/ Dennis C. Teitzel

4/22/2014

Dennis C. Teitzel
Glennallen Field Manager

Date

Attachments

BLM 2014. Environmental Assessment: Jack River Trail Rehabilitation, DOI-BLM-AK-A020-2014-0007-EA

**U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

Glennallen Field Office
P.O. Box 147
Glennallen, Alaska 99588

**Jack River Trail Rehabilitation Environmental Assessment
DOI-BLM-AK-A020-2014-0007-EA**

Applicant: n/a, Case File: n/a

March 5, 2014

Table of Contents

1.0	INTRODUCTION	1
2.0	ALTERNATIVES	5
3.0	AFFECTED ENVIRONMENT AND ENVIRONMENTAL EFFECTS	6
4.0	CONSULTATION AND COORDINATION	13
5.0	LIST OF PREPARERS	13
6.0	REFERENCES CITED	14

1.0 INTRODUCTION

1.1 Summary of Proposed Action

The Bureau of Land Management Glennallen Field Office proposes to perform trail rehabilitation activities along the first two miles of the Jack River Trail. Techniques including the installation of trail hardening panels, drainage and erosion control features, and culverts would be used to develop a sustainable trail tread. Work would begin in July 2014 and would be performed by Bureau of Land Management (BLM) employees with the assistance of a youth conservation crew.

The proposed project is a partnership project between Ahtna, Inc., the Student Conservation Association, the State of Alaska Department of Natural Resources, and the BLM.



Figure 1. Eroded Trail and Wetlands, Jack River Trail

1.2 Project Area Description and Land Status

The Jack River Trail is located at mile 131 of the Denali Highway, approximately four miles east of Cantwell, Alaska. The trail is an Alaska Native Claims Settlement Act (ANCSA) 17(b) easement providing access through Ahtna, Inc. native lands to public lands. Public lands begin at mile 2 of the trail. Work performed would take place on native corporation lands within the 25-foot easement reserved to the United States. The legal land description for the project area that the trail traverses is: Sections 7 & 18, T. 18 S, R. 6 W, Fairbanks Meridian.

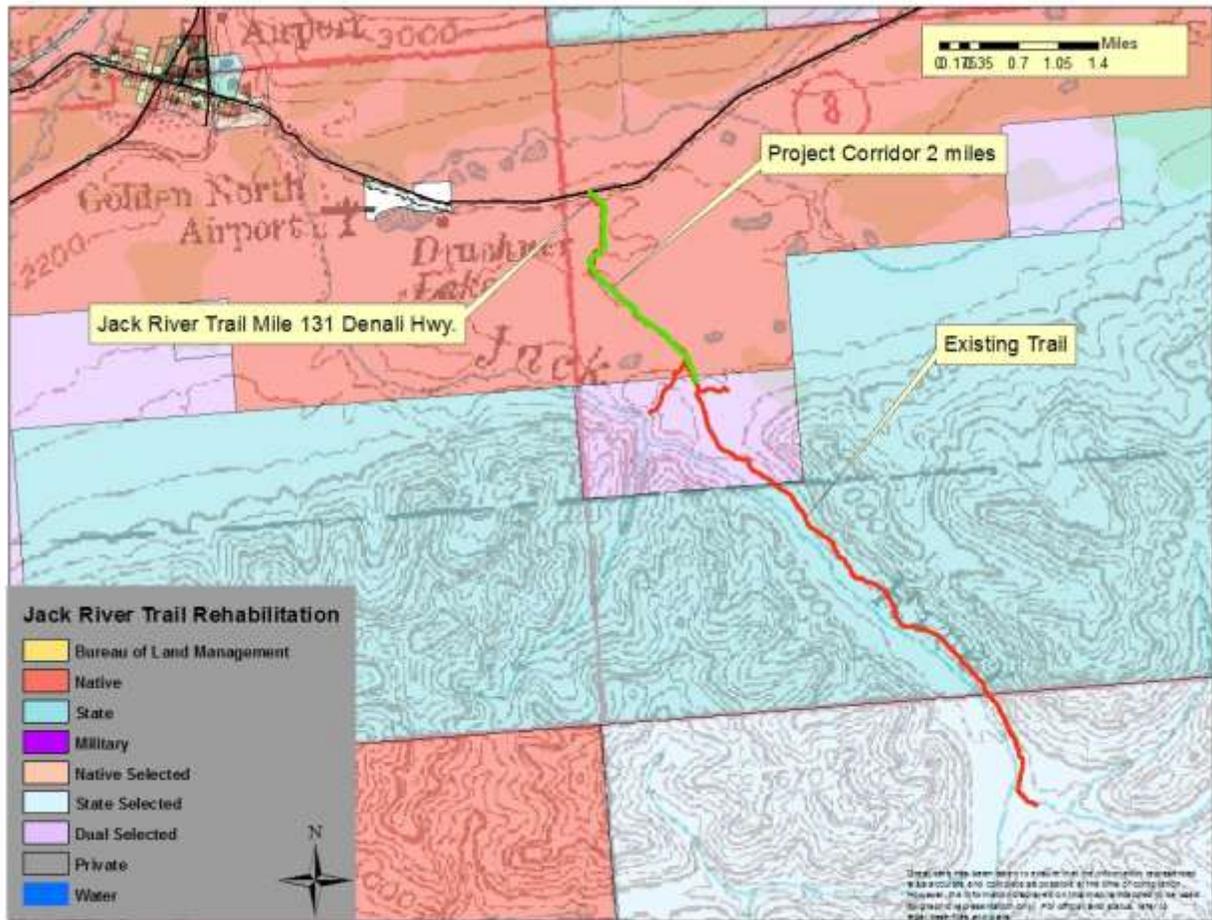


Figure 2. Jack River Trail Locater Map

1.3 Purpose and Need

The BLM action under consideration is trail rehabilitation work along the first two miles of Jack River Trail. Action is needed because the first two miles of trail are subject to erosion, trail braiding, and ponding of water resulting in unsustainable trail tread. The purpose of the action is to provide for appropriate access to public lands, consistent with ANCSA Section 17 (b) and 43 CFR 2650.4-7 which authorizes the reservation of public easements on lands conveyed to Native corporations, while reducing or eliminating effects (trail braiding, erosion, vegetation stripping) incurred on private lands along the easement.

1.3.1 Decision to be Made

The BLM will decide whether to perform trail rehabilitation techniques along the first two miles of Jack River Trail.

1.4 Land Use Plan Conformance

The East Alaska Resource Management Plan and Record of Decision (RMP/ROD) provide the overall long-term management direction for lands encompassed by the proposed project (BLM 2007). The proposed action and alternatives are consistent with the RMP/ROD. Specifically, the proposed action is consistent with the following decisions in the RMP/ROD:

I. LANDS AND REALTY

I-6-a: Goal

- Manage trails to access public lands, recreation, and subsistence opportunities.

S. TRANSPORTATION AND FACILITIES MAINTENANCE

S-2 Management Actions

- Trails 17 (b) easements: Generally maintenance will not be conducted on 17 (b) easements unless they access unencumbered BLM lands. Maintenance on 17(b) easements might also be considered if there is a public safety concern or if cooperative funding is obtained from the State of Alaska, Native Corporation, or other entity.

T. TRAVEL MANAGEMENT AND [OFF-HIGHWAY VEHICLE] (OHV) USE

T-1 Goals

- Manage trails to provide access to public lands, recreation, and subsistence opportunities.

1.5 Other Applicable Laws, Regulations, Policies, etc.

The proposed action would be subject to various laws, regulations, and acts including, but not limited to:

- National Historic Preservation Act as Amended 1992
- North America Wetlands Conservation Act of 1989 (as amended 1990 and 1994)
- Executive Order 11987 of May 1977 (Exotic Organisms)
- Executive Order 11990 of May 1977 (Protection of Wetlands)
- Executive Order 11644 of February 1972
- Executive Order 11989 of May 1977
- Migratory Bird Treaty Act of 1918 (as amended 1936, 1960, 1969, 1974, 1978, 1986, and 1989)

1.6 Summary of Public Involvement

A scoping notice was placed in the Copper River Record on January 30, 2014. Notice of the Proposed Action and solicitation of comments were also placed in prominent locations during the week of January 27, 2014 in the community of Cantwell, Alaska. No public comments were received.

A summary of the proposed project was also posted to the BLM's national NEPA register website, ePlanning on March 5, 2014.

1.7 Issues Identified / Issues Eliminated from Further Analysis

Internal scoping revealed the following issues for analysis:

- How would trail rehabilitation affect soils?
- How would trail rehabilitation affect vegetation resources proximate to the trail?
- How would trail rehabilitation affect wildlife dependent on seasonal wetlands in the project area?
- How would trail rehabilitation affect water quality?
- How would trail rehabilitation affect recreational access and use patterns?

The following issues were identified but eliminated from further analysis for the reasons provided:

- *Effects to anadromous fish.* The trail segment proposed for rehabilitation does not cross any anadromous streams.
- *Effects to Federally threatened and endangered species.* There are no known occurrences of Federally threatened or endangered species nor habitat for these species in this area.
- *Effects to Subsistence resources and access.* The BLM is required by Section 810 of the Alaska National Interest Lands Conservation Act (ANILCA) to consider potential impacts to subsistence activities, resources, or access to subsistence activities from project proposals. A complete analysis of Section 810 findings is located on file at the Glennallen Field Office. In summary, there is no reasonably foreseeable significant decrease in the abundance and distribution of harvestable subsistence resources. Furthermore, the easement itself is not open to federal subsistence use.
- *Effects to Cultural Resources.* The Jack River Trail was surveyed for archaeological resources in 2010; no heritage or paleontological resources were located in or near the first 2.75 miles of the trail. The closest recorded site is HEA-112, the Four Mile Reindeer Cabin, which is approximately one mile west of the project area. Given the distance of known sites as well as the results of the 2010 surveys, it is unlikely that any heritage or paleontological resources would be affected by the proposed project.
- *Effects to Lands with Wilderness Characteristics.* The project is occurring along an easement within private lands. The BLM has neither discretion nor authority to designate, manage, or decide upon allowable uses of these private lands.
- *Effects related to the spread and establishment of invasive species.* The project design features included in the Proposed Action alternative would adequately prevent introduction and establishment of invasive species as a direct result of this project.

2.0 ALTERNATIVES

2.1 Alternative 1 - No Action Alternative

Under the No Action Alternative, the BLM would not take any action to resolve the erosion, trail braiding, and ponding of water. Resource impacts would persist.

2.2 Alternative 2 - Proposed Action Alternative

The trail is within an ANCSA 17 (b) easement, 25 feet in width, with motorized weight limitations not to exceed 3,000 lbs.

Approximately 1,000 linear feet of Geoblock trail hardening panels would be installed at a width of 6.5 feet from mile 0.25 to mile 0.45 of the trail (see Figure 3). A single 24" culvert may be installed at mile 0.30 of the trail to promote water transfer beneath the trail tread. Additional drainage work would be performed at approximately ten locations along the trail from mile 0 to mile 2. Trail hardening panels would be installed on existing trail tread excavated with handtools. Drainage structures, consisting of rolling dips, would be constructed with the aid of mechanized equipment to include a Bobcat 331 excavator and a low ground pressure equipped dozer (see Figure 3). Culvert installation, if needed, would be completed with the assistance of the excavator. All aspects of work performed would take place on previously disturbed soils, eroded soils, or existing trail tread.

Work would take place from mid-July to mid-August 2014 and would be performed by BLM employees and a youth conservation crew.

Consistent with the RMP, maintenance on 17(b) easements might also be considered if there is a public safety concern or if cooperative funding is obtained from the State of Alaska, Native Corporation, or other entity.

The following design features and best management practices would be incorporated to minimize impacts to resources including, but not limited to: soils, the spread of invasive species, and native vegetation.

1. Wash vehicles and equipment before leaving weed infested areas to avoid infecting weed-free areas.
2. Use heavy equipment only with adequate soil moisture to minimize soil erosion.
3. Use equipment that minimizes soil disturbance and compaction.
4. Implement erosion control measures in areas where heavy equipment use occurs.
5. Conduct mechanical treatments along topographic contours to minimize runoff and erosion.
6. Leave plant debris on site to serve as mulch.
7. Do not wash equipment or vehicles in streams and wetlands.
8. Maintain minimum 25 foot wide vegetated buffer near streams and wetlands.
9. Power wash equipment to prevent weed and exotic plant species introduction and spread.

10. Use plant stock or seed from the same seed zone and from sites of similar elevation when conducting revegetation activities.
11. Minimize use of ground-disturbing equipment near species of concern.



Figure 3. Examples of Geoblock Panels and Rolling Dips

2.3 Alternatives Considered but Eliminated

The following alternatives were considered but were eliminated from further analysis for the reasons provided:

The use of gravel and importation of fill for trail rehabilitation was eliminated from consideration within this analysis. The trail is an ANCSA 17(b) easement 25 feet in width with weight limits of 3,000 lbs. Gross Vehicle Weight (GVW). The use of fill and, in particular, gravel would create an environment in which motorized vehicles exceeding these restrictions could attempt to negotiate the trail. Hardening the trail with gravel materials would also deviate from the trail management objectives prescribed for Jack River Trail which calls for a trail tread consisting of native soils.

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL EFFECTS

3.1 ISSUE 1 - HOW WOULD TRAIL REHABILITATION AFFECT WATER QUALITY?

3.1.1 Affected Environment

The Jack River Trail provides access to the middle and upper reaches of the Jack River on the northern flanks of the Talkeetna Mountains. The Jack River is a clear mountain stream which flows north westerly until it drains into Cantwell Creek near Cantwell. There are two small clear water tributaries which flow westward to Dashner Lake. These tributaries are directly crossed by the existing trail and would be affected by the proposed action and trail hardening work. Since the soils in the project area are poorly drained and there is likely permafrost, there is often standing water during and after spring snow melt and during periods of rain which make for poor water quality conditions when all-terrain vehicle (ATV)/OHV activities are occurring.

3.1.2 Direct and Indirect Effects from No Action Alternative

The No Action Alternative would result in the continuation of vegetation trampling and removal, soil compaction and erosion, and a proliferation of trail braiding which would ultimately lead to higher sediment loads and lower overall water quality in immediate area. The two stream crossings would continue to erode and draw increased sediment to Dashner Lake. Standing water on existing trails will encourage users to continue trail braiding in difficult and treacherous trail areas.

3.1.3 Direct and Indirect Effects from Proposed Action Alternative

Trail integrity is most sensitive when conditions are wet. The Proposed Action Alternative would improve the trail surface through the addition of trail hardening panels, drainage and erosion control features, and culvert installations.

The trail improvements in the Proposed Action Alternative provide benefits to help aid in water quality issues and include: defining a single trail for ATV travel; stabilizing soil conditions along the hardened trail section; providing a stable and durable surface for ATV traffic; halts trail widening and the further development of trail braiding; and allows formerly used trail (braids) to stabilize and revegetate. These improvements, including the possible addition of culverts, are designed to help water drain away from the trail and away from ATV activity reducing the impacts of soil compaction, erosion, and the temptation of users to braid the trail to avoid difficult and treacherous travel.

Initial trail hardening work, due to the use of mechanized equipment (excavator), may produce soil erosion and increased sediment in the short-term, however, the long-term benefit of the trail hardening would reduce all soil erosion and water quality impacts in the immediate area normally associated with use of this trail.

The trail improvements would occur on the first two miles of trail which is at least 1/3 mile from Jack River. The trail parallels Jack River southeast of where the trail improvements would occur so there would be no direct impacts to the Jack River from the proposed action. However, hardening and improving this trail could encourage more use and cause more damage to the trail beyond the improvements and parallel to the Jack River. This could expose Jack River to more ATV crossings, possible erosion of banks and flood plain areas, and higher sediment loads.

3.1.4 Cumulative Effects

The Glennallen Field Office land base has seen a steady increase of ATV use mainly as a result of road accessibility to trails and hunting opportunities. With the increase in use, the cumulative effect has been a proliferation of trails resulting in increased loss of vegetation, soil compaction, soil erosion, and decreased water quality. Trail hardening techniques have proven to be successful in mitigating resource impacts, however, it would be impossible for BLM and other agencies or land owners to keep up with the increase in trails due to the expense of the procedure and man power limitations. Unless there are specific limitations creating new trails there will continue to be increases in resource damage over the entire land base.

3.1.5 Recommended Mitigation

It is recommended that trail rehabilitation work with mechanized equipment be avoided when conditions are too wet or soil moistures are too high as to cause unnecessary and undue degradation.

3.2 ISSUE 2 - HOW WOULD TRAIL REHABILITATION AFFECT HYDROLOGY AND SOIL RESOURCES?

3.2.1 Affected Environment

Soils in the project area are identified in the Exploratory Soil Survey of Alaska (1979). The mapping unit association in which the trail improvements would occur in are SO15, Pergelic Cryorthods-Histic Pergelic Cryanquepts. These are characterized as very gravelly, nearly level to rolling hills which occupy low moraine hills and broad intervening valleys. Lakes, streams, and small outwash plains are common features of the soil landscape. Most of the soils are formed in a gravelly glacial drift that is commonly capped with a thin mantle of silty loess and the dominant vegetation is tundra, but some of the soils support scattered forests of stunted white spruce, black spruce, and aspen. These soils are poorly drained with permafrost and have severe limitations for roads, buildings, and other structures or facilities.

3.2.2 Direct and Indirect Effects from No Action Alternative

The No Action Alternative would result in the continuation of vegetation trampling and removal, soil compaction and erosion, and a proliferation of trail braiding in wet and mucky areas continually formed on the trail. Travel on the trail will continue to be more difficult and treacherous as soils are eroded and lost and the visual and resource impact of the braiding would continually get worse if ATV activities increase. Continued negative impacts to soils would result in degradation of other resource values such as water quality and wildlife habitat (see analyses for other issues considered).

3.2.3 Direct and Indirect Effects from Proposed Action Alternative

The Proposed Action Alternative would improve the trail surface through the addition of trail hardening panels, drainage and erosion control features, and culvert installations. These improvements are designed to help water drain away from the trail and away from ATV activity reducing the impacts of soil compaction, erosion, and the temptation of users to braid the trail to avoid difficult and treacherous travel. During rehabilitation and construction phase there would be a temporary and short-term negative impact to soils from mechanized equipment use. The equipment would churn, compact, and rut soils exposing them to potential higher rates of degradation.

Once the improvements are made, the long-term benefits are positive and include: defining a single trail for ATV travel; stabilizing soil conditions along the hardened trail section; providing

a stable and durable surface for ATV traffic; halting trail widening and the further development of trail braiding; and allowing formerly used trail (braids) to stabilize and revegetate.

3.2.4 Cumulative Effects

The Glennallen Field Office has seen a steady increase of ATV use mainly as a result of road accessibility to trails and hunting opportunities. With the increase in use, the cumulative effect has been a proliferation of trails resulting in increased loss of vegetation, soil compaction, soil erosion, and decreased water quality. Trail hardening techniques have proven to be successful in mitigating resource impacts, however, it would be impossible for BLM and other agencies or land owners to keep up with the increase in trails due to the expense of the trail hardening procedure and man power limitations. Unless there are specific limitations creating new trails there will continue to be long term increases in resource damage.

Adverse impacts would occur to the untreated portions of the trail if the improvements on the first two miles encourage higher use. The potential expanded ATV use in untreated areas (especially on the trail portion that parallels Jack River) could result in, more vegetation loss, compaction, and erosion. This, in turn, could lead to degradation of other resources such as water quality and wildlife habitat.

3.2.5 Recommended Mitigation

It is recommended that trail rehabilitation work with mechanized equipment be avoided when conditions are too wet or soil moistures are too high as to cause unnecessary and undue degradation.

3.3 ISSUE 3 - HOW WOULD TRAIL REHABILITATION AFFECT RECREATIONAL ACCESS AND USE PATTERNS?

3.3.1 Affected Environment

The Proposed Action is located along the Jack River Trail approximately four miles east of Cantwell, Alaska. The trail is primarily utilized during the fall hunting seasons for sport hunting opportunities and berry picking. While a small percentage of users access the Jack River valley with horses or on foot, the primary means of access to the area is by off-highway vehicle (OHV). Winter snowmobile use of the trail also occurs. In Federal fiscal year 2013, total estimated visits along the trail registered 500 users.

3.3.2 Direct and Indirect Effects from No Action Alternative

No changes would occur to the recreation resources as a result of the No Action Alternative. Access would continue to be limited to average users due to erosion, trail braiding, and ponding of water conditions which make trail conditions more challenging. Estimated annual visitation along the Jack River Trail totaled 500 users in Federal fiscal year 2013.

3.3.3 Direct and Indirect Effects from Proposed Action Alternative

Similar projects performed on other Glennallen Field Office trails demonstrates an approximately 10% visitor use increase in the first year or two immediately following a trail improvement project. The Proposed Action Alternative would lead to a slight increase of trail users utilizing Jack River Trail in the summer months. Beyond the first two years, use typically reverts to historic use levels and is variable depending on wildlife populations and caribou migration patterns.

Historical users who are accustomed to lower use levels may seek other recreational opportunities or areas if they notice increased use or greater competition for recreational resources. Therefore, a minimal amount of user displacement can be expected with improved trail conditions and increased use.

3.3.4 Cumulative Effects

Past and present recreational uses of the trail have resulted in the degradation that this project intends to repair. (See Direct and Indirect Effects of the No Action and Proposed Action Alternatives.) There are no known reasonably foreseeable future actions in proximity to the Jack River trail that would also affect recreation resources. Therefore, there are no known cumulative effects to the recreational resources from the No Action Alternative or the Proposed Action Alternative.

3.3.5 Recommended Mitigation

(Additional mitigation has not been identified for either alternative.)

3.4 ISSUE 4 - HOW WOULD TRAIL REHABILITATION AFFECT WILDLIFE SPECIES DEPENDENT ON SEASONAL WETLANDS IN THE PROJECT AREA?

3.4.1 Affected Environment

The Jack River trail crosses two wetland/stream crossings areas, in this intermountain lowland, as it proceeds south toward the Jack River. The wetland areas are likely comprised of an open low-scrub community with a shrub birch-willow vegetation type, commonly found in poorly drained lowlands of south-central Alaska (Viereck et al. 1992). This vegetation type commonly sets atop a permafrost layer (Viereck et al. 1992). Within these low-relief wetland areas, there has been varying degrees of active and past trail braiding; denuded vegetation from pioneering trails around impassable sections of trail; and active and past erosion from previous trail use. According to aerial maps in Geographic Information System (GIS), the affected areas of braiding within the wetland areas encompass approximately 230 acres.

Even though information on what species inhabit the area is unavailable, wetlands in the project area are assumed to provide nesting and staging areas for migratory waterfowl and shorebirds, breeding areas for amphibians, and year round habitat for aquatic furbearers, moose, and other

economically important species. Most impacts to the wetlands occur in August and September, which coincide with state hunting seasons of moose and caribou.

3.4.2 Direct and Indirect Effects from No Action Alternative

The No Action alternative would result in a continuation of denuding vegetation and wildlife habitat from pioneering trails around impassable sections of the proposed action area, a proliferation of trail braiding beyond the 230 acres already disturbed is expected in the seasonal wetland areas, and increasing adverse impacts on wildlife species utilizing wetland areas in this area is expected.

Wetlands are shown to be particularly susceptible to ATV movements (Rickard & Brown, 1974; Meyer, 2002; Loomis and Liebermann 2006) and that birch-willow communities can become damaged after just minor use from ATVs (Wooding & Sparrow, 1978; Racine & Johnson, 1988; Loomis & Liebermann 2006). Meyer (2002) found that on average 4 acres per mile of habitat was impacted by braided tracks from ATVs.

With braiding within the seasonal wetland areas, wildlife species are expected to be increasingly disturbed, harassed, and displaced from the area adjacent to the project area due to the pioneering of new trails around impassable sections. This has been shown to be the case in a study from the contiguous 48 states (Sinnott 1990). Nest abandonment by migratory waterfowl and shorebirds may also increase (Sinnott 1990) around the project area due to the increasing loss of habitat in the seasonal wetlands areas from increased braiding of the trail.

3.4.3 Direct and Indirect Effects from Proposed Action Alternative

The Proposed Action Alternative would improve the trail surface through the addition of trail hardening panels, drainage and erosion control features, and culvert installations. These improvements are designed to help water drain away from the trail and away from ATV activity reducing the temptation of users to braid the trail. According to GIS, these trail-improving features are expected to reduce the affected area from 230 acres to 0.6 acres (a singular trail within the 25-foot right-of-way).

This reduction and possible secession of trail braiding within seasonal wetlands would allow for re-vegetation of previously damaged wetlands and allow for the functional recovery of the wetlands (Walker et al., 1987) from previous years of use. This reduction would also help to minimize disturbance and harassment of wildlife's nesting/breeding/foraging habitats in the adjacent area within the seasonal wetlands. During rehabilitation and construction phase, there would be temporary and short-term negative impacts to wildlife species inhabiting adjacent areas from associated human presence and noise created from mechanized equipment use. However, the equipment would be confined to the project area, thus reducing "reaching" impacts from noise and human presence.

Potential negative impacts from the proposed action would occur to the untreated portions of the trail if the improvements encourage higher use. The potential expanded ATV use beyond the project area (especially on the trail portion that parallels Jack River) could result in, more

vegetation loss, compaction, and erosion. This, in turn, could lead to degradation of other wildlife habitat. The improved areas of the Jack River trail may also allow for easier access to wetland areas and increase the numbers of users that utilize the trail for hunting. This increased access to game animals may increase hunting pressure on popular game populations in the area (Sinnott 1990), such as moose, caribou, Dall sheep, and bear. Also, increased number of users can increase the frequency of noise disturbance to popular game animals, thereby, decreasing their proximity to the trail and reducing foraging area.

3.4.4 Cumulative Effects

The Glennallen Field Office has seen a steady increase of ATV use, mainly as a result of road accessibility to trails and popularity of ATVs as a mode of transportation to reach remote hunting locations. With the increase in ATV use, the cumulative effect has been a proliferation of trails, often traversing seasonal wetlands, resulting in increased loss of seasonal wetland habitat, increased trail braiding and pioneering within seasonal wetland areas, increased disturbance to nesting/breeding/foraging wildlife species that are associated with seasonal wetlands, and decreased water quality. Trail hardening techniques have proven to be successful in mitigating seasonal wetland impacts; however, it would be impossible for BLM and other agencies or landowners to keep up with the increase in trails due to the expense of trail hardening procedure and labor limitations. Unless there are specific limitations creating new trails, there will be continued long-term increases in seasonal wetland damage and loss.

3.4.5 Recommended Mitigation

(Additional mitigation has not been identified for either alternative.)

3.5 ISSUE 5 - HOW WOULD TRAIL REHABILITATION AFFECT VEGETATION RESOURCES PROXIMATE TO THE TRAIL?

3.5.1 Affected Environment

Vegetation within the project area is described as an open low scrub community with a shrub birch-willow vegetation type classification (Viereck et al 1992). There are two prominent wetland areas along the trail supporting vegetation of herbaceous and sedge species types, and some of the surrounding areas support scattered forests of stunted black spruce and lichen. These vegetation types are almost always associated with and found atop a permafrost layer (Viereck et al 1992). Other commonly found species in the project area include: blueberry, labrador tea, alpine bearberry, and lowbush cranberry, but dwarf birch and willow form the predominant scrub vegetation type. The vegetation types found in the project area are commonly found in poorly drained lowlands of south-central Alaska. The existing Jack River trail consists primarily as single-width trail tread, but within the two wetland areas there has been varying degrees of active and past trail braiding with denuded vegetation from the pioneering of new routes around impassable sections.

3.5.2 Direct and Indirect Effects from No Action Alternative

The No Action Alternative would result in the continuation of vegetation trampling and removal. The No Action alternative would result in a continuation of denuding vegetation and, subsequently, wildlife habitat from pioneering trails around impassable sections of the proposed action area.

3.5.3 Direct and Indirect Effects from Proposed Action Alternative

The Proposed Action Alternative would improve the trail surface and improve water drainage away from the trail reducing the temptation of users to braid the trail. This reduction and possible secession of trail braiding within the wetland portions of the trail would allow for re-vegetation of previously damaged sections and allow for the functional recovery of the wetlands. The Proposed Action Alternative would result in a slight increase in ATV use which could result in some loss of vegetation in the short-term.

Overall, the Proposed Action Alternative would, over several growing seasons, result in the reestablishment of vegetation in the areas that have been denuded of vegetation from the braiding of trails through the wetland areas.

3.5.4 Cumulative Effects

The Glennallen Field Office land base has seen a steady increase of ATV use mainly as a result of road accessibility to trails and hunting opportunities. With the increase in use the cumulative effect has been a proliferation of trails which has resulted in among others, an increased loss of vegetation. Trail hardening techniques have proven to be successful in mitigating resource impacts.

3.5.5 Recommended Mitigation

(Additional mitigation has not been identified for either alternative.)

4.0 CONSULTATION AND COORDINATION

Jusdi McDonald Natural Resource Mgr., State of Alaska, Department of Natural Resources
Kathryn Martin Senior Vice President, Ahtna Inc.

5.0 LIST OF PREPARERS

This EA was prepared by the Glennallen Field Office Interdisciplinary Team.

Sarah Bullock Wildlife Biologist / Subsistence Biologist
Molly Cobbs Planning and Environmental Coordinator
John Jangala Archaeologist
Cory Larson Outdoor Recreation Planner
Ben Seifert Natural Resource Specialist

Mike Sondergaard Hydrologist

6.0 REFERENCES CITED

- BLM. 2007. East Alaska Resource Management Plan and Record of Decision. September, 2007.
- Loomis, P. and R. Liebermann., 2006. DRAFT: Biological impacts of off-road vehicles in Alaska: A literature review. Department of the Interior National Park Service, Denali National Park.
- Meyer, K., 2002. Managing degraded off-highway vehicle trails in wet, unstable, and sensitive environments. USDA Forest Service, Technology & Development Program.
- Racine, C.H. and L.A. Johnson, 1988. Effects of all-terrain vehicle traffic on tundra terrain near Anaktuvuk Pass, Alaska. US Army Corps of Engineers, Special Report 99-17.
- Rickard, W.E. and J. Brown. 1974. Effects of vehicles on arctic tundra. *Environmental Conservation*, 1: 55-62.
- Sinnott, R. 1990. Off-road vehicles and hunting in Alaska: a report to the Alaska Board of Game. Alaska Department of Fish and Game, Division of Wildlife Conservation.
- Viereck, L.A.; Dyrness, C.T.; Batten, A.R.; Wenzlick, K.J. 1992. The Alaska vegetation classification. Gen. Tech. Rep. PNW-GTR-286. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 278 p.
- Walker, D.A, D. Cate, J. Brown, and C. Racine. 1987. Disturbance and recovery of arctic Alaskan tundra terrain. US Army Corps of Engineers Cold Regions Research and Engineering Laboratory, Hanover, NH, CRREL Report 87-11.
- Wooding, F.J. and S.D. Sparrow. 1978. An assessment of damage caused by off-road vehicle traffic on subarctic tundra in the Denali Highway area of Alaska. USDA Forest Service. Pacific Northwest Region Report.