

APPENDIX A

Access Applications by Jeff Barney and Gene Desjarlais

APPLICATION FOR TRANSPORTATION AND UTILITY SYSTEMS
AND FACILITIES ON FEDERAL LANDS

RECEIVED
ENVIRONMENTAL RESOURCES

FORM APPROVED
OMB NO. 1004-0060
Expires: December 31, 2001

FOR AGENCY USE ONLY

NOTE: Before completing and filing the application, the applicant should completely review this package and schedule a preapplication meeting with representatives of the agency responsible for processing the application. Each agency may have specific and unique requirements to be met in preparing and processing the application. Many times, with the help of the agency representative, the application can be completed at the preapplication meeting.

Application Number

Date Filed

1. Name and address of applicant (include zip code)

Eugene B. Desjarlais
6550 Limestone Circle
Anchorage, AK 99507

2. Name, title, and address of authorized agent if different from item 1 (include zip code)

3. TELEPHONE (area code)

907-346-4497

Applicant

Eugene Desjarlais
Authorized Agent

4. As applicant are you? (check one)

- a. Individual
- b. Corporation*
- c. Partnership/Association*
- d. State Government/State Agency
- e. Local Government
- f. Federal Agency

* If checked, complete supplemental page

5. Specify what application is for: (check one)

- a. New authorization XX Note applicants have received temporary access permits pursuant to ANILCA Section 1110(b) and 43 CFR 36.12.
- b. Renewing existing authorization No.
- c. Amend existing authorization No.
- d. Assign existing authorization No.
- e. Existing use for which no authorization has been received*
- f. Other*

* If checked, provide details under item 7

6. If an individual, or partnership are you a citizen(s) of the United States? yes No

7. Project description (describe in detail): (a) Type of system or facility, (e.g., canal, pipeline, road); (b) related structures and facilities; (c) physical specifications (Length, width, grading, etc.); (d) term of years needed; (e) time of year of use or operation; (f) volume or amount of product to be transported; (g) duration and timing of construction; and (h) temporary work areas needed for construction (Attach additional sheets, if additional space is needed.)

The requested access uses a 9.7-mile former mining access route for transport by vehicles to private parcels on the Spruce #4 claim in the Kantishna Hills area of Denali National Park and Preserve. Approximately 1,700 feet of the road in the Spruce Creek valley would be new construction to eliminate driving on the stream bed of Spruce Creek. The Glen Creek Airstrip could be used for airplane access and maintained in the condition it was in during August 2000.

(a) The proposed access system is a 9.7-mile route usable by off highway vehicles and/or pickup trucks and the 1,200-foot Glen Creek Airstrip for access by small airplanes.

(b) A shed (10 feet by 24 feet) on skids could be built at the first crossing of Moose Creek or other location designated by the superintendent to protect vehicles stored for transport up Moose Creek. Another small shed could be constructed at the Glen Creek Airstrip to protect a small vehicle or snowmobiles to be used for access from the airstrip to Spruce #4.

(c) Starting at mile 89 of the Denali Park Road, the access would use the existing former mining route up Moose Creek to Spruce Creek. This section includes 25 crossings of Moose Creek and crossings of Glen and Jumbo Creeks. The 6,000-foot section up Spruce Creek would include a reduction from the present 12 crossings and 1,650 feet of instream travel to 6 perpendicular crossings of the creek. The entire route would be maintained to provide a 10-foot usable width. New construction would include brushing to width, and adding 200 cubic yards of gravel in two sections (see map) by using a backhoe and/or loader to carry gravel to the sites from nearby terrace edges along the ROW. The rest of the ROW is on durable ground and can be used by the requested vehicles (after the route is brushed for the new construction). An estimated 10 cubic yards of gravel would be needed annually to maintain the route and such gravel could be obtained from the ROW corridor. The Glen Creek Airstrip could be bladed and smoothed as needed to maintain a safe landing surface, as was the condition in August 2000.

(d) The permit would be issued for 5 year increments and could be renewed for as long as the laws allow.

(e) The access route would be used when the park road is open or when the route could be used while flying to and from the Glen Creek airstrip.

(f) An estimated 200 cubic yards of gravel would be moved from the sections of the road right-of-way to two stretches that need gravel, as a balanced cut and fill operation. Small amounts of fuel (gasoline and diesel) would be transported to run vehicles, generators, and snowmobiles. Propane tanks would be transported for space heating and appliances.

(g) Construction would occur in summer, 2002, and would last no more than two weeks.

(h) None

8. Attach a map covering area and show location of project proposal attached

9. State or Local government approval: Attached Applied for Not Required See #14

10. Nonreturnable application fee: Attached Not required attached

11. Does project cross international boundary or affect international waterways? Yes No (if "yes," indicate on map) no

13a. Describe other reasonable alternative routes and modes considered.

1. Alternative of using existing route is ok except for the Spruce Creek section which has over 1600 feet of instream travel. This instream travel is likely to adversely impact aquatic resources over time, and may not be permitted by ADF&G and USACE.
2. Building an airstrip would not be feasible on one acre parcels.
3. Using the Moose Creek route to Glen Creek and then travelling up Glen Creek on another mining route and then putting in a cross-country route over to Spruce #4 was considered but the 3,500 cys of gravel that would be required would adversely affect wetland resources and be difficult to reclaim.

b. Why were these alternatives not selected?

See 13a.

c. Give explanation as to why it is necessary to cross Federal Lands.

Parcels are entirely surrounded by federal land.

14. List authorizations and pending applications filed for similar projects which may provide information to the authorizing agency. (Specify number, date, code, or name)

- 1) ANILCA Section 1110b, 43 CFR 36.10, Access to Inholdings
- 2) Pending Corps of Engineers 404 permit
- 3) Pending ADF&G Fish Habitat Permit
- 4) Pending ADEC Section 401 Certificate of Reasonable Assurance

15. Provide statement of need for project, including the economic feasibility and items such as: (a) cost of proposal (construction, operation, and maintenance); (b) estimated cost of next best alternative; and (c) expected public benefits.

16. Describe probable effects on the population in the area, including the social and economic aspects, and the rural lifestyles.

- 1) There would be limited impact on the population of the area because this access has been used for the last 25-30 years and the amount of use is similar to what the area has experienced over the past 10 years.
- 2) There would be no adverse economic impacts to the population of the area; some limited construction associated with development and maintenance of the access and parcels may provide short-term jobs to community members.
- 3) There would be no adverse social impacts from this proposal because this type of access for personal recreation at a private cabin is expected by Alaskans and supported by ANILCA.
- 4) There would be no adverse impact on rural lifestyles because there are no permanent residents within 30 miles and no residents who depend on the area's resources for subsistence purposes.

17. Describe likely environmental effects that the proposed project will have on: (a) air quality; (b) visual impact; (c) surface and ground water quality and quantity; (d) the control or structural change on any stream or other body of water; (e) existing noise levels; and (f) the surface of the land, including vegetation, permafrost, soil, and soil stability.

- a) Any impacts to air quality would be from operating equipment and would be local and transient.
- b) The Moose Creek part of the proposed route would have no more visual impact than it does now, and it has other, including federal, users. The Spruce Creek road would be slightly more visible because more of it would be out of the water, but the floodplain route is visible only from within the floodplain or at the edge of the bench overlooking the floodplain. None of the road is visible from other drainages or from any other road or inholding.
- c) The project would have no impact on water quantity, and have a beneficial impact on surface water quality compared with the present access of driving vehicles over 1600 feet in Spruce Creek.
- d) The project would reduce control on Spruce Creek by reducing the number of maintainable crossings from 12 to 6. Structural modifications to the stream would be reduced by removing instream travel from the existing route.
- e) There would be no increase in noise from the present use of 4-wheelers and pickup trucks to access the property. Existing access levels and resultant noise levels are low.
- f) The project would remove for construction approximately 0.31 acres of tall shrub, 0.23 acres of low shrub, and 0.09 acres of white spruce forest. All of these plant communities are regionally and locally common. Half of the tall shrub community to be removed is alder that have grown up in abandoned road segments and leveled tailings. Half of the ericaceous (low shrub) community is part of the existing access route that has not been bladed or received fill. In addition, alder and willow branches growing out over the access route would need to be trimmed on an annual basis. No permafrost is expected in the riparian areas. A minor lowering in the permafrost level would be expected under the tundra bench road where the vegetation is abraded by traffic. Riparian soils are likely to receive minimal to no impact because the route often follows durable existing or former road clearings or mine tailings. Tundra soils will need some structural addition of fill in order to support the traffic without causing mudholes and erosion.

18. Describe the probable effects that the proposed project will have on (a) populations of fish, plantlife, wildlife, and marine life, including threatened and endangered species; and (b) marine mammals, including hunting, capturing, collecting, or killing these animals.

- a) The project will have no adverse impact on fish populations (it will benefit fish populations by removing instream travel from Spruce Creek, rated as a moderate grayling habitat). The project will have minimal impact to plant communities because the ones involved are locally common. No impact to marine life or T& E species.
- b) No impact to marine mammals.

19. State whether any hazardous material, as defined in this paragraph, will be used, produced, transported or stored on or within the right-of-way or any of the right-of-way facilities, or used in the construction, operation, maintenance or termination of the right-of-way or any of its facilities. "Hazardous material" means any substance, pollutant or contaminant that is listed as hazardous under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. 9601 et seq., and its regulations. The definition of hazardous substances under CERCLA includes any "hazardous waste" as defined in the Resource Conservation and Recovery Act of 1976 (RCRA), as amended, 42 U.S.C. 6901 et seq., and its regulations. The term hazardous materials also includes any nuclear or byproduct material as defined by the Atomic Energy Act of 1954, as amended, 42 U.S.C. 2011 et seq. The term does not include petroleum, including crude oil or any fraction thereof that is not otherwise specifically listed or designated as a hazardous substance under CERCLA Section 101(14), 42 U.S.C. 9601(14), nor does the term include natural gas. No hazardous materials would be used in or during construction of the ROW.

20. Name all the Department(s)/Agency(ies) where this application is being filed.
USNPS

I HEREBY CERTIFY, That I am of legal age and authorized to do business in the State and that I have personally examined the information contained in the application and believe that the information submitted is correct to the best of my knowledge.

Signature of Applicant

Date



2-20-02

Title 18, U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious, or fraudulent statements or representations as to any matter within its jurisdiction.

SUPPLEMENTAL

NOTE: The responsible agency(ies) will provide instructions

CHECK APPROPRIATE BLOCK

		CHECK APPROPRIATE BLOCK	
		ATTACHED	FILED*
I - PRIVATE CORPORATIONS			
a.	Articles of Incorporation	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
b.	Corporation Bylaws	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
c.	A certification from the State showing the corporation is in good standing and is entitled to operate within the State	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
d.	Copy of resolution authorizing filing	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
e.	The name and address of each shareholder owning 3 percent or more of the shares, together with the number and percentage of any class of voting shares of the entity which such shareholder is authorized to vote and the name and address of each affiliate of the entity together with, in the case of an affiliate controlled by the entity, the number of shares and the percentage of any class of voting stock of that affiliate owned, directly or indirectly, by that entity, and in the case of an affiliate which controls that entity, the number of shares and the percentage of any class of voting stock of that entity owned, directly or indirectly, by the affiliate.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
f.	If application is for an oil or gas pipeline, describe any related right-of-way or temporary use permit applications, and identify previous applications.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
g.	If application is for an oil and gas pipeline, identify all Federal lands by agency impacted by proposal.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
II - PUBLIC CORPORATIONS			
a.	Copy of law forming corporation	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
b.	Proof of organization	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
c.	Copy of Bylaws	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
d.	Copy of resolution authorizing filing	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
e.	If application is for an oil or gas pipeline, provide information required by item "I-f" and "I-g" above.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
III - PARTNERSHIP OR OTHER UNINCORPORATED ENTITY			
a.	Articles of association, if any	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
b.	If one partner is authorized to sign, resolution authorizing action is	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
c.	Name and address of each participant, partner, association, or other	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
d.	If application is for an oil or gas pipeline, provide information required by item "I-f" and "I-g" above.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

DATA COLLECTION STATEMENT

The Federal agencies collect this information from applicants requesting right-of-way, permit, license, lease, or certifications for the use of Federal lands.

Federal agencies use this information to evaluate your proposal.

No Federal agency may request or sponsor, and you are not required to respond to a request for information which does not contain a currently valid OMB Approval Number.

BURDEN HOURS STATEMENT

The public burden for this form is estimated to vary from 30 minutes to 25 hours per response, with an average of 2 hours per response, including the time for

reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to: U.S. Department of the Interior, Bureau of Land Management, Information Clearance Officer (WO-630), 1849 C Street, Mail Stop 401LS, Washington, D.C. 20240.

A reproducible copy of this form may be obtained from the Bureau of Land Management, Division of Lands, 1620 L Street, Rm. 1000LS, Washington, D.C. 20036.

APPLICATION FOR TRANSPORTATION AND UTILITY SYSTEMS AND FACILITIES ON FEDERAL LANDS

GENERAL INFORMATION
ALASKA NATIONAL INTEREST LANDS

This application will be used when applying for a right-of-way, permit, license, lease, or certificate for the use of Federal lands which lie within conservation system units and National Recreation or Conservation Areas as defined in the Alaska National Interest lands Conservation Act. Conservation system units include the National Park System, National Wildlife Refuge System, National Wild and Scenic Rivers System, National Trails System, National Wilderness Preservation System, and National Forest Monuments.

Transportation and utility systems and facility uses for which the application may be used are:

1. Canals, ditches, flumes, laterals, pipes, pipelines, tunnels, and other systems for the transportation of water.
2. Pipelines and other systems for the transportation of liquids other than water, including oil, natural gas, synthetic liquid and gaseous fuels, and any refined product produced therefrom.
3. Pipelines, slurry and emulsion systems, and conveyor belts for transportation of solid materials.
4. Systems for the transmission and distribution of electric energy.
5. Systems for transmission or reception of radio, television, telephone, telegraph, and other electronic signals, and other means of communications.

Department of Transportation
Federal Aviation Administration
Alaska Region AAL-4, 222 West 7th Ave., Box 14
Anchorage, Alaska 99513-7587
Telephone: (907) 271-5285

NOTE - The Department of Transportation has established the above central filing point for agencies within that Department. Affected agencies are: Federal Aviation Administration (FAA), Coast Guard (USCG), Federal Highway Administration (FHWA), Federal Railroad Administration (FRA).

OTHER THAN ALASKA NATIONAL INTEREST LANDS

Use of this form is not limited to National Interest Conservation Lands of Alaska.

Individual department/agencies may authorize the use of this form by applicants for transportation and utility systems and facilities on other Federal lands outside those areas described above.

For proposals located outside of Alaska, applications will be filed at the local agency office or at a location specified by the responsible Federal agency.

SPECIFIC INSTRUCTIONS

(Items not listed are self-explanatory)

Item

7 Attach preliminary site and facility construction plans. The responsible agency will provide instructions whenever specific plans are required.

8 Generally, the map **must** show the section(s), township(s), and range(s) within which the project is to be located. Show the proposed location of the project on the map as accurately as possible. Some agencies require detailed survey maps. The responsible agency will provide additional instructions.

9 10, and 12 - The responsible agency will provide additional instructions.

13 Providing information on alternate routes and modes in as much detail as possible, discussing why certain routes or modes were rejected and why it is necessary to cross Federal lands will assist the agency(ies) in processing your application and reaching a final decision. Include only reasonable alternate routes and modes as related to current technology and economics.

14 The responsible agency will provide instructions.

15 Generally, a simple statement of the purpose of the proposal will be sufficient. However, major proposals located in critical or sensitive areas may require a full analysis with additional specific information. The responsible agency will provide additional instructions.

16 through 19 - Providing this information in as much detail as possible will assist the Federal agency(ies) in processing the application and reaching a decision. When completing these items, you should use a sound judgment in furnishing relevant information. For example, if the project is not near a stream or other body of water, **do not** address this subject. The responsible agency will provide additional instructions.

Application **must** be signed by the applicant or applicant's authorized representative.

If additional space is needed to complete any item, please put the information on a separate sheet of paper and identify it as "Continuation of Item".

(For supplemental, see reverse)

NOTICE

NOTE: This applies to the Department of the Interior/Bureau of Land Management (BLM).

The Privacy Act of 1974 provides that you be furnished with the following information in connection with the information provided by this application for an authorization.

AUTHORITY: 16 U.S.C. 310 and 5 U.S.C. 301.

PRINCIPAL PURPOSE: The primary uses of the records are to facilitate the (1) processing of claims or applications; (2) recordation of adjudicative actions; and (3) indexing of documentation in case files supporting administrative actions.

ROUTINE USES: BLM and the Department of the Interior (DOI) may disclose your information on this form: (1) to appropriate Federal agencies when concurrence or supporting information is required prior to granting or acquiring a right or interest in lands or resources; (2) to members or the public who have a need for the information that is maintained by BLM for public record; (3) to the U.S. Department of Justice, court, or other adjudicative body when DOI determines the information is necessary and relevant to litigation; (4) to appropriate Federal, State, local, or foreign agencies responsible for investigating, prosecuting violation, enforcing, or implementing this statute, regulation, or order; and (5) to a congressional office when you request the assistance of the Member of Congress in writing.

EFFECT OF NOT PROVIDING THE INFORMATION: Disclosing this information is necessary to receive or maintain a benefit. Not disclosing it may result in rejecting the application.

Segment #4

winter route

2 historic cabins (ruins)

Spruce #2

areas mined in 1980s

mine tailings

Segment #3

Spruce #1

Segment #2

wetland area requiring fill

Segment #1

mine tailings

former settling pond

Spruce Creek

North Fork Moose Creek

existing route

Figure 2.3a
Spruce Creek
Alternative 2
(proposed access)



contour interval - 2 feet
200 0 200 Feet



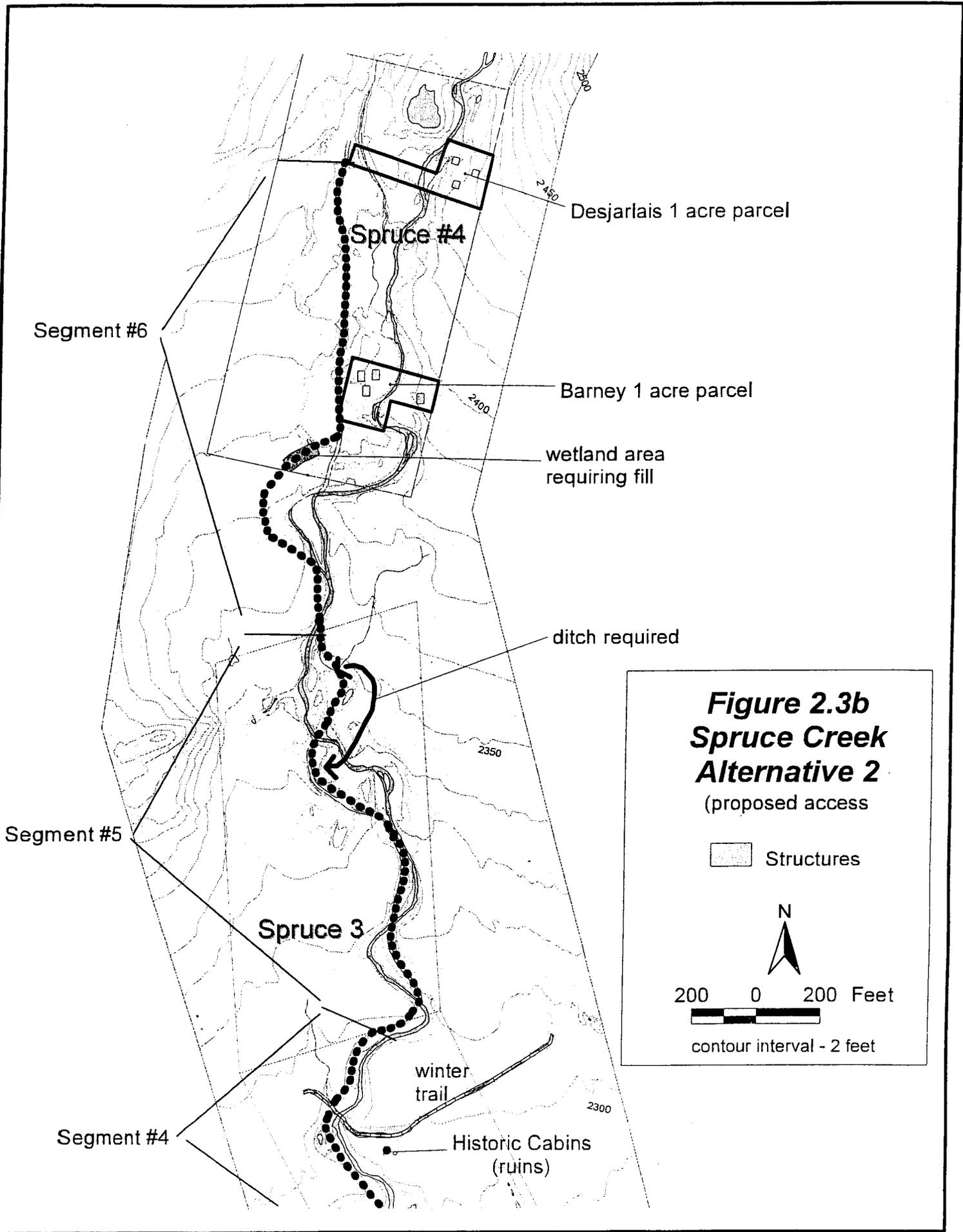


Figure 2.3b
Spruce Creek
Alternative 2
 (proposed access)

Structures



200 0 200 Feet

contour interval - 2 feet

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1. Name and address of applicant (include zip code)

Jeff S. Barney
 P.O. Box 82026
 Fairbanks, Alaska 99708

2. Name, title and address of authorized agent
 if different from item 1 (include zip code)

3. TELEPHONE (area code)

907-479-2082

Applicant

Authorized Agent

4. As applicant are you? (check one)

- a. Individual
- b. Corporation*
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7. Project description (describe in detail): (a) Type of system or facility; (b) related structures and facilities; (c) physical specifications (Length, width, grading, etc.); (d) term of years needed; (e) time of year of use or operation; (f) volume or amount of product to be transported; (g) duration and timing of construction; and (h) temporary work areas needed for construction. (Attach additional sheets, if additional space is needed.)

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(g) Construction would occur in summer, 2002, and would last no more than two weeks.

(h) None

8. Attach a map covering area and show location of project proposal: attached

9. State or Local government approval: Attached Applied for Not Required See #14

10. Nonreturnable application fee: Attached Not required attached

11. Does project cross international boundary or affect international waterways? Yes No (if "yes," indicate on map) no

12. Give statement of your technical and financial capability to construct, operate, maintain, and terminate system for which authorization is being requested.

As President of Barney and Berglin, a general contracting company that constructs commercial facilities, I direct \$5 to \$15 million dollars of construction projects annually. I have access to equipment and personnel to make the needed upgrades to the access road up Spruce Creek and to maintain the access route and Glen Creek Airstrip.

(Continued on reverse) This form is authorized for local reproduction.

13a. Describe other reasonable alternative routes and modes considered.

1. Alternative of using existing route is ok except for the Spruce Creek section which has over 1600 feet of instream travel. This instream travel is likely to adversely impact aquatic resources over time, and may not be permitted by ADF&G and USACE.
2. Building an airstrip would not be feasible on one-acre parcels.
3. Using the Moose Creek route to Glen Creek and then travelling up Glen Creek on another mining route and then putting in a cross-country route over to Spruce #4 was considered but the 3,500 cys of gravel that would be required would adversely affect wetland resources and be difficult to reclaim.

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- 2) There would be no adverse economic impacts to the population of the area, some limited construction associated with development and maintenance of the access and parcels may provide short-term jobs to community members.
- 3) There would be no adverse social impacts from this proposal because this type of access for personal recreation at a private cabin is expected by Alaskans and supported by ANILCA.
- 4) There would be no adverse impact on rural lifestyles because there are no permanent residents within 50 miles and no residents who depend on the area's resources for subsistence purposes.

17. Describe likely environmental effects that the proposed project will have on: (a) air quality; (b) visual impact; (c) surface and ground water quality and quantity; (d) the control or structural change on any stream or other body of water; (e) existing noise levels; and (f) the surface of the land, including vegetation, permafrost, soil, and soil stability.

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- a) The project will have no adverse impact on fish populations (it will benefit fish populations by removing instream travel from Spruce Creek, rated as a moderate grayling habitat). The project will have minimal impact to plant communities because the ones involved are locally common. No impact to marine life or T & E species.
- b) No impact to marine mammals.

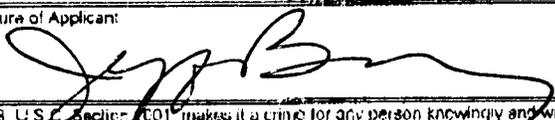
19. State whether any hazardous material, as defined in this paragraph, will be used, produced, transported or stored on or within the right-of-way or any of the right-of-way facilities, or used in the construction, operation, maintenance or termination of the right-of-way or any of its facilities. "Hazardous material" means any substance, pollutant or contaminant that is listed as hazardous under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. 9601 et seq., and its regulations. The definition of hazardous substances under CERCLA includes any "hazardous waste" as defined in the Resource Conservation and Recovery Act of 1976 (RCRA), as amended, 42 U.S.C. 6901 et seq., and its regulations. The term hazardous materials also includes any nuclear or byproduct material as defined by the Atomic Energy Act of 1954, as amended, 42 U.S.C. 2011 et seq. The term does not include petroleum, including crude oil or any fraction thereof that is not otherwise specifically listed or designated as a hazardous substance under CERCLA Section 101(14), 42 U.S.C. 9601(14), nor does the term include natural gas. No hazardous materials would be used in or during construction of the ROW.

20. Name all the Department(s)/Agency(ies) where this application is being filed.
USNPS

I HEREBY CERTIFY, That I am of legal age and authorized to do business in the State and that I have personally examined the information contained in the application and believe that the information submitted is correct to the best of my knowledge.

Signature of Applicant:

Date:



2/27/02

Title 18, U.S.C. Section 1001 makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious, or fraudulent statements or representations as to any matter within its jurisdiction.

SUPPLEMENTAL

NOTE: The responsible agency(ies) will provide instructions	CHECK APPROPRIATE BLOCK	
	ATTACHED	FILED*
I. PRIVATE CORPORATIONS		
a. Articles of Incorporation	A	B
b. Corporation Bylaws	C	D
c. A certification from the State showing the corporation is in good standing and is entitled to operate within the State	E	F
d. Copy of resolution authorizing filing	G	H
e. The name and address of each shareholder owning 3 percent or more of the shares, together with the number and percentage of any class of voting shares of the entity which such shareholder is authorized to vote and the name and address of each affiliate of the entity together with, in the case of an affiliate controlled by the entity, the number of shares and the percentage of any class of voting stock of that affiliate owned, directly or indirectly, by that entity, and in the case of an affiliate that owns, the number of shares and the percentage of any class of voting stock of that entity owned, directly or indirectly, by the affiliate.	I	J
f. If application is for an oil or gas pipeline, describe any related right-of-way or temporary use permit applications, and identify previous applications.	K	L
g. If application is for an oil and gas pipeline, identify all Federal lands by agency impacted by proposal.	M	N
II. PUBLIC CORPORATIONS		
a. Copy of law forming corporation	O	P
b. Proof of organization	Q	R
c. Copy of Bylaws	S	T
d. Copy of resolution authorizing filing	U	V
e. If application is for an oil or gas pipeline, provide information required by items "I-f" and "I-g" above	W	X
III. PARTNERSHIP OR OTHER UNINCORPORATED ENTITY		
a. Articles of association, if any	Y	Z
b. If one partner is authorized to sign, resolution authorizing action is	AA	AB
c. Name and address of each participant, partner, association, or other	AC	AD
d. If application is for an oil or gas pipeline, provide information required by items "I-f" and "I-g" above.	AE	AF

SPECIFIC INSTRUCTIONS

(Items not listed are self-explanatory)

- Item*
- 7 Attach preliminary site and facility construction plans. The responsible agency will provide instructions whenever specific plans are required.
- 8 Generally, the map must show the section(s), township(s), and range(s) within which the project is to be located. Show the proposed location of the project on the map as accurately as possible. Some agencies require detailed survey maps. The responsible agency will provide additional instructions.
- 9 10, and 12 - The responsible agency will provide additional instructions.
- 13 Providing information on alternate routes and modes in as much detail as possible, discussing why certain routes or modes were rejected and why it is necessary to cross Federal lands will assist the agency(ies) in processing your application and reaching a final decision. Include only reasonable alternate routes and modes as related to current technology and economics.
- 14 The responsible agency will provide instructions.
- 15 Generally, a simple statement of the purpose of the proposal will be sufficient. However, major proposals located in critical or sensitive areas may require a full analysis with additional specific information. The responsible agency will provide additional instructions.
- 16 through 19 - Providing this information in as much detail as possible will assist the Federal agency(ies) in processing the application and reaching a decision. When completing these items, you should use a sound judgment in furnishing relevant information. For example, if the project is not near a stream or other body of water, do not address this subject. The responsible agency will provide additional instructions.

Application must be signed by the applicant or applicant's authorized representative.

If additional space is needed to complete any item, please put the information on a separate sheet of paper and identify it as "Continuation of Item".

(For supplemental, see reverse)

DATA COLLECTION STATEMENT

The Federal agencies collect this information from applicants requesting right-of-way, permit, license, lease, or certifications for the use of Federal lands.

Federal agencies use this information to evaluate your proposal.

No Federal agency may request or sponsor, and you are not required to respond to a request for information which does not contain a currently valid OMB Approval Number.

BURDEN HOURS STATEMENT

The public burden for this form is estimated to vary from 30 minutes to 2 1/2 hours per response, with an average of 2 hours per response, including the time for

reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management, Information Clearance Officer (WO-630), 1848 C Street, Mail Stop 4011S, Washington, D.C. 20240.

A reproducible copy of this form may be obtained from the Bureau of Land Management, Division of Lands, 1620 L Street, Rm. 1000LS, Washington, D.C. 20036.

APPLICATION FOR TRANSPORTATION AND UTILITY SYSTEMS AND FACILITIES ON FEDERAL LANDS

**GENERAL INFORMATION
ALASKA NATIONAL INTEREST LANDS**

This application will be used when applying for a right-of-way, permit, license, lease, or certificate for the use of Federal lands which lie within conservation system units and National Recreation or Conservation Areas as defined in the Alaska National Interest Lands Conservation Act. Conservation system units include the National Park System, National Wildlife Refuge System, National Wild and Scenic Rivers System, National Trails System, National Wilderness Preservation System, and National Forest Monuments.

Transportation and utility systems and facility uses for which the application may be used are:

1. Canals, ditches, flumes, laterals, pipes, pipelines, tunnels, and other systems for the transportation of water.
2. Pipelines and other systems for the transportation of liquids other than water, including oil, natural gas, synthetic liquid and gaseous fuels, and any refined product produced therefrom.
3. Pipelines, slurry and emission systems, and conveyor belts for transportation of solid materials.
4. Systems for the transmission and distribution of electric energy.
5. Systems for transmission or reception of radio, television, telephone, telegraph, and other electronic signals, and other means of communications.

Department of Transportation
Federal Aviation Administration
Alaska Region AAL-4, 222 West 7th Ave., Box 14
Anchorage, Alaska 99513-7567
Telephone: (907) 271-5285

NOTE - The Department of Transportation has established the above central filing point for agencies within that Department. Affected agencies are: Federal Aviation Administration (FAA), Coast Guard (USCG), Federal Highway Administration (FHWA), Federal Railroad Administration (FRA).

OTHER THAN ALASKA NATIONAL INTEREST LANDS

Use of this form is not limited to National Interest Conservation Lands of Alaska.

Individual department/agencies may authorize the use of this form by applicants for transportation and utility systems and facilities on other Federal lands outside those areas described above.

For proposals located outside of Alaska, applications will be filed at the local agency office or at a location specified by the responsible Federal agency.

NOTICE

NOTE: This applies to the Department of the Interior/Bureau of Land Management (BLM).

The Privacy Act of 1974 provides that you be furnished with the following information in connection with the information provided by this application for an authorization.

AUTHORITY: 16 U.S.C. 310 and 5 U.S.C. 301.

PRINCIPAL PURPOSE: The primary uses of the records are to facilitate the (1) processing of claims or applications, (2) recordation of adjudicative actions, and (3) indexing of documentation in case files supporting administrative actions.

ROUTINE USES: BLM and the Department of the Interior (DOI) may disclose your information on this form: (1) to appropriate Federal agencies when concurrence or supporting information is required prior to granting or acquiring a right or interest in lands or resources; (2) to members of the public who have a need for the information that is maintained by BLM for public record; (3) to the U.S. Department of Justice, court, or other adjudicative body when DOI determines the information is necessary and relevant to litigation; (4) to appropriate Federal, State, local, or foreign agencies responsible for investigating, prosecuting violation, enforcing, or implementing this statute, regulation, or order; and (5) to a congressional office when you request the assistance of the Member of Congress in writing.

EFFECT OF NOT PROVIDING THE INFORMATION: Disclosing this information is necessary to receive or maintain a benefit. Not disclosing it may result in rejecting the application.

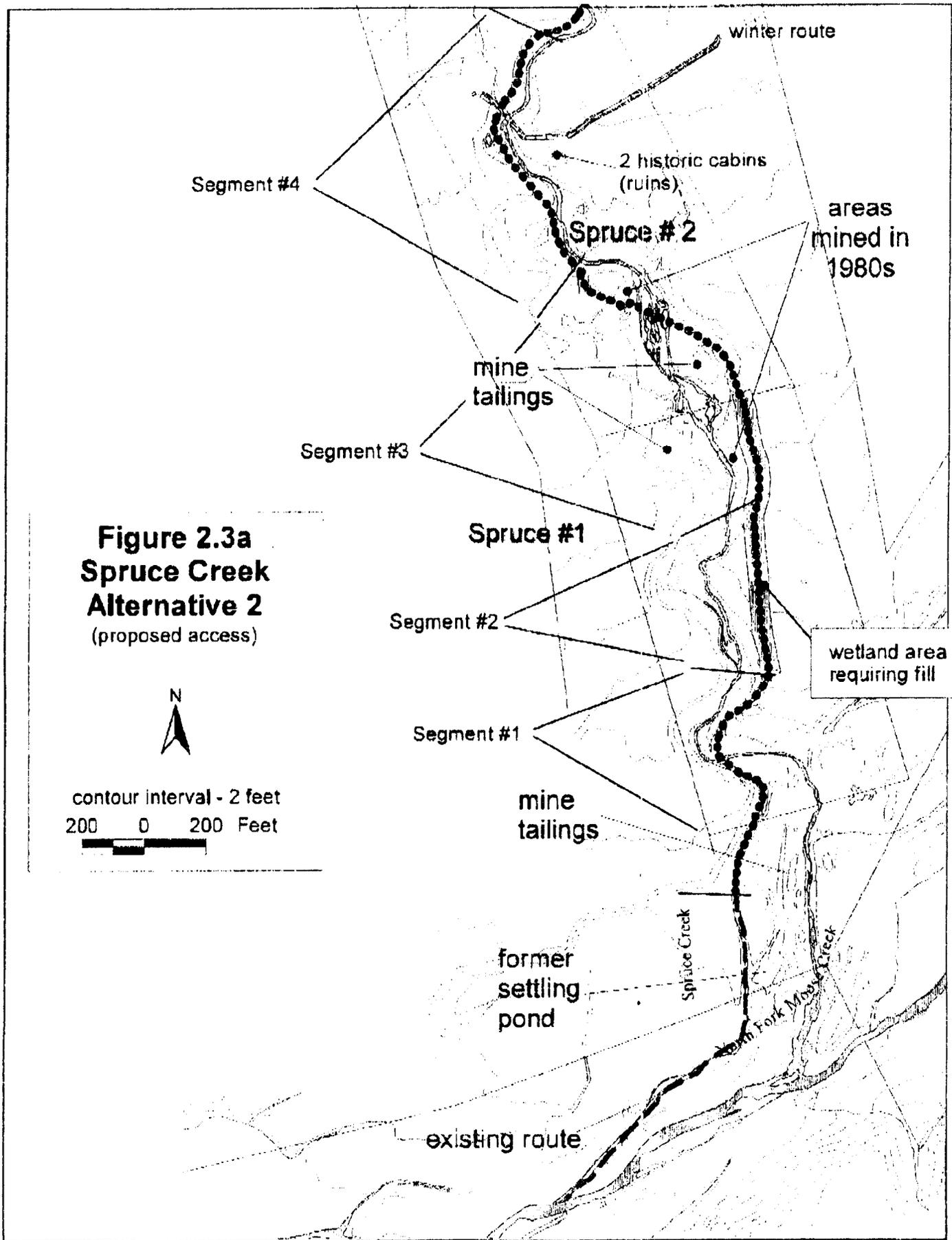


Figure 2.3a
Spruce Creek
Alternative 2
 (proposed access)

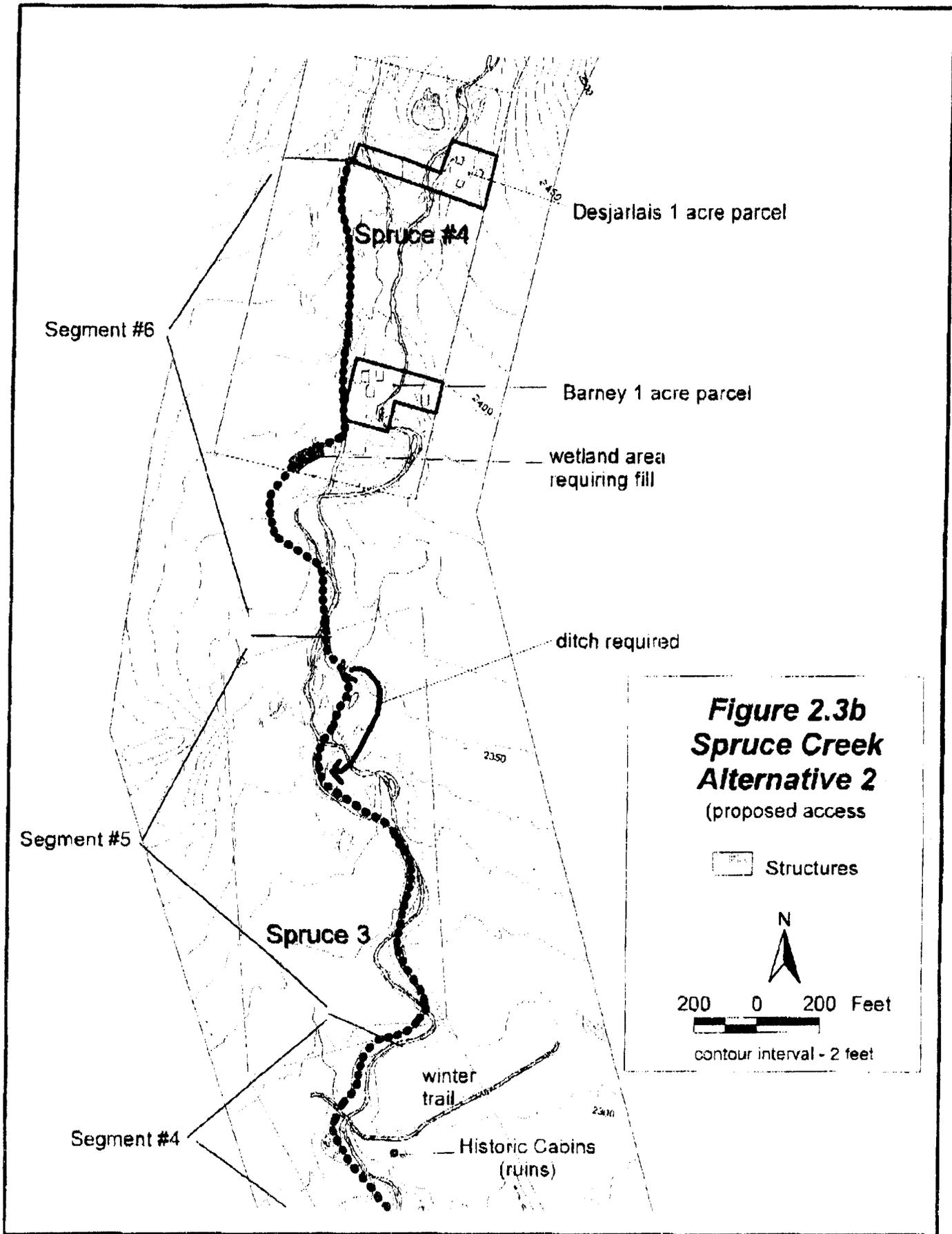


Figure 2.3b
Spruce Creek
Alternative 2
 (proposed access)

Structures



200 0 200 Feet

contour interval - 2 feet

APPENDIX B

Wetlands Statement of Findings

INTRODUCTION

The National Park Service (NPS) has prepared an environmental assessment (EA) to evaluate the impacts of a request by Jeff Barney and Gene Desjarlais for a right-of-way on a 9.7-mile mining access route to their inholdings on Spruce Creek in the Kantishna Hills area of Denali National Park and Preserve (DENA). (See figures 1.1, 2.1, and 2.3a and b in the EA.) The route would require approximately 1,700 feet of new construction to eliminate driving in the bed of Spruce Creek. The applicants would also use the nearby Glen Creek airstrip for small plane access to the inholding. Access to inholdings is guaranteed in Section 1110(b) of the Alaska National Interest Lands Conservation Act (ANILCA), with implementing regulations at 43 CFR 36.10.

Executive Order 11990 requires the NPS to evaluate project impacts to wetlands. Objectives of the executive order are to avoid, to the extent possible, the short and long-term adverse impacts associated with occupancy, modification or destruction of wetlands, and to avoid indirect support of development and new construction in such areas wherever there is a practicable alternative.

The purpose of this Statement of Findings is to present the rationale for locating the proposed action in wetlands and to document anticipated effects on wetland values.

POLICY AND MANAGEMENT CONSIDERATIONS

Section 1110(b) of ANILCA says, in part, that an inholder: "...shall be given such rights as may be necessary to assure adequate and feasible access for economic and other purposes to the concerned land.... Such rights shall be subject to reasonable regulations...."

The NPS 1993 Floodplain Management Guidelines for implementing Executive Order 11988 on Floodplain Management do not apply to this project because the proposed access is an internal road within the park unit and does not involve overnight occupation. It is therefore considered an "excepted action."

Part of the proposed project area has been classified as wetlands and therefore the proposal is subject to Executive Order 11990 on Protection of Wetlands.

Executive Order 11990 directs each federal agency to "provide leadership and ...take action to minimize the destruction, loss, or degradation of wetlands" (FR 26951, May 25, 1977). The National Park Service has developed agency policies and procedures for compliance with this executive order in Director's Order 77-1: Wetland Protection and Procedural Manual #77-1: Wetland Protection. These policies and procedures emphasize exploring all practicable alternatives to building on or otherwise affecting wetlands. If it is not "practicable" to build on an alternate site that contains no wetlands, then the Director's Orders and Procedural Manual call for reducing impacts to wetlands as much as possible and providing for direct compensation of wetland resources by restoring degraded or destroyed wetlands on other NPS properties. Executive Order 11990 directs all federal agencies to avoid wetland impacts whenever practicable, and NPS wetlands guidelines require a "Statement of Findings" to be written giving

the justification of why the NPS has no practicable alternative to locating facilities in or otherwise affecting wetlands.

For the purpose of implementing E.O. 11990, any area that is classified as wetland habitat according to the U.S. Fish and Wildlife Service's "Classification of Wetlands and Deepwater Habitats of the United States" (Cowardin et.al. 1979) is subject to Director's Order #77-1.

For the Cowardin classification system, a wetland must have one or more of the following attributes:

1. At least periodically, the land supports predominantly hydrophytes (wetland vegetation);
2. The substrate is predominantly undrained hydric soil; or
3. The substrate is non-soil and is saturated with water or covered by shallow water at some time during the growing season of each year.

ALTERNATIVES

Four alternatives are described in detail in the project EA:

1. No-Action – The no-action alternative would result in no long-term ROW permit for improved access to the Spruce #4 parcel in the Kantishna Hills for private, personal use. Access to the area would be as it is now (see figures 2.2a and 2.2b). From 1997 to the present, owners of the Spruce #4 property obtained seasonal temporary access permits to travel to their property in summer and winter to construct two cabins, while the NPS considered their ROW application to construct and operate a lodge and they considered an NPS proposal to purchase the property. In February 2002 the NPS purchased 18 of the 20 acres of Spruce #4 and all commercial use rights, and the applicants retained two one-acre parcels with cabins for private, personal use. The permits have allowed vehicle access over the Denali Park Road and the existing 9.7-mile, unimproved, mining access route up Moose and Spruce Creeks, and use of the 1,120-foot-long Glen Creek airstrip. The existing access entails 38 fording locations along Moose and Spruce Creeks and about 1,750 feet of travel in channels of Spruce Creek. Both owners use high-center, four-wheel-drive trucks and OHVs to access their property during summer over the deeper fords of Moose Creek. The owners have landed small airplanes (such as a Piper Supercub, Cessna 185, and Cessna 206) at the Glen Creek airstrip in summer and winter, and have accessed their property by snowmobile during the winter.

2. Proposed Access (NPS Preferred Alternative) – This access alternative would also follow the existing Moose Creek mining access roads to Spruce Creek from mile 89 of the Denali Park Road. This alternative likewise includes use of the Denali Park Road, lower Glen Creek airstrip and the existing spur road to that airstrip from the Moose Creek route. A spur road and the airstrip would add another 0.4 miles for a total of 9.7 miles of access. This alternative would be similar to the existing access described in alternative 1 except the segments of road along Spruce

Creek would be re-aligned to avoid instream travel in Spruce Creek, requiring 0.63 acres of new disturbance. Most stream fords would be perpendicular to stream flow, and there would be a total of 6 fording sites. The segment on the tundra bench above the floodplain would be longer than the existing tundra segment and require more gravel fill, but it would avoid instream travel in an active floodplain area. This alternative would require gravel fill on about 0.20 acres of palustrine wetlands on the bench east of Spruce Creek and at a small drainage on Spruce #4. It would also require fill being placed on 236 feet of palustrine wetlands (0.05 acres) in an area of mixed willow and spruce forest south of the Spruce #4 boundary. Approximately 205 cu yd of fill would be needed for all of the new road construction. Access improvements along Spruce Creek are described below in six segments. See figures 2.3a and 2.3b.

Segment 1, Proposed Access

Like the lower Spruce Creek segment of the existing access alternative, this segment traverses about 850 feet of an area mostly disturbed by past mining activity. Initially it follows an abandoned stream channel that appears to have been used as a mining road in the past. This segment cuts the corner of a gravelly bench before it fords Spruce Creek at a right angle. The gravel from the bank would be available for fill on segment 2, and both segments are wholly within the Spruce #1 mining claim.

Segment 2, Proposed Access

Segment 2 traverses about 1,100 feet of scrub-shrub tundra on a bench east of Spruce Creek, and 900 feet of this is palustrine scrub-shrub tundra wetlands (0.18 acres). Four-wheel drive vehicles have traversed 550 feet of this segment in the past few years without fill being added; however, ruts are forming in the tundra mat. Approximately 147 cubic yards of gravel fill (881 feet by 9 feet wide by 0.5 feet) is recommended to protect the access surface and underlying permafrost.

Segment 3, Proposed Access

Segment 3 descends into the Spruce Creek floodplain for a total distance of about 800 feet. This segment is mostly in a gravelly floodplain disturbed by past mining activity on Spruce #2. The descent from the tundra bench to the floodplain would be via a 50-foot ramp that requires cut and fill construction. This segment fords Spruce Creek in one place where the channel is braided. The southern half of this segment traverses the edge of a large tailings pile, which could be used as a source of gravel for long-term maintenance if the Spruce #2 claim proves to be invalid. The northern part of this segment cuts over an alder-covered, gravelly slope composed of mining tailings.

Segment 4, Proposed Access

Segment 4 continues another 1,050 feet to the west of Spruce Creek to one ford at the northern boundary of this segment. The southern part of this segment lies in uplands, the middle section lies in palustrine scrub-shrub wetlands (where the winter trail cuts through), and the northern section lies in undifferentiated (at map scale) dry uplands/lowland wetlands. A short 130-foot

section climbs onto palustrine scrub-shrub wetland between two gravelly human-disturbed sections to avoid instream travel in a constricted part of Spruce Creek.

Segment 5, Proposed Access

Segment 5 traverses about 1,600 feet of the Spruce Creek drainage, including 3 fords at right angles to the stream. About 1,100 feet of this segment follows an existing gravel road. The other 500 feet follows abandoned mining trails that are now alder-covered and avoids 200 feet of instream travel. Most of this segment lies within an area mapped as palustrine scrub-shrub wetland and upland complex. All of the existing and proposed new access surface is passable, but in the northernmost 300 feet a 100-foot segment would need minor ditching alongside the route in a palustrine emergent wetland to keep water from a small spring east of Spruce Creek off the existing gravel roadbed. This segment is entirely within the Spruce #3 Mining claim.

Segment 6, Proposed Access

The last 1,000 feet of this 1,700-foot segment follows the established gravel access on Spruce #4, which is mostly on uplands and gravelly floodplain in an area disturbed by past mining. The first 700 feet of this segment, to avoid instream travel, traverses the uplands and wetlands on a bench west of the Spruce Creek channel from Spruce #3 to the existing road on Spruce #4. This new section of road would traverse about 236 feet on palustrine wetlands (0.05 acres and 39 cy yd of fill at 0.5 feet deep) in an area of mixed willow and spruce forest below the Spruce#4 boundary. A culvert and 17 cy yd of fill (on 0.02 acres at 69 feet long by 9 feet top width by an average of 0.75 feet deep) would also be required to cross a small drainage on the southern part of Spruce #4. This fill could be obtained from Spruce #4.

Construction Timeline

The applicants would be responsible for any construction needed in the Spruce Creek part of the access or maintenance of the access route once off the Denali Park Road. The road construction would occur before or after the peak visitor season (June 30 to August 30) and in accordance with a fish habitat permit issued by ADFG to minimize adverse impacts to fish and their habitat.

The applicants would obtain gravel from within the ROW easement or Spruce #4. A small backhoe/loader would be used to move gravel and remove vegetation in the floodplain areas and approaches on and off benches above Spruce Creek. Approximately 205 cu yd of gravel would be needed for new access construction through 0.25 acres of wetlands. Gravel would be hauled in the loader bucket. Gravel would not be moved off any of the contested mining claims, but it could be moved about within the claims.

3. **Fly and Drive Alternative** – This access route would use the existing Glen Creek airstrip and mining access trails between the airstrip and Spruce #4. Construction for this alternative would be the same as for the proposed alternative, but no wheeled vehicle access would be permitted over the Denali Park Road or the first 6 miles of the Moose Creek mining access route. The access would be limited in the snow-free season to small aircraft and OHVs and light trucks

between the Glen Creek airstrip and Spruce #4. Access in winter could include the use of light airplanes and snowmobiles, as permitted by NPS regulations. See figures 2.1, 2.3a, and 2.3b.

The OHV vehicle allocation would be increased between Glen Creek and Spruce #4 to replace vehicle trips between the Denali Park Road and Spruce #4 in the other two action alternatives. This would result in up to 45 roundtrips per year between the Glen Creek airstrip and Spruce #4 for each applicant.

4. Glen Creek Bench Alternative - this access alternative would also follow the existing 6.7-mile long Moose Creek mining access road from mile 89 of the Denali Park Road to the Glen Creek Airstrip. Then it would proceed up the Glen Creek mining access route and across tundra between that mining trail and Spruce #4 (along the last segment of the North Bench alternative in the draft Spruce Creek Access EIS). This alternative would require new road construction over about 1.1 miles of tundra, including about 0.6 miles of wetlands. This alternative includes use of the lower Glen Creek airstrip (figure 2.4).

The 2-mile-long segment from the Glen Creek crossing to the Barney parcel on Spruce #4 starts with 4,900 feet of existing Glen Creek mining access road. This segment then continues into new construction for approximately 6,000 feet, including 3,340 feet of wetlands (0.92 acres). The new construction includes undisturbed tundra on stream terraces, alluvial fans, and low angle ridges. This section is laid out with moderate undulating grades on moderate side slopes, both on the mixed wet, sometimes frozen soils, and on the dry “esker-like” ridges. Grades on this location are relatively moderate with none exceeding 15 %, and side slopes are all under 40 %.

Construction on palustrine scrub shrub wetlands (0.88 acres) includes moderately sloped, very wet (and frozen) portions in the first 440 feet of the new construction part of the route and on the 2,500 feet leading to Spruce #4. Another 160 feet (0.04 acres) of new construction crosses over palustrine forested and tall shrub-covered wetlands within the 430 feet from the Spruce #4 property line to the Barney parcel. About 3,050 cu yd of gravel, 2,940 feet of geo-textile material and 7-10 culverts are estimated for this new construction. A bulldozer, front-loader, and 5 or 10-yard dump truck would be needed to construct this segment. To accommodate the heavy equipment and saturated conditions, a minimum 10-foot wide road surface and 1.5 foot thick gravel fill would be required. An average 10 % side slope is assumed for these calculations. Much of the beginning and middle of this section is on intermittent dry ridge topography, where cut and fill techniques (estimated at 240 cu yd for the wetlands and up to 400 cy yds for the non-wetlands) are expected to provide adequate road surface material. This section includes approximately 240 feet of palustrine scrub shrub wetland at three low spots along the ridge.

These alternatives are shown in figure 2.1 of the EA. In all cases except the no-action alternative, the applicant would construct and maintain access (road/airstrip) on public lands under the terms and conditions of a right-of-way (ROW) permit issued by the NPS.

WETLAND DISTRIBUTION AND FUNCTIONS ALONG ACCESS ROUTE ALTERNATIVES

The principal functions of wetlands in the project area include flood-flow alteration, ecological production support, and wildlife habitat (including fisheries) (see table 3.12 of the draft Spruce Creek Access EIS). Many of the wetland types in the area received low ratings for these functions because, although certain wetlands may have the capacity to perform a particular function, little or no opportunity exists to perform that function. For example, none of the wetlands rated high for nutrient removal and transformation because they are not exposed to heavy nutrient loading (e.g., from agricultural runoff). Similarly, wetlands in the study area are not subject to extensive sedimentation (e.g., slope erosion).

Flood-flow alteration is accomplished primarily by seasonally flooded riparian wetlands. The extensive mining activity that occurred in the past in the Moose Creek drainage (particularly in the vicinity of Glen and Spruce creeks) has eliminated many of the original wetlands in those drainages, but it also appears over-bank flow of the creek (and its tributaries) is limited. Thus, the ability of riparian communities to absorb flood events is not a critical wetland function in the project area. Nevertheless, the riparian shrub and scrub shrub lowlands that occur along Moose Creek help to ameliorate the effects of high flood events from ice jams or high rainfall. Scrub shrub lowlands also are important for recharging groundwater, as is demonstrated by the considerable amount of slope drainage that occurs in the Moose Creek watershed.

Wetlands in the project area that are important for ecological production support include rivers, marshes, shrub bogs, and riparian shrub and forested wetlands. All of these wetlands support both primary producers and consumers through nutrient transport and transformation.

Almost all of the wetlands in the study area receive moderate to high ratings for wildlife diversity and abundance. Moose Creek supports Arctic grayling and slimy sculpin (as do a number of its tributaries including Spruce Creek), round whitefish, chum salmon, and coho salmon. Waterbirds use the slower-moving waters of streams and the small number of marshes and ponds that occur in the project area. The seasonally flooded rocky flats that occur along Moose Creek are important nesting and rearing habitat for shorebirds, although these unvegetated wetlands are limited because Moose Creek (and its tributaries) lacks a large, well-developed floodplain. Large mammals such as moose and caribou forage in the willow-dominated shrub wetlands, and grizzly bears forage for berries in the mixed-shrub graminoid meadow and mesic shrub birch–ericaceous shrub wetlands.

The importance of wetlands to wildlife in the area is directly related to the importance of wetlands for human resources, as they provide hunting and viewing opportunities for subsistence and recreational users, respectively. Nevertheless, these wetlands generally were given low ratings for these functions because these user groups currently use most of the study area at low levels.

IMPACTS TO WETLAND AND OTHER VALUES

Most of the Kantishna Hills has been evaluated as unsuitable for wilderness designation in the park's General Management Plan. This evaluation will be reviewed in the Backcountry Management Plan/GMP Amendment scheduled for 2001.

No threatened or endangered plant or animal species have been found in any of the alternate access corridors. The nearest known American peregrine falcon nest is over 10 miles away, and this subspecies (*Falco peregrinus anatum*) was delisted on August 25, 1999 (64 FR 46542.) The U.S. Fish and Wildlife Service will monitor this subspecies for at least 5 years after the delisting (Erv McIntosh, pers. comm. 3/28/00.)

Impacts from the no action alternative and three action alternatives are described in detail in the project EA.

The **No-Action Alternative** would not result in new disturbance to park wetlands. No new placement of fill would occur. Some riverine wetlands that once occurred along the existing mining access route following Moose and Spruce creeks have long since been converted to uplands as a result of the extensive mining that historically occurred in these drainages. The existing access route crosses some wetlands at the western end of the route, and in rainy summers these routes get muddy with use. Continued use of the existing route with no improvements would result in vehicle travel for 1,750 feet in Spruce Creek and on the associated wetland sections. The magnitude of those impacts could be low because of the low traffic volume and lack of road improvements associated with no lodge development under the no-action case.

Impacts to aquatic and other resources would be greater under this alternative because of continued vehicle travel in 1,750 feet of Spruce Creek channels. Impacts to animal and bird habitat could be greater under this alternative than under the Glen Bench alternative, because travel in the riparian zone of Spruce Creek would be reduced with a Glen Bench route.

Selection of this alternative would be inconsistent with NPS policies to avoid driving in the beds of streams.

The **Proposed Access Alternative** would require filling 0.25 acres of park wetlands in two wetland types. Most of the filling would be in a palustrine scrub shrub area (0.18 acres) on the bench east of Spruce Creek on claim #1. Another 0.05 acres of palustrine shrub willow/spruce forest wetland below Spruce #4 would be covered by up to 0.5 feet of fill and a smaller area would be filled at the crossing of a palustrine scrub shrub wetland adjacent to a rivulet. A shallow ditch would also be dug next to the existing gravel roadbed in a palustrine emergent wetland for 100 feet to provide drainage from a spring. Vegetation alongside the road includes *Juncus* spp., *Pedicularis sudetica*, and *Parnassia Kotzebuei*, and is common in wet areas disturbed by placer mining or road use. Because of the shallow grade and low volume of water issuing from the spring, this ditch is not expected to increase the input of sediments into Spruce

Creek. The total area of wetlands directly affected would be 0.33 acres (including 0.08 acres of scrub shrub wetland cleared of tall vegetation but without filling), but this is lower than expected because of the presence of the mining access and associated disturbance in this valley bottom location. In a number of locations along the route, disturbance and deposition of tailings by past mining has converted what were once seasonally flooded riparian shrub communities into tall-shrub uplands (non-wetlands). Most of the converted wetland acreage affected by this alternative occurs in palustrine scrub shrub and palustrine needleleaf forested lowlands and palustrine riparian shrub communities along the existing mining access route between the Denali Park Road and the first ford of Moose Creek.

Other wetland impacts of this route would occur in riverine wetlands (rivers and streams) that would be affected by the numerous crossings required by this route. Aquatic impacts would include limited alteration of channel morphology and fish habitats, limited interference with flood flows and increased erosion, ephemeral changes in water quality from sedimentation, and localized increases in stream velocities. The riverine and riparian wetlands adversely affected by this route received high rankings for wetland functional importance in the study area. The types of impacts resulting from this alternative would be less than those resulting from continuing use of the existing access route under the no-action alternative because of the removal of instream travel in Spruce Creek. The adverse impacts on aquatic resources associated with riverine wetlands would be minor.

Moose Creek is a noted grayling fishery and is also classified as an anadromous stream. The Alaska Department of Fish and Game (ADF&G) indicated that it likely would issue a fish habitat permit for the amount and types of traffic requested for private, personal use. (ADF&G, however, wrote the park and applicant in its response to the draft EIS for access to the proposed McKinley View Lodge that it would not issue a fish habitat permit for permanent use of the Moose Creek route for access to that lodge because other feasible alternatives existed.)

It is not clear at this time whether unpatented mining interests held on Moose Creek and Spruce Creek will be the cause of new or continuing disturbance in these valleys. Proposals for sampling or mining on these claims could add use to the wetland resources above Glen Creek with or without a new Glen Bench route.

The **Fly and Drive Alternative** would have similar impacts as the proposed access alternative in the segments between Glen Creek and Spruce Creek and from the mouth of Spruce Creek to the Spruce #4 properties. This alternative would not use nor adversely impact the Moose Creek area downstream of Glen Creek, nor would it require travel over the park road.

The **Glen Bench Alternative** would include filling 0.92 acres of park wetlands included among two wetland types. The wetland types predominantly affected would be palustrine scrub shrub wetlands (0.88 acres) and palustrine needleleaf forested wetlands (0.04 acres) including small drainage crossings. The primary impacts would include direct loss of wetlands from placement of road fill, clearing of surface vegetation along the right-of-way, and obstruction or alteration of natural drainage patterns, leading to altered wetland hydrology and altered plant species composition.

Other wetland impacts of this route would occur in riverine wetlands (rivers and streams) that would be affected by 16 crossings required by this route. Aquatic impacts would include limited alteration of channel morphology and fish habitats, limited interference with flood flows and increased erosion, ephemeral changes in water quality from sedimentation, and localized increases in stream velocities. The riverine and riparian wetlands adversely affected by this route received high rankings for wetland functional importance in the study area. The types of impacts resulting from this alternative would be less than those resulting from continuing use of the existing access road under the no-action alternative because this alternative removes 22 fords upstream of Glen Creek and 1,750 feet of instream travel in Spruce Creek. The types of impacts in riverine and riparian areas would be much less than for the proposed access because travel would be removed from the important stretch of the North Fork between Glen Creek and Spruce Creek. Wetland impacts would be much greater in palustrine scrub shrub wetlands, however, because of the new road alignment between Glen Creek and Spruce Creek. The adverse impacts on aquatic resources associated with riverine wetlands would be minor. Mitigation measures to offset wetland impacts would primarily include maintenance of natural drainage patterns through proper road design and culvert placement, in addition to clearing vegetation only when necessary to maintain visibility for traffic safety.

It is not clear at this time whether unpatented mining interests held on Moose Creek and Spruce Creek will be the cause of new or continuing disturbance in these valleys. Proposals for sampling or mining on these claims could add use to the wetland resources above Glen Creek with or without a new Glen Bench route.

AVOID, MINIMIZE, COMPENSATE

Federal and NPS Policy is to avoid siting projects in wetland and floodplains whenever possible. If circumstances make it impracticable to avoid wetlands or floodplains, then mitigation of unavoidable impacts must be planned. An NPS wetlands “no net loss” policy requires compensation of wetland losses by restoration of wetlands, preferably of comparable wetland type function and in the same watershed.

Alternatives for access to the Spruce #4 property were evaluated:

- The No-Action Alternative would not disturb additional wetlands at this time, but use of this alternative would require the applicants to obtain annual temporary access permits and drive in the bed of Spruce Creek.
- The Proposed Access Alternative (applicants’ proposal) would affect 0.33 acres of wetlands, including placing fill on 0.25 acres, although the impacts to the forested riverine wetlands below the mouth of Spruce Creek would be less than expected because a mining access route already exists for that part of the route. The ADFG already stated it is likely to permit this alternative, because they perceive the impacts to fisheries resources to be minimal from the level of traffic anticipated.
- The Fly and Drive alternative would affect in the same way as the proposed access alternative the wetland resources of the North Fork between Glen Creek and Spruce Creek and those resources in the Spruce Creek valley.

- The Glen Bench alternative would fill 0.92 acres of palustrine scrub shrub and palustrine forested wetlands, but it would also not add impacts to the important riverine wetlands of the North Fork and the riparian and scrub shrub tundra along the Spruce Creek valley downstream of Spruce #4.

As much as possible, site and material extraction designs would minimize impacts to wetland resources. Mitigation measures to offset impacts would primarily include maintenance of natural drainage patterns through proper road design and culvert placement, and clearing vegetation only when necessary to maintain visibility for traffic safety. Wetter areas may require engineering to allow all wetlands below the road to receive the flows necessary to maintain their functions. Relief culverts would need to be placed closely together in areas so that drainage below the road is not newly channeled because of the road. Fishery resources in Moose Creek should be protected whichever alternative is chosen. The most critical time to control potential impacts would be during construction when bench cuts are made and erosion and increased turbidity would need to be controlled. Careful excavation, transport, and placement of fill would control the turbidity.

Compensation by restoration of previously degraded wetlands is required by the NPS no net loss policy when projects involve disturbance or loss of wetlands. Access across parkland by inholders is not excepted from this policy. Identification of where the compensation can be carried out will depend on lands suitable for that purpose and the values of the wetlands being lost.

NPS wetland protection procedures (Procedural Manual 77-1: Wetlands Protection) require, as a minimum, acre-for-acre (1:1) compensation for wetland impacts totaling more than 0.1 acres. The NPS has identified suitable riverine and palustrine wetland acreage on Glacier Creek in the nearby Kantishna Hills as the project area for this compensation. The NPS anticipates that the wetland functions and values lost in any of the access alternatives could be balanced by reclamation of wetland functions and values in this former placer mine area. In addition, adverse impacts to functions and values that are difficult to quantify, such as in the case of the ditching along side the proposed road, will be compensated for in this project by moving the instream vehicle traffic out of the streambed for approximately 1,700 feet.

Reclaiming abandoned placer mines in the Kantishna district of the park is estimated to cost \$13,000 - \$18,000 per acre. Construction of the preferred access alternative would require up to \$4,500 in compensatory actions at this rate. The Glen Bench alternative could require as much as \$17,000. The applicant would need to commit to fund a proposed Glacier Creek reclamation project of between 0.33 and 0.92 acres for the purpose of restoring compensatory wetlands.

Mechanized mining was extensive on the four Glacier Creek claims in the late 1970s and early 1980s. Approximately 14.75 acres of Glacier Creek are characterized by typical placer-mine disturbance, including lack of riparian vegetation, an unstable streambed, non-functioning floodplains, and near-channel tailing piles, with another 2.35 acres of access road construction disturbance (Figure B-1). These wetlands are classified as Riverine Upper Perennial Unconsolidated Shore with Intermittent Flooding, and Palustrine Unconsolidated Shore Cobble Gravel Seasonally Flooded/Well-Drained. Functions to be restored would include many of the most important functions lost due to construction of any of the action alternatives, including high quality habitat for all of the fish and wildlife species potentially impacted by the project and

erosion control/water quality improvement. The Alaska Regional Office conducted debris removal along this section of Glacier Creek in 1994.

Restoration plans to remove and dispose of debris, stabilize the channel and floodplain, stabilize the access road leading to the mine site, and revegetate the stripped areas would be developed during FY 01 for up to 0.92 acres of Glacier Creek. Preliminary work to develop the plans consists of water sampling, soils sampling, and extensive engineering surveys of the existing stream channel, floodplains, and upland topography. Discharge measurements, as well as other channel morphometry data, would be collected to aid in stream channel design. Soil sampling is designed to assess the geo-chemistry of the upper watershed, and determine the soil's potential for revegetation efforts. Surveys, both cross-sections and topographic, would be conducted to supplement site data on the NPS topographic maps. This information would be used to locate and estimate material amounts for use in recontouring the mine site, and in reconstructing the stream channel and floodplain.

Cost estimations for this project are approximately \$15,000 per acre, and are taken directly from an unpublished report entitled "Cost Estimation For Reclamation, National Park Service, Alaska Regional Office, January 1994." This report was developed on the basis of three separate reclamation projects conducted on abandoned claims along Glen Creek in Denali. Glacier Creek and Glen Creek have some similar attributes, including difficulty of access, types of disturbance, and heavy equipment access. These factors increase the validity of using this report for project cost estimations for Glacier Creek, although inflation may have increased the costs somewhat since 1994 and the access route has a very steep pitch for 0.3 miles.

Stream channel and floodplain restoration would be based on techniques and methods learned during the NPS Glen Creek restoration project at Denali (Karle and Densmore, 1993). Project design requirements would include a channel capacity for a 1.5-year (bankfull) discharge and a floodplain capacity for up to a 100-year discharge. The project design would include the use of bio-revetment, located on meanders, to encourage channel stabilization using natural methods. Brush bars, located in areas of little or no fines, would be employed to dissipate floodwater energy and encourage sediment deposition. Riparian areas would be revegetated with willow cuttings and other appropriate vegetation. Revegetation efforts would be substantial. Greenhouse propagated alder seedlings would be planted in mid-summer, and would be heavily supplemented with willow cuttings and various other (native) grasses and sedges. Depending on the results from the soils nutrient analyses, fertilizer would be employed to ensure a quick start for the new vegetation.

A critical component of any restoration project is the monitoring and assessment of the actions taken. For the proposed Glacier Creek project, this involves monitoring both the stream channel and riparian areas. Permanently marked cross-sections would be located and surveyed at the conclusion of the channel and floodplain construction. Vegetation plots would also be described and maintained for future reference. During the first year following project construction, the site would be revisited, and permanent cross-sections and plots would be remeasured. Water quality samples would be taken to determine the success of the reclamation efforts. Additional seeding and revegetation would occur on areas not covered during the first year.

We estimate that this project could be completed in FY 2002, although, given its size, it likely would be better to wait until additional revegetation projects are funded for Glacier Creek to take advantage of lowered mobilization costs. A time frame for full wetland functioning would be estimated from incomplete monitoring for Interior Alaska. Successful plantings and supportive flood events may bring about significant wetland functioning within 10-15 years. A final report describing the project design procedures and techniques would be completed by December 2001 and circulated to all interested parties, including the Disturbed Lands Restoration Network (Geologic Resources Division) and NPS- WRD.

A map showing the location and boundary of wetlands at the Glacier Creek site is provided (Figure B-1).

CONCLUSION

The National Park Service has identified a preferred alternative in the EA on the request for access to two one-acre parcels in Spruce #4. Access to inholdings across parklands for economic and other purposes is a right granted by ANILCA. The preferred alternative would cause less new disturbance in wetlands than the Glen Bench alternative and would meet the objective of eliminating instream travel in Spruce Creek while providing for the reasonable and feasible access to the inholdings. The Glen Bench alternative would also eliminate instream travel in Spruce Creek and would remove impacts to the North Fork riverine areas for this access, but the NPS does not know at this time whether activities related to North Fork or Spruce Creek mining claims would continue to put traffic or new disturbance into these areas. The Glen Bench route would, however, almost triple the wetland areas filled and would require about 17 times more gravel to be placed in wetlands than would the preferred access alternative. Wetlands have been avoided to the maximum practicable extent in the range of alternatives, and the wetland impacts that could not be avoided would be minimized. The applicant would implement compensation mitigation on previously mined lands on nearby Glacier Creek at a 1:1 ratio as required by NPS Director's Order #77-1. This project is consistent with the NPS no-net-loss of wetlands policy. The National Park Service, therefore, finds that this project is in compliance with Executive Order 11990: "Protection of Wetlands."

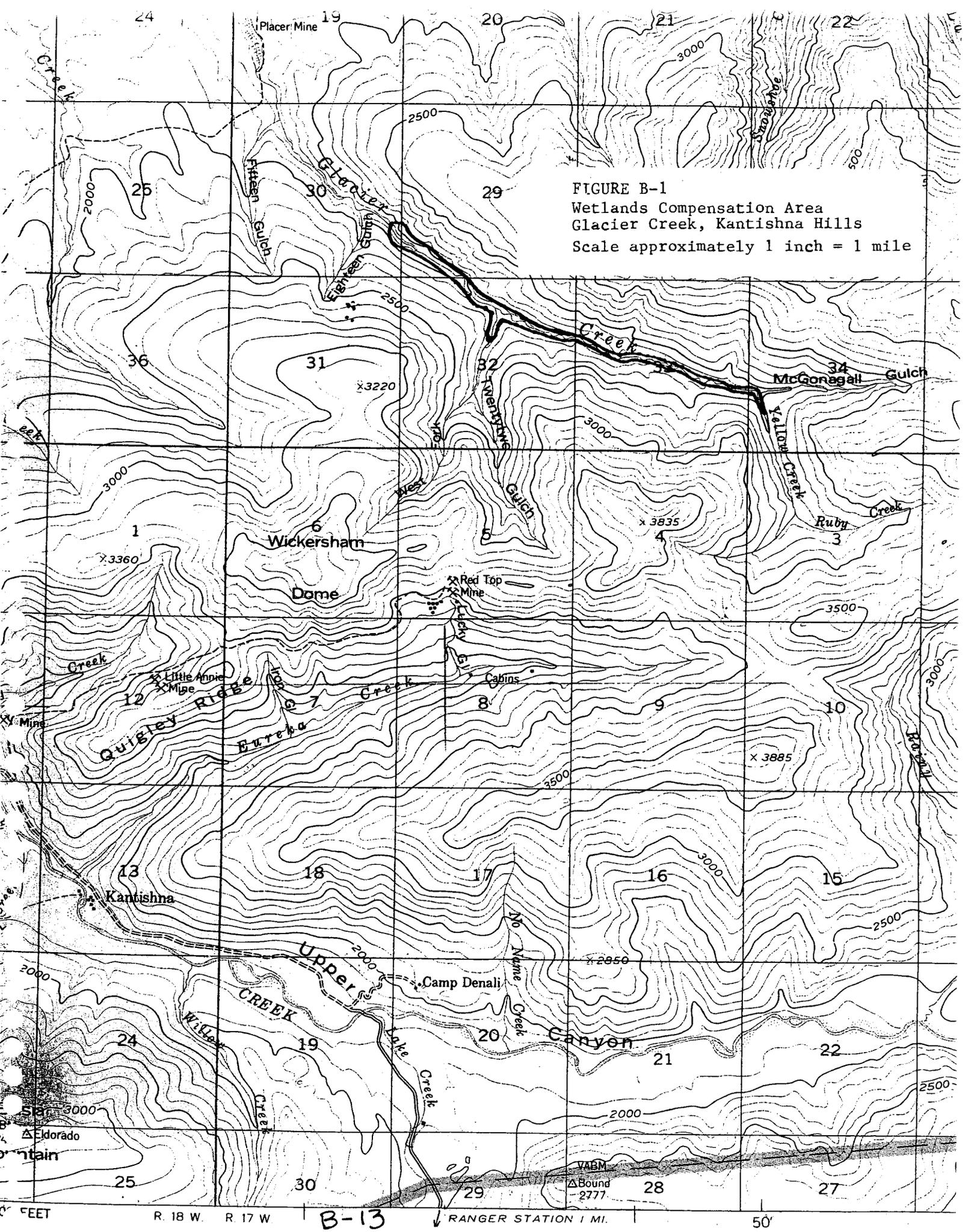


FIGURE B-1
 Wetlands Compensation Area
 Glacier Creek, Kantishna Hills
 Scale approximately 1 inch = 1 mile

**APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT
(33 CFR 325)**

**OMB APPROVAL NO. 0710-003
Expires October 1996**

Public reporting burden for this collection of information is estimated to average 5 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters Service Directorate of Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302; and to the Office of Management and Budget, Paperwork Reduction Project (0710-0003), Washington, DC 20503. Please **DO NOT RETURN** your form to either of those addresses. Completed applications must be submitted to the District Engineer having jurisdiction over the location of the proposed activity.

PRIVACY ACT STATEMENT

Authority: 33 USC 401, Section 10: 1413, Section 404. Principal Purpose: These laws require authorizing activities in, or affecting, navigable waters of the United States, the discharge or fill material into waters of the United States, and the transportation of dredged material for the purpose of dumping it into ocean waters. Routine Uses: Information provided on this form will be used in evaluating the application for a permit. Disclosure: Disclosure of requested information is voluntary. If information is not provided, however, the permit application cannot be processed nor can a permit be issued.

One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and instructions) and be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned.

(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)

1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETED
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(ITEMS BELOW TO BE FILLED BY APPLICANT)

5. APPLICANT'S NAME	8. AUTHORIZED AGENT'S NAME AND TITLE (an agent is not required)
6. APPLICANT'S ADDRESS	9. AGENT'S ADDRESS
7. APPLICANT'S PHONE NOs. W/AREA CODE a. Residence b. Business	10. AGENT'S PHONE NOs. W/AREA CODE a. Residence b. Business

STATEMENT OF AUTHORIZATION

I, _____ hereby authorize, _____ to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.

APPLICANT'S SIGNATURE

DATE

NAME, LOCATION, AND DESCRIPTION OR PROJECT OR ACTIVITY

12. PROJECT NAME OR TITLE (see instructions) Spruce #4 Recreational Property Access
15. NAME OF WATERBODY, IF KNOWN (if applicable) Moose Creek and Spruce Creek
14. PROJECT STREET ADDRESS (if applicable)
15. LOCATION OF PROJECT <u>Denali Borough</u> COUNTY STATE <u>Alaska</u>
16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (see instructions) Section, Township, Range, Lat/Lon, and/or Accessors's Parcel Number, for example. Section 9, T16S, R16W, Fairbanks Meridian

17. DIRECTIONS TO THE SITE Drive Denali Park Road to mile 89 at NorthFace Lodge. Turn onto Moose Creek Mining Route and follow for 8 miles upstream to mouth of Spruce Creek. Follow remains of Spruce Creek Mining Route or creekbed 3/4 mile upstream to property with cabins.

18. Nature of Activity (Description of project, include all features)

A request for an ANILCA Section 1110b (access to inholdings) permit from Denali National Park and Preserve for over land access by a limited number of pickup truck and 4-wheeler trips to private recreational property on Spruce Creek in the Kantishna Hills area. The route would include use of the Moose Creek Mining Route from the Denali Park Road at Mile 89 (Northface Lodge) to the mouth of Spruce Creek 8.8 miles upstream. This route includes 15 crossings of Moose Creek and 8 crossings of the North Fork of Moose Creek. The route then continues on a mining access track for approximately 6000 feet upstream to the inholdings.

In order to eliminate 1000 feet of instream travel up Spruce Creek, a new route has been mapped which uses some abandoned route segments, but also requires use of fill on 949 linear feet of wetlands for other segments of the bypass. A backhoe-loader will be used to carry the pit run material to the route segment. The loader will spread the gravel to an average of 6" by backblading, so that most of the pit run will be placed into the ruts in the existing track. Where the segment is new, the gravel will be placed where the wheels of the vehicles will be driven. Even though the ericaceous/willow tundra is classified as wetlands, it has a sandy rocky component to the soil, such that it won't require much material for the purpose. One culvert will be placed in a small drainage near the southern boundary of Spruce 4.

19. Project Purpose (Describe the reason or purpose of the project, see instructions)

Re-routing access to Spruce #4 properties to eliminate instream travel. The mining access route used 25 years ago has been overcome by stream meandering and indiscriminant mining activity so that today the creekbed is the vehicle route for approximately 1000 feet of the Spruce Creek access route. In combination with new routing, some former route sections now filled in with alders can be cleared and re-used.

USE BLOCKS 20-22 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED

20. Reason(s) for Discharge

To harden the ground surface to the minimal extent necessary to support limited pickup truck and 4-wheeler traffic to the recreational property.

21. Type(s) of Material Being Discharged and the Amount of Each Type in Cubic Yards

201 cys of pit run. 50 cys of placer mine tailings will also be reserved for future maintenance of the route

22. Surface Area in Acres of Wetlands or Other Waters Filled (see instructions)

3898 sq ft (0.22 acres) of PSS1B Wetlands. (Wetlands mapped by ABR, Inc. Route added to wetlands basemap. Attached)

23. Is Any Portion of the Work Already Complete? Yes No IF YES, DESCRIBE THE COMPLETED WORK

Continued use/re-use of an existing mining track accessing claims upstream of the recreational property.

24. Addresses of Adjoining Property Owners, Lessees, Etc., Whose Property Adjoins the Waterbody (if more than can be entered here, please attach a supplemental list)

US National Park Service is the only adjoining land owner.
Wally and Jerry Cole, dba Camp Denali, are property owners adjoining Moose Creek at the beginning of the route, 9 miles downstream. (907-683-2290)

25. List of Other Certifications or Approvals/Denials Received from other Federal, State, or Local Agencies for Work Described in This Application.

APPENDIX C

ANILCA Section 810(a) Subsistence Evaluation

ANILCA Section 810(a) Summary of Evaluations and Findings

I. Introduction

This evaluation and finding was prepared to comply with Title VIII, section 810 of the Alaska National Interest Lands Conservation Act (ANILCA). It evaluates the potential restrictions to subsistence activities, which could result from providing access to a pair of inholdings on Spruce Creek in the Kantishna Hills of Denali National Park and Preserve. The owners of the 20-acre patented mining claim, Spruce #4, have sold 18 acres of their land and all commercial use rights in February 2002, retained 2 one-acre parcels, and applied to the NPS for a long-term right-of-way (ROW) permit for access to their land for personal uses.

II. The Evaluation Process

Section 810(a) of ANILCA states:

"In determining whether to withdraw, reserve, lease, or otherwise permit the use, occupancy, or disposition of public lands . . . the head of the Federal agency . . . over such lands . . . shall evaluate the effect of such use, occupancy, or disposition on subsistence uses and needs, the availability of other lands for the purposes sought to be achieved, and other alternatives which would reduce or eliminate the use, occupancy, or disposition of public lands needed for subsistence purposes. No such withdrawal, reservation, lease, permit, or other use, occupancy or disposition of such lands which would significantly restrict subsistence uses shall be affected until the head of such Federal agency:

- 1) gives notice to the appropriate State agency and the appropriate local committees and regional councils established pursuant to section 805;
- 2) gives notice of, and holds, a hearing in the vicinity of the area involved and;
- 3) determines that (A) such a significant restriction of subsistence uses is necessary, consistent with sound management principles for the utilization of the public lands, (B) the proposed activity would involve the minimal amount of public lands necessary to accomplish the purposes of such use, occupancy, or other disposition, (C) and reasonable steps would be taken to minimize adverse impacts upon subsistence uses and resources resulting from such actions."

ANILCA created new units and additions to existing units of the national park system in Alaska. Denali National Park and Preserve additions were created by ANILCA section 202(3)(a) for the purposes of:

"The park additions and preserve shall be managed for the following purposes, among others: To protect and interpret the entire mountain massif, and additional scenic mountain peaks and formations; and to protect habitat for, and populations of fish and wildlife, including but not limited to, brown/grizzly bears, moose, caribou, Dall sheep, wolves, swans and other waterfowl; and to provide continued opportunities including reasonable access, for mountain climbing, mountaineering, and other wilderness recreational activities."

The potential for significant restriction must be evaluated for the proposed action's effect upon ". . . subsistence uses and needs, the availability of other lands for the purposes sought to be

achieved and other alternatives which would reduce or eliminate the use."

III. Proposed Action on Federal Lands

The National Park Service (NPS) is considering an application for ROW access to two inholdings along Spruce Creek in the Kantishna Hills of Denali National Park and Preserve, Alaska. The applicants purchased a 20-acre parcel of land called Spruce #4 in June of 1997. They sold 18 acres of the Spruce #4 property as well as the commercial use rights on the remaining 2 acres of land they retained for their private use.

Each alternative identifies overland ROW routes and airplanes as means of access to the applicants' remaining two one-acre parcels. The existing Glen Creek airstrip would be used for all of these alternatives. Each one-acre parcel would have a private log cabin, log sauna, and other structures as specified in the purchase agreement. Three action alternatives and a no-action alternative are described below.

No-Action – This alternative would result in no improved access and no long-term ROW permit. For the purposes in this EA, no-action is interpreted to be annual issuance of temporary access permits from the NPS for the owners to use the Denali Park Road to mile 89 and the existing unimproved mining access routes from there to Spruce #4. This route follows 9.1 miles of mining access road up Moose Creek to Spruce Creek and then up Spruce Creek to Spruce #4. The access also includes use of the 1,120-foot Glen Creek airstrip and the 0.5-mile spur road to Moose Creek. The total length of access, including 0.2 miles of airstrip, is about 9.7 miles.

Proposed Access (NPS Preferred Alternative) – This alternative includes limited use of the Denali Park Road to mile 89, the mining access route along Moose Creek, the Glen Creek airstrip and spur road, and some of the existing access along Spruce Creek. Access along Moose Creek would be the same as the no-action alternative. Access along Spruce Creek would be extended along a tundra bench east of Spruce Creek and new and abandoned road segments along this creek would be constructed or cleared, respectively, to avoid instream travel. The total length of access would be about 9.7 miles.

Fly and Drive Alternative – This alternative would entail airplane use of the Glen Creek airstrip and use of mining access routes between there and Spruce #4 as described in the proposed access alternative. The NPS would not permit vehicle travel by the applicants along the Denali Park Road or the first 6 miles of the Moose Creek mining access route to the Glen Creek area. The NPS would authorize twice as much aircraft use and vehicle use between the Glen Creek airstrip and Spruce #4. The total length of access would be about 2.9 miles.

Glen Creek Bench Alternative - This alternative includes limited use of the Denali Park Road to mile 89, follows the existing access between the park road to the Glen Creek airstrip, and then proceeds up the Glen Creek mining access route and across tundra between that mining trail and Spruce #4. This alternative would require new road construction over about 1 mile of tundra, including about 0.7 miles of wetlands. The total length of access would be about 8.8 miles.

IV. Affected Environment

Introduction

The Spruce #4 access study area is located within the Moose Creek drainage of the Kantishna Hills. The Kantishna Hills range from 800 to 4,987 feet in elevation and are located 2 to 10 miles north of the Alaska Range. Because of the wide variety of topographic relief in the area, most plant communities typical of the Alaska taiga are represented. Alpine tundra along the ridges and peaks gives way to low shrubs on slopes and tall shrubs in ravines. Tall shrubs predominate along drainages and steep slopes on

hills. At lower elevations, upland forests occur on shallow slopes, and flood plain forests are found along lower portions of Moose Creek.

Spruce Creek is a small stream flowing south out of the Kantishna Hills for 4.3 miles before joining the North Fork of Moose Creek. From this junction, the North Fork flows about 1.5 miles before joining the main branch of Moose Creek. Moose Creek is the main stream draining the south and southwestern region of the Kantishna Hills.

Park Environment

The original Mount McKinley National Park, which was established in 1917, is located in the interior of Alaska and is dominated by an east to west line of towering glaciated mountains known as the Alaska Range. The range rises abruptly from lowlands 500 to 2,000 feet in elevation to the pinnacle of Mount McKinley, North America's highest mountain, at 20,320 feet. In 1980, ANILCA enlarged the original park to more than 6 million acres and redesignated the area as Denali National Park and Preserve.

The protected subarctic ecosystem of Denali provides habitat for 30 species of mammals, at least 102 species of breeding birds, 16 species of fish (twelve resident species and four anadromous pacific salmon species), and 1 amphibian. The American peregrine falcon is the only endangered species known to occur in the park and preserve. No known threatened aquatic or plant species are known to exist in the park and preserve.

Vegetative cover in Denali is typical of interior Alaska taiga. Lowland floodplains are dominated by dense, deciduous or coniferous forest, or a mixed forest of balsam poplar and white spruce. Upland forests tend to be more open with mixed or continuous stand of black spruce, white spruce, or aspen. Upland forests give way to shrub communities at elevations above approximately 2,400 feet. Glacial rivers flowing from the Alaska Range create broad, braided floodplains that are sparsely vegetated. Tall shrub communities of willow and alder grow on moist slopes and along drainages, and low shrub communities of dwarf birch and willow grow at higher elevations or on dry slopes. Alpine tundra, composed of dryas and dwarf willow shrub, mat and cushion species, or grass and sedge mixes grows on slopes and ridges.

About 100 archeological sites have been recorded within Denali National Park and Preserve with seven sites identified along the north bench of the Moose Creek drainage within the project area. Archeological investigations conducted within and immediately adjacent to the park strongly suggests that sites dating from the Paleoarctic tradition (10,000 years before present) through the Protohistoric period (200 years before present) exist within the park.

Several Athabaskan Indian groups used the Denali area historically. The Ahtna people of Cantwell arrived from the east; the Tanana people came into the area from the north traveling up the Nenana and Toklat Rivers; the Koyukon people who lived at Lake Minchumina ascended the McKinley-Foraker-Heron Rivers; the Upper Kuskokwim people who still live in Nikolai and Telida approached the park from the west; and the Dena'ina people approached the park from the south.

Subsistence activities included large mammal hunting, fishing, trapping, and gathering of plants and berries. The Kantishna Hills, including Moose Creek, has a long history of subsistence use.

More comprehensive descriptions of the Affected Environment within Denali National Park and Preserve can be found in the following recent park documents.

EIS on the Entrance Area and Road Corridor Development Concept Plan for Denali National

Park and Preserve, 1996.

EIS on the Cumulative Impacts of Mining in Denali National Park and Preserve, 1990.

An Overview and Assessment of Archeological Resources, Denali National Park and Preserve, Alaska, Research/Resources Management Report AR-16, Kristen Griffen, 1990.

Final Environmental Impact Statement, Wilderness Recommendation, Alaska Planning Group, 1988.

Denali National Park and Preserve, Final General Management Plan, Land Protection Plan, 1985.

Land Use in the North Additions of Denali National Park and Preserve: An Historical Perspective, Research/Resources Management Report AR-9, William Schneider, Dianne Gudgel-Holmes and John Dalle-Molle, 1984.

Subsistence Resource Use in the Proposed North Additions to Mt. McKinley National Park, Paper No. 17, Richard H. Bishop, 1978.

V. Subsistence Uses and Needs Evaluation

Background Information

The area within the former boundaries of Mount McKinley National Park is not open to subsistence uses. It is however surrounded by additions to the new park and preserve created under ANILCA, which are open to subsistence uses. The Kantishna Hills area was added as new park lands and is open to subsistence use.

Denali National Park and Preserve has a total of about 320 eligible local rural residents who qualify for subsistence use of park and preserve resources. Subsistence users for the ANILCA park additions primarily reside in the communities of Cantwell, Lake Minchumina, Nikolai, and Telida. Other local rural residents who do not live in these designated resident zone communities, but who have customarily and traditionally engaged in subsistence activities within the park, may continue to do so pursuant to a subsistence permit issued by the park superintendent. Individuals from McKinley Village, Nenana, Healy, and Tanana have received subsistence use permits.

In the past, subsistence users of the Kantishna Hills region included two families permanently residing in the Kantishna area, approximately twelve households from the McKinley Village area, and several households from Cantwell. Approximately 147 people live in Cantwell. Residents from the communities of Lake Minchumina, Telida and Nikolai are eligible to utilize subsistence resources from the Kantishna Hills area but have not done so because their distance from and difficulty in accessing the Kantishna area. Currently, no subsistence users permanently reside in the Kantishna community and only one family resides and traps in the lower Moose Creek/Bearpaw drainage to the north of Kantishna. His trapline does not extend into the upper Moose Creek project area.

Subsistence use of the Kantishna Hills has decreased in recent years for various reasons including, park road restrictions and access permit requirements because of increasing vehicle traffic, ATV use restrictions off existing roads, the closure of caribou hunting season since 1977, a negative customary and traditional use determination for McKinley Village area residents for use of moose in 1987, significantly

increasing recreational use activity, initiation of a public safety firearms discharge restriction along the Kantishna Road during the first two weeks of September, increased posting of private property and restrictions on access, and increasing cost for making the 180 mile round trip into the Kantishna area. The cumulative effect has been diminishing subsistence use in the Kantishna Hills area.

Prior to ANILCA local rural subsistence users would drive the Park Road to access Kantishna, then use either motor vehicles, ATV's, horses, hiking, or a combination of the above to access the area for hunting and fishing. Ten of the twelve subsistence use permittees have documented that they utilized the upper Moose Creek drainage prior to ANILCA. Four of the households indicated they accessed the upper Clearwater River drainage by traveling up the North Fork of Moose Creek to Spruce Creek, then into the headwaters of the Clearwater River for hunting moose and caribou. Two of the four households accessed the Clearwater River by this route using ATV's, and the other two used horses.

The primary subsistence use of the Kantishna Hills has been for hunting moose and caribou during the fall hunting seasons. Subsistence use of caribou in wildlife management unit 20(C), which includes the Kantishna Hills region, has been closed since 1977 due to the declining population of the Denali Caribou Herd. Moose are now the main subsistence use species for the Kantishna Hills area. Incidental to moose and caribou hunting, subsistence users have harvested black bear, brown bear, ptarmigan, spruce grouse, and snowshoe hare, fished for grayling and salmon, and picked berries. The Moose Creek drainage up stream from the Park Road has been, and continues to be, the most significant subsistence use area within the Kantishna Hills due to it's diversity of resources and reasonable access via the existing mining roads.

Subsistence moose hunting seasons are September 1st through September 30th, and November 15th through December 15th for antlered bull moose. Most moose hunting occurs during the early to mid part of September due to more reliable weather and better road conditions, better quality of meat before the rut, cooler temperatures, and falling of leaves which makes locating moose and processing of meat easier. During the later part of September, weather can be a significant factor resulting in closure of the Denali Park Road to Kantishna. Also, during the later part of September (typically by the middle of the month) mature bull moose are well into the rutting period which affects the quality of the moose meat.

Recreational use has increased significantly in the Kantishna Hills areas since the park was expanded by ANILCA. Five private recreational facilities now operate in Kantishna area from early June until the middle of September. During the summer months the developed areas of Kantishna, (along Kantishna Road and Moose Creek near the recreational facilities to the Kantishna airstrip) have a high level of human use activity. These activities include: hiking, horseback riding, bicycling, gold panning, fishing, kayaking, vehicular traffic, aircraft arrival and departures, lodge operations and related human activity. which cause a temporary redistribution of wildlife away from this area.

Due to concerns for public health and safety near visitor service and transportation facilities, a temporary prohibition on the discharge of firearms is imposed along the Kantishna Road from the former Mt. McKinley Park boundary to the Kantishna airport. The closure extends one mile on each side of the Kantishna Road for a distance of approximately five miles, for a total closure area of about 10 square miles. The temporary firearms discharge closure is in effect from September 1st to September 15th each year while the commercial lodge facilities are operating and the fall moose hunting season is open. Other adjacent, less heavily used federal public lands in the Kantishna Hills are not affected by this firearms discharge closure.

Access for subsistence uses on the ANILCA park and preserve additions is granted pursuant to sections 811(a)(b) and 1110(a). The park and preserve are managed according to legislative mandates, NPS management policies, and guidelines in the approved Denali General Management Plan. Eligible subsistence users access the Kantishna Hills area by driving the Park Road to Kantishna under an access

permit. Mining roads and trails in the Kantishna Hills provide further access routes for subsistence users beyond the Park Road and beyond the temporary Kantishna Firearms Discharge closure area. The Kantishna Firearms Discharge Closure is not in effect during the last half of the September season.

The NPS recognizes that patterns of subsistence use vary from time to time and from place to place depending on the availability of wildlife, other renewable natural resources, and regulatory openings and closings of areas. A subsistence harvest in a given year may vary considerably from previous years because of such factors as weather, surface snow conditions for traveling, wildlife migration patterns, natural population cycles, wildlife conservation practices such as leaving a trapline fallow periodically, and regulatory changes.

The Denali Subsistence Resource Commission met on February 26, 1999 and discussed the then new recreational development and request for improved road access by inholders of the Spruce #4 property in the Kantishna Hills within the northern park additions. After reviewing and discussing the access alternatives, the Commission passed a motion by a vote of seven members in favor and one abstention to request that Denali National Park purchase this property on a willing buyer-willing seller basis. The Commission believes that new recreational development and access improvements into the upper Moose Creek drainage of the magnitude proposed for Spruce #4 property would have an adverse impact on subsistence resources and subsistence users in this region of the park. (Letter from the Denali Subsistence Resource Commission, February 26, 1999)

Evaluation Criteria

To determine the potential impacts on existing subsistence activities, three evaluation criteria were analyzed relative to existing subsistence resources.

1. The potential to reduce important subsistence fish and wildlife populations by
(a) reductions in numbers, (b) redistribution of subsistence resources, or (c) habitat losses;
2. What affect the action might have on subsistence fisherman or hunter access;
3. The potential for the action to increase fisherman or hunter competition for subsistence resources.

1. The potential to reduce populations:

(a) Reduction in Numbers:

Proposed Access Alternative :

This access alternative would follow the existing Moose Creek mining access roads to Spruce Creek from mile 89 of the Denali Park Road. This alternative also includes use of the lower Glen Creek airstrip and the existing spur road to that airstrip from the Moose Creek access road. The spur road and the airstrip would add another 0.5 miles for a total of 9.7 miles of access. In this alternative the segments of road along Spruce Creek would be relocated to avoid instream travel in the Spruce Creek floodplain.

Approximately 0.64 miles of new road would be constructed on the tundra bench above and to the east of Spruce Creek to avoid vehicle travel in the active creek bed. This alternative would still require stream crossings at 32 locations along Moose and Spruce Creeks and their tributaries.

Under conditions of a ROW permit, each owner would be permitted up to 15 round trips each summer season with four-wheel-drive (4WD) vehicle from the Denali Park Road to Spruce #4, including no more than 8trips total in any month and no more than 2trips in any day. The total annual vehicle access from the park road would be 30 round trips for both owners. An additional 15 trips from the Glen Creek airstrip to Spruce #4 would be permitted for each owner for a total of 60 vehicle trips to Spruce #4 from the road and airstrip combined. In addition to the summer season access, two round trips with light trucks would be allowed each owner during the period before or after the peak visitor season (Memorial Day weekend to the second Thursday after Labor Day weekend) when the access route is passable. Access in winter would include the use of light airplanes and snowmobiles, as permitted by NPS regulations.

-Wildlife: The upper Moose Creek valley is the most significant subsistence use area of the Kantishna Hills. This drainage provides the greatest diversity and highest potential for subsistence activities in Kantishna Hills due to the abundance of riparian and floodplain forest areas and the existing mining trails providing access into the valley. Contemporary use is primarily for hunting moose and bear and for grayling fishing. This alternative would affect 0.63 acres of wildlife habitat from vegetative clearing and gravel placement for road construction. Due to the broad use of habitats and large size of range covered by most subsistence use species, and minimal loss or modification of wildlife habitat along this route, this alternative is not expected to result in significant impact to wildlife populations or result in population declines. Seasonal vehicle traffic and human activity along this corridor may cause the temporary disturbance and displacement of some wildlife resources along this corridor. But the seasonal redistribution and abundance of species from this corridor would not result in wildlife population declines.

-Fishery: The Moose Creek drainage provides important habitat for grayling, round white fish and chum salmon. For the Denali area, the North Fork of Moose Creek is characterized as a high quality fishery. Considering the maximum number of creek crossings and the frequency of instream crossings (up to 90 round trips per year) proposed for this access alternative, there is the potential to impact fish populations by interrupting periods of spring migration, spawning, and fall migration. The potential to impact this fishery by instream access could be significantly reduced by limiting or restricting the number of steam crossings during sensitive migration and spawning periods. Long-term effects of instream traffic, streambed modifications, and removal of riparian vegetation has the potential to reduce aquatic habitat quality but is not expected to reduce fish populations. This alternative is not expected to cause a significant impact to fishery populations or result in population declines.

Fly and Drive Access Alternative:

This alternative would entail airplane use of the Glen Creek airstrip and use of mining access routes between there and Spruce #4. No vehicle travel by the applicants would be permitted along the Denali Park Road or the first 6 miles of the Moose Creek mining access route to the Glen Creek area. The total length of access would be about 2.9 miles. This alternative would limit access in the snow-free season to small airplanes and light duty trucks between the Glen Creek airstrip and Spruce #4. The vehicle allocation would be increased between Glen Creek and Spruce #4 to compensate for restricting vehicle access between the Denali Park Road and Glen Creek airstrip. This would result in up to 30 round trips per year between the Glen Creek airstrip and Spruce #4 for each applicant, or a maximum total of 60 round trips. Access in winter would include the use of light airplanes and snowmobiles, as permitted by NPS regulations.

-Wildlife: Segments of new road construction under this alternative would also affect about 0.63 acres of moose, caribou, grizzly and black bear habitats consisting primarily of riparian and floodplain forest areas. Portions of road along Spruce Creek would be repositioned to avoid instream travel in Spruce Creek. Once again, the loss of wildlife habitat in this alternative is minimal and is not expected to impact wildlife populations or result in population declines.

-Fishery: This alternative would have the second least overall impacts to fishery resources of any of the proposals. Not allowing vehicle use and stream crossings of Moose Creek (16) from the Denali Park Road to Glen Creek would eliminate the potential for impacting fishery habitat, migration, and spawning in the middle section of Moose Creek. In addition, the repositioning of segments of road along Spruce Creek to avoid instream travel further reduces the potential to impacts fishery resources in the upper tributary. This alternative increases in number of vehicles passes from the Glen Creek airstrip to Spruce #4 (up to 90 round trips per year) to compensate for eliminating vehicle traffic from mile 89 of the Denali Park Road to Glen Creek. The potential impacts to fishery resources from Glen Creek to Spruce Creek are minimal, but could be further reduced by limiting the number of stream crossing during sensitive migration and spawning periods. This alternative is not expected to cause a significant impact to fishery populations or result in population declines.

Glen Creek Bench Alternative:

This alternative includes limited use of the Denali Park Road to mile 89 and OHV and light truck access to Spruce #4 as in the proposed access alternative above. The access follows the existing access between the park road to the Glen Creek airstrip, and then proceeds up the Glen Creek mining access route and across tundra between that mining trail and Spruce #4. A total of 16 stream crossings would occur along Moose Creek up to the Glen Creek mining road, but no stream crossings of the North Fork above that point would occur. This alternative would require new road construction over about 1 mile of tundra, including about 0.7 miles of wetlands. The total length of access would be about 8.8 miles. The new construction includes undisturbed tundra on stream terraces, alluvial fans, and low angle ridges. This section is laid out with moderate undulating grades on moderate side slopes, and in mixed wet, sometimes frozen soils, and dry “esker-like” ridges. Construction on wetlands includes moderately sloped, very wet (and frozen) portions in the first 300 feet of the route and 2,550 feet leading to ~~the road on~~ Spruce #4. Much of the beginning and middle of this section is on intermittent dry ridge topography.

-Wildlife: Direct loss and modification of habitat due to clearing of vegetation and placement of gravel fill for road construction would total 1.92 acres. This alternative would affect more bear, caribou, and wolf habitat than the other alternatives because of the new road construction in low-shrub and tundra habitat, but the percentage of habitat affected is still negligible. The location of the road on terraces and slopes above the riparian vegetation along Moose and Spruce Creeks would substantially reduce the impacts (both direct and indirect) on winter moose habitat. The effects on wildlife may be slightly greater with this alternative than the other alternatives, primarily because of greater construction activity and loss of habitat, but these impacts would not be significant because of the continued low level of human use in the area.

-Fishery: Access from the Denali Park Road to Glen Creek would consist of 16 stream crossings of the middle portion of the Moose Creek drainage. Potential impacts of this alternative on instream habitats would occur on the middle section of Moose Creek and could result in localized minor losses of aquatic habitat below the 16 stream crossings. Long-term effects of instream traffic, streambed modifications, and removal of riparian vegetation has the potential to reduce aquatic habitat quality but is not expected to reduce fish populations. This alternative would have the least adverse impact on grayling spawning and rearing habitat in the North Fork of Moose Creek. Considering the maximum number of creek crossings and frequency of stream crossings (up to 60 round trips per year) proposed for this access alternative,

there is a potential to impact fish population by interrupting periods of spring migration, spawning, and fall migration. This potential to impact the fishery by instream access could be significantly reduced by limiting or restricting the number of stream crossings during sensitive migration and spawning periods. This alternative is not expected to cause a significant impact to fishery populations or result in population declines.

(b) Redistribution of Subsistence Resources.

Proposed Access Alternative:

The temporary public safety closure to the discharge of firearms along the developed area of Kantishna during the first half of the moose hunting season makes access and use of the upper Moose Creek drainage even more important to subsistence users. Subsistence users prefer to avoid the busier recreational use areas of Kantishna to reduce the chance of encounters and/or potential conflicts with non-consumptive users. The upper Moose Creek drainage provides this relatively remote, yet accessible and productive habitat for subsistence resources. With the caribou season closed in this region of the park, moose and bear hunting within this drainage have become the primary subsistence resource harvested in this area.

Seasonal vehicle travel along this corridor (up to 60 round trips per summer season between the two land owners) and the occasional air access to Glen Creek airstrip may cause the temporary displacement of some wildlife resources along the Moose Creek corridor. This temporary disturbance and displacement, however, is not expected to cause a lasting redistribution of wildlife populations. Displacement of moose during the September hunting season may cause subsistence users to travel further to locate and harvest moose resources.

Fly and Drive Access Alternative:

This alternative would have the least overall impacts to wildlife and fish resources of any of the alternatives. Restricting vehicle travel on the middle portion of Moose Creek from the Denali Park Road to Glen Creek would minimize the potential for displacement of subsistence resources for that area. If the landowners utilize their maximum access provisions (up to 60 round trips per summer season) there would likely be increased noise disturbance from airplane flights arriving and departing and trucks traveling from Glen Creek airstrip to Spruce #4. However, this disturbance will be focused within a much smaller geographical area on the North Fork of Moose Creek. Wildlife redistributions in this area will be temporary. Eliminating vehicle travel along Moose Creek from mile 89 of the Denali Park Road to the Glen Creek, a distance of approximately 6.7 miles, would be beneficial to subsistence users since it would reduce the likelihood of wildlife being displaced from this portion of the drainage.

Seasonal vehicle travel along this corridor and the occasional air access to Glen Creek airstrip may cause the temporary displacement of some wildlife resources along the Moose Creek corridor. However, this temporary disturbance and displacement is not expected to cause a lasting redistribution of wildlife populations. Displacement of moose from the North Fork of Moose Creek during the September hunting season may cause subsistence users to avoid that area to locate and harvest moose resources.

Glen Creek Bench Alternative:

This alternative would affect more bear, caribou, and wolf habitat than the other alternatives because of new road construction in low-shrub tundra habitat. Locating the new road between Glen Creek and Spruce Creek on the terraces and slopes above the riparian habitat of Moose Creek and Spruce Creek would reduce the likelihood of displacing moose from this portion of the drainage. Seasonal vehicle travel along this corridor (up to 60 round trips per summer season, including no more than 32 trips total in any month between the two land owners) and the occasional air access to Glen Creek airstrip may cause the temporary displacement of some wildlife resources along the Moose Creek/Glen Creek corridor. However, this temporary disturbance and displacement is not expected to cause a lasting redistribution of wildlife populations. While the effects on wildlife may be slightly greater with this alternative, primarily because of construction activity and loss of habitat, these impacts will be negligible because of the temporal and continued low level of human use in the area. Displacement of moose during the September hunting season may cause subsistence users to travel further to locate and harvest moose resources on the lower part of Moose Creek. That loss may be offset by the removing of vehicular traffic and human activity along the more productive riparian moose habitat of the North Fork/lower Spruce Creek tributaries.

This alternative would eliminate all in-stream vehicle travel upstream of Glen Creek. The number of crossings would total 16 (13 on Moose Creek, 2 on Jumbo Creek, and 1 on Glen Creek). Limiting in-stream vehicle access during times of upstream migrations for spawning and fall downstream migration to over-wintering habitats would reduce potential impacts to movements or distributions. Controlling in-stream access during these sensitive times would prevent the redistribution of fishery resources. There would be no additional impacts to fishery migrations, spawning or movements on the sections of North Fork Moose Creek or Spruce Creek upstream from Glen Creek under this alternative.

(c) Habitat losses.

Proposed Access Alternative:

New road construction proposed by this alternative along Spruce Creek would affect about 0.31 acres of tall shrub, 0.23 acres of low shrub, and 0.09 acres of white spruce forest. Wildlife habitat loss due to road realignment would be minimized by the use of previously disturbed sites whenever possible. All of these vegetative communities are common both locally and regionally. Considering the large extent of vegetation in the planning area, and the limited amount of new ground disturbance associated with this alternative, it is unlikely that there will be any significant impact on wildlife habitat that could result in decreases to wildlife populations.

Segments of road along Spruce Creek would be positioned to avoid instream travel in Spruce Creek. Repositioning this route to the bench above the creek would reduce potential impacts to fishery habitat or fish populations. Nevertheless, 32 stream crossings would occur resulting in an estimated 1,600 meters total of temporary increases in turbidity and sedimentation in aquatic habitats below the crossings (50 m each). This alternative would not result in a significant loss of habitat that would lead to the reduction of important fish populations.

Fly and Drive Access Alternative:

As in the *proposed access alternative*, this alternative would also affect about 0.63 acres of moose, caribou, grizzly and black bear habitats consisting primarily of riparian and floodplain forest areas. Once again, the loss of wildlife habitat in this alternative is minimal and is not expected impact wildlife

populations or result in population declines.

Segments of road along Spruce Creek would be positioned to avoid instream travel in Spruce Creek. Because this alternative avoids 16 stream crossings in Moose Creek below the Glen Creek area, a total of 16 crossings would be required resulting in about 800 meters of aquatic habitat with temporary increased turbidity and sedimentation below the crossings. This alternative would not result in a significant loss of habitat that would lead to the reduction of important fish populations.

Glen Creek Bench Alternative:

The Glen Bench alternative would result in direct impacts to 1.92 acres of vegetation between the Glen Creek mining road and Spruce #4. The new construction would remove approximately 1.03 acres of ericaceous and dwarf birch low shrub, 0.50 acres of dwarf shrub/barren, 0.28 acres of willow tall shrub, 0.05 acres of forested wetlands, 0.05 acres of white spruce uplands, and 0.01 acres of alder tall shrub plant communities. All of these plant communities are regionally and locally common. This alternative would affect more bear, caribou, and wolf habitat than the other alternatives because of the new road construction in low-shrub tundra habitat, but the percentage of habitat affected is negligible. The location of the road on terraces and slopes above the riparian vegetation along Moose and Spruce Creeks would substantially reduce the impacts (both direct and indirect) on winter moose habitat.

The number of vehicle fording sites for this alternative would total 16 (13 on Moose Creek, 2 on Jumbo Creek, and 1 on Glen Creek). Impacts to water resources would be temporary and minor to about 800 meters of aquatic habitat below the 16 stream crossings from low levels of suspended sediments and turbidity. There would be no additional vehicle impacts to the section of North Fork Moose Creek, or Spruce Creek, upstream of Glen Creek. This route would not result in a significant loss of habitat that would lead to the reduction of important wildlife or fish populations.

2. Restriction of Access:

The temporary Kantishna Firearms Discharge closure (safety closure) affects access for subsistence users during the first half of the fall moose hunting season by requiring subsistence users to travel at least one mile up Moose Creek from the Denali Park Road before discharging a firearm. In light of this temporary closure on lower Moose Creek, subsistence users continued to utilize the upper portions of Moose Creek drainage during the first half of the fall moose season to avoid the area where lodges and visitor use activities are concentrated. The low projected level of general access along the alternative routes and the low level of private property use at Spruce #4 in September makes it unlikely that the firearms discharge closure would be extended along any of these alternative routes.

All rights of access for subsistence use on NPS lands are granted by section 811 of ANILCA. The park and preserve are managed according to legislative mandates, NPS management policies, and guidelines in the approved *Denali General Management Plan*. No actions under the alternatives, which are described in detail in the environmental assessment, should affect the access of subsistence users to natural resources within the park. The alternatives are expected to have negligible impacts on subsistence uses in the project area. Access to Moose Creek for subsistence hunters on the existing mining access roads would continue. Improvements to the existing Moose Creek mining access route or construction of the new Glen Creek/Spruce Creek bench road (1.3 miles) would actually be beneficial to subsistence user access in the upper portions of the North Fork of Moose Creek.

3. Increase in Competition:

Hunting: No increase in competition for subsistence hunting is expected on park lands from any of the

alternatives since park lands are not open to sport or general State hunting. Only NPS eligible subsistence users are authorized to harvest subsistence resources from Denali's ANILCA park additions. If any eligible local rural residents were invited to the applicants' property, they could legally engage in subsistence activities while staying there. The applicants are not local rural residents, and they would not be able to participate in subsistence activities. Therefore, no new subsistence use of the area is expected to occur as a direct result of access to the private property for personal uses.

Subsistence users of the Kantishna Hills area utilize the former mining routes for access to subsistence resources. Introducing new access to private land inholdings along the Moose Creek routes may increase the potential for conflict between user groups. This is expected to be minimal because past subsistence use primarily occurs in September, typically a period of decreasing use by other park user groups. Because of the projected low use of private property at Spruce #4 in September, it is unlikely that the temporary Kantishna Firearms Discharge Closure would be extended along the length of any of the alternatives.

Fishing: The park ANILCA addition is open to both subsistence and sport fishing. The Moose Creek drainage provides important habitat for grayling, round fish and chum salmon. For the Denali area, the North Fork of Moose Creek is characterized as a high quality fishery. Grayling populations are slow growing and easily caught, making them susceptible to over harvest in areas of increasing fishing pressure. Recreational visitor use and non-subsistence fishing in the Moose Creek drainage has increased significantly over the past decade raising the potential to impact fish populations.

Currently subsistence use of fisheries in this area is known to be minimal and infrequent. National Park Service regulations and ANILCA provisions mandate that if and when it is necessary to restrict taking of fish, subsistence users are the priority consumptive users on federal public lands and would be given preference over other consumptive uses (ANILCA, section 802(2)). Continued implementation of the ANILCA provisions would mitigate any increased competition from other non-subsistence users. Therefore, the proposed action is not expected to adversely affect resource competition.

VI. Availability of Other Lands

Within the Kantishna Hills, the upper Moose Creek drainage is considered to be a significant subsistence resource use area. Other private lands within, or nearer to, the existing community of Kantishna would pose much less of a potential to impact important subsistence resources or subsistence use activities.

VII. Findings

Introducing new or improved access for land inholders or recreational users along these routes increases the potential for conflict between consumptive and non-consumptive users. If any competition for resources occurs along these routes, it will likely be for fishery resources. All of the alternatives have some potential to temporarily displace fish or wildlife resources from habitats along the route corridors. NPS and ANILCA management tools and authorities are sufficient to mitigate potential difficulties. The applicants' projected level of use and access is not expected to cause a significant impact to subsistence resources or subsistence users.

The Fly and Drive Access alternative would have the least affect or potential impact upon subsistence resources and subsistence use activities of any of the four action alternatives considered. This alternative impacts the least amount of wildlife habitat the least amount of geographical area within the upper Moose Creek drainage. Seasonal disturbance from aircraft flights would be higher, but would not cause a significant disturbance to subsistence resources.

This analysis concludes that the **Proposed Action** or any of the other alternatives would not result in a

significant restriction of subsistence resources or subsistence uses.

Letter by Denali Subsistence Resource Commission, February 26, 1999

APPENDIX D

Draft Rights of Way Permits for Jeff Barney and Gene Desjarlais

STATE OF ALASKA

Right-Of-Way Permit No.: RW _____

United States Department of the Interior
National Park Service
Right-of-Way Permit for
Jeff Barney

WHEREAS, **Jeff Barney** (hereinafter Permittee) has applied to the United States of America (hereinafter Permitter) for a right-of-way to construct, operate and maintain a **road**, and use and maintain an **airstrip**, within the boundaries of Denali National Park and Preserve (hereinafter Park), a unit of the National Park System, United States Department of the Interior; and

WHEREAS, the National Park Service (hereinafter Service) administers the Park that was established as a unit of the National Park System, United States Department of the Interior pursuant to 16 U.S.C. § 938 ; and

WHEREAS, the Director of the National Park Service (or his delegate) is required pursuant to 16 U.S.C. 1a-1 to authorize only those uses of land within the Park which will not be in derogation of the values and purposes for which the Park was established, except as may have been or shall be directly and specifically provided by Congress; and

WHEREAS, 16 U.S.C. 3170(b) (Alaska National Interest Lands Conservation Act, Section 1110(b), Access to Inholdings) authorizes and directs the Secretary of the Interior (or his delegate) to grant such rights as may be necessary to assure adequate and feasible access to State owned lands, privately owned lands or other valid occupancies that lie within or are effectively surrounded by National Park System units in Alaska; and

WHEREAS, the Department of the Interior has promulgated regulations at Title 43 Code of Federal Regulations, Part 36, regarding rights-of-way over, across and upon the lands administered by the National Park Service in Alaska; and has promulgated regulations at Title 36 Code of Federal Regulations, Part 14, regarding rights-of-way over, across and upon the lands administered by the Service; and

WHEREAS, the Service has been delegated the authority to allow such rights-of-way over, across and upon land under the jurisdiction of the Service pursuant to 245 Departmental Manual 5.1; and

THEREFORE, the United States, through the Service, an agency of the Department of the Interior, acting pursuant to the authority of 16 U.S.C. 3170(b) issues this permit to Jeff Barney, P.O. Box 82026, Fairbanks, Alaska, 99708, for a right-of-way across Federal lands within Denali National Park and Preserve for the construction, maintenance and operation of a **road** and the maintenance and use of an **airstrip**.

The Permittee agrees to comply with and be bound by the Service regulations, 43 CFR Part 36, regarding rights-of-way over, across and upon lands administered by the Service, in addition to the terms and conditions set forth in this permit.

MAP AND LEGAL DESCRIPTION OF RIGHT-OF-WAY

This ROW begins at the first ford of Moose Creek in the northern additions of Denali National Park (T16S, R17W, Sec 22, Fairbanks Meridian) and ends at the one-acre inholdings in former patented mining claim Spruce #4 (T16S, R16W, Sec 9, Fairbanks Meridian.) It follows former mining access routes and includes the use of the 1,200-foot long lower Glen Creek Airstrip. A 0.4 mile-long spur route connects the Glen Creek Airstrip with the main ROW route. This ROW is generally depicted in figure 2.1 of the Spruce Creek Access Environmental Assessment, at a scale of about 1 inch = 1.5 miles (Appendix A of this ROW). The ROW routes are shown in detail at a scale of 1 inch = 100 feet in NPS AutoCAD drawing files with the following file names: MOOS4, MOOS5, MOOS6, MOOS7, MOOS8, MOOS9, MOOS10, MOOS11, MOOS11B, MOOS12, MOOS13, MOOS14, SPRU1, SPRU2, SPRU3, SPRU4, and GLEN1. Figures 2.3a and 2.3b in the EA depict the locations of new construction along Spruce Creek (Appendix B of this ROW). The ROW is 10 feet wide along lineal routes (5 feet either side of the centerline of the roadway), and includes the presently disturbed area of the Glen Creek Airstrip. (the airstrip portion of the ROW is no more than 50 feet wide and 1,200 feet long).

AUTHORITY TO ENTER INTO AGREEMENT FOR RIGHT-OF-WAY

The Permittee represents and warrants to the Permitter that:

(1) It is duly authorized and empowered under applicable laws of the State of Alaska and by its charter and bylaws to enter into and perform this agreement in accordance with the provisions;

(2) Its Board of Supervisors, or duly authorized executive committee, has duly approved, and has duly authorized the execution, delivery, and performance by it of this agreement by Jeff Barney and Gene Desjarlais.; **INAPPLICABLE**

(3) All action that may be necessary or incidental to the approval of this permit, and the due execution, delivery, and performance by the Permittee has been taken; and

(4) All of the foregoing approvals, authorizations, and actions are in full force and effect at the time of the execution and delivery of this permit.

PERMITTED USE OF RIGHT-OF-WAY BY THE PERMITTEE

The right-of-way is for the sole purpose of constructing, operating and maintaining a **road** and using and maintaining an **airstrip** across the above described lands, application for which was made in writing to the Superintendent, Denali National Park and Preserve (hereinafter Superintendent) on **February 27, 2002, by the Permittee**. In utilizing the right-of-way the Permittee agrees to comply with and be bound by laws and regulations regarding the use and occupancy of the lands administered by the Service and by the terms of this permit.

DEVIATION FROM APPROVED RIGHT-OF-WAY

The Permittee agrees that it will not deviate from the location of the approved right-of-way in its construction, operation and maintenance of the subject **road/airstrip**. All ingress and egress for construction, maintenance and operation of the **road/airstrip** shall be restricted to the right-of-way. In the event that the Permittee determines that ingress and egress over park lands not included in the right-of-way are necessary for the construction, maintenance and operation of the subject road/airstrip, then the Permittee must apply, in writing, to the Superintendent for approval of such ingress and egress.

EFFECTIVE DATE OF THE RIGHT-OF-WAY

The effective date of this permit shall be the date of its execution by the Regional Director (or delegate) and the Permittee. The right-of-way permit shall terminate FIVE (5) years from the effective date, at noon (Alaska time) unless prior thereto it is relinquished, abandoned, or otherwise terminated pursuant to the provisions of this permit or of any applicable Federal law or regulation.

RENEWAL OF RIGHT-OF-WAY

Unless relinquished, abandoned, or otherwise terminated pursuant to the provisions of the permit or of any applicable Federal law or regulations, the Permittee may make application to the Superintendent, at least six months prior to its expiration date, for renewal of the right-of-way.

The Permittee shall file a written application, SF 299, in accordance with the existing Service regulations, to renew the right-of-way. The Permittee shall agree to comply with all the laws and regulations existing at such application date governing the occupancy and use of the lands of the Park for the purposes desired. The right-of-way permit may be extended after full consideration of the application for renewal.

DISPOSAL OF PROPERTY ON TERMINATION OF RIGHT-OF-WAY

Upon the termination of the right-of-way permit by expiration or by cancellation for cause, in the absence of any agreement to the contrary, if all monies due the Permitter have been paid, the Permittee shall be allowed six months, or such additional time as may be provided, in which to remove from the right-of-way all property or improvements of any kind placed by them; and if not removed within the time allowed, all such property and improvements shall become the property of the United States.

NONUSE OR ABANDONMENT

It is understood and agreed by the parties that all or any part of the right-of-way may be terminated at the discretion of the Permitter in the event of nonuse or abandonment for a period of two years by the Permittee. In the case of termination, the Permitter will provide the Permittee with written notice including reasons for the termination.

FEES FOR USE AND OCCUPANCY

The Permitter and Permittee understand and agree that the consideration for utilization of the lands, pursuant to the right-of-way permit, constitutes the fair market value of the use of the lands, prorated on an annual basis, for the term of the right-of-way. The Permittee further agrees that in the event of the right-of-way being renewed, pursuant to the

provisions for renewal, then the consideration for renewal will reflect the fair market value of the use of the lands at the time of the renewal.

FEES AND REIMBURSEMENT OF COSTS

1. Pursuant to 36 C.F.R. 14.22(a), the Permittee agrees to reimburse the Permitter for administrative and other costs incurred by the Permitter in processing the application for the right-of-way permit. Permittee agrees to submit a one time application fee of \$500.00 (previously paid) **and pay \$5,500 (Note: we'll need to have backup info that lists staff time and expenses) for production of an environmental assessment and other administrative tasks in processing the application and permit. Permittee also agrees to pay the costs (\$4,500) of restoring an equivalent area of wetlands filled to create the requested access, as determined in the wetlands statement of findings for the project.**

2. Pursuant to 36 C.F.R. 14.22(b), the Permittee also agrees to reimburse the Permitter for costs incurred by the Permitter in monitoring the authorized use of the right-of-way, the fee of \$200.00 per year.

3. Pursuant to 36 C.F.R. 14.26(a), the Permittee agrees to pay the Permitter for the use and occupancy of park lands, the fair market value as determined by appraisal by the authorized officer. The fee for use and occupancy of park land covered in this permit shall be **(to be determined by appraisal--Gilbert).**

4. Total payment for the first year of this permit will be \$ _____ (total of application fee, costs of NEPA and other administrative costs, wetlands restoration fee, monitoring fee and use and occupancy fee). Payment for each year thereafter for the first 5 years of the permit will be \$ _____ (total of monitoring fee and use and occupancy fee).

TERMS AND CONDITIONS

The permit is subject to the following terms and conditions:

(1) This permit shall not be construed as a permanent interest in the land of the right-of-way or as an abandonment of use and occupancy by the United States, but shall be considered a use of the land as described, anything contained to the contrary notwithstanding.

(2) This right-of-way permit may be terminated upon breach of any of the stated conditions or at the discretion of the Regional Director of the Service. Permittee will be given written notice and thirty (30) days to allow an opportunity for corrective actions before termination may occur. The written notice shall describe the specific violations of the permit. If Permittee does not correct the violations to the satisfaction of the Service, or present a reasonable plan acceptable to the Service within the thirty (30) day period, then the NPS shall be entitled to revoke this permit.

(3) The Permittee shall comply with all applicable State and Federal laws and existing regulations promulgated thereunder in the construction, operation and maintenance of the road/airstrip.

(4) The Superintendent, Denali National Park and Preserve, shall be notified in writing no less than two weeks prior to the start of initial construction on park lands. An on-site meeting will be conducted no less than one week prior to start of construction between representatives of the park and the Permittee construction/maintenance supervisor to determine and clarify the scope of the project and any requirements of the Service. The Permittee construction/maintenance supervisor will contact the park on the morning of the first day of work and each morning thereafter prior to entering the park, advising the location and extent of work crews and equipment in the park. Except in extraordinary situations and with the agreement of the Superintendent, or as determined at or prior to the on-site meeting above, all work on park lands will be conducted on a Monday through Friday, 8:00 am through 5:00 pm basis. All work on park lands shall be completed to the satisfaction of the Superintendent or his or her representative.

(5) The Permittee shall have a right of ingress and egress within the right-of-way at all times for the purposes of maintaining and operating the existing **road/airstrip** and appurtenances.

(6) If any portions of the facility are to be installed underground within the road shoulders of public roads, they shall comply with the specifications of the highway department having jurisdiction. Detailed procedures of installation are also subject to approval in advance of construction by the Superintendent or his representative.
INAPPLICABLE

(7) If required, the Permittee shall file a performance bond with satisfactory surety payable to the Permitter to fully insure compliance with the permit terms and conditions.

(8) The Permittee shall be responsible to pay the Permitter for any damage resulting from this permit which would not reasonably be inherent in the use which the Permittee is authorized to make of the land. The Permitter will give the Permittee written notice of such damage and the Permittee will either take corrective action or pay the indicated amount as agreed upon and approved by the Superintendent.

(9) Use by the Permittee of the land is subject to the right of the park to establish trails, road/airstrips, and other improvements and betterments over, upon or through said premises, and further to the use by travelers and others of such road/airstrips, trails, and other improvements already existing. If it is necessary to exercise such right, every effort will be made by the park to refrain from unduly interfering with or preventing use of the land by the Permittee for the purposes intended under this permit.

(10) The Permittee shall take adequate measures as directed and approved by the Superintendent to prevent or minimize damage to park resources. This may include restoration, soil conservation and protection measures, landscaping, and repairing road/airstrips, trails, fences, etc. The Permittee shall dispose of brush and other refuse as required by the Superintendent. The Superintendent or his representative may inspect the right-of-way area as deemed necessary.

(11) The Permittee will halt any activities and notify the Superintendent upon discovery of threatened or endangered species or archeological, paleontological, or historical findings. All artifacts unearthed remain the property of the park.

(12) No vegetation may be cut or destroyed without first obtaining approval from the Superintendent. Any vegetation that must be removed shall be mitigated as specified by the Superintendent.

(13) Use of pesticides and/or herbicides on park lands is prohibited without prior written approval from the superintendent.

(14) In the event any facilities covered by this permit should interfere with future Park construction, the Permittee agrees to terminate the use or relocate them at no cost to the Service within 60 days after written notice.

(15) The Permittee agrees to do everything reasonably within its power, both independently and on request of the Superintendent, to prevent and suppress fires resulting from the Permittee's activities on and adjacent to the right-of-way.

(16) The Permittee agrees that the right-of-way shall be subject to the express condition that the use will not unduly interfere with the management and administration by the Service of the lands. Further, the Permittee agrees and consents to the occupancy and use by the park, its Permittees, or lessees of any part of the right-of-way not actually occupied or required by the project, or the full and safe utilization, for necessary operations incident to such management, administration, or disposal.

(17) Upon expiration, revocation or termination of this permit, the Permittee shall leave the lands subject to the permit in as nearly the original condition as possible, as directed and approved by the Superintendent.

(18) The Permittee agrees that in undertaking all activities pursuant to this permit, it will not discriminate against any person because of race, color, religion, sex, or national origin.

(19) No member of or Delegate to Congress or Resident Commissioner shall be admitted to any share or part of this permit or to any benefit that may arise therefrom, but this provision shall not be construed to extend to this permit if made with a corporation for its general benefit.

(20) No transfer of the permit will be recognized unless and until it is first approved in writing by the Regional Director of the Service. Such a transfer must be filed in accordance with existing regulations at the time of transfer, and must be supported by the stipulation that the assignee agrees to comply with and to be bound by the terms and conditions of the right-of-way.

(21) This agreement is made upon the express condition that the United States, its agents and employees shall be free from all liabilities and claims for damages and/or suits for or by reason of any injury, or death to any person or property of any kind whatsoever, whether to the person or property of the Permittee, its agents or employees, or third parties, from any cause or causes whatsoever while in or upon said premises or any part thereof during the term of this agreement or occasioned by any occupancy or use of said premises or any activity carried on by the Permittee in connection herewith, and the Permittee hereby covenants and agrees to indemnify, defend, save and hold harmless the United States, its agents and employees from all liabilities, charges, expenses and costs on

account of or by reason of any such injuries, deaths, liabilities, claims, suits or losses however occurring or damages growing out of the same.

(22) Any alterations to this permit must be in writing and signed by the parties. Renewals will be subject to regulations existing at the time of renewal and such other terms and conditions deemed necessary to protect the public interest.

(23) Any underground utilities previously located within this right-of-way which are damaged or disrupted during maintenance shall be repaired or restored by the Permittee within four hours.

(24) The Permittee shall be responsible for the provision and maintenance of proper signs, barricades or other means of warning motorists and pedestrians of danger during all periods of repair and maintenance.

(25) Nothing herein contained shall be construed as binding the Service to expend in any one fiscal year any sum in excess of appropriations made by Congress or administratively allocated for the purpose of this permit for the fiscal year, or to involve the Service in any contract or other obligation for the further expenditure of money in excess of such appropriations or allocations.

SPECIAL CONDITIONS

(1) A maximum of fifteen (15) round trips per year with private vehicles are granted from mile 14.9 to mile 87.9 of the Denali Park Road. The property owner may allow his/her guests to the inholding to use such authorized trips, but the maximum trips for owner and guests will be fifteen. Authorization for guests in the form of road travel permits may be obtained at the park dispatch office if the Permittee requests in writing that the person be authorized to access the inholding. Picture identification, such as a driver's license, of authorized persons may be required to be shown when obtaining a road travel permit and at the Savage River Check Station:

- 1.1) Road vehicles of the Permittee and guests will park in the summer parking area by the Glen Creek airstrip or in Kantishna as designated by the Superintendent.
- 1.2) Permittee will have use of the Glen Creek Airstrip in its current state for access to his/her property in both summer and winter. No improvements to the strip are authorized except by written permission of the Superintendent.
- 1.3) Access by 4 WD vehicle from the Glen Creek Airstrip to Spruce 4 will be limited to no more that 15 round trips per year, and no more than 8 round trips total in any month, and not more than 2 in any day.
- 1.4) Access by 4 WD vehicle from the beginning of the ROW at the first Moose Creek crossing to Spruce 4 will be limited to no more than 15 round trips per year, no more than 8 round trips in any month, and not more than 2 total in any day.
- 1.5) **Vehicles will be no more than 22 feet long and no more than 4 tons (8,000 pounds) loaded. Use of larger vehicles for minor road construction and maintenance must be authorized in advance in writing by the Superintendent.**

1.6) Snowmachine access is authorized in accordance with applicable NPS and ANILCA regulations.

(2) No improvements to any road or route, including blading, filling or damaging vegetation may be done without specific written authorization from the Superintendent.

(3) Drivers authorized to operate vehicles on the Park road pursuant to this permit will comply with all terms of the permit, all Park and non-conflicting State laws, and obey the provisions in 36 CFR Part 4 and the following special provisions:

3.1) Not to exceed the posted speed or 35 miles per hour, whichever is lower.

3.2) Drive with headlights on when west of the Savage River.

3.3) Stay to the right on the road.

3.4) Between mile 31.3 (Teklanika River Bridge) and mile 87.9, pull over to the right and come to a complete stop whenever meeting heavy equipment, emergency vehicles, and/or buses.

3.5) Vehicles, owned or operated by the Permittee, larger than 22 feet long, or 8 feet wide, or 12 feet high may travel between mile 31.3 and mile 87.9 only between the hours of 10:00 p.m. through 6:00 a.m. unless otherwise posted.

3.6) Vehicles are not permitted to stop at the Polychrome Pass rest stop.

(4) The Visitor Transportation System (VTS) may be used through the normal reservation system.

B. Gravel extraction. At least 60 days prior to commencement of any construction activities under this permit, Permittee must provide the Superintendent with a detailed description of the proposed construction or maintenance project, including the requirements for gravel, and descriptions of existing quantity and quality of gravel available at proposed sources of gravel. **Permittee agrees that all gravel for the construction and maintenance of the road will be obtained from the ROW corridor or areas specified by the Superintendent adjacent to the ROW corridor. The Superintendent must provide specific, prior written authorization for construction or maintenance, and the extraction and use gravel from federal parklands. This authorization would specify equipment that could be used for construction and maintenance.**

COMPLIANCE

Failure of the Permittee to comply with any provision of this right-of-way permit shall constitute grounds for immediate termination of this permit.

WAIVER NOT CONTINUING

The waiver of any breach of any provision of this right-of-way permit, whether

such waiver be expressed or implied, shall not be construed to be a continuing waiver or a waiver of, or consent, to any subsequent or prior breach of the same or any other provision of this permit.

IN WITNESS WHEREOF, the Regional Director of the National Park Service, acting on behalf of the United States, in the exercise of the delegated authority from the Secretary of the Department of the Interior, has caused this Permit permit # to be executed this _____ day of _____, 2002.

Regional Director
Alaska Region
National Park Service
United States Department of the Interior

ACCEPTED THIS _____ DAY OF _____, 2002.

Jeff Barney

Attest

APPENDIX E

**USFWS Letter on Endangered and Threatened Species
In the vicinity of the access proposal to Spruce #4,
Denali National Park and Preserve, Alaska**



United States Department of the Interior
Fish and Wildlife Service
NORTHERN ALASKA ECOLOGICAL SERVICES
101 12th Ave., Box 19, Room 110
Fairbanks, Alaska 99701
April 12, 2002



RECEIVED
ENVIRONMENTAL RESOURCES

APR 18 2002

Bud Rice
National Park Service
2525 Gambell, Suite 107
Anchorage, AK 99503-2517

Re: Spruce Creek Access


Dear Mr. Rice:

This responds to your request for a list of endangered and threatened species and critical habitats pursuant to section 7 of the Endangered Species Act of 1973, as amended (Act). This information is being provided for the proposed road work in the Spruce Creek area of Denali National Park. The proposed project will provide improved access to an existing inholding within the park.

No listed species occur in the project area and there is no designated or proposed critical habitat in the vicinity of the proposed project. Therefore, the Service concludes that this project is not likely to adversely impact listed species. Preparation of a Biological Assessment or further consultation under section 7 of the Act regarding this project is not necessary.

This letter applies only to endangered and threatened species under our jurisdiction. It does not preclude the need to comply with other environmental legislation or regulations such as the Clean Water Act.

Thank you for your cooperation in meeting our joint responsibilities under the Act. If you need further assistance, please contact Ted Swem at (907) 456-0441.

Sincerely,



Larry K. Bright
Acting Field Supervisor

APPENDIX F - PREPARERS AND CONTRIBUTORS

Much of the information in chapters 1-3 were excerpted from the Spruce Creek Access Draft EIS for the construction and operation of a remote lodge (NPS 1999.) NPS personnel rewrote parts of chapter 1, 2, and 3 to reflect the revised alternatives for access to two acres of the Spruce #4 parcel of land for private, personal use. A new ROW application was submitted for such use and revised alternatives were developed in response to the application. NPS authors wrote new chapters on the impacts of the alternatives, and revised chapters 5 and 6 for preparation, consultation, and references. Also, a new statement of findings for impacts to wetlands was prepared.

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Diane Chang, Deputy Superintendent

Elwood Lynn, Chief of Maintenance

Gordon Olson, Chief, Division of Research and Resource Preservation

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APPENDIX G

GLOSSARY

Alluviation. The depositional process that forms alluvium in places where the stream loses its sediment carrying capacity. Stream deposition.

Alluvium. A deposit of all types of stream carried sediment of recent origin, which usually includes gravel, sand and silt.

Colluvium. A hillside and detrital rock deposit that has accumulated at the bottom of a slope due to the effects of gravity. Colluvium includes rock and soil material brought down by solifluction (soil creep), landslides, and rockfalls. Talus and scree are examples.

Diorite. A gray intrusive igneous rock from the Alaska Range.

Eolian. Deposits carried by the wind.

Graphitic. Composed of a large percentage of graphite.

Interglacial. This literally between the glaciers, but it is here to mean between the ice ages.

Loess. A fine-grained, yellowish-brown fertile loam deposited by the wind.

Meta-felsite. Metamorphosed light-colored igneous rock.

Meta-andesite. Metamorphosed gray igneous rock.

Pelitic. An esoteric geologic adjective for marine clay.

Periphyton. A community of plants, animal, and associated detritus adhering to and forming a surface coating on stones, plants, and other submerged objects.

Phyllite. A weakly metamorphosed shale.

Pleistocene. The geologic period of time before the present one in which the ice ages occurred. The Pleistocene started about three million years ago and ended about 10,000 years ago.

Quartzite. Metamorphosed sandstone.

Quaternary. A larger division of geologic time than the Pleistocene includes the Pleistocene and the Present. The Present is the last 10,000 years. The Quaternary started about three million years ago and continues to today.

Schists. A highly metamorphosed shale.

Solifluction. The process of slow flowage from higher to lower ground of masses of waste saturated with water.

Tertiary. A larger division of geologic time that occurred during 62 million years between the time of the dinosaurs and before the Quaternary.

Visual Absorption Capability. A classification system used to denote relative ability of a landscape to accept human alterations without loss of character of scenic quality.