

Group Case Study

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Introduction

This EA was used in the workshop as a very simple case study to introduce the concepts necessary for identifying and evaluating cumulative impacts in a realistic way. It is based on an old EA, and in no way reflects on the past or current quality of the agency approach; it is used solely because it is short, but it is very effective in providing a strong foundation for understanding and applying the factors and considerations necessary for conducting an effective and focused cumulative impact analysis consistent with the National Environmental Policy Act and its implementing regulations.

The project is driven by an applicant to the agency, which is common for many agencies, including the US Forest Service, Federal Highway Administration/State Depts. of Transportation, Federal Aviation Administration, Natural Resources Conservation Service, US Fish and Wildlife Service, and others. The project included two phases – new access to the site and development at the site itself – which incorporated the consideration of connected actions and their potential role and contribution to cumulative impacts on resources. It also included:

- the potential for future development induced by the project;
- the consideration of similar future actions and the potential to evaluate their cumulative impacts in a programmatic document
- cumulative impacts on interrelated resources, including water quality, fish, visuals, and recreation
- identifying the temporal and geographic scope of cumulative impact analyses for various resources
- The purpose and role of the no action alternative and developing an appropriate baseline for cumulative impact analyses
- The relationships of cumulative impact analyses and requirements under other laws, such as the Endangered Species Act, National Historic Preservation Act, Clean Water Act, Wilderness Act, and previously made decisions pursuant to NEPA
- Using cause-and-effect relationships to focus on cumulative impact analysis and developing mitigation measures
- The relationship of cumulative impacts to the determination of significance of impacts according to 40 CFR 1508.27.

The EA itself is on the next page. Following the EA is a basic presentation of the most important issues inferred in the EA, presented in an interrelated and interdisciplinary way. Each one of the issues is cumulative, as more than one action makes an incremental contribution to each of the resources. The next steps would include identifying alternatives and measures that would reduce (mitigate) the associated impacts and

evaluate the impacts themselves of each alternative as change from the impacts associated with the no action alternative (baseline).

Environmental Assessment
Plan of Operations for Crescent Creek Claims #13 and #14
Alaskan National Forest

1. THE PURPOSE OF AND NEED FOR ACTION

On June 29, 1982, the Alaskan National Forest received a completed Plan of Operations from Clyde Holbrook for the Crescent Creek Claims #13 and #14.

The operator will use a small to medium sized dozer and backhoe combination and a washplant for further exploration and mining. Gold will be recovered from the creek with a suction-dredge. A settling pond will be used to reduce sediment into Crescent Creek. Reclamation of the mined area will include leveling tailing piles, regrading contours, and respreading topsoil. A reclamation guarantee to ensure completion of these items will be required before mining begins.

Mining is a legitimate use of the National Forests. The Forest Service is mandated to integrate the development and use of mineral resources with the use and conservation of all other forest resources to the fullest extent possible under the laws governing mineral disposal. The 1872 Mining Law confers a statutory right to enter upon public lands to prospect, develop and mine valuable minerals, provided that operations should be conducted so as to minimize adverse environmental impacts on National Forest surface resources.

This assessment constitutes a portion of the authorized Forest Officer's operating plan review in determining the reasonableness of the requirements for surface resource protection.

Public Issues and concerns relating to this plan of operation are:

1. Conflicts with recreation users.
2. Alteration of scenic areas.
3. Maintenance of water quality.
4. Rehabilitation of mined areas.

II. ALTERNATIVES INCLUDING THE PROPOSED ACTION

There are two basic alternatives to consider: A) no action (reject the plan and not allow the mining operation), or B) accept and approve the plan.

The "no action" alternative is not viable in that it is not in accordance with the Mining Law of 1872 and subsequent regulations and policies.

The Forest Service preferred alternative is to approve the operating plan to allow the Crescent Creek Claims #13 and #14 to be mined in the manner described under the Purpose of and Need for Action.

Mitigating measures include:

- 1) Keep a neat and orderly campsite and haul out all garbage to the nearest transfer site.
- 2) Do not build any structures not on the present plan or make a "significant" change from the Plan of Operation without obtaining prior approval from the Forest Service.

- 3) Notify the Forest Service of any discovery of cultural or natural history resources within the area covered by the plan. Approval of the Plan of Operation does not constitute permission to relieve the operator from criminal prosecution under the Antiquities Act.
- 4) In addition to approval of the Plan of Operation, the miner is obligated to comply with other applicable Federal and State water quality and solid waste disposal and treatment standards.
- 5) All topsoil encountered during mining operations will be stockpiled for use in reclamation.
- 6) All personal property, i.e. cabins or equipment, will be removed upon completion of the mining operations.
- 7) The progress of work will be monitored.

III. AFFECTED ENVIRONMENT

The entire area is located about five miles east of Cooper Landing in the south half of T.5 N, R. 2 W Seward Meridian. Crescent Creek is an unroaded, undeveloped area. The mountains are forested at the lower elevations. Trees give way to alder and eventually to subalpine vegetation and rock on the higher alpine slopes. Clear water characterizes the creeks. Human activities in the valley have been largely hiking, fishing, mineral prospecting and hunting.

A. Physical Environment

1. Soils

The Crescent Creek drainage is a narrow valley shaped by recent (5,000-10,000 years) glacial action, and is surrounded by steep, jagged mountains. Soils found on the steep upper sideslopes are shallow at the top, increasing in depth near the bottom of the slope. Soils found on the lower slopes are deeper accumulations of glacial till consisting of sands, silts and rounded gravel. A major portion of the soils in the drainage bottom consists of alluvial outwash of gravels and cobbles intermixed with angular avalanche debris, overlaid with organic matter.

A more detailed soil description of the Crescent drainage may be found in "Soil Resource Inventory of the Kenai Peninsula, Alaskan National Forest," and is available for review at the Alaskan National Forest Supervisor's Office in Anchorage, Alaska, and the District Ranger's Office in Seward, Alaska.

2. Minerals

Placer gold is located throughout the gravels and is usually concentrated on bedrock. Crescent Creek Valley is composed of glacial drift material, intermixed with avalanche debris. Amounts of gold can vary substantially from one point to another.

This area of the Kenai Peninsula has had a history of gold mining dating back to the late 1800's. Evidence of old prospect pits, old trails and mine tailings indicate that mining activity has occurred throughout most of Crescent Creek Valley.

The only recent mining activity using heavy equipment has occurred in the past 5 years within 1-1/2 mile of the Old Sterling Highway on Hargood and Crescent Creeks.

Four claims downstream from the Crescent #13 claim are being mined with small suction dredges. Two of the suction dredge operations started in 1982, and the other two began in 1981.

Nineteen placer claims on Crescent Creek and eight on Hargood Creek cover almost the entire length of both drainages. In addition, about ten claims are adjacent to the creek claims or run up a main tributary to the south. The claims are owned by eight individuals or groups.

3. Watershed

Crescent Creek originates at Crescent Lake about 1.5 miles above the upper claim and flows about 5.9 miles into Quartz Creek. The clear water of Crescent Creek flows at a gradient in excess of one percent and has an average width of 20 feet and depth of 1 feet. The streambed is comprised of large and small cobbles interspersed with smaller gravel and fines. Stream channels show evidence of natural erosion where bedrock is not exposed.

B. Biological Environment

1. Wildlife

The Crescent Creek drainage contains a mix of wildlife habitat within two major vegetative associations: (1) white spruce-paper birch forest, and (2) subalpine/riparian willow-alder thickets. Avalanches have maintained large areas in early successional grass and shrub communities at the base of chutes and runout zones.

Wildlife viewing and hunting are two activities along the trail to Crescent Lake. Wildlife species which occur in the area include, but are not limited to, brown bear, black bear, moose, wolf, coyote, wolverine, Dall sheep, spruce grouse, snowshoe hare, and ptarmigan.

No threatened or endangered species are known to occur within the area.

2. Fisheries

Crescent Creek supports both resident and anadromous fish species. Most grayling production occurs at the outlet of and within Crescent Lake, where the majority of the recreational fishing occurs. Some spawning may occur downstream but temperatures and velocities are limiting. Salmon, trout and char use the first mile of Crescent Creek for spawning and rearing.

C. Human Environment

The human environment that would be affected by the mining activities is related primarily to the recreational values of Crescent Creek and Crescent Lake. Although the town of Cooper Landing is a few miles from the site, the majority of equipment and supplies will be brought in from outside the Cooper Landing community.

The project area is uninhabited except for temporary mining crews and exploratory miners. Consideration of the human environment is, therefore, limited to recreation and aesthetic experiences, roadless characteristics and cultural resources associated with the project area.

1. Recreation, Visual Resources and Noise

The 1974 Alaskan National Forest Land Use Plan recognizes the scenic quality of Crescent Lake and the surrounding watershed and formulated objectives and guidelines to preserve those qualities.

In harmony with this, the Forest Service's visual quality objectives for the Crescent Lake area were inventoried in 1982 under "visual quality objective of retention." This means that management activities in this area should not be noticed by the average forest visitor and indicates that it is recognized that the area continues to have significant visual value.

Mechanical sounds in the valley can be heard from occasional suction dredges, heavy equipment from mining near the trailhead, and occasional aircraft.

Crescent Creek Valley offers the public a variety of backcountry recreational opportunities including hiking, camping, sightseeing, hunting, and fishing. Access to this undeveloped area is provided by a Forest Service-maintained hiking trail which leads from the Crescent Creek trailhead, located at Mile 3 on the Old Sterling Highway, 6.3 miles to the outlet of Crescent Lake.

Crescent Creek Valley has received a high amount of recreation use by a variety of user groups. Recreation Information Management (RIM) data indicates that approximately 3,100 people travel the Crescent Creek Trail each year. On a per-mile basis, this rate of use equals that of the Resurrection Pass Trail system, which is generally considered to be the second most heavily used trail in Alaska. During the last decade recreation use has been estimated to have increased at an annual rate of 10 per cent. Trail use is the highest during the months of June, July, and August, with July receiving the highest use.

Nearly one third of the use occurring on the Crescent Creek trail is estimated to be day use; i.e. persons spending less than 12 hours in the area. This generally includes fishermen, small game hunters, and sightseers. Crescent Lake is generally the destination point for day and overnight use. The bulk of the trail use is by backpackers hiking to the public use cabin at Crescent Lake or to one of the several dispersed campsites located at the end of the trail. In 1981, this year-round cabin had 195 reservations for 250 days of use and accommodated 357 people.

2. Roadless Resource

The Crescent Creek Valley is in a RARE II Further Planning Area which is presently being evaluated through the Alaskan Forest Land Management Planning process. Until it is allocated to wilderness or non-wilderness, the wilderness quality of the area is to be retained insofar as possible. This does not exclude mining and reasonable access because it is important to know the mineral resources of an area before classifying the land as wilderness or non-wilderness.

3. Cultural Features

Cultural features in Crescent Creek Valley include old prospect pits, intensively mined areas, old trails and mine tailings. None of these are felt to have significant historic values.

IV. ENVIRONMENTAL CONSEQUENCES

The environmental impacts of this action are not significant: 1) mining several acres of land will not have a major effect on the ecosystem; 2) there are no major adverse cumulative or secondary environmental effects; 3) the physical and biological effects are limited to the area of planned development and use; and 4) there are no threatened or endangered plant or animal species known to be within the affected area.

A. Adverse Environmental Effects Which Cannot Be Avoided Should The Proposed Action Be Implemented

The adverse environmental effects will be:

1. Presence of noise from equipment and vehicles.
2. Loss of the undeveloped character of the area. Visitors seeking a backcountry, more wilderness-oriented recreation experience may be affected by the impacts of the mining activities and the noise.

These mining activities will not eliminate recreation opportunities. More likely the result would be a diminished wildland recreation quality as viewed by the recreation visitor. It can be anticipated that those people seeking a recreation experience in an undeveloped area may go elsewhere while those whose first visit to Crescent Creek occurs after minimal development will judge future trips against their initial benchmark.

B. The Relationship Between The Proposed Action And The Maintenance And Enhancement of Long Term Productivity

The proposal has a minimum effect on long term productivity. This relates to the vegetation on the site.

C. Irreversible and Irretrievable Commitment of Resources

The extraction of gold from the mining area is an irreversible commitment of resources. Removal of the trees and other vegetation at the mining site is an irretrievable commitment. When rehabilitated at the conclusion of the operation, the area can eventually resume production for timber and wildlife habitat.

V. LIST OF PREPARERS

The following is an alphabetized listing of the Interdisciplinary Team and contributors. Primary function is indicated on the right.

- A. Interdisciplinary Team
 - District Wildlife and Fisheries Staff Biologist
 - District Minerals-Team Leader
 - District Minerals Staff Officer
 - District Recreation Staff Officer
 - Seward District Ranger
- B. Other Contributors
 - Fisheries Biologist
 - Engineering Technician
 - Soil Scientist
 - Minerals Examiner
 - Mineral Geologist
 - Public Affairs Officer
 - Archaeologist
 - Forest Planning Staff Officer

VI. LIST OF AGENCIES AND PERSONS CONSULTED

The miner's Annual Placer Mining Application has been distributed to the appropriate State and Federal agencies. The Plan of Operations is similar to others on the Seward Ranger District, and mining is a legitimate use of the National Forest. There were 71 individuals and groups notified of the access proposal to these mining claims. That list is contained in the Environmental Assessment for Access to Mine Crescent Creek Claims #13 and #14.

ALASKAN NATIONAL FOREST
DECISION NOTICE AND FINDING OF NO SIGNIFICANT IMPACT
FOR OPERATING PLAN TO MINE CRESCENT CREEK UNPATENTED
CLAIMS #13 AND #14

An Environmental Assessment (EA) that discusses the Operating Plan for Crescent Claims #13 and #14 on the Alaskan National Forest has been completed. The EA is available in the Forest Supervisor's Office in Anchorage, Alaska, and the District Ranger's office in Seward, Alaska.

Based on the analysis and evaluation described in the EA, it is my decision to accept the Operating Plan for Crescent Claims #13 and #14 (Alternative B).

The decision has been made considering: 1) that the 1872 Mining Law gives statutory right to enter upon public land to prospect, develop, and mine valuable minerals, which includes the right of reasonable access; 2) that the Forest Service has the responsibility to provide for the multiple use of resources on National Forest System lands while minimizing environmental impacts.

A Forest Service mineral examination indicates that sufficient gold is present on Crescent Claims #13 and #14 to warrant further testing and development. Recreation and visual resources will be minimally impacted.

One other alternative has been considered and that is the "no action" alternative. This is not a viable option because the right to explore and mine is assured under the mining laws.

This activity is not a major action significantly affecting the quality of the human environment. The 1979 second Roadless Area Review and Evaluation (RARE II) Final Environmental Impact Statement (FEIS) adequately addresses the management of Further Planning Areas which includes Crescent Valley. The EA for the Crescent Creek claims is tiered to the RARE II FEIS (available at the Alaskan National Forest Supervisor's office in Anchorage, Alaska, and the District Ranger's office in Seward, Alaska).

The RARE II EIS provides for maintaining the existing Characteristics of Further Planning Areas until a determination has been made regarding their management as wilderness or for purposes other than wilderness. In addition, the RARE II EIS provides that exploration for oil and gas will be permitted in Further Planning Areas, in order that resource values will be better known prior to allocation decisions. In 1981 this provision was clarified as applying to all minerals, including gold, by Forest Service Manual 2800, I.D. No. 10.

This is not a major action nor are the environmental impacts of this action significant:

- 1) There are no major adverse cumulative or secondary environmental effects;
- 2) The physical and biological effects are limited to the area of planned development and use; and
- 3) There are no known threatened or endangered plant or animal species within the affected area.

This action is in conformance with the 1872 Mining Law, the 1974 Alaskan National Forest Management Plan, and RARE II. An Environmental Impact Statement will not be prepared.

This decision is subject to administrative review pursuant to 36 CFR 211.19.

Implementation may take place immediately upon fulfillment of the permit provisions by the mineral developer.