

Analysis of the Management Situation

The Forest Plan needs to look at possible allocations that address mariculture and aquaculture opportunities and effects on adjacent uses.

Revision Decision Space

The Forest Plan needs to look at designating special areas within the Forest emphasizing wild fish production.

The Forest may set allocations that emphasize fisheries enhancement projects in watershed associations that are projected to receive high demand for additional fish for sport, personal or subsistence purposes.

Possible designation of wilderness, wild and scenic, or other special areas could have specific impact on the Forest's ability to meet the needs for enhancement or restoration of aquatic resources.

3. Minerals

Introduction and Background

Geologic, geophysical, and geochemical investigations along with surveys of known mines, prospects, and mineral occurrences have been conducted to evaluate the mineral resource potential of the Chugach National Forest, Alaska. The U. S. Geological Survey and the U. S. Bureau of Mines conducted these studies. Information from these studies was used to describe the mineral potential. Identified and potential resources include gold, copper, zinc, silver, lead, coal, oil, and possibly manganese, molybdenum, nickel, chromium, barium, cobalt, tungsten, and antimony. Significant amounts of gold and copper were produced on the Forest, in the past. Oil has been produced from the Katalla/Controller Bay area of the Forest.

The Forest Service considers mineral exploration and development to be important parts of its management program. It cooperates with the Department of the Interior (USDI) in administering lawful exploration and development. While the Forest Service is mainly involved with surface resource management and protection, it recognizes that mineral exploration and development are ordinarily in the public interest and can be compatible in the long term, if not immediately, with the purposes for which National Forests were established.

National Forest System lands are generally available for mineral exploration and mining unless specifi-

Figure IV-39: Status of the Mineral Estate

Mineral Estate Status	Acres
National Forest System, surface and subsurface	4,545,400*
Acquired Lands	500
ANILCA Copper River Addition	801,600
Katalla Oil Exchange Area	56,400
National Forest Surface, Native Corporation Subsurface (reserved minerals)	48,100
Private/State Surface and Subsurface	864,700
Total	6,316,700

*Includes 84,400 acres of fresh water lakes

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cally precluded by an act of Congress or other withdrawal. There are three broad classes of laws which govern how minerals are managed on the National Forest; the laws that deal with Locatable Minerals (base and precious metals, such as gold, silver and copper); the Leasable Minerals (oil, gas, and coal, as well as metallic minerals on acquired lands); and the Salable Minerals, also called mineral materials (sand, gravel, and stone). The following figure, which is displayed on **Map10 - Mineral Status Map**, is a summary of the status of the mineral estate within the boundary of the Forest:

Locatable Minerals

Locatable minerals are those mineral occurrences upon which mining claims can be located (mineral entry) under the General Mining law of 1872, as amended. In general, the locatable minerals are those which are mined and processed for the recovery of metals. They also may include certain nonmetallic minerals and uncommon varieties of mineral materials, such as valuable and distinctive deposits of limestone or silica.

Rights Under the 1872 Mining Law as Amended. The mining law gives statutory rights to enter upon public land to prospect, develop, and mine valuable minerals.

A mining claimant by location and entry, in compliance with the mining law, acquires certain rights against other citizens and against the United States. A valid mining claim creates a possessory interest in the land that can be sold, mortgaged or transferred by law, as any other real property. The claimant has the right to dispose of all locatable minerals, on which the claimant has a valid claim.

The law provides for the right to occupancy and use necessary for prospecting, mining and processing, but not the exclusive right to the surface (except for pre 1955 mining claims). Structures on a mining claim must be under an approved Plan of Operations. Lands are subject to the rights of the United States to manage and dispose of the vegetative resources, and to manage other resources, except locatable minerals.

The right of reasonable access for purposes of prospecting, locating, and mining is provided by statute. Such access however, must be in accordance with Forest Service regulations. The rules and regulations may not be applied so as to prevent lawful mineral activities or to cause undue hardship on bona fide prospectors and miners.

Claimants have the right to cut timber on their claims for mining uses and clearing for mining, however that timber may not be sold by the claimant.

Mining Regulations at 36 CFR 228. In prospecting, locating, and developing the mineral resources, all persons must comply with the rules and regulations covering the National Forests (16 U.S.C. 478).

The regulations require that operations conducted under the authority of the mining laws which might cause significant surface resource disturbance must be covered by an operating plan approved by an authorized officer of the Forest Service. In managing the use of the surface and surface resources, the Forest Service will attempt to minimize or prevent, mitigate, and repair adverse environmental impacts on National Forest System surface and cultural resources as a result of lawful prospecting, exploration, mining, and mineral processing operations, as well as activities reasonably incident to such uses. This is accomplished by imposition of reasonable conditions which do not materially interfere with such operations.

Locatable Minerals on the Chugach National Forest. National Forest System lands on the Kenai Peninsula (with the exception of certain small withdrawals) and lands in Prince William Sound, and

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Copper River Delta are open to entry under the General Mining Law of 1872. This is approximately 4,601,800 acres. In 1997 there were 558 mining claims located on the Forest covering approximately 12,720 acres. The mineral estate within the ANILCA Copper River addition (801,600 acres) to the Forest is withdrawn from operation of the mining laws, and is available under the leasing laws (ANILCA Sec. 502). Past mineral production on the Forest has primarily been gold produced from both placer and lode mines, as well as copper with associated base metals. Each of these resources is summarized in the following section according to history of production, reserves, potential and current levels of activity.

Placer Gold Deposits (Jansons, U., and others, 1984; Nelson, S. W., and others, 1984)
Placer gold appears to have been the first mineral commodity explored for on the Forest. In the late 1840's, the Russian-American Company attempted to evaluate the gold potential of its concessions in North America. Gold was discovered on the Kenai River and some of its tributaries in 1848. Placer gold was mined by that company in 1850 and 1851 near Kenai Lake. Abandoned mining equipment along other drainages was reported by later prospectors and attests to perhaps more extensive activity by Russian prospectors. After the Alaska Purchase in 1867, individual prospectors must have been active in the area because of the sporadic reports of gold discoveries between the 1860's and 1900's.

A placer gold discovery on Cooper Creek was reported in 1884 and those on Resurrection and Sixmile Creeks in 1888. In about 1896 high-grade gold gravels were discovered and mined on Bear Creek and Palmer Creek. Soon after, gold placers were discovered on Mills, Canyon, Crow, and other subsequently productive creeks. In the Turnagain Arm area, placer gold prospects that could be worked successfully by pick- and shovel-methods were exhausted by 1912 and hydraulic mining was initiated to increase the volume of gravel processed.

Recently (1994-1997) some 70 to 90 placer operations have been active during the 3 to 4 month mining

Figure IV-40: Major placer gold producing streams, Chugach National Forest, Alaska (Jansons, U., and others, 1984)

Location	Estimated Gold Production (ounces)	Percent of Total Production
Crow Creek*	42,500	31.9
Canyon Creek	37,700	28.3
Resurrection/ Palmer Creeks	26,800	20.2
Lynx Creek	7,500	5.6
Bear Creek	5,000	3.8
Mills Creek	4,000	3.0
Gulch Creek	2,150	1.6
Sixmile Creek	1,750	1.3
Cooper Creek	1,150	.86
Quartz Creek	800	<1.0
Bertha Creek	700	<1.0
Silvertip Creek	650	<1.0
Crescent Creek	350	<1.0
California Creek	300	<1.0
Hargood Creek	300	<1.0
Seattle Creek	200	<1.0
Falls Creek	200	<1.0
Stetson Creek	200	<1.0
Kenai River	100	<1.0
Others	650	<1.0
Total	133,000	

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Figure IV-41: Inferred placer gold reserve base at major drainages, Chugach National Forest, Alaska (Jansons, U., and others, 1984).

Location/drainage	Estimated Volume of Gold Bearing Gravels (cubic yards)
Sixmile Creek	>1,000,000
Canyon-Mills Creeks	>2,000,000
Resurrection-Palmer Creeks	>2,000,000
Crow Creek	>1,000,000
Lynx Creek	>1,000,000
Bear Creek	>3,000,000
Slivertip Creek	>1,000,000
Quartz Creek	>750,000
Total	>11,750,000

season on the Kenai Peninsula. (Huber, 1998) Operations range from small (4 to 8 in.) suction dredges, and pick-and-shovel operations processing 10 to 15 cubic yards/day to a part-time backhoe-bulldozer washing-plant operation that could process up to 2,000 cubic yards/day.

Placer Gold Production Placer gold has been produced primarily from the Kenai Peninsula in the Hope and Sunrise areas and Girdwood from Crow, Canyon, and Resurrection Creeks. Placer gold is noted to be present in the gravels of the Port Valdez area in Gold, Mineral, Solomon, and other creeks, but production was minimal. The major producing streams and their estimated gold production are listed on Figure IV-40. Placer deposits with subeconomic quantities of gold are found in many drainages. Only minor activity is reported elsewhere on the Forest. Nearly half of the total placer production (67,450 ounces) was recovered between 1895 and 1910. Currently placer operations are producing less than 700 oz./yr. (Huber, 1998)

Inferred Placer Gold Reserve Base The inferred placer gold reserve base of past producing areas is at least 11,750,000 cubic yards of gravel. The distribution of the placer reserves is shown in figure IV-41.

The overall mineral resource potential of the Chugach National Forest was rated by the U. S. Geological Survey and the U. S. Bureau of Mines. A summary of the acres of land with potential for gold placer occurrences is shown in Figure IV-42.

Lode Gold Deposits (Jansons, U., and others, 1984; Nelson, S. W. and others, 1984)

Lode gold was explored for and mined on a small scale in the Kenai Peninsula, Girdwood, Port Wells, Port Valdez, Jack Bay, Culross Island, Bligh Island, and McKinley Lake areas.

Figure IV-42: Summary of Placer Gold Potential

Potential	Land Status (acres)				
	National Forest Surface and Subsurface	Acquired National Forest	National Forest Surface, Reserved Minerals	ANILCA Copper River Addition (acquired)	Private Surface, Private Minerals
Placer Gold					
Most Favorable*	483,100	100	0	0	35,100
Moderately Favorable	267,900	0	0	197,300	92,000
Least Favorable	295,800	0	0	0	56,000
Un-rated Potential*	199,900	300	0	189,500	125,300
No Potential	3,298,700	100	0	414,700	556,300
Total	4,545,400	500	48,100	801,600	864,700

*See appendix for definition of mineral potential ratings