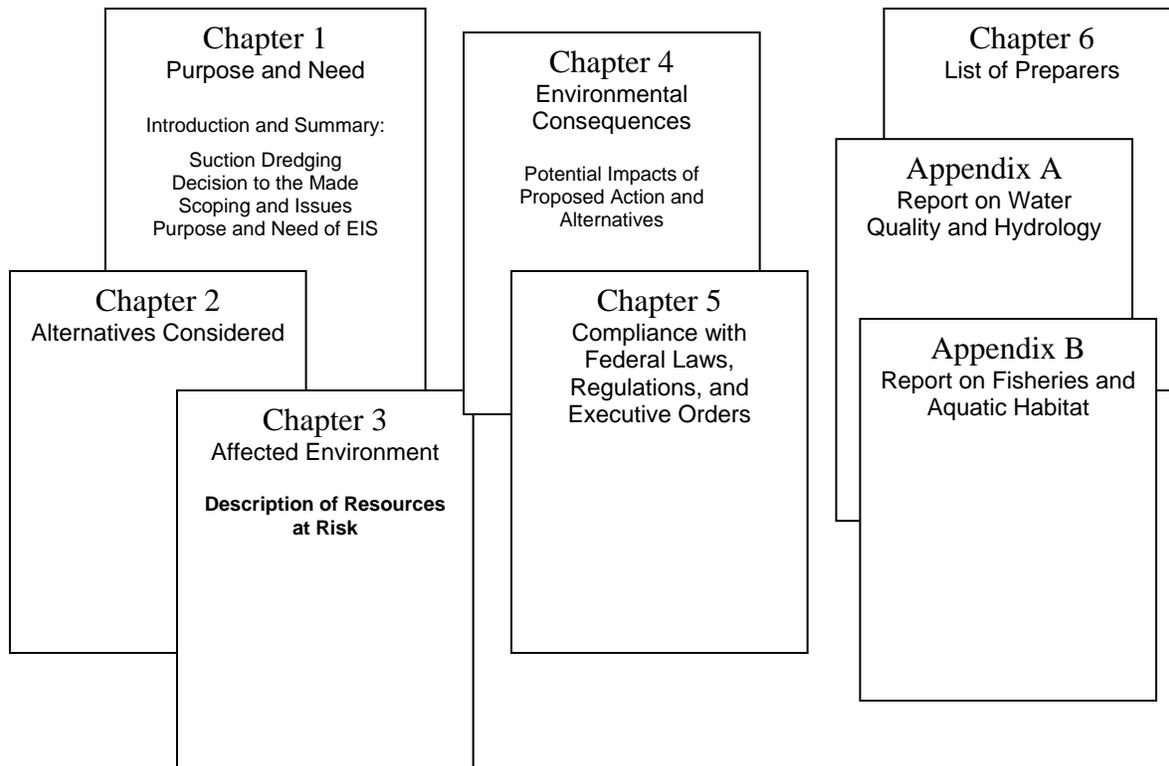


1.0 Purpose and Need

This Environmental Impact Statement (EIS) has been prepared in compliance with the National Environmental Policy Act of 1969 (42 U.S.C. 4321 *et seq.*) and Council on Environmental Quality *Regulations for Implementing the Procedural Provisions of NEPA* (40 CFR Parts 1500 - 1508).

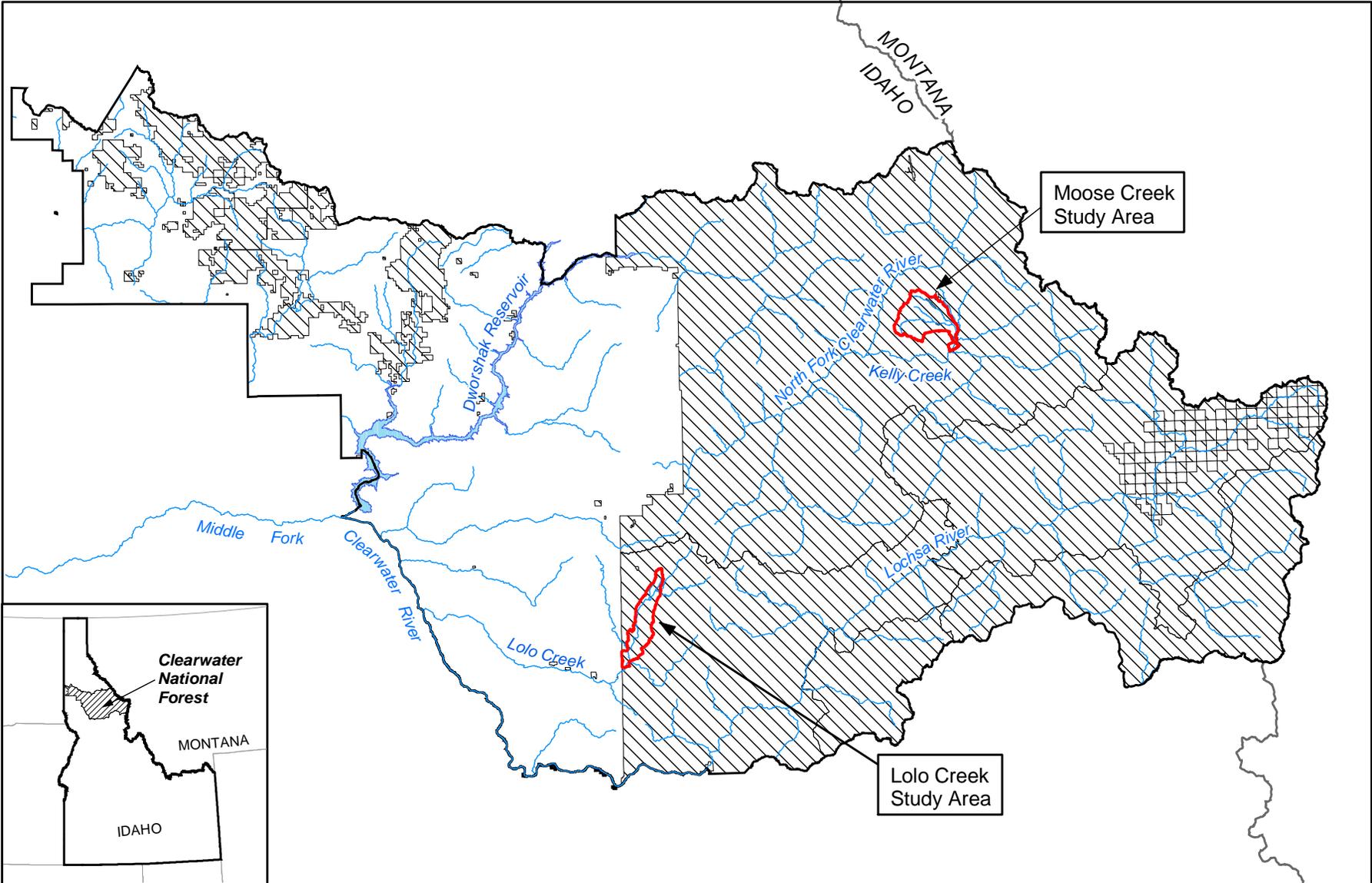
1.1 Structure of the EIS

The EIS is organized as follows:



1.2 Introduction and Background

The Clearwater National Forest is a geographically diverse area in central Idaho that contains occurrences of gold, silver, antimony and copper. Since the 1860s, placer gold mining has occurred in rivers and streams across the Forest. Two of the more productive streams, Lolo Creek and Moose Creek (including two tributaries, Independence Creek and Deadwood Creek), have had sporadic mining activity over the years (see Figure 1-1). With the rise in prices in the 1970s, both streams experienced a renewed interest in prospecting for gold. It was also around this time that prospectors started using suction dredges to explore and mine instream gravels. While the numbers who actually prospect varies from year to year, miners have established and maintained 17 mining claims on Lolo Creek and 26 on Moose Creek. Ownership of the claims



-  Lolo Creek and Moose Creek Study Areas
-  Clearwater National Forest Boundary
-  Clearwater National Forest Land and Wilderness Areas
-  Surface Water

FIGURE 1-1
Lolo Creek and Moose Creek Study Areas
Within the Clearwater National Forest

0 5 10 20
Miles

NAD 1983 UTM Zone 11N



is shared by 18 potential suction dredge operators on Lolo Creek and 38 potential suction dredgers on Moose Creek. The claims were located under the Mining Law of 1872 (see box in section 1.5).

Lolo Creek and Moose Creek are most frequently mined by part-time, small-scale operations using suction dredges with nozzles from two to five inches in diameter and gasoline-powered pumps up to 15 horsepower.¹ Claimant activity ranges from short-term recreational uses (one to two weeks with a campout every year) to subsistence mining by individuals who supplement their income by extracting gold from their respective claims. The next section describes where and how they mine.

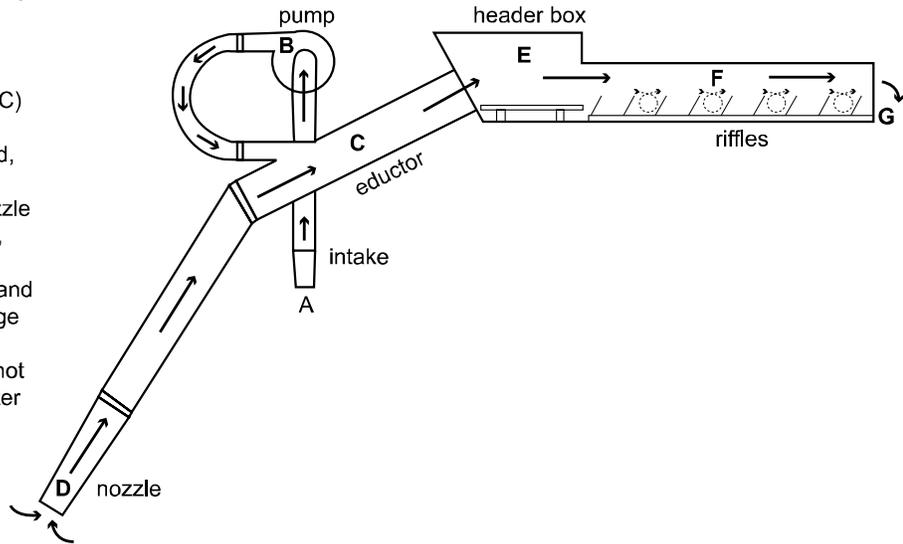
1.2.1 Overview of Small-Scale Suction Dredging

Gold is found in Lolo and Moose Creek drainages as alluvial placers where the gold is concentrated in past or present stream channels. To form placer deposits, gold is eroded from its parent rock upstream and carried downstream by the action of the water. The particles range in size from “flour” gold (generally, minus-400 mesh, or less than 0.0015 inches in diameter) to much larger nuggets. The distance gold particles move depends on the size and shape of the particle and on the energy of the stream. Gold is picked up where currents are fast and deposited when stream velocity slows. One typical area where stream velocity decreases is where the stream enters a deep pool. Other areas include the inside curve of bends, where the flow is slower than in the main channel and outside bend. Water also slows in eddies on the downstream sides of obstructions in the stream, such as rocks, vegetation, logs, or bedrock outcrops. As one of the denser materials transported by any stream, gold is among the first to drop out when a stream slows and energy diminishes. Unless the gold is picked up again, it often sifts down to a hardpan layer or to bedrock by the action of gravity.

Miners have long recognized how and where gold is likely to be concentrated and have operated accordingly. Most streams in Idaho were explored in the 1800s, and many continue to give up gold to miners. In Lolo and Moose Creeks, gold is recovered by operators who use small-scale suction dredges. Figure 1-2 shows a typical suction dredge and identifies its basic components. Dredges typically use gasoline-powered pumps to create suction in a flexible pipe up to five inches in diameter. The suction pulls stream sediment, gravel and small rocks, and other materials (collectively, the “overburden”) from the stream bottom, along with any gold. All this material is routed through the header box and onto a sluice box. The sluice box channels the water and other material over a series of riffles that serve to create pockets of slow water immediately behind each riffle -- the heavier material, including any gold, settles behind the riffles and the rest goes directly back into the stream. The entire system --- gasoline-powered engine, pump, and sluice box --- is mounted on adjustable stilts or a floating platform that is anchored or tethered near the work area.

¹ In the distant past, parts of Moose Creek were mined using high-pressure hydraulic monitors and draglines, and parts of Lolo Creek were mined with large dredges, backhoes, and dozers. These mining practices rerouted the streams and left portions of the banks and stream channels in unstable condition.

Water is sucked through a screened intake (A) by water pump (B). The force of high pressure water into the eductor (C) creates a suction at nozzle (D). Water, sand, gravel and gold are sucked through the nozzle into the header box (E), across the riffles (F) where gold is trapped, and out the end of the dredge (G) into the stream. Streambed material is not sucked through the water pump.



Adapted from Siskiyou National Forest 2001

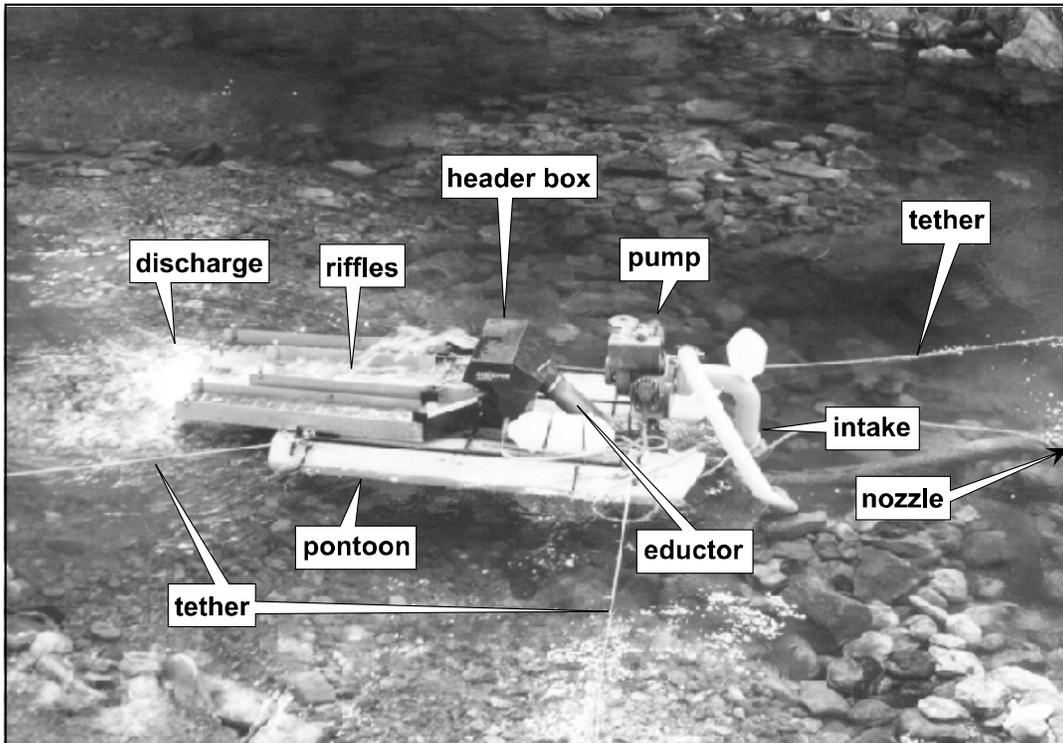


Figure 1-2.
Typical Small-Scale Suction Dredge

Operators try to maintain a hole open down to bedrock in which to work. As the operator advances upstream, cobbles and rocks too large to be vacuumed up through the nozzle and suction hose are placed to the edge or back of the hole while dredged material is pumped through the sluice box and — except for gold and other heavy materials that may settle out behind riffles — immediately discharged back into the stream.

Some operators operate air compressors that provide air to “divers” so they can remain under water while examining and suction-dredging deeper holes. A rule of thumb is that up to one foot of overburden can be worked economically for each inch of dredge-hose diameter (USFS 2001c).

Operators mine only a relatively short distance each mining season, from well under a hundred feet of stream up to a maximum of perhaps 200-300 feet. Many claims have been worked for decades, with significant lengths of streams never having been dredged to date. Other claims, in both Moose and Lolo Creeks, lie within areas that were subject to intensive disturbance by hydraulic mining in the early 1900s and by large dragline dredges up to the 1950s or later. In these latter areas, the gravels have been repeatedly sifted and the streams now run in steep-sided channels through the old mined gravels. The amount of material worked by miners varies widely, from less than a cubic yard per day up to 5 or 10 cubic yards per day.

1.2.2 Need for an EIS

Until the late 1990s, Lolo Creek and Moose Creek miners conducted their suction dredge operations under Forest Services Regulations (36 CFR Part 228) by notifying the Forest of their activities through a Notice of Intent (NOI). The State of Idaho Department of Water Resources also required suction dredge operations throughout the State to apply for a stream alteration permit. Attached to the State permit was a list of specific terms and conditions (“best management practices,” or BMPs) for resource protection. In an effort to streamline the process, National Forests in Idaho collectively agreed that operations that implemented the State’s BMPs could operate in selected streams with little or no effect to fish and water quality. Consequently, small-scale suction dredge operations were generally considered by the Clearwater National Forest to have insignificant effect, not requiring additional review and approval of plan of operations for each operator.

In 1997, steelhead trout were listed as a threatened species within the Snake River drainage under the Endangered Species Act. In 1998, bull trout were also listed as a threatened species within the Snake River drainage. Since the listings, the Forest has consulted with the National Marine Fisheries Service (NOAA Fisheries) and the U.S. Fish and Wildlife Service (USFWS) regarding the potential effects that Forest activities might have on these species.

After the 2001 mining season, Clearwater National Forest initiated the process of consulting, under §7 of the Endangered Species Act, with NOAA Fisheries and USFWS concerning the effects of small-scale suction dredging on these threatened species in Lolo Creek and Moose Creek. Pending completion of these consultations, the Forest did not approve any plans of operation for dredging in Lolo Creek or Moose Creek, and no dredging has occurred since the 2001 mining season.

In a 2002 Biological Assessment (BA) completed by the Forest for Lolo Creek (USFS 2002a), the determination was made that suction dredging was “likely to adversely affect” steelhead trout, but was “not likely to adversely affect” Lolo Creek bull trout. In a BA for Moose Creek (USFS 2002b), the Forest determined that suction dredging was “likely to adversely affect bull trout”². In their respective Biological Opinions (BOs), NOAA Fisheries (2003) and USFWS (2003) agreed with the Forest’s determinations. Both agencies further concluded that suction dredging would not jeopardize either species if specific conservation measures minimizing impacts to streams and minimizing take were adopted.

Clearwater National Forest now proposes to allow future approval of suction dredge plans of operations in Lolo and Moose Creek if they comply with specific operating requirements and implement specific mitigation measures. These requirements and mitigation measures are based on those required by the Idaho Department of Water Resources, and others described in the NOAA Fisheries *Biological Opinion for Lolo Creek* and the USFWS *Biological Opinion for Moose Creek*. The alternatives are described in detail in chapter 2.

NEPA requires that a detailed analysis — an EIS — be prepared for “...major federal actions significantly affecting the quality of the human environment.” Because suction dredging may adversely affect species listed as threatened or endangered under the Endangered Species Act, the Forest Service has determined that approval of proposed plans of operation would be a “major Federal action” within the meaning of NEPA and thus must be analyzed in an EIS. This EIS evaluates and discloses the potential environmental impacts of this proposed action, and of feasible alternatives. It is important to note that the Alternatives 2 and 3 do not encompass actual approval of proposed plans of operation, nor would any subsequent Record of Decision. Rather, they would *allow* Forest Service approval of future proposed plans of operation if they meet specified operating and mitigation requirements.

1.3 Purpose and Need for the Proposed Action

The purpose of the proposed action is twofold. First, it would allow Forest Service authorization of a limited number of suction dredge operations in certain portions of Lolo Creek and Moose Creek if the operations meet certain criteria and conditions that ensure protection of threatened species and other resources. Second, it will allow the Forest to fulfill efficiently the requirement in 36 CFR 228.4(f) for conducting environmental analyses on mining plans of operations and determining reasonable measures to protect surface resources on National Forest System lands. This in turn will allow Forest Service approval of a proposed plan of operation without further NEPA analysis when the plan of operation is determined by Forest Service review to meet the criteria and conditions of approval. The need for the action is to facilitate efficient and timely approval of plans of operation for suction dredging, while minimizing or preventing adverse impacts related to or incidental to mining by imposing reasonable conditions that do not materially interfere with operations.

² Steelhead are not listed in Moose Creek because their upstream migration is blocked by the Dworshak Dam downstream of Moose Creek on the North Fork of the Clearwater River, and so are not present in Moose Creek.

1.4 Decision Framework

Given the Purpose and Need, the Forest Supervisor of the Clearwater National Forest is the responsible officer who will review the evaluation of alternatives and their potential environmental consequences. The Forest Supervisor will determine whether or not to allow approval of suction dredge operations in the designated areas if they comply with a predetermined set of terms and conditions.

This decision will be implemented through approval of Plans of Operations which meet the requirements described in the selected alternative and Forest Service surface management regulations found in 36 CFR Part 228 Subpart A. These regulations do not provide for denying a reasonable plan of operation; reasonable plans of operations must be approved. Although this is non-discretionary, a plan of operation can be constrained or mitigated to protect surface resources. The constraints cannot make the operation economically infeasible, but may still significantly alter a miner's proposal as needed to protect surface resources or meet environmental laws, such as the Endangered Species Act. Hence the decision to be made concerns approval of a set of resource protection measures that constitute but one step in the approval process for plans of operation.

1.5 Laws, Regulations, Policies, and Plans

Forest Service mineral objectives are to manage National Forest System lands to accommodate and facilitate the exploration, development, and production of mineral resources, while integrating these activities with the use and conservation of other resources to the fullest extent possible.

Many laws, regulations, policies, and plans direct the Forest Service to support and facilitate mineral extraction while minimizing adverse environmental effects on National Forest resources and ensuring compliance with applicable environmental laws. The latter include, but are not limited to, the 1969 National Environmental Policy Act, 1972 Clean Water Act, the 1973 Endangered Species Act, and other laws described in chapter 5.

The *Mining Law of 1872* states that all valuable mineral deposits in land belonging to the United States are to be free and open to exploration. Under this law, a mine locator "shall have the exclusive right of possession and enjoyment of all the surface included within the lines of their locations and of all veins, lodes, and ledges throughout the entire depth." While miners have rights under the 1872 Mining Law, they are legally required to comply with the rules and regulations covering National Forests (16 U.S.C. 479). They are also required to comply with applicable laws passed since 1872 that have placed additional requirements upon miners. Many of these laws are described below. (See sidebar on page 1-8 for overview of mining claims)

The *Organic Administration Act of 1897* affirms the public's right to enter, search for, and develop mineral resources on lands open for mineral entry, and authorizes the Forest Service to approve and regulate all activities related to prospecting, locating, and developing mineral resources.

The ***Mining and Mineral Policy Act of 1970*** directs the Federal Government to foster and encourage private enterprise in the development of economically sound and stable industries, and in the orderly and economic development of domestic resources to help assure satisfaction of industrial, security, and environmental needs.

The ***Multiple Use Mining Act of 1955*** directs that any mining claim located after July 23, 1955, shall not be used, prior to issuance of patent, for any purposes other than prospecting, mining or processing operations and uses reasonable incident thereto, and that such claims shall be subject to the right of the United States to manage and dispose of vegetative surface resources and to manage other surface resources, and the right of the United States, its permittees, and licensees, to use so much of the surface as may be necessary for such purposes or for access to adjacent land.

The ***Federal Land Policy and Management Act of 1976*** (FLPMA) states that public lands will be managed recognizing the need for domestic sources of minerals. *The National Forest Management Act* required that the principals of land's multiple use and sustainable yield guide the management of National Forest System. The Forest Service was required to develop and implement a comprehensive Forest Plan to guide the management of each unit of National Forest System lands, including Clearwater National Forest (see below).

The ***Forest Service Surface Use Regulations*** (36 CFR Part 228 Subpart A – also known as the 228 Regulations) set forth rules and procedures for use of the surface of National Forest System Lands in connection with mineral operations both on and off mining claims. The regulations direct the Forest Service to prepare the appropriate level of NEPA analysis and documentation when proposed operations may significantly affect surface resources. These regulations do not allow the Forest Service to deny entry or preempt the miners' statutory right granted under the 1872 Mining Law. The regulations require the Forest Service to develop mitigation measures to minimize adverse impacts on National Forest resources. The 228 regulations include requirements for reclamation.

The ***Forest Service Manual (FSM) 2800*** discusses specific responsibilities and considerations for dealing with a Plan of Operation. It states that the Forest Service should minimize or prevent adverse impacts related or incidental to mining by imposing reasonable conditions that do not materially interfere with operations.

*Making Claims
Under the Mining Law of 1872*

The General Mining Laws (most notably, the *Mining Law of 1872*) establish a policy for minerals development on Federal lands. In general, the law provides that persons are authorized to enter Federal lands and establish or locate a claim to a valuable mineral deposit. Once a claim has been properly located (and, since 1976, recorded with BLM), the claimant gains a possessory right to the land for purposes of mineral development. Mining claims are fully recognized private interests that may be traded or sold. The possessory interest is considered private property subject to Fifth Amendment protection against takings by the United States without just compensation.

There are several types of mining claims: lode, placer, mill site, and tunnel. Suction dredge operations generally take place on unclaimed lands or on placer claims. Placer claims are located on deposits of loose, unconsolidated material such as gravel beds, or on certain consolidated sedimentary deposits lying at the surface. There are few limitations on the exterior dimensions of a placer mining claim, but a single individual cannot locate more than 20 acres in each claim. An association of two owners may locate 40 acres, three may locate 60 acres, etc. up to a maximum of 160 acres in a single placer claim located by eight or more persons. Corporations are limited to 20 acres per claim.

The *Clearwater National Forest Plan* (USFS 1987) includes several Minerals Goals, Objectives, and Standards (pages II-3, II-7, and II-30). These goals, objectives and standards discuss the need to facilitate the orderly development of mineral commodities and provide for timely, reasonable, effective and economically feasible environmental protections. The Clearwater Forest Plan was amended by the Decision Notice/Decision Record, Environmental Assessment, and Finding of No Significant Impact for management of anadromous fish-producing watersheds on Federal Lands in eastern Oregon and Washington, Idaho, and portions of California in 1995 (PACFISH). The Forest Plan was also amended in 1995 by the Decision Notice and Finding of No Significant Impact for the Inland Native Fish Strategy for managing fish-producing watersheds in eastern Oregon and Washington, Idaho, Western Montana and portions of Nevada (INFISH). PACFISH AND INFISH provide guidance and monitoring requirements for minimizing impacts to surface resources, especially in relationship to Riparian Habitat Conservation Areas (RHCAs). This EIS is tiered to these plans and analysis documents.

1.6 Scope of the Analysis

This EIS evaluates the potential impacts of Clearwater National Forest approval of proposed plans of operations for small-scale suction dredge operations in sections of Lolo Creek, Moose Creek, and two tributaries of Moose Creek, Independence Creek and Deadwood Creek, and of alternatives to this proposed action.

CEQ's NEPA regulations require that Federal agencies consider three types of actions to determine the scope of an EIS (40 CFR 1508.25).

Connected Actions are those actions that are closely related. Actions are connected if they automatically trigger other actions that may require NEPA analysis; if they cannot or will not proceed unless other actions are taken previously or simultaneously; and if they are interdependent parts of a larger action and depend on the larger action for justification. There are no connected actions for purposes of this proposed action — Alternatives 2 and 3 contemplate approval of multiple plans of operations.

Similar Actions are those which, when viewed with other reasonably foreseeable proposed actions, have similarities that provide a basis for evaluating their environmental consequences together, but are not necessarily connected. For purposes of this EIS, Forest Service approval of multiple plans of action are considered to be similar actions. The analysis considers the approval of up to 18 plans of operations in Lolo Creek and up to 38 plans in Moose Creek, which are the maximum number the Forest Service believes could occur.

Cumulative Actions are those actions, which when viewed with other proposed actions have cumulatively significant impacts and therefore should be discussed in the same impact statement. This EIS considers the potential consequences of annual approval of up to 18 plans of operation in Lolo Creek and 38 plans in Moose Creek which is a reasonable estimate of the maximum number of operations, and also considers other management actions in the area. Other past and reasonably foreseeable actions include a continuation of ongoing cattle grazing allotments in

Lolo Creek, past and planned future timber harvest in both study areas, road modifications and maintenance in both study areas, and Lolo Creek campground reconstruction.

The regulations also require agencies to consider three types of *alternatives*: the no action alternative, the proposed action, and other reasonable courses of actions. The EIS identifies these alternatives in Chapter 2 and evaluates the potential impacts under each in Chapter 4.

In addition, agencies must consider three types of *effects* in EISs: direct, indirect and cumulative. The EIS discloses the direct, indirect and cumulative effects in Chapter 4. The cumulative effects analysis considered geographic boundaries of the effects; time frames (determining how far into the future to analyze cumulative effects); and past, present, and reasonably foreseeable future actions. The physical bounds of this analysis are the reaches of Lolo Creek, Moose Creek, Independence Creek, and Deadwood Creek described in Chapter 2 and the extent to which impacts may reach downstream or outside these areas.

In the context of administrative scope, this analysis: (a) is limited to the minerals-based proposed action, (b) is not a general management plan for Lolo Creek or Moose Creek, and (c) is the final NEPA documentation for future approvals of plans of operations that meet the terms and conditions of approval.

1.7 Summary of Scoping and Major Issues

On April 4, 2003, Clearwater National Forest published in the Federal Register a Notice of Intent to prepare this EIS (65 FR 16465-16466). The Forest also published a notice in the Lewiston (ID) *Morning Tribune* on March 31, 2003. On March 17, the Forest notified the Nez Perce Tribe of the imminent scoping and environmental analysis and initiated government-to-government consultations regarding the project. Finally, the Forest Supervisor sent a letter to many individuals and organizations who had expressed an interest in the subject. The Forest received comments from a total of 40 individuals and organizations. Comments ranged from criticism of the Forest Service for suggesting that any conditions could or should be placed on small-scale suction dredge operations, to support for the proposal, to opposition to all suction dredging.

Government-to-government consultation with the Nez Perce Tribe was held February 13, 2004, at the Bureau of Indian Affairs office in Lapwai, Idaho.

The issues raised by individuals and organizations who submitted comments are shown in Table 1-1. The key issues, the ones that were used to develop or refine alternatives or to guide the evaluation of impacts, are identified in the table.

1.8 Availability of Project Files

An important consideration in preparation of this EIS has been the reduction of paperwork as specified in 40 CFR 1500.4. In general, the objective is to furnish enough site-specific information to demonstrate a reasoned consideration of the environmental impacts of the alternatives and how these impacts can be mitigated. More detailed information is in the project file in the District planning records and is available for public inspection. The reader may want

*Draft EIS on Small-Scale Suction Dredging
In Lolo Creek and Moose Creek*

to refer to the Clearwater Forest Plan and EIS (USFS 1987). The present EIS is "tiered" to the Forest Plan EIS and Record of Decision, as encouraged in 40 CFR 1502.20. Copies of the Forest Plan, Forest Plan EIS, and Record of Decision are available at libraries in the Clearwater National Forest locale and at the Forest Supervisor and Ranger District offices.

Table 1-1. Issues Raised During Scoping
(see note in last table row)

<i>Resource or Topic</i>	<i>Comment/Issue</i>	<i>Notes/Comments</i>
Mining Law Issues	Forest Service has no authority to tell a miner how or where to mine. By doing so the FS takes responsibility for the legal and financial status of the mining claim when it requires dredge sites to be located in areas of large substrate not preferred for spawning steelhead trout and bull trout.	This EIS would not itself proscribe or prescribe mining in any location or place restrictions on mining operations. Rather, it sets conditions under which this NEPA analysis will cover the approval of a proposed plan of operations. If a plan of operation proposes other conditions, this EIS would not cover its approval, and a separate NEPA analysis would be required.
	Several components of Forest Services terms and conditions were said to "materially interfere with mining" and possibly to constitute a taking. These included: <ul style="list-style-type: none"> • Restricting the operating season • Prohibiting stream channel damming • Allowing only one dredge per 100 feet • Not operation in gravel bars at tails of pools • Not allowing discharge of fine sediment to blanket gravel bars • Not allowing dredge operators to direct the stream current into the bank • Not allowing processing of stream bank materials • Not allowing moving large woody debris • Not allowing piling rocks • Requiring all holes be filled 	
	Mining claims must be "valid" under Mining Laws before mining can be approved/proceed	All of the suction dredge proposals involved in this analysis are in the prospecting or early exploration stage of their operation. They have a right under both the 1872 Mining Law and the 1897 Organic Act to enter upon National Forests and to conduct upon those lands reasonable activities to prospect and explore for mineral resources.
	Activities must be reasonably incidental to and required for the particular stage of mining activity in which the operator is legitimately engaged	Forest Service agrees
Scope of analysis	EIS too narrowly defined: it discourages alternatives that may be more likely to meet legal requirements, and standards and guidelines of Forest Plan as they pertain to RHCA's.	This EIS is focused on whether to approve plans of operations under specific conditions, not much broader management issues
Purpose and need of EIS		
Alternatives	<i>One alternative should recommend withdrawal of all RHCA's, all potentially eligible streams for National Wild and Scenic Rivers, and all areas that contain special features</i>	

*Draft EIS on Small-Scale Suction Dredging
In Lolo Creek and Moose Creek*

Table 1-1. Issues Raised During Scoping
(see note in last table row)

<i>Resource or Topic</i>	<i>Comment/Issue</i>	<i>Notes/Comments</i>
	Each POO should be subject to public notice and individual NEPA analyses that cover cumulative impacts and site-specific impacts.	Purpose of this EIS is to evaluate impacts of multiple approvals, including cumulative impacts. Site-specific impacts are covered to the extent they may be unique.
	<i>The impacts on potential and candidate wild and scenic river corridors need to be addressed.</i>	
	EIS for Nez Perce Tribal hatchery makes this EIS unnecessary	The hatchery EIS did not consider suction dredging
Water Quality and NPDES	A new point source discharge affecting a parameter associated with the 303 (d) listing is prohibited.	None of the stream reaches evaluated in the EIS are on Idaho's §303(d) list as not meeting applicable water quality standards.
	<i>Clearwater Forest Plan agreement does not permit activities that would increase sediment in areas where Forest Plan water quality standards are not being met. These streams don't meet Forest Plan standards.</i>	
	Forest Service cannot approve the project before the information and data necessary for NPDES permits have been obtained.	The Forest Service will not approve plans of operations unless they are covered by an NPDES permit.
Fisheries and Aquatic Resources	<i>Endangered Species Act §7consultation are needed for salmon, steelhead, and bull trout.</i>	The Forest Service agrees, and has fully complied with the Endangered Species Act.
	Forest Service duties under Endangered Species Act are not overridden by any "rights" the applicant may have under the 1872 mining law	
	<i>EIS needs to provide high quality information that will indicate whether any past suction dredging operations resulted in damage to fisheries or fisheries habitat. Indicate areas where damage occurred and the year(s) if one or more operators did not perform required rehabilitation activities</i>	

*Draft EIS on Small-Scale Suction Dredging
In Lolo Creek and Moose Creek*

Table 1-1. Issues Raised During Scoping
(see note in last table row)

<i>Resource or Topic</i>	<i>Comment/Issue</i>	<i>Notes/Comments</i>
	<p><i>Proposed terms and conditions for approval are inadequate because:</i></p> <ul style="list-style-type: none"> • <i>Many stream reaches are lacking in large wood needed for proper stream function.</i> • <i>Suction dredge mining can alter gravel suitable for steelhead, salmon, bull trout, and westslope cutthroat spawning.</i> • <i>Suction dredging or other streambed disturbing mining activities can cause the direct mortality of steelhead, salmon, bull trout and cutthroat eggs and developing alevins as well as resident trout, non-salmonid species and other aquatic species.</i> • <i>Suction dredge mining can impact other species, such as freshwater mussels.</i> • <i>Spawning gravels may be in short supply and may become a limiting factor if mining continues to degrade these important sites, which are relatively rare in some watersheds, or stream reaches.</i> • <i>Disturbance of the armoring layer adversely impacts immediate mining site and downstream gravels and redds</i> • <i>Many of these streams do not meet standards that reflect sediment such as cobble embeddedness.</i> 	
	<i>What kinds of rehabilitation efforts are needed to restore fisheries and fisheries habitat?.</i>	
	Leaving some dredge holes would improve habitat (by giving fish deeper cooler water)	Leaving dredge holes would be contrary to NOAA Fisheries' nondiscretionary reasonable and prudent measures to minimize the likelihood of incidental take resulting from entrainment of eggs, fry, or juvenile Snake River steelhead in Lolo Creek.
Hazardous materials	<i>Dredge operators need to transport fuel in Department of Transportation approved tanks at quantities not to exceed 250 gallons.</i>	
	A Spill Prevention, Containment, and Countermeasures plan should be required given the sensitive nature of this watershed.	The quantities of materials and the size of the operations do not meet reasonable thresholds for a SPCC Plan.
	Regularly inspected fire extinguishers need to be placed in all vehicles.	This is beyond the scope of plan of operations approval
Vegetation	<i>Must cover impacts on threatened or endangered plant species and the spread of noxious weeds</i>	
Transportation	Cumulative impacts of the road system in the watersheds needs to be analyzed. DEIS needs to weigh whether it is justified (fiscally or ecologically) to allow additional roads, travelways or improvements, even if they seem incidental or minor, especially in RHCA's	No additional roads/ travelways/improvements are proposed or expected as a result of this action

*Draft EIS on Small-Scale Suction Dredging
In Lolo Creek and Moose Creek*

Table 1-1. Issues Raised During Scoping
(see note in last table row)

<i>Resource or Topic</i>	<i>Comment/Issue</i>	<i>Notes/Comments</i>
Socioeconomics	<i>The net public benefit from this activity needs to be analyzed in the DEIS. EIS should note that no revenue from mining accrues to the public.</i>	Although no revenues accrue to the United States, miners have argued that their suction dredging activities bolsters local economy through their purchasing of equipment, food, gas, etc.
Recreation	<i>Suction dredge operations need to be set up in such a way as to not become a hazard to local tubers, swimmers, canoeists or other whitewater enthusiasts. Dredging operations should be kept away from developed campgrounds.</i>	
Baseline data	Baseline data must include past and present impacts of all types of mining, including collateral impacts such as that of access to mining claims, as well as other impacts such as roads, logging, water withdrawals and fire. Past off road vehicle (ORV) or 4 wheel drive trails or roads created by miners need to be documented in the analysis.	Baseline data include conditions as they exist. It is not possible to evaluate impacts retroactively unless this action contributes significantly to new impacts.
	<i>Systematic field investigations of each claim are needed to establish baseline conditions for monitoring future impacts.</i>	
	EIS must develop photo documentation of existing conditions, habitat assessment and a GIS to help determine cumulative and site-specific effects. Many specific data layers were suggested.	EIS developed and used GIS as appropriate
Monitoring	<i>Systematic field investigations of each claim are needed to correct activities that are clearly harmful and/or illegal</i>	
	<i>Monitoring effects of past dredging activities should be represented in the DEIS.</i>	
Reclamation	<i>DEIS needs to describe the reclamation process and all associated costs in detail.</i>	
	<i>Reclamation bonding should be required</i>	
	<i>Reclamation should be concurrent with mining</i>	
	<i>Analysis should include details on volume and type of material to be moved, equipment needed, location for stockpiling, and sequence for reclamation.</i>	
	<i>Forest Service costs for reclamation should be included</i>	
Other	Mining operations on streams should be tracked with a systematic data collection system similar to that used for timber stands.	The number and size of operations on these streams does not justify an elaborate tracking system. Current records management is adequate for the level of tracking that is needed.

*Draft EIS on Small-Scale Suction Dredging
In Lolo Creek and Moose Creek*

Table 1-1. Issues Raised During Scoping
(see note in last table row)

<i>Resource or Topic</i>	<i>Comment/Issue</i>	<i>Notes/Comments</i>
	Proposed operations should not be classed as mining...they are prospecting.	The Forest Service agrees in part that some "operators" are indeed prospecting. However, the efforts of many or most operators have elements of both prospecting and mining.
	The FS must complete a watershed analysis prior to approving suction dredging operations	FS completes 1 watershed analysis per year. Lolo EAWS will be completed by June 2004.
<p>Note: <i>Italics</i> denotes that the comment/issue contributed to or was accounted for in alternatives selection and impact evaluation.</p>		