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Record of Decision

Emerald Creek Garnet Area Environmental Impact Statement

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Record of Decision

for the

Emerald Creek Garnet Area

Environmental Impact Statement

USDA Forest Service, Idaho Panhandle National Forests
St. Joe Ranger District in Latah County, Idaho

Introduction

This environmental impact statement addresses the opportunity to continue providing a public recreational garnet gemstone collecting area (Emerald Creek Garnet Area). This area has been operated by the Forest Service since 1974 in the East Fork of Emerald Creek on the St. Joe Ranger District of the Idaho Panhandle National Forests.

The Emerald Creek Garnet Area Project Area covers approximately 780 acres in Latah County, Idaho. All of the project area is National Forest System land. It includes 281 Gulch, Garnet Gulch, No Name Gulch, Pee Wee Gulch and a portion of the East Fork of Emerald Creek drainages in T42N, R1E, Boise Meridian (Map 1 - Vicinity and Project Area Maps).

Purpose and Need

The purpose of this project is to continue to provide a public recreational area for collecting gem-quality star garnets while providing public safety and protecting water quality and aquatic habitats. The Forest Service acquired the lands within the project area through land exchanges in the 1960s and 1970s for the purposes of public garnet collecting and land consolidation. The Emerald Creek Garnet Area has long been known as a unique gem-collecting area in northern Idaho, and there is considerable public support for the present Emerald Creek Garnet Area and future recreational garnet gemstone collecting opportunities (FEIS p. 1). This area is known internationally for its rare star garnets. It is the only site in the United States and one of two sites in the world where star garnets are found. The recreational garnet area is nearing the end of available area to recover garnets at the present site in 281 Gulch.

Decision

Based upon my review of all alternatives, I have decided to implement Alternative B which would allow continued public recreational garnet collecting at the garnet area until the garnet resource is exhausted in 281 Gulch and Garnet Gulch (Map 2). New methods of operation will be implemented to protect water quality and aquatic habitat. Operations will continue in 281 Gulch for two to four years until the accessible garnet gemstone resource is depleted. At that time, the Forest Service will move operations to Garnet Gulch. A new road and trail will be constructed to access operations there. A parking lot will be constructed near the new site to accommodate people with disabilities and administrative vehicles. Previously dug areas in 281 Gulch will be restored to improve aquatic

habitat and maintain water quality. This will include placing large woody debris in Pee Wee Gulch and No Name Gulch to diversify aquatic habitats.

The Forest Service will obtain a 404 permit required under the Clean Water Act. Section 404 of the Clean Water Act requires a permit from the U. S. Army Corps of Engineers for operations in wetlands. Certification under section 401 of the 1974 Clean Water Act is also required from the Idaho Department of Environmental Quality for the 404 permit issued by the U.S. Army Corps of Engineers to ensure that my decision will not violate state water quality standards. The Idaho DEQ issued the 401 certification on September 20, 2006 (FEIS p. 160). This 401 certification in Idaho also ensures that the project will comply with water quality improvement plans (TMDLs) developed for affected water bodies and that the project will not adversely impact §303(d) listed streams (streams that do not meet water quality standards).

With information collected from surveys and exploration during 2002-2006, the Forest Service developed an operations and reclamation plan to address concerns about water and aquatic habitat and public safety for the remaining area in 281 Gulch and the new collecting area in Garnet Gulch. The proposed action includes the following:

- Rehabilitation for previously dug areas in 281 Gulch will be implemented to improve aquatic habitat and assure maintenance of water quality (FEIS Appendix C). Large, woody debris will be strategically placed in the stream along an estimated 1,000 feet of both Pee Wee and No Name Gulch to enhance aquatic habitat.
- The public collection site will remain in the East Fork and the main stem of 281 Gulch until the accessible garnet gemstone resource is depleted (estimated to be two to four years). At that time, the public collection site will be moved from 281 Gulch to Garnet Gulch where operations would continue for an estimated twenty years. On the West Fork of 281 Gulch no additional sites will be opened up.
- Starting in 2006 the recreation experience will change. In the past an area along the drainage was marked off for digging. Topsoil and overburden were mechanically removed and stockpiled. Visitors chose where to dig through the subsoil for the garnet-bearing gravels and then washed the garnets in place. Administration of the site in this manner will no longer be used. Instead, garnet-bearing gravels will be excavated and stockpiled with equipment. Visitors will then obtain garnet-bearing gravels from the stockpile and wash them at a sluice.
- Beginning in 2006 operations will include using heavy equipment for annual excavation and reclamation. Equipment will be needed from one to three times per year. The equipment will be used to remove and separately stockpile topsoil, overburden, and garnet-bearing gravels. Approximately three to nine feet of overburden will be removed to get to the gravels. Excavations will be reclaimed directly following (within approximately one week) removal of garnet-bearing gravels. This way, the stream will only be disturbed at the time the gravels are removed and then the soil layers will be replaced.
- A sluice will be set up for screening and washing garnet-bearing gravels. This will be in an upland area away from the wetlands. Water for the sluice operation will be obtained with water withdrawals from 281 and Garnet Gulches, will be stored in ponds and then recycled. The system will include settling ponds and sediment-control structures (Map 4). Sediment will be removed from settling ponds, be stockpiled, and be reused for reclamation.
- Newly excavated areas will be an estimated 50-100 feet wide and 150 feet long per year and will be excavated and reclaimed concurrently. Total excavated area (both upland and wetland) for 281 Gulch over two to four years is estimated to be two acres, and the total excavated area for Garnet Gulch over an estimated 20 years will be about 4.2 acres.

- When operations move to Garnet Gulch, a new road (0.68 mile) will be constructed to provide access for administration and people with disabilities. At the end of the road a small parking lot, toilet, administrative building and sluice will be constructed (approximately one acre of clearing). The new road will not accommodate buses and RVs; these vehicles will be parked at the existing 281 Gulch parking lot.
- A trail from the existing 281 Gulch Parking Lot on Road 447 to the new road up Garnet Gulch will be constructed (0.1 mile). This will allow visitors to go directly from the parking lot to the road without having to walk along heavily traveled Road 447.
- When operations move to Garnet Gulch, most of the public (except disabled) will take the new access trail from the existing 281 Gulch Parking Lot on Road 447 up to the new administrative road and then hike along this road to the collection site. The hike will increase from what is now required to get to the 281 Gulch (0.4 mile) to 0.7 miles to get to Garnet Gulch. Benches for rest stops will be installed along the route. Interpretive signs relating to the ancient Lake Clarkia and geology of the area will also be installed along the trail and road.
- When operations move to Garnet Gulch, the 281 Gulch access road (Road 3781) will be decommissioned and recontoured (0.35 mile or 1774 feet). The administrative building and toilet will be removed.
- A portion (1/2 acre) of the floodplain will be reestablished at the Pee Wee Gulch parking lot while leaving space for a vehicle pull-through.
- A total of four culverts will be replaced on Road 447 where it crosses Pee Wee Gulch, No Name Gulch, 281 Gulch, and Garnet Gulch.

Design Features and Mitigation Measures

See Appendix A for more details about operating methods, design features, and mitigation measures.

This alternative will utilize applicable Best Management Practices identified in relevant provisions of the Surface Mining and Dredge and Placer Operations. In addition, the following measures (referred to as “performance standards” by the Environmental Protection Agency) will also be adhered to. Where these features overlap with State of Idaho BMPs, these project-specific features will supersede the State of Idaho provisions.

A. General

1. **Adaptive Management:** Adaptive management will be utilized as the new operations are implemented. As methods are used and monitored they may be changed to provide better results for protecting resources and for providing a better experience for the public.

2. Previously dug areas in Pee Wee, No Name and 281 Gulches will not be re-entered for recreational garnet collecting.

B. Air Quality

This project will comply with procedural and substantive requirements of the Clean Air Act, State Implementation Plans and State Smoke Management Plans. Slash burning, if needed, will be conducted only when favorable weather and wind conditions exist.

C. Fish

1. A total of four culverts will be replaced where Road 447 crosses Pee Wee Gulch, No Name Gulch, 281 Gulch, and Garnet Gulch.
2. Channel disturbance in fish-bearing streams will only be done between July 15 and the beginning of autumn rains.
3. Water withdrawals for the sluicing operation will be minimized or discontinued during periods of low flow. See Design Features F. 3. d. & e. and N.12.
4. Habitat will be replaced during rehabilitation and reclamation using existing survey data. Large woody debris will be replaced in numbers to mimic natural conditions using survey data (PF: F-3 through F-6).
5. Native tree species will be planted to replace existing trees that are removed for mineral excavation, and wherever possible trees and shrubs that are uprooted will be replanted during reclamation.
6. Fish will be removed and taken downstream from areas where temporary diversion of water in the stream channel is to take place. See Design Feature F. 2. e. and Appendix A p. 3.

D. Hazardous Materials

1. Outside of standard diesel and gasoline fuels and lubricants no hazardous chemicals or materials will be utilized for excavation or processing activities.
2. Refueling and maintenance of construction vehicles and equipment will not occur within floodplains or within 150 feet of live water. Refueling will follow the guidelines for mobile fueling of vehicles and heavy equipment found in Idaho Best Management Practices for Mining and Storm Water Management Guidelines (www.idl.idaho.gov/bureau/Minerals/bmp_manual1992/bmp_index.htm).
3. If a piece of equipment is found to be leaking or seeping fuel or lubricants the equipment will be immediately taken out of service and corrective measures instituted to correct the problem and prevent a release. Any contaminated soil or materials will be removed from the site and disposed of in an approved sanitary facility designed to dispose of such materials. The Garnet Area administrative building and all equipment contractors will have spill prevention control and countermeasures kits.
4. During interim shutdown periods or periods of inactivity, all equipment stored on site will be parked away from areas of steep slopes, and gear boxes and fuel tanks will be underlain with absorbent pads.

E. Heritage Resources

An appropriate inventory was conducted for the proposed activities and cultural properties are known to be located within the area of potential effects. The Forest Cultural Resource Specialist made a preliminary determination that the project would have No Adverse Effect to these properties, and the State Historic Preservation Officer concurred with this determination. The Forest Service will contact the archaeologist for the Coeur d'Alene Tribe, per their request (PF: ACE-15) prior to excavations each year. If new cultural resource sites are discovered activities will stop at the garnet collection site, and the find will be reported to the IPNF Cultural Resource Specialist who will inventory the site and develop mitigations to protect the site in consultation with the State Historic Preservation Officer, appropriate Native American tribes and, if necessary, the Advisory Council on Historic Preservation.

F. Minerals (See Appendix A for extensive details and drawings)

1. General
   a. Operations and reclamation will follow Best Management Practices recommended by the State of Idaho that are relevant to this project (www2.state.id.us/lands/bureau/Minerals/bmp_manual1992/bmp_index.htm on 1/12/06).

2. Excavations and Reclamation
   a. Each year in the fall (dry season) after the garnet area is closed for the season, an area (mining panel) will be excavated and garnet gravels will be removed and stockpiled for use in the following year. The excavated area will be reclaimed as soon as excavation work is complete which is estimated to be within one week.

   b. Auger testing for gemstone garnet will be implemented in order to facilitate engineering planning for annual excavations.

   c. If required, a small interceptor trench will be constructed to divert surface or groundwater flow around the excavation site. The trenches will be armored with woody debris, straw bales, baffles, or other materials if necessary. Water will be diverted to a water containment/recycle system located at the lower end of the panel and will be moved to the sluice plant as make-up water or be sprinkled overland. There will be no direct discharge to streams.

   d. Prior to excavation activities, vegetation will be cleared. Slash will likely be bundled and placed between the excavation area and the active channel. Logs and additional slash will be stockpiled for use during reclamation as needed.

   e. In cases where the panel will include excavation immediately adjacent to or through stream channels, a culvert-like diversion or plastic-lined temporary water diversion channel will be used (See N. 8). The diversion will be routed around the excavation site. Fish will be removed from this section using block nets and will be taken downstream prior to water diversion.

   f. For each panel, excavations will not be started until water control features are established and determined to be functional.

   g. In riparian areas, excavations will start on the upper end of each mining panel and progress sequentially downstream. Excavators (track hoe), not bulldozers, will be used for excavations in wetlands.

   h. The size of the panels will vary depending on depth of garnet gravels. Estimated size will be approximately 50 -100 feet by 150 feet. The goal is to have a garnet gravel stockpile that is of sufficient size for a season of public garnet collecting. This is estimated to be 545 cubic yards (See Minerals section in FEIS Chapter 3).

   i. The panels will consist of a series of cuts by an excavator down to the base of garnet-bearing gravels, typically down to bedrock. Each panel will be excavated in a series of sequential cuts from top to bottom then be backfilled. A typical cut would be 8-10 feet wide. Disturbance will be kept to the smallest practicable area at any one time during excavations through concurrent and progressive backfilling, grading and revegetation.

   j. Within each cut, the topsoil will be separated and set to the side, then subsoil will be separated and stockpiled to one side. Plywood or other material may be used under the stockpile to protect the underlying topsoil and aid in recovery of stockpiled materials (PF: PD-33). The garnet-bearing gravels will be removed using a tracked or wheeled loader or a portable conveyor system and then will be taken to the garnet gravel stockpile.

k. As soon as the garnet gravel is removed, the cut will be back-filled and reclaimed using spoils collected and stockpiled from the previous season's flume wash. Backfilling with these materials will ensure volumetric balances and original stream gradients are restored to their pre-mining conditions.

l. Subsoil and topsoil from the current excavation will then be returned to the site. Care will be taken when feasible to maintain the vegetative mat while excavating and storing the topsoil. The immediate backfilling and reclaiming ensures that the mining panel will only be open for a short period of time (estimated to be one week).

m. Reclaimed areas will be planted with native shrub and tree species and be seeded and mulched. Where possible uprooted shrubs and trees would be replanted.

3. Flume Wash (Sluice)

a. A flume wash plant will be set up for the public to wash and recover garnets. This will consist of pump, water holding pond(s), flume, riprap-lined spillway, settling and recycling pond(s). It will be located out of the floodplain, in the upland area, and near the garnet gravel stockpile.

b. A flume (a long-linear, shallow-sloped, flat-bottomed trough) will be set up for washing garnet gravels. Running water will be pumped (from the settling pond below) or be gravity-fed into the upper end of the flume. The silt, sand and fine gravel mix will be screened to recover the garnets. The flume will be approximately 18 inches by 10 inches deep and will be constructed in short sections with enough length to accommodate up to 30 visitors at one time.

c. The sediment-laden wash water will be fed down the flume, then through a rock-lined raceway back into the settling-recycling pond system. The settling ponds will be designed to settle clay, silt and sand and then allow the waste water to be re-cycled. For spoils management, another smaller pond may be utilized to catch and settle coarser-grained materials. The settling ponds will be periodically excavated, and the spoils will be stockpiled for use during reclamation (see above under reclamation operations).

d. Water is needed to operate the flume wash plant (sluice). An estimated 100-200 gallons per minute will be needed. The Forest Service has acquired water rights to 281 Gulch and Garnet Gulch at the rate of 0.5 to 1.0 cubic foot per second (from 3.7 to 7.5 gallons per second). Prior to the summer season during high flows, water will be taken from a withdrawal point in the upper end of the gulch to the pond system at the flume wash site. The pond system will be filled slowly using a flexible hose or rigid pipe outfitted with a small diameter screen to prevent inadvertent entrapment of fish or small aquatic invertebrates. A pump system will then pump water from the pond system into the flume/sluice.

e. It is anticipated that during the driest part of the annual season there may be a need to store additional water to make up for increased evaporation and to minimize water withdrawals. A water make-up pond (an excavated depression or other above-ground storage system typically used to collect or store additional water) will be used for water storage if needed. Additionally, a water truck may be used to supplement if needed. (See N.12)

G. Noxious Weeds

A number of preventative and control measures will be taken to reduce the risk of noxious weed introduction and spread in accordance with the St. Joe Weed EIS (ROD, 10/12/99). Measures include:

1. All ground disturbance related to earth-moving activities will include mulching and reseeding as soon as practical after completion of ground-disturbing activity to minimize infestations.
2. Mulching agents such as hay or straw will be certified noxious weed-free before they are allowed on the project area.
3. All seed used for re-vegetation and erosion control purposes will be certified noxious weed-free. Native vegetation from the site will be used as much as possible. This includes trees, shrubs, and forbs.
4. A mix of species will also be used in rehabilitation of sites. Non-native annual grasses may be used in rehabilitation efforts. Some of these species are valuable for revegetating sites quickly to avoid erosion.
5. The timing of reseeding will normally be immediately after excavation operations are complete.
6. Off-road construction and mining equipment will be cleaned and inspected prior to entering the project area to remove dirt, plant parts, and material that may carry weed seeds. A provision will be included in the contract.
7. Sites where ground-disturbing activities are planned will be evaluated for existing infestations and treated if necessary prior to initiation of ground-disturbing activities.
8. If new populations of noxious weeds are found, treatment will be implemented in accordance with priorities set by the noxious weed program. New invader species will be slated for eradication immediately upon discovery. Other weed infestations will be treated according to the direction in the St. Joe Noxious Weed Project EIS and district priorities.

H. Rare Plants

1. The five lower-most panels (450 feet) that were proposed for mining in Garnet Gulch were eliminated from consideration for excavation because this area has the most extensive and healthy populations of naked mnium in the project area. All ground-disturbing activities will be confined to the panels above this point.
2. If previously undiscovered Threatened, Endangered, or Sensitive plant species are found project activities at that site will cease until an assessment and recommendation is made by the District Botanist. Measures to protect population viability and habitat for all known and newly discovered occurrences will include the following: altering or dropping activity, modifying the proposed activity and implementing buffers around plant occurrences.
3. If water is pumped from excavated areas and is applied over land, it will only be applied on relatively flat, well-vegetated areas. One potential site for this application is within the occupied habitat of *Rhizomnium nudum* (below the lowest panels on Garnet Gulch). If this site is used, the water application will only be deposited on the eastern bank of Garnet Gulch. The eastern bank has the least number of these plants. See N.11.
4. Restoration plans in 281 Gulch will be designed to avoid the naked mnium sites.
5. Any changes to the proposed extent of restoration activities in the West Fork of No Name Gulch will be reviewed by the District Botanist to ensure protection of rare plant sites located there.

I. Range

1. Adaptive management will be applied to address cattle use in the project area in order to prevent resource damage. Forest Service employees will immediately notify the permittee of cattle presence in the current garnet collection site. The permittee will then be responsible

for promptly removing their cattle. If such measures do not prove successful in eliminating resource damage from cattle, other options will be pursued.

2. A cattle guard will be installed at the junction of Road 447 and the new Garnet Gulch Road to prevent cattle from entering the Garnet Gulch Drainage.

J. Recreation

1. Improvements needed to establish the new operations will be constructed to maintain a rustic and natural experience as much as possible.
2. A 600-foot access trail will be constructed from the 281 Gulch parking lot to the Garnet Gulch access road. This trail will be for foot traffic only and will be built according to Forest Service specifications.
3. Benches for rest stops will be installed along the new trail and road. Interpretive signs relating to the ancient Lake Clarkia and the geology of the area will also be installed along the trail and road.
4. Informational materials will explain access restrictions and accommodations for getting to the garnet area administrative site for people who are unable to walk there. People with "disabled" designation in their vehicles will be allowed to drive through to the administrative site.

K. Roads

1. The State of Idaho Best Management Practices Manual will be followed in locating, constructing, operating and reclaiming mineral access roads with the objective of minimum resource damage (www2.state.id.us/lands/bureau/Minerals/bmp_manual1992/bmp_index.htm on 1/12/06).
2. The new road proposed in Garnet Gulch will be designed to minimum standards (14 feet wide plus curve and fill widening with turnouts) to accommodate maintenance equipment. Portions of this road will be graveled to maintain a stable base and minimize sediment yield.
3. Large equipment will be unloaded at the 281 Gulch parking area and be driven to the site.
4. The proposed Garnet Gulch road location, alignment, width, grades, and drainage were reviewed by a qualified engineer (PF: T-3); and designs will be utilized to minimize risks from unstable soils and slopes, surface water damage, and groundwater seepage.
5. The intersection of the proposed Garnet Gulch road with the existing road (Rd 447) runs through relatively steep ground. Some buttressing of the cut slopes will be designed as needed for slope stability and erosion control. (PF: T-3)
6. For the proposed Garnet Gulch road, no fill material will be placed on the old inactive headwall located 500 feet past the top of the cut of the existing road. Full bench construction will be necessary. (PF: T-3)
7. When the garnet collecting site at 281 Gulch is closed, the 0.35-mile access road (Road 3781) will be recontoured to the extent practicable to the original slope and be revegetated with species (grasses, forbs, shrubs, and/or trees) suitable for the site.
8. A gate and cattle guard will be installed at the beginning of the proposed road for Garnet Gulch at the junction with Road 447.
9. To sustain truck traffic during East Fork 281 Gulch restoration activities, portions of Road 3781 may be graveled to maintain a stable base and minimize sediment yield.

10. During restoration and excavation activities water will be applied to project roads as needed to minimize dust.

L. Safety

1. All operations will be conducted in a safe manner and in compliance with Mine Safety and Health Administration (MSHA), Occupational Safety and Health Administration (OSHA) and other applicable local, state and federal requirements and guidelines.
2. The road construction contract for Garnet Gulch will include appropriate public safety plans.

M. Scenic Resources

1. A rustic gateway will be installed at the beginning of the proposed road to Garnet Gulch instead of the brightly colored steel gate that is often used.
2. Prompt revegetation of the fill slopes for the proposed new road to Garnet Gulch will be implemented. If buttressing is used for the first sight distance (250 feet) of the proposed road, rock obtained from the immediate area (local rock with same coloring) will be used as much as possible.

N. Soils and Watershed

1. Structures will be located outside of the riparian areas and flood plains.
2. Auger test holes used for establishing the annual excavated area will be filled immediately.
3. All areas that are disturbed by gemstone extraction will be reclaimed concurrently with the excavation.
4. Topsoil and overburden will be excavated in soil layers and will be stockpiled to return the site to as near the pre-existing condition as possible. Returning topsoil and overburden to the excavated site will be implemented immediately upon removing the garnet gravel layer. It is estimated the excavated site will be open for one week. This concurrent reclamation (progressive backfilling, grading and backfilling) will reduce the amount of material exposed at any given time and will reduce the possibility of sedimentation.
5. If equipment is operated on areas that will not be excavated otherwise, one or a combination of the following methods will be used to minimize compaction of soils: minimum size and weight equipment, low ground pressure tracked vehicles (defined by contact pressures in the range from 5 to 10 psi), long-arm excavator, and/or construction mats or other suitable methods.
6. In areas where soils become compacted due to construction equipment, soils may be decompacted if needed.
7. Where disturbance to the stream channel occurs, reclamation will have a designed channel and incorporate large woody material, boulders, sedges, shrubs and trees.
8. Whenever possible, excavating will be scheduled for low-flow periods. Normal surface water flows will be conveyed past the work area by means of bypass channels, pipes, pumps, plastic linings or cofferdams.
9. During periods of high precipitation or runoff, earth-disturbing operations will be curtailed to prevent excessive erosion and sedimentation.
10. Diversion trenches, dewatering wells, grout curtains, coffer dams, slurry walls, geomembrane barriers and/or steel sheet piles may be used if needed to minimize groundwater seepage into active excavation cuts. These control features can effectively lower the groundwater

table so that it will not go into excavation areas (National Seal Company, 1991; Cavalli, 1992; and Sherman, 1992).

11. If it is necessary to pump water from excavated areas, the water will be used in the sluicing system or stored for later use or be applied over land. For overland application the water will be dripped or sprinkled onto relatively flat, well-vegetated areas. If it is necessary to dispose of water in this manner in the occupied habitat of *Rhizomnium nudum* below the lowest panels on Garnet Gulch, it would only be deposited on the eastern bank of Garnet Gulch.
12. Water removal from 281 Gulch and Garnet Gulch for the sluicing operation will be limited to the amount necessary to initially fill the settling pond and the recycling or storage pond system and then to augment losses due to spillage, subsurface seepage, groundwater recharge and evaporation. Removal will be timed so that the initial filling occurs in the spring when flows are high. Periodically, when water becomes too low for effective sluicing due to losses from evaporation, spillage, and percolation, the system will be recharged with water from the stream source pending review by District Fish Biologist and District Hydrologist. During drier periods, only a small portion of the stream flow over an extended time period will be removed for augmentation. No digging or filling to accommodate water withdrawals is anticipated. A water truck may be used to supplement if needed.
13. Areas that are disturbed will be revegetated. Replanting and reseeding, if needed, will be conducted with approved seed and stock and will consist of planting densities and species appropriate to the site.
14. Sediment basins or settling ponds will be installed to collect sediment generated from the gemstone washing. The sediment will be removed from settling basins and will be stockpiled as far from the active channel as practicable until it is used for reclamation.
15. Disturbed sites will be covered using mulch, seed, slash, or erosion blanket while vegetation becomes established.
16. Erosion control structures will be utilized to prevent excessive run-off and erosion. Structures will be constructed in accordance with the Idaho Department of Environmental Quality Catalog of Storm Water Best Management Practices for Idaho (www.deq.idaho.gov/water/permits_forms/permitting/catalog_bmps.cfm), the U.S. Environmental Protection Agency's Storm Water Management of Construction Activities; Developing Pollution Prevention Plans and Best Management Practices, September 1992; and the Idaho Department Best Management Practices for Mining in Idaho, November 1992. Erosion control systems will be established as appropriate for the site. Specific design features will include implementation of the following practices:

    a. Sediment control devices will be installed prior to surface-disturbing activity, be inspected regularly, and be cleaned to maintain at least 60 percent of their sediment-holding capacity. Site specific BMPs will be utilized where necessary to insure there will be no net increase in sediment yield from the site.

    b. Sediment control methods may include barriers, silt fences, slash filter windrows, rolling dips, graveling, scattered slash, mulching and seeding, or other methods deemed appropriate for the site. Sediment traps and barrier systems will be inspected periodically and as needed during periods of inclement weather. Accumulated sediment will be periodically removed, possibly stockpiled and then be used in reclamation as needed.

    c. Temporary access trails for equipment (e.g. to establish the garnet gravel stockpile) may be constructed with rolling dips and be armored with rock if needed.

d. Where possible, site design features will promote diffuse flow or runoff over the ground surface to prevent concentrated flow.

e. Temporary diversion of stream channels or alteration of channels or stream banks during operations will be kept to the minimum practical.

f. Sediment traps and sediment control devices for surface drainage will be maintained until disturbed areas are restored and revegetation requirements are met.

17. A channel would be reconstructed on the surface of the excavated panel that mimics the pre-disturbed existing channel in both size and shape (unless an alternative design is agreed to for habitat improvement). Valley and stream channel cross-sections and stream longitudinal profile survey data (project file) collected in 2002-2005 would be used to configure and locate the reconstructed channel. The streambanks would be stabilized using wraps of coir fabric or other biodegradable geo-textile. One or two wraps of the fabric would be used depending on existing channel depth, each lift about 12 inches (FEIS Figure 18). Fabric or geo-textile and perhaps up to eight inches of gravel may be placed in the reconstructed stream bottom. Also logs and/or large cobbles to small boulders may be used for bank material to provide aquatic habitat and stream bank and channel stability. The reconstructed channels will be monitored for stability and streambank vegetative cover (FEIS Appendix C).

O. Tree Clearing and Slash Handling

Trees will be cut only to the extent necessary for the operations. Associated slash and large wood will be used for reclamation as needed.

P. Wildlife

1. Riparian disturbance will be kept to the smallest area practicable in any one year of operation.

2. During reclamation, the topography will be returned to its previous slope and elevation. The existing amount of persistent pooled water (for amphibian habitat) will be maintained or increased.

Monitoring

Monitoring will be conducted on a sample basis and will be designed to verify that projects are implemented as designed, are effective and most efficient in meeting the project and Forest Plan objectives, and also to determine whether the project and Forest Plan goals and objectives for the area are still appropriate.

Forest Plan Monitoring

The Idaho Panhandle National Forests developed a plan to monitor implementation and effectiveness of management practices implemented under the Forest Plan and to validate the assumptions and models used in planning. The Forest prepares a Forest Plan Monitoring and Evaluation Report on an annual basis to document the results of this monitoring.

Forest-level monitoring may or may not take place specifically on this project, but information gathered and lessons learned at the broader level are applied back to specific project-level design, implementation, and monitoring. Forest Plan monitoring for the St. Joe Ranger District which address issues pertinent to the Emerald Creek Garnet Area include:

- Heritage Resources: Field monitoring is done by the Forest Service Archeologists to measure potential effects of land-disturbing projects on known cultural resources. Areas are

surveyed prior to project implementation, and site specific plans are developed to protect newly identified sites.

- Threatened, Endangered, and Sensitive Plants: IPNF direction is to inventory and manage sensitive plants so that no new species have to be listed as threatened or endangered. Project areas are surveyed and projects are modified before ground-disturbing activities begin to attain this objective. Sensitive plants are protected according to site-specific management plans.
- Soils: IPNF objective is that management activities on Forest lands will not significantly impair the long-term productivity of the soil or produce unacceptable levels of sedimentation resulting from soil erosion. This is accomplished using technical guides developed in conjunction with the soil survey and Best Management Practices necessary to protect soil productivity and minimize erosion.
- Visual Quality: Decision documents are reviewed annually for Forest Plan visual quality objective compliance. Annually, up to two areas per district may be field reviewed after project completion. The objective of the field review is to determine if the Visual Quality Objectives (VQOs) were met as disclosed by the decision document for that project. A ten percent departure from Forest Plan direction after five years would initiate further evaluation of the visual resource management program.
- Water Quality: Forest Plan Appendix JJ established the IPNF water quality monitoring program. The water quality monitoring program is the result of a Memorandum of Understanding with the State of Idaho dated September 19, 1988. The agreement also replaced Forest Plan Appendix S (Best Management Practices) with Forest Service Handbook 2509.22 (Soil and Water Conservation Practice Handbook).

  According to Appendix JJ of the Forest Plan, in order to demonstrate water quality protection, monitoring plans address three primary questions:

  - Are BMPs implemented as designed?
  - Are the BMPs effective in controlling non-point sources of pollution?
  - Are beneficial uses of water protected?

  To provide answers to these questions, the following monitoring categories are utilized:

  - Baseline monitoring characterizes existing water quality conditions and long-term trends of stream systems. It also provides a control for monitoring and assessing activities. Baseline monitoring sites throughout the Forest have been identified and established to representatively sample conditions on the Forest.
  - Implementation monitoring shows whether or not prescribed BMPs were implemented as designed and in accordance with Forest Plan and project standards and guidelines. In addition to specific project monitoring discussed in this document, supplemental implementation monitoring include internal field reviews by interdisciplinary teams using a procedure similar to State audits.
  - Effectiveness monitoring demonstrates if BMPs were effective in controlling pollutants to meet planned levels or resource management objectives. The intent is to focus on cause and effect relationships between land management activities and water quality. Effectiveness monitoring is done on a sample basis to characterize typical conditions so that results can be extrapolated. Emphasis is on major non-point pollution source contributing activities such as road construction, reconstruction, and maintenance; related erosion control BMPs; and riparian area management.

  In the event of incorrect or inappropriate application of BMPs, or omission of prescribed BMPs, causes are identified along with corrective or preventive actions to be taken. Corrective measures are incorporated into: 1) modification of and adjustment to contracts;

2) administrative procedures; and 3) long-range plans as necessary to ensure BMPs are both properly designed and implemented.

- Wildlife: Big game management indicator species population trends are determined by the Idaho Department of Fish and Game. Hunter success rates and visual counts of animals are used to determine these population levels.

  Elk Habitat Potentials are monitored by ranger district and by individual Elk Habitat Unit annually.

  Northern goshawk nesting sites are monitored by ranger districts. Known nesting sites are visually inspected to determine occupancy. The monitoring frequency varies based on funding. Surveys are conducted for additional nesting sites during project planning or implementation if nests are sighted.

Project Monitoring (See FEIS Appendix C for more detail)

In addition to Forest Plan monitoring, project-specific monitoring will be conducted to ensure that implementation is consistent with the established standards and guidelines. Monitoring will also be conducted to determine the effectiveness of management activities and applied mitigation measures. Adaptive management will be utilized as the new operation is implemented. As methods are used and monitored they may be changed to provide better results to protect resources and provide a better experience for the public. Restoration of previously dug areas in 281 Gulch will be monitored according to the plans described in Appendix C of the FEIS. These same monitoring methods will be used in Garnet Gulch when operations are moved there. Specific monitoring developed for the project includes:

Baseline Data: Stream surveys conducted in the project area established a baseline for monitoring turbidity and stream flow. Sediment monitoring was conducted during 2001-2004 and turbidity was monitored in 2004-5 during operating seasons. Stream flow was estimated in 2002-3 based on measurements at the East Fork Emerald Creek gauging station and using area-discharge relationship and also measured for 281 Gulch. Garnet Gulch stream flow was measured in 2004 and 2006. Additional surveys measuring channel and valley cross sections and longitudinal profiles are also on file. Fisheries surveys established baseline information for water temperature and residual pools. The reference area in Garnet Gulch for vegetative cover will be surveyed in summer 2006. Surveys confirmed the presence of the western boreal toad in 281 Gulch.

Implementation Monitoring: Project implementation generally involves the efforts of a variety of individuals with both specialized and general skills and training. Employees on the St. Joe District are accustomed to working together to achieve the desired project objectives. For example, the minerals administrator works with biologists or other specialist to ensure that mining operations and reclamation are implemented properly. At the recreational collecting site, the recreation specialist continually works with the geologists, hydrologist and biologists to ensure that the ongoing operations and end reclamation product is as planned. Joint field reviews are done as needed. These steady informal communications allow for incremental project adjustment throughout implementation to achieve the desired results. In addition to these less formal monitoring procedures, the following monitoring items will be conducted.

- Heritage Resources: All employees working at the Emerald Creek Garnet Area are required to promptly notify the Forest Archeologist upon discovery of a previously unidentified heritage resource. Work in that area will be halted until an assessment and protection measures are conducted. See Design Feature E for more detail.
- Channel Morphology: Measurements of channel and valley cross sections and longitudinal profiles taken prior to excavation will be used to re-establish channels in the excavated

areas. The proposed reconstructed channels will be monitored for stability and stream bank vegetative cover (FEIS Appendix C).

- Minerals / Recreation: Daily garnet weights per person per day will be recorded to assess garnet removal. Comment forms will also be available to assess whether we are meeting the public's expectations.
- Sensitive Plants: Some water disposal may take place on *Rhizomnium nudum* sites on the eastern side of Garnet Gulch. It is not known what effect this will have on this moss. Annual monitoring will be conducted to determine if water disposal has detrimental effects to the population of *R. nudum*. If declines in the population are recorded, then alternate water disposal sites or methods will be employed.
- Range: Cattle use in the Emerald Creek Garnet Area will be reported to the permittee immediately. The permittee will then be responsible for promptly removing the cattle. Temporary electric fencing may be used on the recently reclaimed areas if needed.
- Safety: All operations will be conducted in a safe manner and in compliance with Mine Safety and Health Administration (MSHA), Occupational Safety and Health Administration (OSHA), and other applicable local, state and federal requirements and guidelines. If operations are found to be out of compliance with these regulations and the failure to comply presents a significant risk to the health, welfare or safety of the general public, operations will be terminated until corrective measures are implemented.
- Restoration: Restoration monitoring will be done according to the monitoring plan developed for the restoration work in 281 Gulch (FEIS Appendix C).
- Water Quality: Water quality will be monitored to ensure compliance with IDAPA 58.01.02. (See Design Feature N.16., Erosion Control Plan in Appendix A and Appendix C). See effectiveness monitoring below.

Effectiveness Monitoring

- Water Quality: On-site monitoring will be conducted in a variety of ways. Visual inspections of sediment basins, operations and past rehabilitation will be conducted daily during operations and at a minimum once during mid-winter and once in early spring (see PF: SW-66 for list of previous site visits).

  Daily turbidity measurements will continue during operations both above and below newly reclaimed areas and at the sluice plant site. Turbidity immediately below the active project site shall not exceed background turbidity by more than 50 NTU instantaneously or more than 25 NTU for more than 10 consecutive days. Background turbidity shall be sampled above any disturbance created by the project. Turbidity monitoring shall be conducted hourly during project activities when cloudy water is observed downstream of the project site. If turbidity standards are exceeded, immediate steps shall be taken to reduce turbidity to below the standard. Monitoring data shall be legibly recorded in an organized fashion such that location of sample, turbidity data presented in nephelometric units, time of collection and cause of turbidity is clearly shown.

  Automated sediment samplers will be installed in East Fork Emerald Creek above Garnet Gulch, between Garnet Gulch and 281 Gulch, and below 281 Gulch.

- Noxious Weeds: Forest Service employees monitor the garnet collection areas for new populations of noxious weeds. Areas where ground-disturbing activities occur would be inspected at least yearly for new populations of noxious weeds. Should new populations be found, treatment would be implemented in accordance with priorities set by the noxious weed program (Design Feature G.8.).

- Vegetative Success: In the first year following revegetation efforts there would be 100% ground cover consisting of a combination of native and annual vegetation and mulch. Reclaimed areas would be monitored until a minimum of 75% vegetative cover of that found within a reference area was established, ideally within three years. A minimum of 50% of all planted shrubs or trees would be maintained. Supplemental seeding and/or planting would occur as necessary to meet goals.
- Wetland Success: Observe continual increase in cover percentage, plant species diversity, size and age class during the monitoring period and also monitor for soil redoximorphic (anaerobic) conditions annually during the monitoring period or determine hydrophytic vegetative recovery as indicative of hydrologic recovery.
- Wildlife: Follow-up surveys for persistent pooled water and western boreal toad would be conducted on an annual basis.

Other Alternatives Considered

I considered a reasonable range of alternatives as required in 40 CFR 1502.14. This includes a total of 16 alternatives: three considered in detail and 13 considered but eliminated from detailed analysis. Alternative A, phase out of garnet collecting operations, is the environmentally preferred alternative. A more detailed comparison of these alternatives is located in the Emerald Creek Garnet Area Final EIS.

Alternatives Considered in Detail

Alternative A – Phase Out Operations then Close the Garnet Area

Alternative A represents the closest feasible no-action alternative. With Alternative A the public garnet removal would continue in 281 Gulch until the accessible garnet gemstone resource is depleted (estimated at two to four years). At that time the facility would be closed, and the site would be rehabilitated. Road 3781 would be decommissioned and be completely recontoured. Alternative A would give us time to notify the public (people visit Emerald Creek Garnet Area from all over the United States and from many places around the world), give them a chance to visit the area before it is no longer available, allow the Forest Service to complete garnet recovery where facilities are already developed, and complete the restoration of 281 Gulch. This alternative would completely exhaust the garnet resource in 281 Gulch, so that we would not have to track where garnets are left then reconstruct facilities that were removed if the public garnet area is opened again some time in the future.

Alternative B: The Selected Alternative - Continue Operations and Restrict Vehicle Access

This is the selected alternative. See details beginning on page one.

Alternative C - Continue Operations and Allow Vehicle Access to the Site in Garnet Gulch

This alternative is similar to Alternative B except it includes making the new road available for everyone (not just people with disabilities and administrative traffic) to drive to the Garnet Gulch collecting site. This alternative requires a larger parking area (three acres vs. one acre) at the Garnet Gulch site.

Alternatives Considered but Eliminated from Detailed Analysis

The following alternatives were considered but were eliminated from detailed study for a variety of reasons. Please see the FEIS for more detail.

- Maintain the Current Recreational Experience
- Immediate Closure of the Garnet Area
- No Mining in Floodplains
- Allow Unregulated Garnet Digging
- Stream Diversion
- Access to Garnet Gulch from Road 1487
- No New Road Construction
- Construct a Road from 281 Gulch to Garnet Gulch
- Truck Garnet Gravels to a Previously Developed Site for Sluicing and Washing
- Garnet Removal in Non Fish-Bearing Streams Only
- Panels in Other Areas Not Considered in Detail
- Access with a Narrow Gauge Railway
- Mining in Previously Dug Areas

Reasons for My Decision

Meeting the Purpose and Need

Alternative B allows the Forest Service to continue to provide an area for the public to collect gem-quality and star garnets for an extended time period. New operational methods will provide safe conditions for the public, contractors, and Forest Service employees (FEIS pp. 16, 21, 23, 48, 91, and 128) and will protect water quality and aquatic habitats (FEIS pp. 37 – 38). It will have less impact than Alternative C because less ground will be cleared and excavated. The proposed action was developed after my staff conducted extensive evaluation of the project area to determine what areas could provide the best quality and quantity of garnets for the longest period of time (FEIS pp. 83-92). Alternative A would not provide the public with a gem-quality garnet recovery area after the garnet resource is exhausted in 281 Gulch (two to four years).

Alternative B balances the need to provide a unique recreational experience with the need to protect valuable resources. I recognize that garnet operations in riparian areas may result in some environmental effects, but those effects will be minimized with new operational methods. The new methods will allow us to operate the garnet area for a long time and still protect wetlands, water resources, and aquatic habitats.

I did not select Alternative A because it does not meet the need to continue to provide a public recreational area for collecting gem-quality star garnets; but the Forest Service is required to analyze a no-action alternative, and this alternative is the best option for a no-action alternative. The Forest Service has never received comments from the public or other agencies that indicate we should close the garnet area. On the contrary, public scoping indicates strong public support for the area. It is known internationally, and it is visited by people from all over the United States and from many places around the world.

Many alternatives were considered to address issues and concerns, but some of them were eliminated from detailed analysis because they would not meet the purpose and need. Immediate

closure of the garnet area would not provide a recreational garnet-recovery area for the public nor would we be able to notify people coming from all over the United States in a timely way (FEIS p. 23). Unregulated garnet digging would result in unsafe conditions and unacceptable environmental damage (FEIS p. 33). Garnet collecting only in drainages that are not fish-bearing streams or only allowing mining in upland areas outside of riparian areas would not provide enough gem-quality garnet to warrant the costs of development, and restricting operations to only these areas would limit the life of the garnet area (FEIS pp. 23-32, 35). Recovery in previously dug areas would not produce enough gem-quality garnet to operate a public recreational garnet removal site (FEIS pp. 35-36).

Recovered garnets need to be of sufficient quality to be attractive to collectors, and we need sufficient quantity to satisfy the public demand (FEIS p. 87). If people make the trip to the garnet area and are not satisfied with the amount or quality of garnets, interest in the area may decline (FEIS p. 25). A significant investment goes into analyzing, developing, and maintaining public garnet operations. I want to provide the public with opportunities for unique, high-quality recreational experiences in the garnet area, which means that we must produce a sufficient supply of gem-quality and rare star garnets. The Forest Service acquired the lands within the project area through land exchanges in the 1960s and 1970s to provide opportunities for public garnet collecting (FEIS p. 2).

Addressing the Issues

Using comments from the public, other agencies, and the Coeur d'Alene Tribe, we identified four key issues: Wetlands, Water Quality and Yield, Aquatic Habitat, and Recreation. The interdisciplinary team developed alternatives to address these issues, and I made the decision to select Alternative B after carefully considering how it addresses them.

Wetlands

Alternative A (phasing out the garnet area) would have the least impact on wetlands, however, it would not provide the public with a legal garnet-recovery area for more than a few years. The end results of Alternatives B and C would be similar in terms of wetlands. A total of approximately 2.2 acres of wetlands in Garnet Gulch (Alternatives B and C only) and one acre of wetlands in 281 Gulch would be temporarily disturbed over an estimated 20 years during garnet gravel excavation (FEIS p. 163), but with concurrent reclamation and a portion of parking area removed at Pee Wee Gulch no wetlands would be lost with any of the alternatives (FEIS p. 163). This project will actually result in slightly more wetlands than currently exist in the project area: 1.5 acres in Alternative A and 0.5 acres in Alternatives B and C (FEIS pp. 162-163).

Water Quality and Yield

No change to existing beneficial uses is expected because water quality is not expected to change, stream temperatures are not expected to change, and turbidity levels meet Idaho Water Quality Standards. The State of Idaho Department of Environmental Quality certified that the project will comply with the Clean Water Act and will not violate Idaho Water Quality Standards (FEIS p. 160; PF: SW-84).

Water quality will most likely improve with the implementation of new operation methods. Excavated areas will no longer be left exposed for extended time periods. With new methods people will not be washing garnet gravels directly in the stream. Proposed operations will contribute approximately 2.6 to 5.1 tons / year of sediment which is less than inputs from previous methods. Sediment additions will be reduced in the East Fork of Emerald Creek by approximately 8.6 tons/year because of other measures taken to reduce sediment (FEIS p. 155).

Removal of vegetation for the mining would cause very slight increases in sunlight on the stream channels; however, the topography of the surrounding landscape and the orientation of the drainages shade the drainage bottoms, so removal of trees and shrubs will not cause a consequential increase in direct sunlight on the stream channel and would not increase stream temperatures (FEIS p. 150). Recently planted tree seedling (5,300 seedlings planted in 2006, 200 in 2005, 600 in 2002, and 500 in 2000-2001) will eventually move the drainage toward meeting the temperature TMDL and attaining beneficial use support within the East Fork of Emerald Creek.

No downstream effects are expected from the proposed water withdrawals required to operate the sluice system (FEIS p. 154). Design Feature N.12. was developed to ensure flows similar to what currently exists. Loss of canopy associated with the removal of panels is not anticipated to cause a change to water yields (FEIS p. 154).

No compromise to stream channel integrity is expected in the East Fork Emerald Creek or downstream because no consequential increase in sediment or substantial change in water yield would occur from the proposed activities (FEIS p. 154).

Aquatic Habitat

Fish habitat will be affected each time a channel diversion is created to excavate a garnet mining panel; however excavated areas will be reclaimed immediately following disturbance (estimated to be within a week), and the length of the excavated area itself - approximately 150 feet (FEIS p. 72) - will be about half the length of what it previously was during previous operating seasons. This will reduce the time and extent of stream alteration compared with previous operation methods that left bigger excavated areas open for up to four months each year.

Even with the previous operation methods in the public garnet area since 1974, the East Fork of Emerald Creek and many of its tributaries have recovered from past habitat alteration to the extent that they now support resident populations and/or provide critical spawning and rearing habitat for westslope cutthroat trout and other native fish. The East Fork of Emerald Creek now serves as one of the remaining refuges for westslope cutthroat trout in the Emerald Creek / St. Maries River systems. Recovery is expected to continue and approach near-historic conditions as long as they remain unaltered (Idaho Fish and Game, April 24, 2006; PF: PI-132). We will minimize and/or avoid impacts to the East Fork of Emerald Creek through our project design, and if project and effectiveness monitoring shows that we are not minimizing these environmental effects, we will change our operational methods or cease operations (FEIS pp. 20-21).

Project design features and mitigation measures (Design Features C., F.2.e.,f., F.3.d., N., O.) will help ensure protection of fish habitat. Vegetation in the Riparian Habitat Conservation Areas (RHCAs) will be affected by garnet removal (FEIS p. 74). Annually, between 0.2 and 0.4 acres of RHCA may be affected to allow removal of the garnet-bearing gravels. The sites will be replanted immediately, and it will take approximately three years for riparian vegetation to become fully reestablished. In addition to this annual effect, in Garnet Gulch there will be approximately three acres of sustained disturbance within the RHCA for the overburden stockpiles and operations area. Neither the proposed parking area nor the road into Garnet Gulch are within the RHCA; therefore, there would be no direct effects for the construction of this parking area/road or the use of the area. The combination of past and proposed vegetation removal in RHCAs equals approximately five percent of the RHCA vegetation in 281 Gulch. Approximately 80% of previous garnet digging areas has received various amounts of riparian planting and currently has complete ground cover; however, trees are still not large enough to provide shade. Riparian vegetation will become reestablished along East Fork of Emerald Creek when the part of the parking lot at Pee Wee Gulch is removed. This would improve sediment filtration between Road 447 and the East Fork of Emerald Creek. In addition, conifers planted within the area previously occupied by parking lot would

eventually grow and provide shade to the stream as well as future potential woody debris recruitment.

The new road constructed in Garnet Gulch will be 0.7 miles long, but the decommissioning of Road 3781 in 281 Gulch will be 0.35 miles long. This will result in a small net increase in miles of road in the project area.

New culverts in Road 447 will improve fish migration and habitat access in the long term (FEIS p. 74).

The impacts to riparian habitat are not expected to affect the population viability of western toads (FEIS p. 198). The toads continue to exist down stream from previously dug sites. Forest Service recreational removal of garnets will impact a total of about 3.2 acres of combined riparian habitat in 281 Gulch and Garnet Gulch over approximately 20 years. Based on the confirmed presence of western toads, alteration of habitat would likely impact potential breeding habitat for the western toad. However, this impact has not been shown to eliminate western toads from previously impacted drainages (e.g. in 281 Gulch). Western toads have been seen in the small water-filled depressions that resulted from garnet digging and in the settling ponds used to reduce sediment at the existing site. Design features will provide undisturbed habitat and a possible refuge (FEIS p. 198).

Recreation Experience

When operations move to Garnet Gulch, the hike to the operations site will change. The walk required for the Garnet Gulch site will be about the same as the walk to reach the current recovery site at the West Fork of 281 Gulch but it is longer than the walk to the current site at the East Fork of 281 Gulch. The longer and slightly steeper walk required in Alternative B for Garnet Gulch operations may be a physical limit for some individuals; but the Forest Service will accommodate people who are not capable of making the walk (Design Feature J. 4). The recreational experience at the operations site will be in a more rustic and natural setting than it would be with a larger parking area and more vehicles at the site (as in Alternative C).

I did not select Alternative A because it would not continue to provide the unique recreational experience that is only available at the Emerald Creek Garnet Area (FEIS p. 129). There are no other known areas where collectors can prospect and collect star garnets without acquiring a commercial lease (FEIS p. 129). Indirect economic benefits would be lost if I selected Alternative A. It is estimated that recreational visitors spend between $121,381 and $207,018 a year at local businesses (FEIS p. 124). These expenditures would decrease if the garnet area were closed (FEIS p. 129).

I did not select Alternative C partly because of the recreation experience and the necessary construction of a larger parking area required to accommodate more vehicles. Alternative B will require one acre of clearing at Garnet Gulch and Alternative C would require three acres of clearing. Two acres may not sound like a big difference in amount of clearing, but at this site that is a substantial difference. The valley is fairly narrow, and creating a flat parking area will require a large amount of excavation which would impact the character of the setting. Also, allowing more vehicles will increase the sights and sounds of people at the site (FEIS p. 130).

Public and Agency Involvement

Public scoping for the Emerald Creek Garnet Area began in December 2004. A mailing list was generated by using rock club lists; Emerald Creek Garnet Area visitors lists; resident mailing list for Clarkia, Idaho (the nearest town); and known interested parties such as neighboring landowners, environmental groups, other government agencies and school teachers who are known to conduct garnet area field trips. On December 20, 2004 the St. Joe Ranger District mailed a Scoping Notice

to 965 individuals, organizations, and agencies. The Scoping Notice was also posted on the Idaho Panhandle National Forests web site at that time. The project was listed on the Quarterly Schedule of Proposed Actions in January 2005.

News releases were also sent to the following regional and local papers: Spokesman–Review, St. Maries Gazette Record, Moscow-Pullman Daily News, Lewiston Morning Tribune and Shoshone News Press. A Notice of Intent (NOI) to publish an environmental impact statement appeared in the Federal Register on February 3, 2005. Both the Scoping Notice and NOI described the purpose and need and proposed action for this project.

Forest Service employees staffed a booth at the Rock Rollers Gem and Mineral shows in Spokane, Washington in March 2005 and March 2006. They provided information and handed out flyers describing the proposal and asking for comments.

The Forest Service received 93 responses from this scoping effort. These responses were primarily from people who have participated in recreational digging at the Emerald Creek Garnet Area.

On February 23, 2006 I sent copies of the Emerald Creek Garnet Area Draft Environmental Impact Statement to people on the mailing list discussed above and to the mailing list supplied by the Army Corps of Engineers. The Environmental Protection Agency published a notice of availability for the EIS on March 10, 2006. That notice stated that the public comment period would end on April 24, 2006. On March 13, 2006 I published a legal notice that announced the EIS was available and requested public comments. I received 20 letters commenting on the DEIS. The interdisciplinary team reviewed the comments and responded to them by completing additional analysis, correcting errors, and clarifying some discussions. The comments and the Forest Service's Response to Comments are included as Appendix B in the final EIS.

The Idaho Conservation League (ICL) recognized the community support for the garnet area but expressed concern that we should have given more consideration to the "No Mining in Riparian Areas" alternative, which we considered but eliminated from detailed study. We explored this alternative in great detail (FEIS pp. 23-32) and considered the following factors:

1. Recovery of gem-bearing gravels can only occur if there is sufficient volume, spatial extent and continuity of deposits to warrant investment, time and effort to remove garnet deposits.
2. Recovered garnets must be of sufficient quantity and quality to satisfy public demand.
3. Deposits must occur in locations where the gems can be recovered with reasonable environmental effects and provide for public safety.

The Forest Geologist and St. Joe District Ranger discussed ICL's concerns and detailed the rationale for not taking the upland-only alternative forward for more analysis. This decision was based on extensive testing and analysis within the project area (FEIS pp. 83-92). The percentage of gemstone garnets in the bench deposits is much less than in the floodplains. Non-riparian panels would entail more disturbance and excavation to acquire the same quantity of garnets. The quality of the bench deposits is poorer due to cementation of the garnet-bearing gravels, which makes it very difficult to recover garnets. The lifespan of the public recovery operation would be shorter, because of the reduced quantity and quality of garnet-bearing sands. There is no practicable alternative to the extraction of gemstone garnets from the floodplains, if we want to maintain a quality recreation experience and meet public desires for the ability to collect gem-quality garnets.

The U.S. Army Corps of Engineers is a cooperating agency for this proposal, and the Forest Service has worked with the Army Corps of Engineers throughout the development of the proposal and development of alternatives. The Army Corp of Engineers has jurisdiction for the project because it is the agency that has the authority to issue permits for operations in wetlands under Section 404 of the Clean Water Act. The Army Corps of Engineers made information about the project available to the public during its public comment period as part of the 404 permitting process. I received copies

of the comments that were sent to the Army Corps of Engineers. Based on those comments, my staff updated the final EIS; and I considered them for this decision.

The Coeur d'Alene Tribe asked to be contacted to discuss monitoring of the project. The St. Joe Ranger District will contact the tribal archaeologist before excavations begin (Design Feature E). The St. Joe Ranger District NEPA coordinator discussed the district's planning program with the Nez Perce Tribe's archaeologist, and he said it was not necessary to provide him with information about projects on the district unless they are close to the North Fork of the Clearwater (FEIS p. 5).

The Environmental Protection Agency (EPA), the U. S. Fish and Wildlife Service, and Idaho Fish and Game visited the site with representatives of the Forest Service during project development (PF: PD-7a).

The Forest Service has worked closely with the Idaho Department of Environmental Quality to develop the project proposal and to ensure adequate analysis and documentation for the Clean Water Act Section 401 certification process (PF: PD-21, PD-22, PD-23, PD-35, PD-36, PI-39, PI-112, PI-125, PI-150).

During scoping some people expressed concern about having to carry equipment (shovels, etc.) to the operations site (PF: PI-63, PI-76, PI-101). With the new methods people will not need to bring their own equipment. The Forest Service will provide buckets, and if shovels are needed they will be available at the site.

Compliance with Laws and Regulations

To the best of my knowledge, this decision complies with all applicable laws, regulations, and policies (FEIS pp. 48, 77-79, 111-112, 114, 120, 160, 163, 198).

National Forest Management Act (NFMA) and Forest Plan

This decision to continue to operate the garnet area with new methods and eventually move operations to Garnet Gulch is consistent with the intent of the Forest Plan's long-term goals and objectives (Forest Plan, pp. II-1 to II-11). The selected alternative does not require any Forest Plan amendments; and it is consistent with Forest Plan direction. It is consistent with direction for Management Area 4, Management Area 15, and Management Area 16.

NFMA requires the necessity of roads be documented and that new roads be designed to standards appropriate for the intended uses, considering safety, cost of transportation, and impacts on land and resources [16 USC 1608]. It also requires that all roads are planned and designed to re-establish vegetation cover on the disturbed areas within a reasonable period of time, not to exceed ten years unless the road is determined necessary as a permanent addition to the National Forest Transportation System [16 USC 1604 Sec. 8]. Analysis shows that a permanent road is needed in Garnet Gulch to facilitate operations of the garnet-removal operations there (PF: T-1). That road will be constructed to standards to accommodate maintenance equipment and limited public use (Design Features K.1., K.2., K.4., and K.8.). Road 3781 in 281 Gulch will not be needed when operations are moved to Garnet Gulch (PF: T-2); so it will be decommissioned, recontoured and revegetated when operations are complete in 281 Gulch.

Clean Water Act

The State of Idaho Department of Environmental Quality certified that the project will comply with applicable sections of the Clean Water Act and will not violate Idaho Water Quality Standards if work is completed and monitored as described in the project description above (FEIS p. 160; PF: SW-84).

The selected alternative will maintain the chemical, physical, and biological integrity of the streams in the project area, in adherence with 33 U.S.C. §1251 (FEIS pp. 160, 163). Compliance with the Clean Water Act and Idaho Water Quality Law are expected with the implementation of design

criteria, because the pollutant sediment would be reduced cumulatively and no consequential increase in temperature is expected. Channel reclamation following relocation and reconstruction may actually achieve, or move conditions toward meeting, the RHCA objectives through incorporation of large woody debris and planting significant amounts of vegetation in riparian areas, which would also continue toward the trend of supporting beneficial uses.

The purpose of the Clean Water Act is to restore and maintain the chemical, physical and biological integrity of waters of the United States through the control of discharges of dredged or fill material (Activities associated with the proposed garnet extraction are not expected to alter, add or appreciably increase chemical pollutants or minerals because *in situ* material will be returned to the area it would be excavated from, and no mineral or chemical discharge is anticipated. Design features, including requiring the presence of hazardous material containment kit(s) at the site and by equipment contractors; and the minimum distance from flowing water for refueling equipment during operations would prevent adverse effects from accidental spills of fuel or oil from machinery. Substantial change to physical characteristics of the wetland is not expected because: 1) Design features call for stockpiling topsoil and substratum in layers and then replacing as near as possible to pre-existing conditions, so no appreciable change to the wetland substrate is anticipated; 2) Suspended particulate matter (turbidity) has been within the State water quality standard during recent operations; 3) Water current patterns, water circulation, and direction and velocity of water flow are not expected to change because of replacement of soil horizons, substratum, gravel lenses (etc.), *in situ* or as close to *in situ* as possible; 4) No appreciable change in streamflow; and 5) No change in timing of flows. Effects to flora and fauna are documented in the Rare Plant, Wildlife and Fisheries sections.

Floodplain Protection Executive Order 11988

Floodplain size, elevation and function would not be substantially altered (FEIS p. 160). Survey data of the existing condition would be used in reclamation of the proposed activity areas. Wetland size and function would not be appreciably altered because of rehabilitation, reclamation, and application of design criteria.

Wetland Protection Executive Order 11990

Wetland size and function would not be appreciably altered because of rehabilitation, reclamation, and application of design features (FEIS pp. 36-37, 151, 162-163). The alternatives would meet Executive Order 11990 because there is no ‘practicable’ alternative to disturbing the wetland areas to recover garnet gemstones and because immediate reclamation of the wetlands would ‘minimize harm’ and restore wetland function.

Executive Order 12962 (June 7, 1995)

The selected alternative will maintain aquatic habitat (FEIS pp. 78) and thus will not affect the fishery potential, which in turn will not reduce the potential for recreational fishing opportunities.

Endangered Species Act

Section 7 of the ESA directs federal agencies to ensure that actions authorized, funded, or carried out by them are not likely to jeopardize the continued existence of any Threatened or Endangered species or result in the destruction or adverse modification of their critical habitat. The selected alternative is consistent with the Endangered Species Act (FEIS pp. 78, 120, 198). The selected alternative will have no effect on Spalding’s catchfly, water howellia, Canada lynx, or bald eagle (FEIS pp. 168, 187, 119); and it may affect but is not likely to adversely affect bull trout (FEIS pp. 78). The selected alternative is not likely to jeopardize the continued existence of gray wolf or result in destruction or adverse modification of proposed critical habitat (FEIS pp. 187). The USDI Fish and Wildlife Service concurred with this assessment in a letter dated December 6, 2006 (PF: F-50).

National Historic Preservation Act

The selected alternative complies with the National Historic Preservation Act (FEIS pp. 79). Systematic inventory and reports are complete for this project area, and Native American groups were given the opportunity to comment. District Ranger, Chuck Mark, discussed the project with representatives of the Coeur d'Alene Tribe during meetings on March 21, 2005 and March 24, 2006 (PF: PI-104, PI-121). The Forest Cultural Resource Specialist made a preliminary determination that the project would have No Adverse Effect to these properties, and the State Historic Preservation Officer has concurred. The Forest Service will contact the archaeologist for the Coeur d'Alene Tribe prior to excavations. If new cultural resource sites are discovered, Forest Service employees will stop activities at the site and report the find. The Forest Cultural Resource Specialist will inventory the site and develop mitigations in consultation with the State Historic Preservation Officer and, if necessary, the Advisory Council on Historic Preservation and appropriate Native American tribes to protect the site.

Environmental Justice Executive Order 12898

No disproportionate impacts to minority or low-income populations were identified during scoping or during any other portion of public involvement over the course of this analysis. District Ranger, Chuck Mark, discussed the project with representatives of the Coeur d'Alene Tribe during meetings on March 21, 2005 and March 24, 2006. Based on this, the selected alternative complies with Executive Order 12898.

Idaho Noxious Weed Act

Weeds will be controlled on National Forest System lands associated with this project (Design Features G.1.-8.; and FEIS p. 110).

Appeal & Implementation Information

This decision is subject to administrative review (appeal) pursuant to 36 CFR Part 215. Appeals, including attachments, must be filed within 45 days from the publication date of this notice in the *Spokesman-Review*, the newspaper of record. Attachments received after the 45-day appeal period will not be considered. The publication date in the *Spokesman-Review* is the exclusive means for calculating the time to file an appeal. Those wishing to appeal this decision should not rely upon dates or timeframe information provided by any other source. Individuals or organizations who submitted comments during the comment period may appeal this decision. Paper appeals must be submitted to:

USDA Forest Service, Northern Region
ATTN: Appeal Deciding Officer
P.O. Box 7669
Missoula, MT 59807

or

USDA Forest Service, Northern Region
ATTN: Appeal Deciding Officer
200 East Broadway
Missoula, MT 59802

Office hours are 7:30 a.m. to 4:00 p.m., Monday through Friday, excluding federal holidays.

Electronic appeals must be submitted to: appeals-northern-regional-office@fs.fed.us. In electronic appeals, the subject line should contain the name of the project being appealed. An automated response will confirm your electronic appeal has been received. Electronic appeals must be submitted in MS Word (.doc), plain text (.txt), or rich text format (RTF). In cases where no identifiable name is attached to an electronic message, a verification of identity will be required. A scanned signature is one way to provide verification.

It is the appellant's responsibility to provide sufficient project- or activity-specific evidence and rationale, focusing on the decision, to show why my decision should be reversed. The appeal must be filed with the Appeal Deciding Officer in writing. At a minimum, the appeal must meet the content requirements of 36 CFR 215, and include the following information:

- The appellant's name and address, with a telephone number, if available;
- A signature, or other verification of authorship upon request (a scanned signature for electronic mail may be filed with the appeal);
- When multiple names are listed on an appeal, identification of the lead appellant and verification of the identity of the lead appellant upon request;
- The name of the project or activity for which the decision was made, the name and title of the Responsible Official, and the date of the decision;
- The regulation under which the appeal is being filed (in this case 36 CFR 215);
- Any specific change(s) in the decision that the appellant seeks and rationale for those changes;
- Any portion(s) of the decision with which the appellant disagrees, and explanation for the disagreement;
- Why the appellant believes the Responsible Official's decision failed to consider comments; and
- How the appellant believes the decision specifically violates law, regulation, or policy.

If an appeal is received on this project there may be informal resolution meetings and/or conference calls between the Responsible Official and the appellant. These discussions would take place within 15 days after the closing date for filing an appeal. All such meetings are open to the public. If you are interested in attending any informal resolution discussions, please contact the Responsible Official or monitor the following website for postings about current appeals in the Northern Region of the Forest Service: http://www.fs.fed.us/r1/projects/appeal_index.shtml.

If no appeals are filed within the 45-day time period, implementation of the decision may occur on, but not before, five business days from the close of the appeal filing period. When appeals are filed, implementation may occur on, but not before, the 15th business day following the date of the last appeal disposition.

Contact Person

For additional information concerning this decision or the Forest Service appeal process, contact Tracy Gravelle, Project Leader, St. Joe Ranger District, 34 Hoyt Drive, Avery, ID 83802; (208)245-4517.

Ranotta K McNair 12/15/06

RANOTTA K. MCNAIR **DATE**
Forest Supervisor
Idaho Panhandle National Forests