

**Emerald Creek Garnet Area  
Final Environmental Impact Statement  
Idaho Panhandle National Forests, St. Joe Ranger District  
Latah County, Idaho  
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**Lead Agency:** USDA Forest Service

**Cooperating Agency:** US Army Corps of Engineers

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**Abstract:** The final environmental impact statement (FEIS) addresses needs for public recreational garnet gemstone digging at the Emerald Creek Garnet Area operated by the Forest Service in the East Fork of Emerald Creek on the St. Joe Ranger District. The project area is approximately 780 acres of National Forest System lands including 281 Gulch, Garnet Gulch, No Name Gulch, Pee Wee Gulch, and a portion of the East Fork of Emerald Creek.

**Issues:** The major issues include: wetlands, water quality and water yield, aquatic habitat, and recreation including availability of the garnet area and public access for garnet digging.

**Alternatives:** Alternatives considered in detail include:

**Alternative A – Phasing Out the Garnet Area:** The public dig site would remain in 281 Gulch with new methods of operation to protect water quality and aquatic habitat while reducing safety risks until the accessible garnet gemstone resource is depleted then the facility would be closed and the site would be rehabilitated.

**Alternative B – Proposed Action:** Public recreational digging would continue with new methods of operation to protect water quality and aquatic habitat while reducing safety risks. Operations would be moved to Garnet Gulch when the garnet resource in 281 Gulch is depleted. Vehicle access to the digging site would be limited to administrative and disabled access.

**Alternative C – Proposed Action with Additional Access for Vehicles:** Similar to Alternative B, but access to the operations site would be provided for all vehicles except extra large vehicles (buses, large RVs, etc.).

# Summary

## Emerald Creek Garnet Area

### Final Environmental Impact Statement

#### Introduction

This environmental impact statement addresses needs for the public recreational garnet gemstone digging at the Emerald Creek Garnet Area which is operated by the Forest Service 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 includes 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.

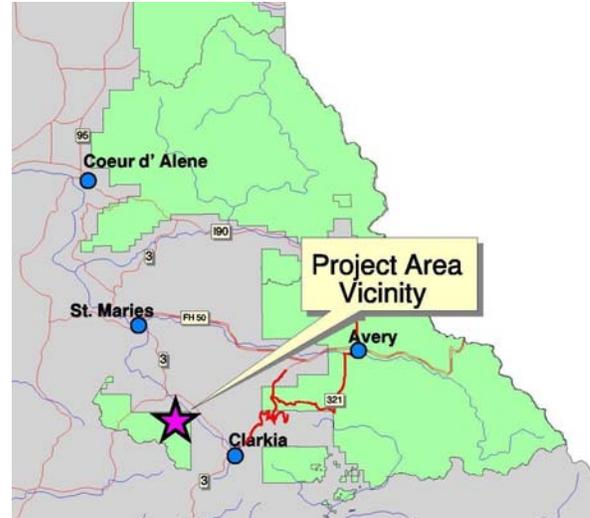
#### Purpose and Need

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.

A decision needs to be made whether or not to continue the public recreational digging area and if so, what drainage to enter and what operation methods are needed to comply with federal and state regulations and to protect resources. The primary questions are if and how to safely allow gemstone collecting and still protect wetlands and beneficial uses associated with water quality and aquatic habitat.

The Emerald Creek Garnet Area has long been known as a unique gem-collecting area in northern Idaho. 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 star garnet is the state gemstone for Idaho. The Forest Service has operated a fee recreational digging site in Emerald Creek for the public since 1974. The recreational garnet area is nearing the end of available area to dig at the present site in 281 Gulch. There is considerable public support for the present Emerald Creek Garnet Area and future recreational garnet gemstone digging opportunities.

Gemstone garnet deposits primarily occur in the drainage bottoms and, therefore, digging areas are typically within the riparian zone of the streams. Digging garnets in riparian areas with the current operation method leaves a riparian area excavated



for the entire season which results in sediment production that may affect water quality and aquatic habitat.

The digging area is currently within the streambed and in the adjacent banks. Garnets are found in gravel just above bedrock. At this time, the public is allowed to pick a spot in the stream and dig their own holes through the subsoil for garnet gravels. They do this working in close vicinity of others with hand tools. There are inherent safety risks for the diggers and for the Forest Service employees who monitor the activity. The size and location of the holes have to be controlled to ensure safe operations. The safety risks include possible injury from hand tools and possible collapse of stream banks, trees or rocks.

Random hand digging of the garnets results in an incomplete recovery of the garnet resource. Often people dump the subsoil from their holes onto another site where garnets may never be recovered. The result is that the recovery of the garnets is haphazard and not complete.

Most of the National Forest System lands within the project area were either acquired through land donations or land exchanges (Weeks Law, Clarke-McNary, General Exchange Act and Administrative Sites Act). These acquired lands are not open to mineral entry under the general mining laws as are most other National Forest System lands in the western United States. Whether or not to develop minerals in these acquired lands is a discretionary decision. In other words, the Forest Service may use the land to

develop minerals but is not required to do so. These minerals are subject to mineral leasing laws and procedures (For more detail on laws and authorities, see the Minerals Section in Chapter 3 and Appendix B). Mineral development is also allowed (Section 402 of Reorganization Plan No. 3 of July 16, 1946) when it will not interfere with the primary purposes for which the land was acquired and only in accordance with such conditions as are specified by the Secretary of Agriculture in order to protect such purposes.

The Forest Service acquired the lands within the project area through land exchanges in the 1960s and 1970s for the purposes of garnet collecting and land consolidation. These land exchanges received a great deal of publicity and subsequent comment from the public. The public demonstrated enormous support to maintain opportunities for recreational gem collecting. This land was considered key to consolidating National Forest System land and improving recreation management of rockhound activities for removal of gem-quality garnets.

## **Proposed Action**

The Forest Service proposes to continue public recreational collecting at the Emerald Creek Garnet Area with new methods of operation to protect water quality and aquatic habitat and provide safer garnet-collecting conditions for visitors and Forest Service employees (see Chapter 2 for details). Operations would continue in 281 Gulch until the accessible garnet gemstone resource is depleted. At that time, operations would move from 281 Gulch to Garnet Gulch. Road 3781 which currently provides access would be decommissioned and completely recontoured. A new road would be constructed to the new operations area in Garnet Gulch to provide access for administration and people with disabilities. A new trail would be constructed from Road 447 to the new access road. The Forest Service would rehabilitate previously dug areas in Pee Wee, No Name and 281 Gulches to improve aquatic habitat and maintain water quality. The Pee Wee Gulch parking lot on Road 447 would be rehabilitated, and the flood plain would be restored.

## **Alternative Development**

### **Scoping**

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 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.

### **Issues**

Issues were identified based on public comments, the knowledge and experience of the interdisciplinary team, and preliminary analysis of the proposed action. Alternative-driving issues include Wetlands, Water Quality and Quantity, Aquatic Habitat, and Recreation (availability of the garnet area and public access to it).

## **Alternatives Considered in Detail**

### **Alternative A – Closing the Garnet Area**

The garnet collecting site would remain in 281 Gulch until the accessible garnet gemstone resource is depleted then the facility would be closed and the site would be rehabilitated. New operation methods would be used. Rehabilitation from past operations would be completed including decommissioning and recontouring Road 3781. All facilities would be removed including toilets, administration building, and parking areas. Effectiveness of rehabilitation and closure of garnet digging area would be monitored. The floodplain at the parking lots (281 Gulch and Pee Wee Gulch) would be partially reestablished leaving space for turnouts.

### **Alternative B – Proposed Action**

The Forest Service proposes to continue public recreational garnet collecting at the Emerald Creek Garnet Area with new methods of operation to protect water quality and aquatic habitat (see FEIS Chapter 2 and Appendix A for details). Operations would continue in 281 Gulch until the accessible garnet gemstone resource is depleted. At that time, operations would move from 281 Gulch to Garnet Gulch. A new road would be constructed to access operations in Garnet Gulch. A trail would be constructed connecting existing Road 447 with the new road. A parking lot would be constructed to accommodate people with disabilities and administrative vehicles. With information collected from surveys and exploration during 2002-2004, the Forest Service developed an operations and reclamation plan to address water and fish concerns for the remaining area in 281 Gulch and the new proposed area in Garnet Gulch. The Forest Service would rehabilitate previously dug areas in Pee Wee, No Name and 281 Gulches to improve aquatic habitat and maintain water quality.

### **Alternative C**

A number of the public comments and comments from the interdisciplinary team suggested a need for road access all the way to the collecting site at Garnet Gulch once operations move from 281 Gulch. There was concern that the proposed trail is too long for some people which would exclude them from the site. This alternative is the same as Alternative B except it includes making the new road available for everyone (not just administration and people with disabilities) to the Garnet Gulch collecting site with a larger parking (three acres of clearing).

## **Comparison of Alternatives**

### **Meeting the Purpose & Need**

<b>Purpose and Need</b>	<b>Alt A</b>	<b>Alt B</b>	<b>Alt C</b>
Maintains the recreation gemstone collecting area while protecting aquatic habitat and water quality / quantity	No	Yes	Yes
Provides safer, more efficient operation method	Yes	Yes	Yes

### **Addressing the Issues**

Please see Chapter 3 of the FEIS for a complete discussion of these issues.

### **Wetlands**

Activity is proposed in a total of one acre of wetland in 281 Gulch and 2.2 acres in Garnet Gulch over 12 to 24 years.

There would not be an appreciable change in flow or circulation through the wetland areas for the following reasons: 1) annual disturbance in wetland areas would be small (1/5 to 1/3 acre or less) and temporary (one week or less); 2) current survey data of valley and channel cross-sections and longitudinal profiles would be used to reconstruct the channel; 3) each reconstructed panel surface, both wetland and channel(s), would match upstream and downstream valley and channel elevations and channel locations.

No wetlands would be lost. In all alternatives, parking lots would be removed along the East Fork of Emerald Creek resulting in ½ to 1 ½ acres of floodplains and wetlands rehabilitation which equates to a net gain of wetlands.

In Alternative A no wetlands would be lost from project activities. One acre in 281 Gulch of wetlands would be temporarily disturbed during excavation and concurrent reclamation. Approximately 1½ acres of floodplain/wetland would be reestablished along East Fork Emerald Creek through parking lot removal at Pee Wee Gulch and 281 Gulch.

In Alternatives B and C no wetlands would be lost from project activities. A total of approximately 2.2 acres of wetlands in Garnet Gulch and one acre of wetlands in 281 Gulch would be temporarily disturbed during excavation and reclamation over the life of the project. The annual rate of wetland

disturbance when excavating riparian areas may be about one-quarter acre in 281 Gulch and about 0.35 acre in Garnet Gulch. The planned removal and restoration of parking area at Pee Wee Gulch along the East Fork Emerald Creek may increase floodplain and wetlands by about ½ acre, resulting in a net increase in wetlands and floodplains.

### **Water Quality / Water Yield**

*Estimated Amount of Sediment Production and Reduction:* Sediment additions from proposed activities are estimated at approximately 5.0 tons/year although design features may reduce estimated sediment generated during channel reconstruction. Sediment basins, sediment traps, gravelling, slash-filter-windrows, vegetated buffers and other safeguards listed under the Design Features would be utilized to prevent sediment from entering the stream system from the recreational operations. Past turbidity sampling at the current collection areas indicates that water quality standards are met with the pre-slucice operations and would continue to be met with the proposed new operations.

*Effects on Stream Temperature:* There may be an incremental fraction of increased sunlight on the stream channels, but this would not be a consequential increase in direct sunlight on the stream channel and would not cause further impairment of beneficial uses within the East Fork Emerald Creek. The topography of the surrounding landscape and the orientation of the drainages shade the drainage bottoms, the removal of trees and shrubs would not result in a large increase of sunlight reaching the streams, and shrub and tree planting will eventually shade streams; so temperature would not increase.

*Effects to Beneficial Uses:* Pollutants of concern for downstream reaches that are listed as Water Quality Limited Segments (WQLS) include sediment and temperature. No change to existing beneficial uses is expected because past monitoring indicates sediment levels met water quality standards at the recreational garnet collection site, temperature increases are not expected because the minor change in vegetative cover will not reduce stream shading, proposed tree and shrub planting will eventually increase shade, and no change to water quality is expected from the introduction of chemical pollutants.

*Water Withdrawal vs. Stream Flow:* No increase in water yield is expected because no consequential change in vegetative cover would occur from this activity. Water withdrawal is not expected to substantially affect wetland hydrology or streamflow

because the vast portion of water withdrawal would occur in the springtime during higher flow periods to fill the holding/settling pond(s) for the sluice operations. It is anticipated there would be a need to replenish water in the holding/settling pond(s) due to leakage, evaporation, and spills and splashing from the sluice operation. This anticipated need is not expected to be large. The system would be recharged with water from the stream source after review by the District Fish Biologist and District Hydrologist. During dry periods, only a small portion of the stream flow over an extended time period would be removed for augmentation or a water truck may be used to supplement if needed.

### **Aquatic Habitat**

*Fisheries:* The table on the following page summarizes effects for fisheries. For these issues, there are no differences between Alternatives B and C. The proposed activities would not jeopardize the continued existence of bull trout, the listed species that historically was found in the project area. The proposed activities would maintain habitat and thus would not affect the fishery potential.

*Amphibians:* Western toads have been found at various locations in the analysis area, in both riparian and upland habitats and near the garnet digging site in 281 Gulch. For Alternative A, the continuation of recreational mining for garnets in 281 Gulch would impact approximately one acre of riparian habitat. For Alternatives B and C, Forest Service recreational mining of garnets would impact a total of approximately 3.2 acres of riparian habitat in 281 Gulch and Garnet Gulch.

Based on the confirmed presence of western toads, alteration of habitat would likely impact potential breeding habitat for the western toad. It is also likely that there would be some short-term displacement of individuals and some unavoidable direct mortality of individuals associated with the mining operation. However, this impact has not been shown to eliminate western toads from the drainage. Western toads have been seen in the small water-filled depressions that result from garnet digging, in the settling ponds used to reduce sediment at the existing site and at a rehabilitated commercial mining site. All areas impacted by mining would be rehabilitated in the same year as excavations. This rehabilitation would be designed to restore – as much as possible – breeding habitat for western toads. The fact that adult toads commonly use upland habitats also provides an avenue of escape from direct mortality.

**Comparison of Alternatives by Stream by Fisheries Issue Indicator**

Issue Indicators	281 Gulch			Garnet Gulch			East Fork Emerald Creek		
	Alt A	Alt B	Alt C	Alt A	Alt B	Alt C	Alt A	Alt B	Alt C
<b>% RHCA Vegetation Disturbance</b>	3	3	3	0	8	8	n/a	n/a	n/a
<b>% Fish-Bearing Channel Alteration Annually</b>	3	3	3	0	4	4	n/a	n/a	n/a
<b>Cumulative % Fish-Bearing Channel Alteration (recent &amp; future mining)</b>	53	53	53	0	40	40	3	4	4
<b>Road Density</b>	3.8	3.8	3.8	3.9	4.6	4.6	3.9	3.9	3.9

**Recreation**

As noted in Chapter 1, a decision needs to be made whether or not to continue the public recreational garnet collecting area. Whether or not this opportunity is available is of utmost importance to rockhounds, lapidaries, local schools and businesses and casual visitors. For all alternatives, new methods for garnet discovery and collection are proposed in order to protect water quality, aquatic habitat, provide the public as safe an environment as possible and to fully recover the garnet resource. The recreational experience at the Emerald Creek Garnet Area is described in Chapter 3.

Access for current operations on 281 Gulch includes a parking lot off of the East Fork of Emerald Creek Road 447 and a 0.4 mile hike using a gated road (Road 3781) to the dig site administrative building. People with disabilities are allowed to make arrangements for driving up Road 3781 to the administrative A-frame building. Until operations in 281 Gulch are complete (two to four years) this access will remain the same for all Alternatives.

For Alternatives B and C, operations would continue and be moved to Garnet Gulch. Different access would be needed. Alternative B would require most people (except disabled) to hike along a new trail and road from the 281 Gulch parking lot to the garnet collection site, 3,493 feet or 0.66 mile. The proposed hike for Alternative B up to Garnet Gulch would be longer and would also be steeper (up to 12% on the trail portion) than the current hike required to 281 Gulch. Alternative C would allow everyone except people in buses and RVs to be able to drive directly to the Garnet Gulch site.