APPENDIX G
BIOLOGICAL ASSESSMENT FOR FEDERALLY LISTED PLANT SPECIES

BIOLOGICAL ASSESSMENT

FOR FEDERALLY LISTED PLANT SPECIES

EMERALD CREEK GARNET LTD

FERNWOOD, IDAHO

FINAL Report submitted to:

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Report Preface

This Biological Assessment (BA) has been prepared for use by Emerald Creek Garnet Company and its agents. I, Tom Duebendorfer, am qualified to analyze terrestrial and wetland ecosystems. I hold a master's degree in Biology, I am a Professional Wetland Scientist (#000157, Society of Wetland Scientists), a Certified Wetland Delineator (US Army Corps of Engineers, Seattle District), and have 21 years experience in assessing Northwest province ecosystems. I have used the site information and proposed plans as referenced herein. The findings in this report are based on information gathered in the field at the time of investigation and my understanding of the federal, state, and local regulations governing species protection. Prior to construction, all appropriate regulatory agencies should be contacted to concur with the findings of this report and to obtain appropriate approvals and permits.

The BA and effects determinations are presented using thorough application of my knowledge and experience, correspondence with regional experts, and best professional judgment based on the circumstances and site conditions at the time of the study. The final effects determinations are made by the appropriate federal, state, and local jurisdiction. I have provided professional services in accordance with the degree of care and skill generally accepted in the nature of the work performed.

Tom Duebendorfer M.A., PWS
Wetland Scientist/Biologist/Botanist

1.0 INTRODUCTION

The US Army Corps of Engineers (Corps) is requiring an Environmental Impact Statement (EIS) for the Emerald Creek Garnet Company Proposed Mining Activities in the St. Maries River basin, near Fernwood, Idaho (Figure 1). As part of this EIS process, a Biological Assessment (BA) is required for project-related impacts to federally-listed threatened and endangered (rare) plant species. Surveys for federally listed threatened and endangered plant species were completed in 1998 for this proposed project. This survey was undertaken to assess the presence, absence, and/or extent of threatened and endangered plant species that occur within the 1998 Rare Plant Survey Areas (Figure 2).

Under provisions of the Endangered Species Act (ESA), federal agencies are directed to seek to conserve endangered and threatened species and to ensure that actions authorized, funded, or carried out by them are not likely to jeopardize the continued existence of any endangered, threatened, and proposed species known or that may occur in the project area. This report provides documentation to meet federal concerns and satisfy the requirements outlined in Section 7(c) of the ESA of 1973 and amendments.

1.1 Site Location

The project area, located approximately 2 to 4 miles southeast of Fernwood, Idaho, lies within an southwest/northeast oriented watershed that drains to the St. Maries River (Figure 1). The St. Maries River is tributary to the Columbia River through Lake Coeur d'Alene and the Spokane River.

The project area is located in the St. Maries River floodplain north of the river to State Route 3, and in some areas, historical floodplain areas north of State Route 3. For convenience, the project area was divided into specific study areas. These are shown on Figure 2. All study areas are on private property in Benewah or Shoshone County. The total areal extent of the project area is 355.8 acres. Site elevation is around 2700 feet (823 m).

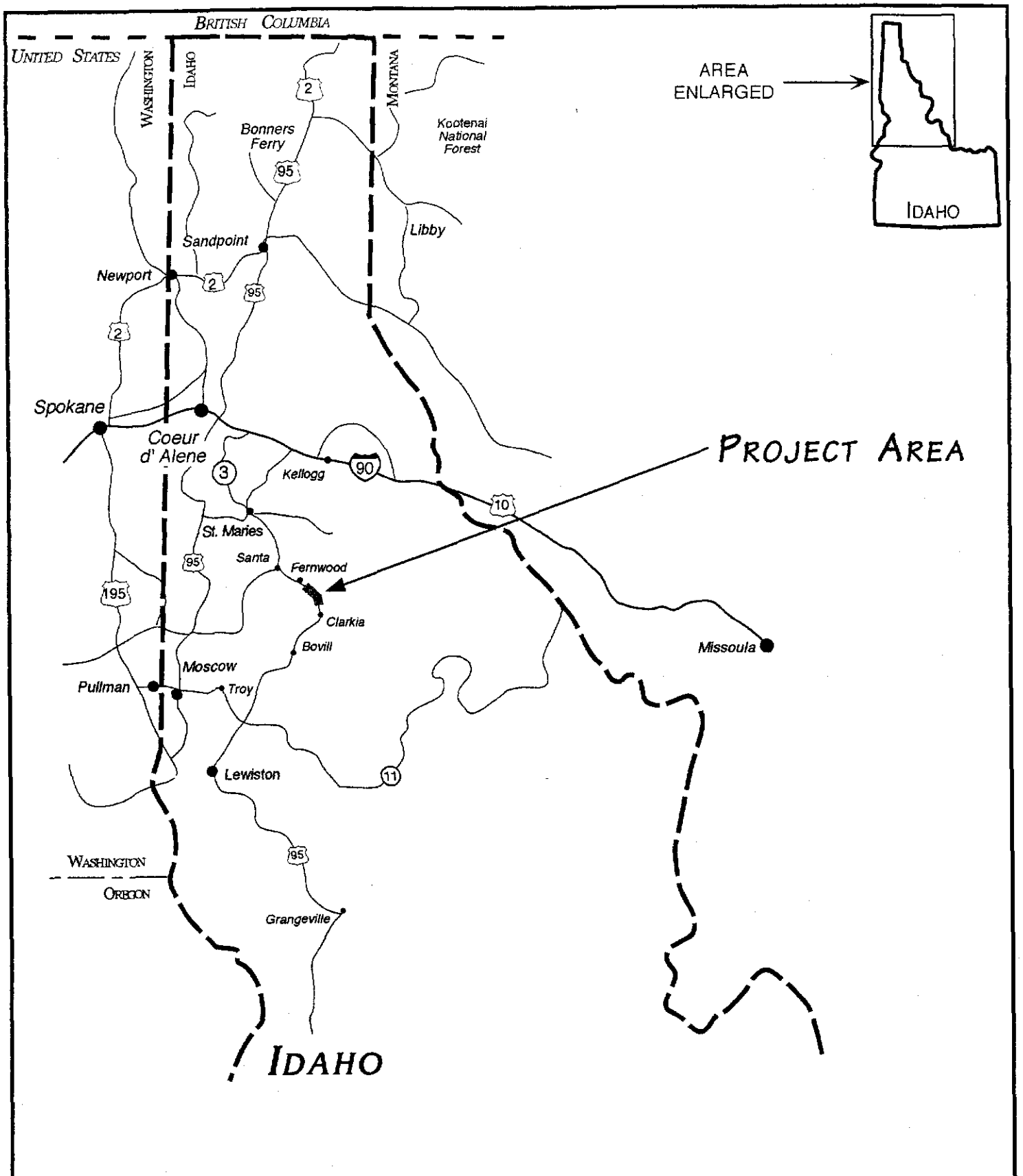
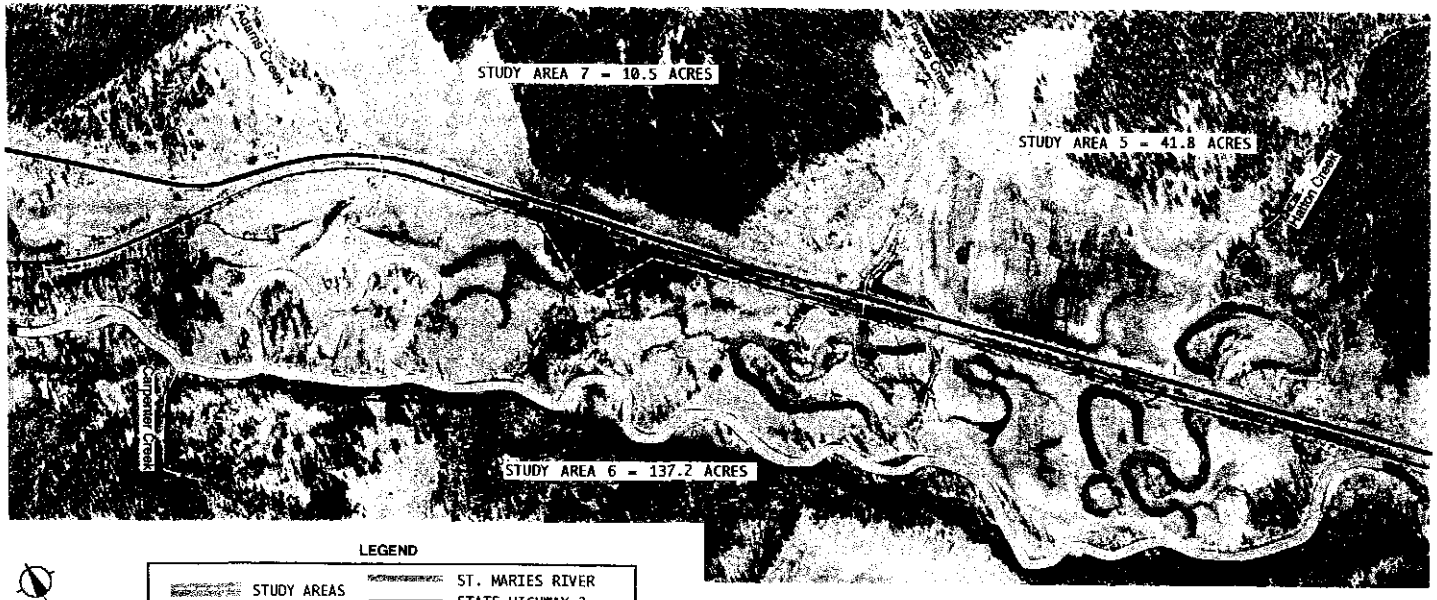


Figure 1.
Vicinity Map
St. Maries River EIS
Emerald Creek Garnet LTD

no scale

source: Rand McNally 1986



TOTAL STUDY AREA EXTENT = 355.8 ACRES

LEGEND

STUDY AREAS	ST. MARIES RIVER
STREAMS	STATE HIGHWAY 3
	ST. MARIES RAILROAD

SCALE: 1 inch = 700 feet

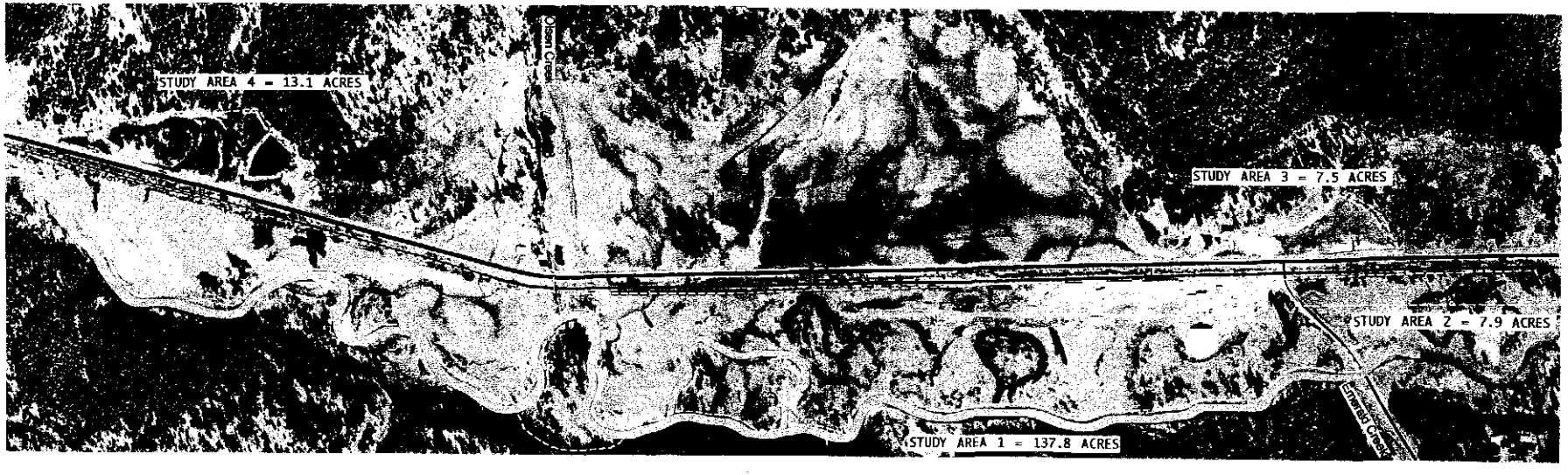


FIGURE 2:
PROJECT AREA
ST. MARIES RIVER STUDY AREAS
EMERALD CREEK GARNET LTD

2.0 PROPOSED ACTION AND ACTION AREA

2.1 Project Overview

ECG proposes to initiate placer mining of alluvial garnet deposits along portions of the St. Maries floodplain using various dredge mining techniques. In general, topsoil and overburden are stripped and stockpiled, the garnet bearing gravels are extracted with different types of dredge equipment, and the excavated material is taken to an on-site concentration facility. Washed rock from the concentration facility is used as backfill, overburden is replaced, and the site is final graded with topsoil and seeded (ECG 1998). Mining would be conducted incrementally over a period of up to 25 years (Corps 1998).

ECG maintains a 30-foot mining setback, so no actual mining activities occur within 30 feet of the St. Maries River. A silt berm will be constructed in the inner 10 feet of the mining setback, providing a minimum 20-foot native growth buffer. Additionally, no "wet panel" mining will occur within 70 feet of the river.

Additional project details may be found in other permit documents (ECG 1998).

2.2 Action Area

The "action area" is defined herein as the project areas on the map as indicated in Figure 2. This includes potential equipment and construction-related staging areas, plus any areas which may be used as mitigation (habitat replacement).

3.0 LISTED SPECIES: CURRENT STATUS, LIFE HISTORY AND HABITAT REQUIREMENTS, AND DISTRIBUTION IN PROJECT AREA

This report specifically addresses federally listed plant species as shown on the official US Fish and Wildlife Service (FWS) response letter dated November 10, 1998. This list includes only one species, the federally listed threatened (LT) *Spiranthes diluvialis* (Ute ladies' tresses), a perennial orchid. However personal knowledge of the habitat and proximity of another federally listed threatened species, *Howellia aquatilis*, an annual aquatic species indicated that this species too should be addressed. These two plant species will be discussed in detail below.

3.1 *Howellia aquatilis*: Current Status (Threatened)

Howellia aquatilis A. Gray (water howellia) is an annual aquatic member of the Campanulaceae (bellflower family). Formal FWS listing was initiated in 1980, and the final rule of Listed Threatened (LT) occurred in 1994.

3.2 *Howellia aquatilis*: Description and Range

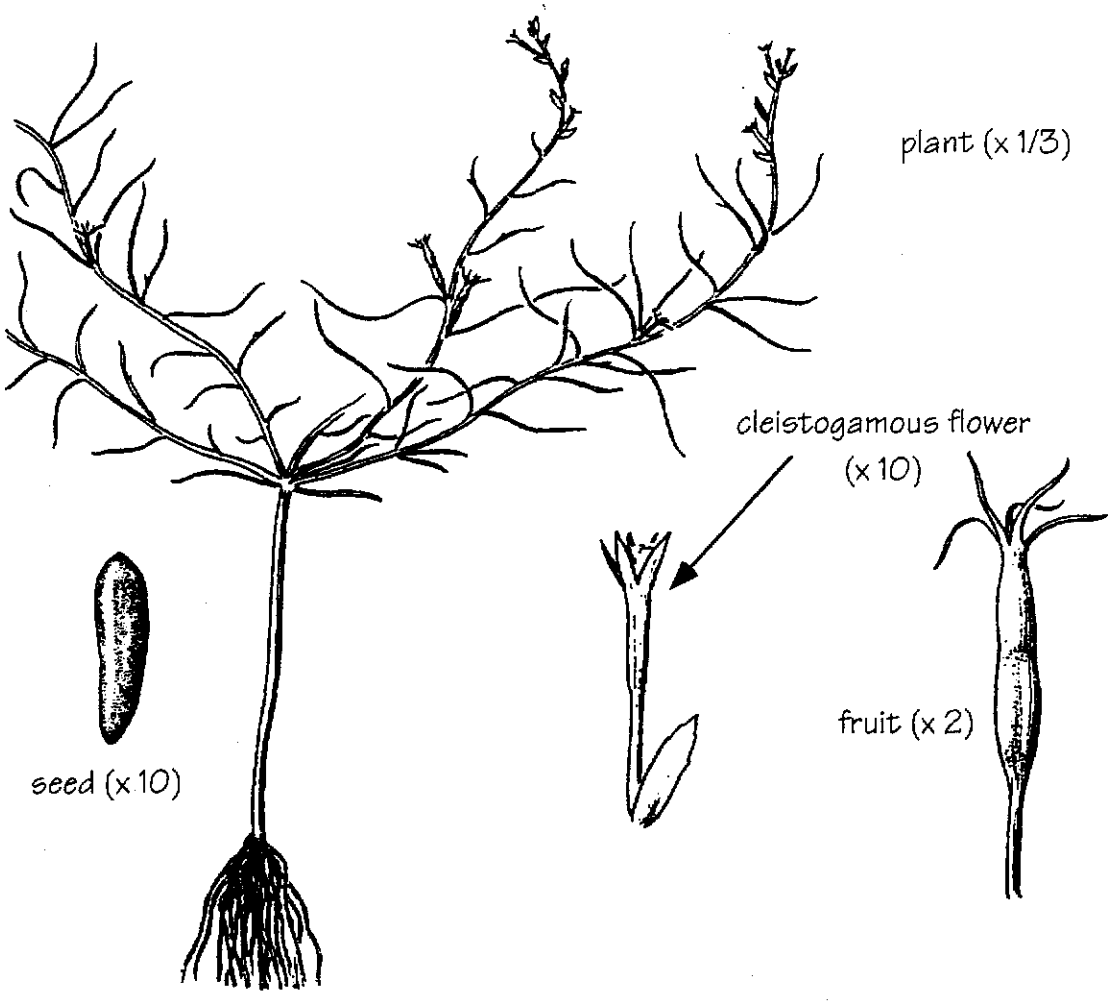
Description

This species grows in water, rooted in the relatively soft substrate of vernal freshwater ponds, oxbows, and edges of lakes (Plate 1). The lax stems are branched from the base and grow to 60 cm (24 inches) tall. The linear or filiform leaves are mostly alternate and up to 5 cm (2 inches) long. The flowers are of two types: (1) cleistogamous (closed, or self-pollinating) flowers are inconspicuous and appear only below the water surface; and (2) the sparse, chasmogamous (opening, and potentially cross-pollinating) flowers appear above the water surface, and have small (1/4 inch across) five-lobed, irregular, white corollas. Flowering typically occurs late May to early July, after which identification becomes more difficult. The linear fruits develop from inferior ovaries. The terminal portion of the plant may or may not extend to the water surface. When it does, the stems and leaves float horizontally on the water and may intermingle with other linear-leaved, floating or shallowly rooted aquatic plants. It is easily overlooked, and there are unrelated species that superficially resemble *Howellia*. Thus, searches for this plant are time-consuming and laborious.

Range

Howellia aquatilis is known from over 100 locations in northwest Montana (Swan River Drainage), one location in north-central Idaho (Latah County), about 50 occurrences in Washington (mostly Spokane County), and five (some historical, some new) locations in California (Mendocino County). Historically it was found in four locations in Oregon (Clackamas, Marion, and Multnomah counties), two additional locations in Washington (Thurston and Mason counties), and one location in Kootenai County, Idaho. The extant Latah County population was discovered around 1968 (Shelly and Gamon 1996; Isle 1997).

The single occurrence of *Howellia aquatilis* in Idaho (Latah County), consists of two small populations located in a small vernal pond and an "older" oxbow pool of a meander of the Palouse River near the junction of State Route 6 and 9, west of Harvard, about 20 airmiles from the ECG project site. It had been first sighted around 1968, and subsequently confirmed in 1988 (Moseley), 1995 (Jones), 1996 (Lichthardt), and re-confirmed in 1998 and 1999 (Duebendorfer).



***Howellia aquatilis* (water howellia) Campanulaceae**

Listed Threatened under Endangered Species Act

source: Hitchcock and Cronquist 1970

Plate 1.
Howellia aquatilis
St. Maries River EIS
Emerald Creek Garnet, LTD

As part of this rare plant survey, I visited the site and re-confirmed the Harvard area population of *Howellia aquatilis* in flower on May 15, 1998. On May 27th, 1998, I identified the 10+ plants growing in about 45 to 76 cm (1.5 to 2.5 feet) of water, with the flaccid flowering stems about 5 to 20 cm (2 to 8 inches) below the water surface. In an adjacent pond, I found a few smaller plants in 15 cm (6 inches) of water growing to within 5 to 10 cm (2 to 4 inches) of the water surface. Both populations exhibited cleistogamous (non-opening, or probably self-pollinating) flowers. The substrate and general habitat conditions appeared very similar to some pond/oxbow habitats along the St. Maries floodplain. By mid-September, the ponds had dried and the plants were no longer visible.

I re-visited the site again on June 23, 1999. At this time, I observed plants with chasmogamous flowers growing in about 12 to 15 cm (4 to 6 inches) of water with considerable *Eleocharis palustris* "debris". The plants were confined to a 1 m^2 area. The second smaller pond had more plants confined to an area about 2 m^2. Associated species were an unidentified *Carex*, *Phalaris arundinacea*, and an aquatic *Ranunculus*.

3.3 *Howellia aquatilis:* Habitat Requirements and the Potential for Occurrence within the Project Area

Habitat

The specific habitat requirements for *Howellia aquatilis* have been described by Lesica (1992). *Howellia aquatilis* occurs in freshwater ephemeral ponds with a shallow, coarse-textured organic surface horizon. Seeds require aerobic environments and cool temperatures to germinate. Thus, seed bank germination is highest immediately following seed dispersal and pond drawdown. This complete drying of the ponds is essential to germination of the seeds. Mantas (personal communication 1998) indicated that presence of high cover of sedges (*Carex vesicaria/rostrata*), reed canarygrass (*Phalaris arundinacea*), cattail (*Typha latifolia*), or similar species, generally preclude the presence of *Howellia aquatilis*. These aggressive rhizomatous, perennial species effectively "fill" the available substrate and thus may inhibit growth of annual species such as the *Howellia*. They do not preclude the growth of *Howellia*, however, but the potential for continued existence of this annual species is compromised by the dense growth of such species. Additionally, the presence of the perennial aquatic, *Ranunculus aquatilis* (water buttercup), indicates that the water in the pond or oxbow is (or probably is) perennial (or at least of longer duration than that optimum for *Howellia* seed germination). Thus it follows that oxbows or ponds with a high cover of relatively aggressive, rhizomatous perennial aquatics or semi-aquatics would not be suitable habitat for *Howellia aquatilis*.

Associated Species

At the single Idaho occurrence (See Section 3.2), associated aquatic species included *Eleocharis* sp. (spike-rush) and a small non-flowering/fruiting (and thus unidentified) *Carex*, surrounded by bank species consisting of *Solanum dulcamara* (nightshade), *Cornus stolonifera* (red-osier dogwood), hawthorn (*Crataegus douglasii*), and *Salix scouleriana* (Scouler willow).

Thus, based on observations and the references cited above, potential habitat for *Howellia aquatilis* does occur within the Emerald Creek Garnet Company Study Areas.

3.4 *Spiranthes diluvialis*: Current Status

Spiranthes diluvialis Sheviak (Ute ladies-tresses) is a perennial herbaceous species in the Orchidaceae (orchid family). First formal FWS listing occurred in 1992, and the final rule of Listed Threatened (LT) in Idaho occurred in 1996 .

3.5 *Spiranthes diluvialis*: Description and Range

Description

This species grows to about 50 cm (20 inches) in height) and bears alternate, linear-lanceolate, 1 cm by 28 cm (1/2 to 10 inches) long leaves (Plate 2). The leaves are typically more basal, being reduced to small bracts in the upper part of the stem. The leaves often persist after flowering. The inflorescence is a spike, typically bearing numerous, spirally arranged white to yellowish flowers. As is with orchids, the seeds are numerous, tiny, and almost powder like. Because of the lack of endosperm, germination is dependent on a species-specific mycorrhizal association.

Two other species of *Spiranthes* occur in Idaho, one (*S. romanzoffiana*) is extremely common, and generally found in coniferous forests and meadows throughout the state and in the Pacific Northwest in general. The other (*S. porrifolia*) is known from only one population in Idaho (Hells Canyon) and otherwise grows further south and east in the Rocky Mountains. They are not considered sympatric though a few exceptions occur. The rare species, *Spiranthes diluvialis*, is a polyploid and it has been suggested by Sheviak that *S. diluvialis* may have originated through hybridization between *S. magnicamporum* (a Great Plains species) and *S. romanzoffiana* (a more widespread, boreal and subalpine species).

The rare species (*Spiranthes diluvialis*), flowers late August through late September; whereas the common species (*S. romanzoffiana*), and one most likely to occur in similar areas, flowers in mid-summer (late June to early August).

plant (x 1)

***Spiranthes diluvialis* (Ute ladies' tresses) Orchidaceae**

Listed Threatened under Endangered Species Act

source: Moseley 1998

Plate 2.
Spiranthes diluvialis
St. Maries River EIS
Emerald Creek Garnet, LTD

Range

The historical range of this species was Colorado, Utah, and extreme eastern Nevada. New populations have since been discovered in other portions of Utah and Colorado (Ute Ladies Tresses Recovery Team 1995), as well as eastern Wyoming in 1993 (Fertig 1994), Montana in 1994 (Heidel 1997), Nebraska in 1996 (Hazlett 1996), Idaho (Snake River Basin) in 1996 (Moseley 1997a), and one in Washington (Okanogan Valley) in 1997 (Heidel 1998; USFWS 1998b). It is highly discontinuous within its range.

In Idaho the known populations are all located in the Snake River floodplain in the far eastern part of the state, in Jefferson, Madison and Bonneville counties. Populations are scattered along 49 river miles from near the confluence of the Henry's Fork, upstream to Swan Valley, nine river miles below Palisades Dam (Moseley 1998b).

3.6 *Spiranthes diluvialis*

Habitat Requirements and the Potential for Occurrence within the Project Area

Habitat

Its major life zone habitat is sagebrush-steppe to transition zone with montane forest (in lower timberline). Rangewide, all known populations generally occur below the coniferous forest vegetation zone. The populations are within steppe, shrub-steppe, or pinyon-juniper woodland areas. Generally speaking, *Spiranthes diluvialis* is a lowland species occurring on plains, in intermontane valleys, and in narrow mountain valleys. Most populations are in valley bottoms along medium to large streams and rivers of moderate gradient (not slow and meandering). It also occurs in meadows and irrigated pastures, isolated from rivers and streams (Moseley 1998b).

All *Spiranthes diluvialis* populations in Idaho occur on alluvial deposits (very coarse cobbles to fine-sands and sandy loams). Soils are Xeric Torrifluvents. Essentially all Idaho populations are submerged annually or nearly annually during high river flows in late spring/early summer. However it does not occur in the standing-water habitats of adjacent channels nor does it occur on the higher benches where the hydraulic lift is not enough to keep the near-surface soils moist enough. Although Idaho populations are submerged in spring and the coarse-textured soils drain as the season progresses, the soil surface appears to remain moist throughout much of the growing season. By mid-season, the water table may not be at the soil surface but soils are maintained moist by the capillary fringe of the soil water levels.

Spiranthes diluvialis habitat in the single Washington population (in Okanogan Valley) is in the *Purshia-Sarcobatus* (bitterbrush-greasewood) scrub/steppe habitat type. It is not found in the coniferous forest biome.

Associated Species

In Idaho, *Spiranthes diluvialis* is almost exclusively associated with the distribution of the *Elaeagnus commutata* (silverberry) community type. It is found in the Intermountain Semi-desert and Southern Rocky Mountains ecoregions (neither occurring in or near the ECG Study Areas). The best indicator for proper hydrology for *Spiranthes diluvialis* appears to be *Agrostis stolonifera* (redtop bentgrass). *Agrostis stolonifera* openings within riparian shrub communities (*Salix exigua* [coyote willow]) are considered prime habitat (Moseley 1998b).

Specific habitat characteristics in Idaho populations include an alkaline wet meadow and mesic habitats on edge of flood channels (active in spring and inundated spring 1996 at 23,000 cfs). Such habitats are not present in the ECG Study Areas. The range of Ute ladies tresses in Idaho coincides with the range of *Elaeagnus commutata* (silverberry). This species is not present in north-central Idaho.

The conclusion of the most complete status report to date on Idaho occurrences of *Spiranthes diluvialis* is given by Moseley (1998b): Prime habitat includes riparian and wetland habitats within sagebrush-steppe and pinyon-juniper woodlands zones below 7000' elevation. Suitable habitat in southern Idaho below 7000' elevation includes lower timberline habitats or in shrub-steppe or woodland transition to montane coniferous forest. These two habitat types occur in the upper Snake River drainage. Potential habitat in northern Idaho could include the steppe zones of the Palouse Prairie, Rathdrum Prairie [around 2500' elevation], and canyon grasslands [to 4500' elevation]). Montane coniferous forest, subalpine coniferous forest, and alpine zones are considered unlikely habitat.

Thus, based on these observations and documents, the Emerald Creek Garnet LTD Study Areas would not be considered suitable habitat; few of the associated species are present (except *Agrostis stolonifera*) and the hydrologic regime of the St. Maries river does not appear to coincide with the high flows of the Snake River populations. Section 4.3 discusses project area surveys.

3.7 Habitat within the Project Area

Preliminary field surveys revealed that the dominant habitats within the project area include forested riparian, forested upland (borders of slopes and floodplains), scrub-shrub and emergent wetland habitats, and aquatic systems (oxbows and swales). No peat bogs or true lakes were observed within the project area boundaries. Most of the sites within the project area have been altered from past logging, agricultural activities, and grazing. Specific habitats in the specific sites are described in Section 5.2.

The floodplain meadow areas have been altered by clearing, seeding, and grazing. The large floodplain areas associated with the St. Maries River are presently dominated by non-native grasses and forbs with remnant natives. Oxbows and swales often contain aquatic emergent vegetation with shrub-dominated banks. Deciduous or evergreen forest exists in some Study Areas.

4.0 SURVEY METHODS

4.1 Background Research

Initial review of background information commenced with identification of which plant species are federally listed as threatened or endangered. Updated lists of rare plant species were obtained from the Conservation Data Center (CDC), Nongame and Endangered Wildlife Program from the Idaho Department of Fish and Game. Information on specific, known historical (recent and documented) locations of rare plants collected or observed within adjacent counties was obtained and analyzed for distance from site, habitat similarities, and elevation. A formal request to the US Fish and Wildlife Service for a list of federally listed plant species was made (USFWS 1998a). Aerial photographs and 7.5 minute topographic quadrangles of the project areas were studied, then reconnaissance fieldwork was initiated to assess potential habitat.

Additional habitat information, associated species, microtopography, and more site-specific details concerning the plants and the potential for their occurrence were analyzed. Knowledgeable individuals and experts on the specific listed plant species were consulted (Moseley, CDC; Mantas, US Forest Service; and Lesica, University of Montana; all personal communication 1998). The most current or complete rare plant status reports and other documents specific to the species involved were studied (Moseley 1998b, 1997a, 1997b; Lesica 1992; Shelly and Gamon 1996; Isle 1997; USFWS 1998b, 1998c; Washington Natural Heritage Program 1997 (and personal communication), Conservation Data Center 1994, 1998 (personal communication), and

documents available on the CDC Web Page). Regional texts and plant manuals were also consulted (Hickman ed. 1993, Prescott 1980, Cronquist et al 1977, Hotchkiss 1972, Hitchcock et. al. 1969, Munz and Keck 1959, Davis 1952). In addition, the only known extant population for *Howellia aquatilis* in Idaho was visited several times during the 1998 season to compare habitat/vegetation characteristics, water levels, depth of pond, associated species, and phenology.

Additional habitat information, associated species, microtopography, and more site-specific details concerning the plants and the potential for their occurrence were analyzed. Experience and information from previous rare plant surveys and wetland delineations occurring in the vicinity of the project area over the last six years were also used (Duebendorfer 1993, 1994, ECG 1994).

4.2 Project Area Surveys

Specific surveys within the 1998 project areas included riparian zones, wetland floodplains, and adjacent uplands. These foot surveys occurred May 26 through 29, July 16 through 18, September 17 through 19, 1998, and June 23, 1999. During some of the site visits, I was assisted by a second biologist. All vegetation communities and plant species encountered during each site visit were identified and compared with habitat information regarding the rare plant species likely to be present in the project area. Every effort was made to produce as complete a plant species list as possible.

All available rare plant species habitat (with occasional spot checks in unsuitable or marginal habitat) was traversed, and in some larger open areas such as the floodplain meadows along the St. Maries River, transects were run throughout the area. Other areas were surveyed by a "directed meander" approach. Suitable habitat was traversed often repeatedly, in a random pattern, until a level of certainty was reached that non-rare species were continually encountered and all suitable rare plant habitat was sufficiently investigated. This process was repeated over three periods during the growing season with an emphasis on the known flowering/fruiting cycle of the species in question.

5.0 RESULTS

This section discusses findings for the preliminary data review and for the field surveys. Sections 3.1 to 3.6 discussed which rare plant species were targeted and why, species' descriptions and known historical locations of the species, suitable habitat, and where appropriate, comparisons of rare species with similar, but commonly occurring species. Results of the field surveys are given below in Section 5.2: this section details the general summary of the habitat and vegetation given in Section 3.7).

5.1 Background Research

Since this project only involves lands in private ownership, only federally listed plant species are included in this survey (USFWS 1998a). Under the ESA, plants are assigned one of several status categories: endangered is defined as those *"Taxa which are in danger of extinction throughout all or a significant portion of their range"*; threatened is defined as those *"Taxa likely to be classified as Endangered within the foreseeable future throughout all or a significant portion of their range"*; and candidate, which is defined as *"Taxa for which the USFWS currently has substantial information on hand to support the biological appropriateness of proposing to list as endangered or threatened. Proposed rules have not been issued, but development and publication of such rules are anticipated"* (CDC 1994). Early in 1998 the USFWS "downgraded" the status of most candidate species, thus candidate species typically no longer appear on federally-listed rare plant species lists.

According to the USFWS species list only the Listed Threatened (LT) *Spiranthes diluvialis* (Ute ladies'-tresses - Orchidaceae) appears on the list (USFWS 1998a, Appendix 1). However, there is a known location of another LT plant species in Latah County about 20 air miles southwest of the Emerald Creek project. Since this is the only known population of *Howellia aquatilis* (water howellia - Campanulaceae) in Idaho, and its habitat requirements are very similar to some of the habitat within the project area, it seemed prudent to survey for this species as well. Thus, the survey focused on these two plant species (Sections 3.1 to 3.6).

5.2 Project Area Surveys

There are eight general types of vegetation associations in the project area. Four of these types would not be considered suitable habitat for the rare plant species. For completeness of this report, these four types will be listed: coniferous forest, riparian shrub, upland meadow, and marginally wet meadow. Due to lack of inundation (open

water) required for the aquatic *Howellia*, and the saturated soils necessary for the *Spiranthes*, the coniferous forest, riparian shrub, upland meadow, and marginally wet meadow associations do not provide suitable or even marginal habitat for these two LT species. Isolated ponds or depressions, however, within any of these associations could be considered potential habitat for the LT *Howellia*.

Four other vegetation types present within the project meet at least minimum requirements for suitable rare plant habitat. They are: wetland meadow, gravel bar, oxbow/swale, and isolated depressions (ponds). These are described below.

Wetland meadow areas are dominated by species which can tolerate considerable inundation or soil saturation, but for the purposes of this report, are not considered oxbows/swales or isolated depressions (ponds). Wet meadow can be inundated for a considerable period during the early growing season (perhaps up to one foot in depth), generally drying out toward the end of summer. These areas may be hydrologically linked to river hydrology via subsurface interflow. Elevation (or topographic relief) differences to adjacent areas may be as little as 15 - 30 cm (6 inches to 1 foot). Vegetation may be dominated exclusively by *Alopecurus geniculatus* and *A. pratensis* (water and meadow foxtail), with some *Carex vesicaria* or *C. amplifolia* (sedges). *Phalaris arundinacea* (reed canarygrass) is a common inhabitant of these areas.

While superficially some of these areas may appear to meet the general environmental conditions and habitat requirements of *Spiranthes*, the specific hydrologic regime, soils characteristics, and associated species are largely absent (review Section 4.2.2). The vegetation and hydrological characteristics of the wetland meadow association is not suitable habitat for *Howellia*.

Gravel bars are common along the banks of the St. Maries River and in some areas, within the St. Maries River floodway. The substrate consists of medium to coarse gravels and the bars are typically inundated during normal spring runoff and high flows. Persistent vegetation usually consists of few scattered *Salix exigua* (willow). After the flows recede and the gravel bars are exposed, plants such as *Juncus bufonius* (toadrush), *Trifolium*, *Ranunculus*, *Agrostis*, *Glyceria grandis* (mannagrass), and *Phalaris* appear. These plants may or may not persist during winter flows and spring runoff scours. A few sandy/gravelly bars are located in oxbows that drain into the river and "back up" with water from the river during high flows.

According to known populations of *Spiranthes* in southern Idaho, these gravel bars could potentially meet the habitat requirements of this rare plant. The field surveys did

not yield any populations of *Spiranthes*. Also no mining activity is proposed for areas within or adjacent the floodway.

Oxbows/Swales occur throughout the floodplain areas of the St. Maries River. Oxbows are formed by "mature" river systems, (low gradient and meandering), where a loop in the river becomes breached at the narrow neck resulting in an "abandoned" channel. Some of these channels were breached more recently, others are "older", that is, shallower and less frequently inundated. A consistent, or widely accepted classification of relative age and character of these floodplain features oxbows was not found in the scientific literature. Thus for the purposes of this report and relevance to rare plant habitat, I will refer to the most recent features as oxbows, and the more aged features, swales. Oxbows are inundated permanently or for long duration and are deep (greater than 3 feet in depth), whereas swales are inundated for a shorter duration, are shallower (less than 3 feet in depth), and may completely dry by end of summer. Both of these are usually hydrologically connected to the river either permanently, or during high flood events (cf. isolated depressions/ponds below).

Most of the oxbows and swales exist south of State Hwy. 3 and the railroad, though a few deeper, seasonally inundated oxbows exist north of the main road (Study Areas 4 and 5).

For the purposes of the surveys for *Howellia*, oxbows or swales that are inundated in the early spring and dry out toward late summer/fall could be potential habitat. Thus surveys in these habitat types/vegetation associations were intensive.

What are referred to in this document as oxbows are those areas that have aquatic vegetation in areas which apparently are almost perennially ponded or flooded. Aquatics such as *Nuphar luteum* (water lily), *Sparganium eurycarpum* (bur-reed), *Callitriche verna* (water starwort), and *Utricularia vulgaris* (bladderwort) typically dominate these perennial aquatic environments. Together with occasional stands of *Crataegus* or *Alnus incana* (white alder) along the banks, *Typha latifolia* is frequently associated with the edge of such aquatic environments. Such oxbow habitats were found not to be suitable habitat for *Howellia* as described in Section 3.3.

The deepest swales generally had water depths to 1 m (3+ feet), in May, and lost substantial depth as the season progressed. Banks may be steep or sloped. Vegetation in these areas is dominated frequently by *Carex lenticularis*, *Carex vesicaria*, or *Carex aquatilis*. These perennial rhizomatous species form continuous dense swards of vegetation that preclude growth of other species. Occasionally, *Scirpus microcarpus* (small-fruited bulrush), and *Phalaris* are co-dominant in these areas. By late

summer/fall, many of these swales had very little or no water remaining in the remnant channels. However, the dense growth of the perennial rhizomatous species appear to preclude the growth of annual aquatic species such as *Howellia*. Some of these swales harbor populations of *Ranunculus aquatilis*, a perennial aquatic buttercup. This species is associated with "perennial" waters (Mantas 1998) and thus areas bearing this species would not likely harbor *Howellia* as it requires complete substrate drying to insure successful germination (Lesica 1992).

Pond and isolated depressions are those areas that may be portions of remnant oxbows, but presently topographically separated from other oxbow areas or swales. Typically these are depressional features that do not have a well defined outlet. Thus water, whether derived from rainwater or from groundwater seepage (from the entire floodplain area), remains in the depressions for most or all of the season. It is this type of aquatic environment that apparently correlates well with known and observed *Howellia* habitat.

Water depths range from 15 cm (6 inches) to 1 m (3 feet) in depth and may be perennial or ephemeral. The banks of these depressions are mostly sloped rather than the steep, abrupt bank edges of active oxbows. Vegetation in the perennial or mostly perennial depressions consists of *Carex vesicaria*, *C. lenticularis*, *Nuphar luteum*, *Veronica scutellata*, *Callitriche verna*, or *Typha latifolia*. Such habitats are not considered viable habitat for *Howellia* because the ponds never really dry out completely (a factor required for successful seed germination).

However, those ponds and depressions that become completely dry late in the season are those that could potentially harbor *Howellia*. Such areas consist of more sparsely vegetated ponds and those with *Carex vesicaria*, *Veronica scutellata*, *Equisetum fluviatile* (an associated species in some *Howellia* occurrences in Montana), and *Alisma plantago-aquatica* (water plantain). Although some of these species form extensive groundcovers that may inhibit growth of annual species (such as *Howellia*), the general environmental factors for growth of *Howellia* appear to be present. Thus, such areas were intensively searched during the season.

6.0 ANALYSIS OF EFFECTS

Habitat alterations including flood flow alteration and grazing could adversely affect potential for *Spiranthes diluvialis* occurrence. Habitat loss filling of wetlands could similarly negatively affect potential for *Howellia aquatilis* occurrence.

6.1 Cumulative Effects

Cumulative effects are effects of possible future activities undertaken by individuals or agencies. Based on the specific habitat requirements for *Spiranthes diluvialis* (Section 3.6) it appears unlikely that suitable habitat exists within the study areas. Thus no effects from grazing or hydrologic alteration could affect the plant if it is not present within the area. However, suitable habitat for *Howellia aquatilis* does appear to be present within the study areas. If the plant could potentially colonize and become established in some of the suitable habitat areas, it is possible that future filling of such habitats would preclude or eliminate the potential for colonization. Recall that no populations of *Howellia aquatilis* or *Spiranthes diluvialis* were found during the rare plant surveys. Thus any cumulative effects on these plants would be under the presumption that the plants could or would colonize and become established in areas of suitable habitat sometime in the future.

7.0 DETERMINATION AND CONCLUSION

Based on the discussions above, it is my opinion that although no occurrences were found during the surveys, there is potential habitat within the project area for *Howellia aquatilis*, therefore, the proposed action is ***"not likely to adversely affect"*** this species. It is also my opinion that because of lack of habitat within the project area, the proposed action will have ***"no effect"*** on *Spiranthes diluvialis*. No critical habitat has been designated for these species, therefore none will be affected.

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Appendix 1
Plant Species Encountered during Field Surveys:
Emerald Creek Garnet LTD EIS Study Areas

Stratum	Scientific Name	Common Name
Trees	*Abies lasiocarpa*	subalpine fir
	Picea engelmannii	Engelmann spruce
	Pinus contorta	lodgepole pine
	Populus tremula	quaking aspen
	Pseudotsuga menziesii	Douglas fir
	Thuja plicata	western red cedar
	Tsuga heterophylla	western hemlock
Shrubs	*Alnus incana* var *tenuifolia*	white alder
	Alnus sinuata	Sitka alder
	Cornus sericea (= *C. stolonifera*)	redstem dogwood
	Crataegus douglasii var. *douglasii*	hawthorn
	Gaultheria ovatifolia	slender wintergreen
	Holodiscus discolor	ocean spray
	Lonicera involucrata	honeysuckle
	Lonicera utahensis	honeysuckle
	Pachistima myrsinites	box
	Rhamnus alnifolia	alder-leaf buckthorn
	Rhamnus purshiana	cascara
	Rosa woodsii	Woods' rose
	Rubus idaeus var *peramoenus*	raspberry
	Rubus vitifolius	trailing blackberry
	Salix exigua	sandbar willow
	Salix scouleriana	Scouler willow
	Symphoricarpos albus	snowberry
Herbs	*Achillea millefolium*	yarrow
	Aconitum columbianum	monkshood
	Actaea rubra	baneberry
	Adenocaulon bicolor	trail plant
	Adiantum pedatum	maidenhair fern
	Agastache urticifolia	nettle leaf-horsemint
	Agrostis alba (=*A. gigantea*)	redtop bentgrass
	Agrostis stolonifera	redtop bentgrass
	Aira caryophyllea	hairgrass
	Alisma plantago-aquatica	water plantain
	Alopecurus aequalis	water foxtail
	Alopecurus geniculatus	water foxtail
	Alopecurus pratensis	meadow foxtail
	Anaphalis margaritacea	pearly everlasting
	Asarum caudatum	wild ginger
	Aster foliaceus	leafy-bracted aster
	Astragalus sp (need fruit for ID)	locoweed

Appendix 1 (continued)
Plant Species Encountered during Field Surveys:
Emerald Creek Garnet LTD EIS Study Areas

Stratum	Scientific Name	Common Name
Herbs	*Athyrium filix-femina*	ladyfern
	Bellis perennis	English daisy
	Bromus inermis	smooth brome
	Calamagrostis canadensis var *scabra*	bluejoint reed grass
	Callitriche hermaphroditica	autumnal water starwort
	Callitriche heterophylla	different-leaved water starwort
	Callitriche verna	spring water starwort
	Camassia quamash	camas
	Campanula parryi var *idahoensis*	bluebell
	Carex amplifolia	big-leaved sedge
	Carex aquatilis	water sedge
	Carex interior	interior sedge
	Carex microptera	small-winged sedge
	Carex pachystachya	thick-head sedge
	Carex rostrata (cf *C. vesicaria*)	beaked sedge
	Carex X *stipata*	stalk-grain sedge
	Carex subfusca	rusty sedge
	Carex vesicaria (=*C. exsiccata*)	inflated (beaked) sedge
	Castilleja miniata	Indian paintbrush
	Cerastium arvense	mouse-eared chickweed
	Chrysanthemum leucanthemum	ox-eye daisy
	Cicuta douglasii	water hemlock
	Circaea alpina	enchanter's nightshade
	Cirsium arvense	Canada thistle
	Cirsium vulgare	bull thistle
	Claytonia perfoliata	miner's lettuce
	Claytonia sibirica	Siberian springbeauty
	Clintonia uniflora	queen cup beadlily
	Collinsia parviflora	small-flowered blue-eyed Mary
	Collomia linearis	narrow-leaf collomia
	Conium maculatum	poison hemlock
	Conyza canadensis	horseweed
	Coptis occidentalis	western goldthread
	Corallorhiza striata	striped coral root
	Corallorhiza maculata	spotted coral root
	Cornus canadensis	bunchberry
	Cryptantha sp.	cryptantha
	Cynoglossum officinale	hound's tongue
	Cystopteris fragilis	brittlefern

Appendix 1 (continued)
Plant Species Encountered during Field Surveys:
Emerald Creek Garnet LTD EIS Study Areas

Stratum	Scientific Name	Common Name
Herbs	*Danthonia californica* var *californica*	California oatgrass
	Danthonia unispicata	one-flowered danthonia
	Deschampsia caespitosa	tufted hairgrass
	Deschampsia elongata	slender hairgrass
	Disporum trachycarpum	fairybell
	Eleocharis palustris	common spikerush
	Eleocharis parvula	small spikerush
	Epilobium ciliatum	willow herb
	Equisetum arvense	field horsetail
	Equisetum fluviatile	water horsetail
	Equisetum hyemale	rough scouring rush
	Equisetum laevigatum	smooth scouring rush
	Equisetum sylvaticum	woodland horsetail
	Festuca arundinacea	tall fescue
	Festuca pratensis	meadow fescue
	Festuca rubra	red fescue
	Festuca subulata	bearded fescue
	Fragaria vesca	wild strawberry
	Fragaria virginiana	wild strawberry
	Galium aparine	catchweed bedstraw
	Galium boreale	northern bedstraw
	Galium triflorum	sweet-scent bedstraw
	Geum macrophyllum	large-leaved avens
	Glyceria elata	tall mannagrass
	Glyceria grandis	American mannagrass
	Glyceria striata	fowl mannagrass
	Gnaphalium chilense	cudweed
	Goodyera oblongifolia	rattlesnake plantain
	Gratiola neglecta	hedge hyssop
	Gymnocarpium dryopteris	oak fern
	Heracleum lanatum	cow parsnip
	Hieracium albertinum	western hawkweed
	Hieracium cynoglossoides	hounds-tongue hawkweed
	Hypericum anagalloides	tinker's penny
	Hypericum formosum	western St. John's wort
	Hypericum perforatum	St. John's wort
	Juncus acuminatus	taper-tip rush
	Juncus articulatus	jointed rush
	Juncus bufonius	toad rush
	Juncus confusus	Colorado rush
	Juncus effusus	soft rush

Appendix 1 (continued)
Plant Species Encountered during Field Surveys:
Emerald Creek Garnet LTD EIS Study Areas

Stratum	Scientific Name	Common Name
Herbs	*Juncus ensifolius* var *ensifolius*	three-stamen rush
	Juncus ensifolius var *montanus*	three-stamen rush
	Juncus tenuis	slender rush
	Lemna minor	duckweed
	Ligusticum verticillifolium	Idaho lovage
	Linnaea borealis	twinflower
	Listera cordata	twayblade orchid
	Lomatium triternatum var. *platycarpum*	nine-leaf lomatium
	Lomatium triternatum var. *triternatum*	nine-leaf lomatium
	Lotus purshianus	Spanish clover
	Luzula campestris var *congesta*	field woodrush
	Luzula campestris var *multiflora*	field woodrush
	Luzula parviflora	small-flowered woodrush
	Lycopus uniflorus.	one-flowered bugleweed
	Madia exigua	small-head tarweed
	Madia glomerata	mountain tarweed
	Melica subulata	Alaska oniongrass
	Mentha arvensis	field mint
	Mertensia ciliata	ciliate bluebells
	Mertensia paniculata	tall bluebells
	Mimulus guttatus	yellow monkey flower
	Mimulus guttatus var *depauperatus*	yellow monkey flower
	Mimulus moschatus	musk flower
	Mitella caulescens	leafy mitrewort
	Osmorhiza chilensis	mountain sweet-cicely
	Osmorhiza occidentalis	western sweet-cicely
	Penstemon confertus	yellow penstemon
	Penstemon globosus	globe penstemon
	Penstemon rydbergii	Rydberg's penstemon
	Phacelia idahoensis	phacelia
	Phalaris arundinacea	reed canarygrass
	Phleum pratense	common timothy
	Plantago lanceolata	common plantain
	Plantago major	English plantain
	Platanthera saccata	slender bog orchid
	Poa palustris	fowl bluegrass
	Poa pratensis	Kentucky bluegrass
	Poa trivialis	rough stalk bluegrass
	Polemonium occidentale	Jacob's ladder
	Polystichum munitum	sword fern

Appendix 1 (continued)
Plant Species Encountered during Field Surveys:
Emerald Creek Garnet LTD EIS Study Areas

Stratum	Scientific Name	Common Name
Herbs	*Potamogeton diversifolius*	diverse-leaved pondweed
	Potamogeton filiformis	slender-leaved pondweed
	Potamogeton nodosus	long-leaved pondweed
	Potamogeton pectinatus (?)	fennel-leaved pondweed
	Potentilla glandulosa	sticky cinquefoil
	Potentilla gracilis	cinquefoil
	Pteridium aquilinum	bracken fern
	Pterospora andromedea	pine drops
	Pyrola aphylla	leafless wintergreen
	Pyrola asarifolia	common pink wintergreen
	Pyrola picta	white-vein wintergreen
	Pyrola uniflora	woodnymph
	Pyrola secunda	one-sided wintergreen
	Ranunculus alismaefolius var *alismaefolius*	plantain-leaved buttercup
	Ranunculus aquatilis	white water buttercup
	Ranunculus orthorhynchus var *platyphyllus*	straightbeak buttercup
	Ranunculus repens	creeping buttercup
	Ranunculus uncinatus	little buttercup
	Rorippa curvisiliqua	western yellowcress
	Rudbeckia occidentalis	black head coneflower
	Rumex acetosella	sheep sorrel
	Rumex crispus	curly dock
	Rumex occidentalis (= R. fenestratus)	western dock
	Rumex salicifolius (= R. mexicanus)	willow leaved dock
	Sanguisorba occidentalis	burnet
	Saussurea americana	American sawwort
	Scirpus cyperinus	wool-grass
	Scirpus microcarpus	small-fruited bulrush
	Scrophularia lanceolata	scrophularia
	Senecio hydrophilus	alkali-marsh butterweed
	Senecio triangularis	arrow-leaf groundsel
	Smilacina stellata	star Solomon's seal
	Solidago elongata/gigantea	goldenrod
	Sparganium eurycarpum	broad-fruited bur-reed
	Spiranthes romanzoffiana	hooded ladies' tresses
	Stellaria longipes	chickweed
	Streptopus roseus	rosy twisted-stalk
	Taraxacum officinale	common dandelion
	Tauschia tenuissima	Leiberg's tauschia
	Thalictrum occidentale	western meadow-rue

Appendix 1 (continued)
Plant Species Encountered during Field Surveys:
Emerald Creek Garnet LTD EIS Study Areas

Stratum	Scientific Name	Common Name
Herbs	*Tiarella unifoliata*	coolwort foamflower
	Trautvetteria grandis (=*T. caroliniensis*)	false bugbane
	Trifolium agrarium	yellow clover
	Trifolium dubium	suckling clover
	Trifolium pratense	red clover
	Trifolium repens	white clover
	Trillium petiolatum (=*T. angustipetalum*)	trillium
	Triteleia laxa (?)	triteleia
	Urtica dioica	stinging nettle
	Urticularia vulgaris	bladderwort
	Veratrum californicum	false hellebore
	Verbascum thapsus	common mullein
	Veronica americana	American brooklime
	Veronica officinalis	common speedwell
	Veronica persica	Persian speedwell
	Veronica serpyllifolia var *humifusa*	thyme-leaved speedwell
	Vicia americana var *truncata*	American vetch
	Viola ocellata	pinto violet
	Viola orbiculata	round-leaved violet
	Viola palustris	marsh violet

Appendix 2
US Fish and Wildlife Service Letter (1998)
US Fish and Wildlife Service Letter (2002)

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Upper Columbia River Basin Field Office
11103 E. Montgomery Drive, Suite 2
Spokane, WA 99206

November 10, 1998

Tom Duebendorfer
P.O. Box 167
Elmira, ID 83865

Subject: Threatened and Endangered Species List for Emerald Creek Garnet Company Project (1-9-99-SP-5; 970.0500)

Dear Mr. Duebendorfer:

This responds to your October 15, 1998, request for the subject species list, received in this office on October 21, 1998. The Emerald Creek Garnet Company is proposing a mining project, located within Township 43 North, Range 1 East, Sections 4-6, 8, 9, 15, and 16, near Fernwood, Idaho. We have enclosed a list 1-9-99-SP-5 (Enclosure A) of endangered, threatened, proposed, and candidate species and species of concern that may be present in the proposed project area. The list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act of 1973 (Act), as amended. The requirements for Federal agency compliance under the Act are outlined in Enclosure B. Please reference the species list number on Enclosure A in all subsequent correspondence, reports, environmental assessments, environmental impact statements, biological assessments (evaluations), Coordination Act reports, etc.

If a listed species appears on Enclosure A, preparation of a biological assessment/evaluation (BA) would be prudent. Even if a BA is not prepared, potential project effects on listed species should be addressed in the environmental documentation for this project. If a BA is not commenced within 90 days of this response, verification of the accuracy of the species list request is required by regulations. Should the BA determine that a listed species is likely to be affected adversely by the project, the lead Federal agency (if any) involved in this project should request formal section 7 consultation through this office. If a proposed species is likely to be jeopardized by a Federal action, regulations require a conference between the Federal agency and the Service.

Candidate species and species of concern that appear on Enclosure A have no protection under the Act, but are included for early planning consideration. Proposed species could be formally listed and candidate species could be formally proposed and listed during project planning, thereby falling within the scope of section 7 of the Endangered Species Act. Therefore, if they appear on Enclosure A, we recommend that additional surveys be made for proposed and/or candidate species that are likely to be in the project area. If the project is likely to adversely impact a candidate species, informal consultation with this office is recommended.

The Service recently received a petition to list the westslope cutthroat trout as theatened. Petitioned species receive no protection under the Act. However, a petition is an early step in the

listing process. In its 90-day finding, published in the June 10, 1998 Federal Register (63 FR 31691), the Service found that the petition presented substantial information that listing this species may be warranted. The Service is now surveying the status of the species range-wide, preparatory to making a 12-month finding, due January 25, 1999. You may want to consider the potential effects of the subject project on this species, both to minimize any adverse effect to the species and to simplify consultation responsibilities should the species be proposed or listed before the project is completed.

If you have any questions regarding Federal consultation responsibilities under the Act, please contact Suzanne Audet of this office at (509) 891-6839. Thank you for your continued interest in the Endangered Species Program.

Sincerely,

Philip Laumeyer
Field Supervisor

Enclosures

cc: IDFG, Reg. 1, CdA

Refer to next page

Comments:

1. There are species regulations defining the protection and management of gray wolves designated as nonessential experimental, as outlined in the final rules published in the Federal Register, Vol. 59, No. 223 - November 22, 1994. These regulations include special provisions regarding "take" of gray wolves For section 7 interagency coordination purposes, wolves designated as nonessential experimental that <u>are not</u> within units of the National Park System or National Wildlife Refuge System are treated as <u>proposed</u> species. As such, Federal agencies are only required to <u>confer</u> with the Service when they determine that an action they authorize, fund, or carry out "is likely to jeopardize the continued existence" of the species.

2. The U.S. Fish and Wildlife Service has been petitioned to list the westslope cutthroat trout as threatened. Petitioned species receive no protection under the Endangered Species Act. However, a petition is an early step in the listing process. The Service has made a positive 90-day finding, published June 10, 1998, in the Federal Register (63 FR 31691), that the petition presented substantial information that listing this species may be warranted. The Service is now surveying the status of the species range-wide, preparatory to making a 12-month finding, due January 25, 1999.

Enclosure A

LISTED AND PROPOSED ENDANGERED AND THREATENED SPECIES AND CANDIDATE SPECIES THAT MAY OCCUR WITHIN THE AREA OF THE EMERALD CREEK GARNET COMPANY PROJECT FWS-1-9-99-SP-5

LISTED SPECIES	**COMMENTS**
Gray Wolf (XN) (Canis lupus)	See Comment 1.
Bull Trout (LT) (Salvelinus confluentus)	
Ute ladies'-tresses (LT) (Spiranthes diluvialis)	

PROPOSED SPECIES

None

CANDIDATE SPECIES

None

SPECIES OF CONCERN

Westslope cutthroat trout* (Oncorhynchus clarki lewisi)	See Comment 2.

FEDERAL AGENCIES' RESPONSIBILITY UNDER SECTIONS 7(a) AND (c) OF THE ENDANGERED SPECIES ACT

SECTION 7(a) - Consultation/Conference

Requires: 1) Federal agencies to utilize their authorities to carry out programs to conserve endangered and threatened species;

3) Consultation with FWS when a Federal action may affect a listed endangered or threatened species to insure that any action authorized, funded or carried out by a Federal agency is not likely to jeopardize the continued existence of listed species; or result in destruction or adverse modification of critical habitat. The process is initiated by the Federal agency after determining the action may affect a listed species; and

3) Conference with FWS when a Federal action is likely to jeopardize the continued existence of a proposed species or result in destruction or adverse modification of proposed critical habitat.

SECTION 7(c) - Biological Assessment for Major Construction Activities [1/]

Requires Federal agencies or their designees to prepare Biological Assessment (BA) for major construction activities. The BA analyzes the effects of the action[2/] on listed and proposed species. The process begins with a Federal agency in requesting from FWS a list of proposed and listed threatened and endangered species (list attached). If the BA is not initiated within 90 days of receipt of the species list, the accuracy of the species list should be informally verified with our Service. The BA should be completed within 180 days after its initiation (or within such a time period as is mutually agreeable). No irreversible commitment of resources is to be made during the BA process which would foreclose reasonable and prudent alternatives to protect endangered species. Planning, design, and administrative actions may be taken; however, no construction may begin.

We recommend the following for inclusion in the BA; an onsite inspection of the area to be affected by the proposal which may include a detailed survey of the area to determine if the species are present; a review of literature and scientific data to determine species' distribution, habitat needs, and other biological requirements; interviews with experts, including those within FWS, State conservation departments, universities and others who may have data not yet published in scientific literature; an analysis of the effects of the proposal on the species in terms of individuals and populations, including consideration of cumulative effects of the proposal on the species and its habitat; an analysis of alternative actions considered. The BA should document the results, including a discussion of study methods used, any problems encountered, and other relevant information. The BA should conclude whether or not a listed or proposed species will be affected. Upon completion, the BA should be forwarded to our office.

[1/] A major construction activity is a construction project (or other undertaking having similar physical impacts) which is a major action significantly affecting the quality of human environment as referred to in the NEPA (42 U.S.C. 4332 (2)(c).

[2/] "Effects of the action" refers to the direct and indirect effects on an action on the species or critical habitat, together with the effects of other activities that are interrelated or interdependent with that action.

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Upper Columbia Fish and Wildlife Office
11103 East Montgomery Drive
Spokane, Washington 99206

March 15, 2002

Tom Duebendorfer
Professional Wetland Scientist, Botanist
P.O. Box 167
Elmira, Idaho 83865

Subject: Species List for the Proposed Emerald Creek Project in Benewah County, Idaho

Reference Number: 1-9-02-SP-0232

Dear Mr. Duebendorfer:

This responds to your February 15, 2002, request for a list of threatened and endangered species that may occur in the vicinity of the proposed Emerald Creek project in Benewah County, Idaho. We understand that the project involves field studies, EIS preparation, and permitting for the project. Please use the above reference number for all future correspondence regarding this project.

We have reviewed the information you provided. Our records indicate that the following listed species may occur in the vicinity of the project and could potentially be affected by it:

Listed Species

Experimental/Non-essential
[1]Gray wolf (*Canis lupus*)

Threatened
Bull trout (*Salvelinus confluentus*)
Ute ladies'-tresses (*Spiranthes diluvialis*)

[1]There are species regulations defining the protection and management of gray wolves designated as nonessential experimental, as outlined in the final rules published in the Federal Register, Vol. 59, No. 223 - November 22, 1994. These regulations include special provisions regarding "take" of gray wolves. For section 7 interagency coordination purposes, wolves designated as nonessential experimental that are not within units of the National Park System or National Wildlife Refuge System are treated as proposed species. As such, Federal agencies are only required to confer with the Service when they determine that an action they authorize, fund, or carry out "is likely to jeopardize the continued existence" of the species.

If there is federal agency involvement in this project (funding, authorization, or other action), the involved federal agency must meet its responsibilities under section 7 of the Endangered Species Act of 1973, as amended (Act), as outlined in Enclosure A. Enclosure A includes a discussion of the contents of a Biological Assessment (BA), which provides an analysis of the impacts of the project on listed and proposed species, and designated and proposed critical habitat. Preparation of a BA is required for all major construction projects. Even if a BA is not prepared, potential project effects on listed and proposed species should be addressed in the environmental review for this project. Federal agencies may designate, in writing, a non-federal representative to prepare a BA. However, the involved federal agency retains responsibility for the BA, its adequacy, and ultimate compliance with section 7 of the Act.

Preparation of a BA would be prudent when listed or proposed species, or designated or proposed critical habitat, occur within the project area. Should the BA determine that a listed species is likely to be affected by the project, the involved federal agency should request section 7 consultation with the U.S. Fish and Wildlife Service (Service). If a proposed species is likely to be jeopardized by the project, regulations require conferencing between the involved federal agency and the Service. If the BA concludes that the project will have no effect on any listed or proposed species, we would appreciate receiving a copy for our information.

If there is no federal agency involvement in your project, and you determine that it may negatively impact a listed or proposed species, you may contact us regarding the potential need for permitting your actions under section 10 of the Act.

If you would like information concerning state listed species or species of concern, you may contact the Idaho Department of Fish and Game, at (208) 334-3402.

This letter fulfills the requirements of the Service under section 7 of the Act. Should the project plans change significantly, or if the project is delayed more than 90 days, you should request an update to this response.

Thank you for your efforts to protect our nation's species and their habitats. If you have any questions concerning the above information, please contact Carrie Cordova at (509) 893-8022.

Sincerely,

Suzanne Audet

for Supervisor

Enclosure

c: IDFG, Coeur d'Alene
SAIC, Rob Cavallaro

Enclosure A

Responsibility of Federal Agencies under Section 7 of the Endangered Species Act

Section 7(a) - Consultation/Conferencing

Requires: 1) Federal agencies to utilize their authorities to carry out programs to conserve endangered and threatened species;

2) Consultation with the U.S. Fish and Wildlife Service (Service) when a federal action may affect a listed species to ensure that any action authorized, funded, or carried out by a federal agency will not jeopardize the continued existence of listed species, or result in destruction or adverse modification of critical habitat. The process is initiated by the federal agency after determining that the action may affect a listed species; and

3) Conferencing with the Service when a federal action may jeopardize the continued existence of a proposed species, or result in destruction or adverse modification of proposed critical habitat.

Section 7(c) - Biological Assessment for Major Construction Activities

Requires federal agencies or their designees to prepare a Biological Assessment (BA) for major construction activities[1]. The BA analyzes the effects of the action, including indirect effects and effects of interrelated or interdependent activities, on listed and proposed species, and designated and proposed critical habitat. The process begins with a request to the Service for a species list. If the BA is not initiated within 90 days of receipt of the species list, the accuracy of the list should be verified with the Service. The BA should be completed within 180 days after its initiation (or within such a time period as is mutually agreeable between the Service and the involved federal agency). No irreversible commitment of resources is to be made during the BA process that forecloses reasonable and prudent alternatives for the project that could protect listed and proposed species. Project planning, design, and administrative actions may proceed, however, no construction may begin.

We recommend the following for inclusion in a BA: an onsite inspection of the area to be affected by the proposal, which may include a detailed survey of the area to determine if listed or proposed species are present; a review of pertinent literature and scientific data to determine the species' distribution, habitat needs, and other biological requirements; interviews with experts, including those within the Service, state conservation departments, universities, and others who may have data not yet published in scientific literature; an analysis of the effects of the proposal on the species in terms of individuals and populations, including consideration of cumulative effects of the proposal on the species and its habitat; and an analysis of alternative actions considered. The BA should document the results of the impacts analysis, including a discussion

of study methods used, any problems encountered, and other relevant information. The BA should conclude whether or not any listed species may be affected, proposed species may be jeopardized, or critical habitat may be adversely modified by the project. Upon completion, the BA should be forwarded to the Service.

Major concerns that should be addressed in a BA for listed and proposed animal species include:

1. Level of use of the project area by the species, and amount or location of critical habitat;

2. Effect(s) of the project on the species' primary feeding, breeding, and sheltering areas;

3. Impacts from project construction and implementation (*e.g.*, increased noise levels, increased human activity and/or access, loss or degradation of habitat) that may result in disturbance to the species and/or their avoidance of the project area or critical habitat.

Major concerns that should be addressed in a BA for listed or proposed plant species include:

1. Distribution of the taxon in the project area;

2. Disturbance (*e.g.*, trampling, collecting) of individual plants or loss of habitat; and

3. Changes in hydrology where the taxon is found.

Section 7(d) - Irreversible or Irretrievable Commitment of Resources

Requires that, after initiation or reinitiation of consultation required under section 7(a)(2), the Federal agency and any applicant shall make no irreversible or irretrievable commitment of resources with respect to the action which has the effect of foreclosing the formulation or implementation of any reasonable and prudent alternatives which would avoid violating section 7(a)(2). This prohibition is in force during the consultation process and continues until the requirements of section 7(a)(2) are satisfied.

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[1] A major construction activity is a construction project, or other undertaking having similar physical impacts, which is a major action significantly affecting the quality of the human environment as referred to in the National Environmental Policy Act [42 U.S.C. 4332 (2)(c)].