

APPENDIX E

**U.S. FISH AND WILDLIFE SERVICE
BIOLOGICAL OPINION**



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Snake River Fish and Wildlife Office
1387 S Vinnell Way, Suite 368
Boise, Idaho 83709



William A. Wood, Forest Supervisor
US Department of Agriculture
Salmon-Challis National Forest
1206 South Challis
Salmon, Idaho 83467

Subject: Section 7 Consultation for Formation Capital Corporation's Proposed Idaho Cobalt Project Mine in the Panther Creek Drainage, Salmon-Cobalt Ranger District, Idaho - Biological Opinion
File #1050.1106 TAILS # F-08-0140

Dear Mr. Wood:

This document transmits the Fish and Wildlife Service's (Service) Biological Opinion (Opinion) based on our review of the Salmon-Challis National Forest (Forest) Biological Assessment (Assessment) for the Idaho Cobalt Project mine proposal and associated National Pollution Discharge Elimination System (NPDES) permit (Mine Project). The Mine Project would entail developing an underground mine for cobalt, copper, and gold. The Assessment addresses potential impacts resulting from the Plan of Operations, including the need for an NPDES permit, as well as the potential for spills resulting from activities associated with the Mine Project. The Assessment/consultation is a joint effort by the Forest and Environmental Protection Agency (EPA) to address the Forest's action of permitting the Mine, and EPA's action of issuing a NPDES permit; however, the Forest has taken the lead role for consultation purposes.

The Assessment addresses the effects of the proposed Mine Project on bull trout (*Salvelinus confluentus*); the Forest has determined that the proposed project may affect, and is likely to adversely affect bull trout. The Service acknowledges the Forest's conclusion provided in the cover letter to the Assessment that consultation for Canada lynx (*Lynx canadensis*) is not necessary due to a joint determination by the Service and Forest that Canada lynx do not currently occupy lands within the administrative boundaries of the Forest.

If you have questions regarding the attached Opinion, please contact Sandi Arena at the Service's Eastern Idaho Field Office (208-237-6975 ext. 34).

Sincerely,

 Jeffery L. Foss, Supervisor
Snake River Fish and Wildlife Office

BIOLOGICAL OPINION
IDAHO COBALT PROJECT MINE
SALMON-CHALLIS NATIONAL FOREST
SALMON-COBALT RANGER DISTRICT
SALMON, IDAHO

MAY 2008
FISH AND WILDLIFE SERVICE
SNAKE RIVER FISH AND WILDLIFE OFFICE
BOISE, IDAHO

TABLE OF CONTENTS

INTRODUCTION.....	1
CONSULTATION HISTORY	1
BIOLOGICAL OPINION.....	2
I. DESCRIPTION OF THE PROPOSED ACTION	2
A. Action Area	2
II. STATUS OF THE SPECIES	8
A. Regulatory Status and Population Organization	8
B. Conservation Needs and Strategy.....	9
C. Rangewide Status and Distribution.....	10
1. Jarbidge River	10
2. Klamath River	10
3. Coastal-Puget Sound.....	10
4. St. Mary-Belly River.....	11
5. Columbia River	11
D. Life History.....	12
E. Habitat Characteristics.....	13
F. Diet.....	14
III. ENVIRONMENTAL BASELINE.....	15
A. Status of the Species in the Action Area	15
B. Factors Affecting Species in the Action Area	17
IV. EFFECTS OF THE PROPOSED ACTION	18
A. Direct and Indirect Effects	18
1. Direct Effects	18
2. Indirect Effects.....	33
B. Effects of Interrelated or Interdependent Actions	33
V. CUMULATIVE EFFECTS	34
VI. CONCLUSION	34
VII. INCIDENTAL TAKE STATEMENT	35
A. Amount or Extent of Take Anticipated.....	35
B. Effect of the Take.....	37
C. Reasonable and Prudent Measures	37
Reporting and Monitoring Requirements	38
VIII. CONSERVATION RECOMMENDATIONS	39
IX. REINITIATION--CLOSING STATEMENT	39
LITERATURE CITED	40

INTRODUCTION

This document is the Fish and Wildlife Service's (Service) Biological Opinion (Opinion) based on our review of the Biological Assessment (Assessment) for the proposed Idaho Cobalt Project Mine and Associated National Pollution Discharge Elimination System (NPDES) Permit (Mine Project) located in the Salmon-Cobalt Ranger District of the Salmon-Challis National Forest (Forest), and its effects on bull trout (*Salvelinus confluentus*). Our opinion is provided in accordance with section 7 of the Endangered Species Act (Act) of 1973, as amended. Your December 26, 2007 request for formal consultation was received in our office on December 27, 2007. Though the Forest has taken the lead role for consultation purposes, the Assessment is a joint effort by the Forest and the Environmental Protection Agency (EPA) to analyze and address both the permitting of the mine, as well as issuance of the NPDES permit (NPDES Permit No. ID-002832-1). For clarity purposes, this joint Forest/EPA Assessment will be referred to throughout this Opinion as the Forest's Assessment, as they are the lead consulting agency.

Our Opinion is based on information provided in the December 26, 2007 Assessment, telephone conversations and email exchanges with Ray Henderson and Robert Rose of the Forest, a site visit to the Mine Project area, and meetings held with the Forest, Service, and representatives from Formation Capital Corporation. A complete administrative record of this consultation is on file at the Service's Eastern Idaho Field Office.

CONSULTATION HISTORY

- | | |
|--------------------|---|
| March 8, 2005 | The Service attended a meeting with the Forest to discuss the Mine Project and planning underway thus far, and to get a general project overview. |
| October 26, 2005 | The Service attended a meeting with the Forest to discuss the preliminary draft Environmental Impact Statement (DEIS), alternatives developed thus far, and potential for impacts to fish and wildlife. |
| September 27, 2006 | The Service provided comments to the Forest on their August 16, 2006 draft Assessment for impacts of the Mine Project to terrestrial species. |
| October 26, 2006 | The Service attended a second meeting with the Forest, EPA, and Idaho Department of Environmental Quality to discuss the preliminary draft Environmental Impact Statement, alternatives developed thus far, and potential for impacts to fish and wildlife. At this meeting it was also stated that there would be a need for a NPDES permit to be issued by EPA. |
| April 11, 2007 | The Service provided comments to the Forest on their March 2007 draft Assessment for impacts of the Mine Project to aquatic species. |

- December 27, 2007 The Service received the Forest's December 26, 2007 Assessment and request for consultation for the Mine Project.
- January 16, 2008 The Service met the Forest, National Marine Fisheries Service, and Formation Capital Corporation to discuss the Forest's Assessment and to answer any questions the Agencies had.
- January 28, 2008 The Service contacted the Forest to advise them that consultation could be initiated and that they could expect our Biological Opinion by May 9, 2008.

BIOLOGICAL OPINION

I. DESCRIPTION OF THE PROPOSED ACTION

A. Action Area

The proposed Mine Project is located in the Panther Creek drainage on the Salmon-Cobalt Ranger District of the Forest, in or adjacent to Sections 8, 9, 15, 16, 17, 20, 21, and 22, Township 21 North, Range 18 East. The Mine Project is approximately 45 road miles (or 22 direct miles) west from Salmon, Idaho (Figure 1).

B. Proposed Action

An overall description of the proposed action for the Mine Project is provided below in the Opinion. Specific information detailing the proposed action can be found in the Forest's Assessment (Section 2.0, Project Description). Proposed actions associated with the Mine Project (specifically transportation of chemicals, the NPDES permit, and in-stream work) that are directly related to water quality (including suspended sediments) are expanded on further in this Opinion following the general overview section.

General Overview

The proposed Mine Project would consist of an underground cobalt-copper-gold mine to extract minerals from two separate ore bodies, as well as a processing plant (mill) and associated facilities. Under their proposed plan Formation Capital Corporation (FCC) would develop, operate, and reclaim an 800-ton per day mine and mill complex. Underground mining methods would be used to extract ore from two deposits; the Ram and the Sunshine. Ore would be trucked from the mines to the mill; however, ore from the Ram mine may eventually be conveyed by an overhead tram to the mill. At the mine, the ore would be milled to extract the cobalt (mainly), as well as other constituents (i.e., copper and gold) if available, producing the bulk concentrate. Concentrate from the mill would be shipped to an off-site processing facility. The proposed Mine Project would result in surface disturbance of approximately 115 acres.

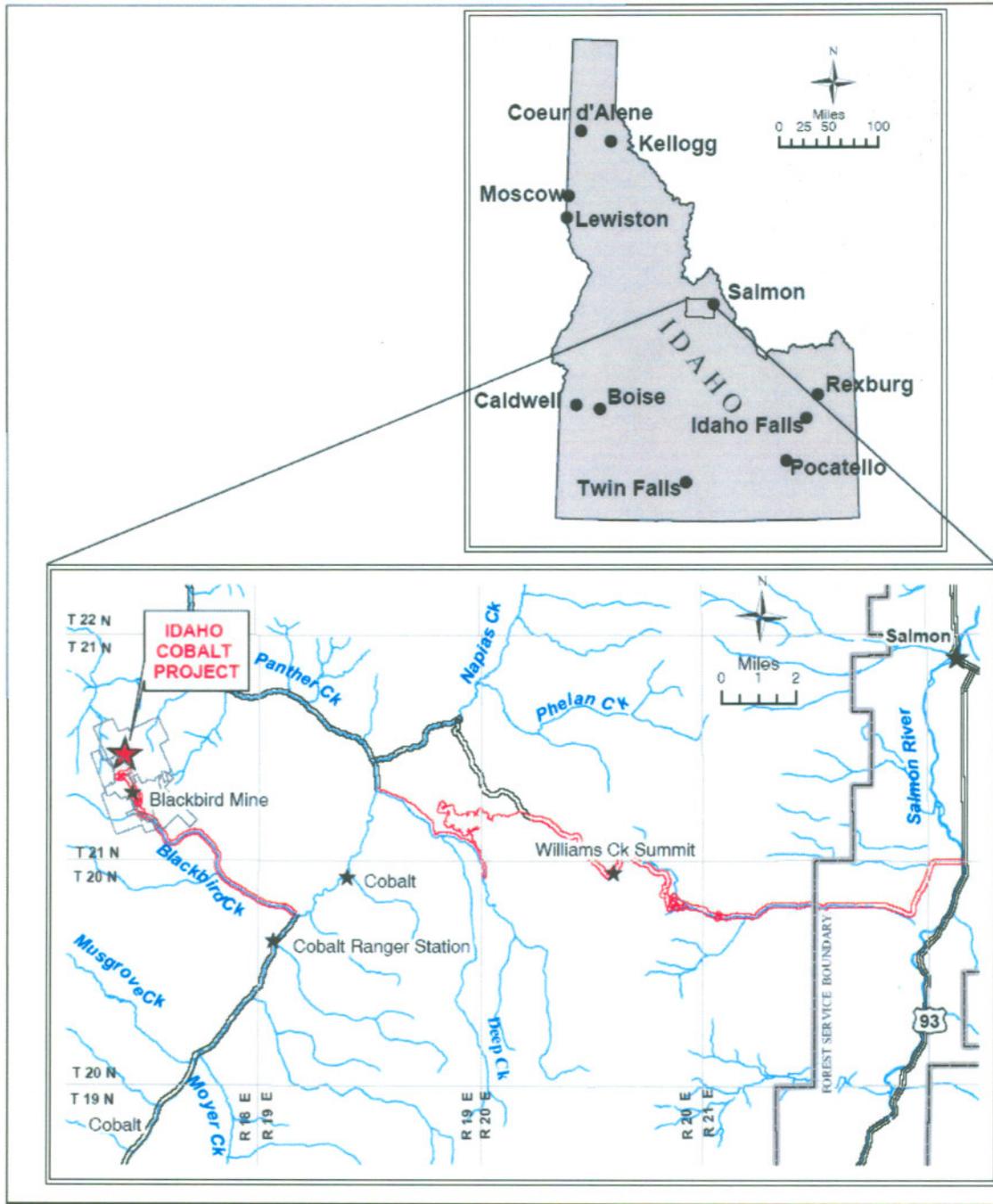


Figure 1. General Map Location, Idaho Cobalt Project.

Also included as part of the Plan of Operations for the Mine Project is an application to discharge wastewater to Big Deer Creek under the Environmental Protection Agency (EPA) NPDES permit program. The Permit would be for discharge of excess water from the Mine Project during the operational mining period for the Ram and Sunshine deposits. Additional modifications to the NPDES permit might be required following mine closure to address post-closure water discharges from the Ram and Sunshine deposits.

The ICP would consist of developing two deposits over the life of the project, the Ram (with 2,230,000 tons of ore currently known) and the Sunshine (with 340,000 tons of ore currently known). Development of each deposit would use underground mining methods. The average rate of mining production would be 800 tons per day (tpd) based on mine operation of 350-days-per-year. During start-up the rate would be approximately 400 tpd in the first year, increasing to full production in the third year of operations. It is possible, however, that mine and mill throughput could reach 1,200 tpd. Mining would begin initially on the Ram deposit, and mining of the Sunshine deposit would occur in subsequent years.

There would be three main phases in the life of the ICP: the construction phase (approximately two years), the operating phase (ten to twelve years), and the reclamation/closure phase (two years for surface reclamation and up to thirty or more years of post mine water treatment and monitoring). There would also be concurrent reclamation in the construction and operating phases as existing disturbed areas or new disturbances are reclaimed post-use.

Mine and mill facilities include the Ram and Sunshine mine portals, tram, mill/plant, tailings and wasterock storage facility (TWSF), water management pond, water treatment and discharge facilities, new and existing improved roads, borrow areas, and a soil stockpile area. Ancillary facilities would include power lines, fuel storage tanks, water ditches, and septic and drain field.

At the end of the operational mining period, cessation of mine dewatering would be contingent on monitoring results and projections indicating no unacceptable effects to water quality objectives or Blackbird cleanup goals. If monitoring indicates acceptable water quality, the mine workings would be allowed to fill with groundwater and groundwater and mine water from the mines would be released to the watershed. If needed to prevent unacceptable water quality impacts (i.e., discharge of water above Idaho water quality criteria), a bedrock groundwater capture well system would be used to capture mine water that flows out of the mine workings during the closure period. If the bedrock groundwater capture system is insufficient, an alluvial groundwater/surface water capture system in lower Bucktail Creek drainage would be used. Both the bedrock and alluvial groundwater/surface water capture systems would be installed during the construction phase. Captured water would be treated and discharged into Big Deer Creek through a NPDES permitted facility.

Transportation

The proposed year-round transportation route for employees and transportation of concentrate, equipment, reagents, and other freight from Salmon, Idaho would be via Williams Creek Road to the Williams Creek Summit, from there to the Deep Creek Road, then to the Morgan - Panther Creek Road, and Blackbird Creek Road (Figure 2).

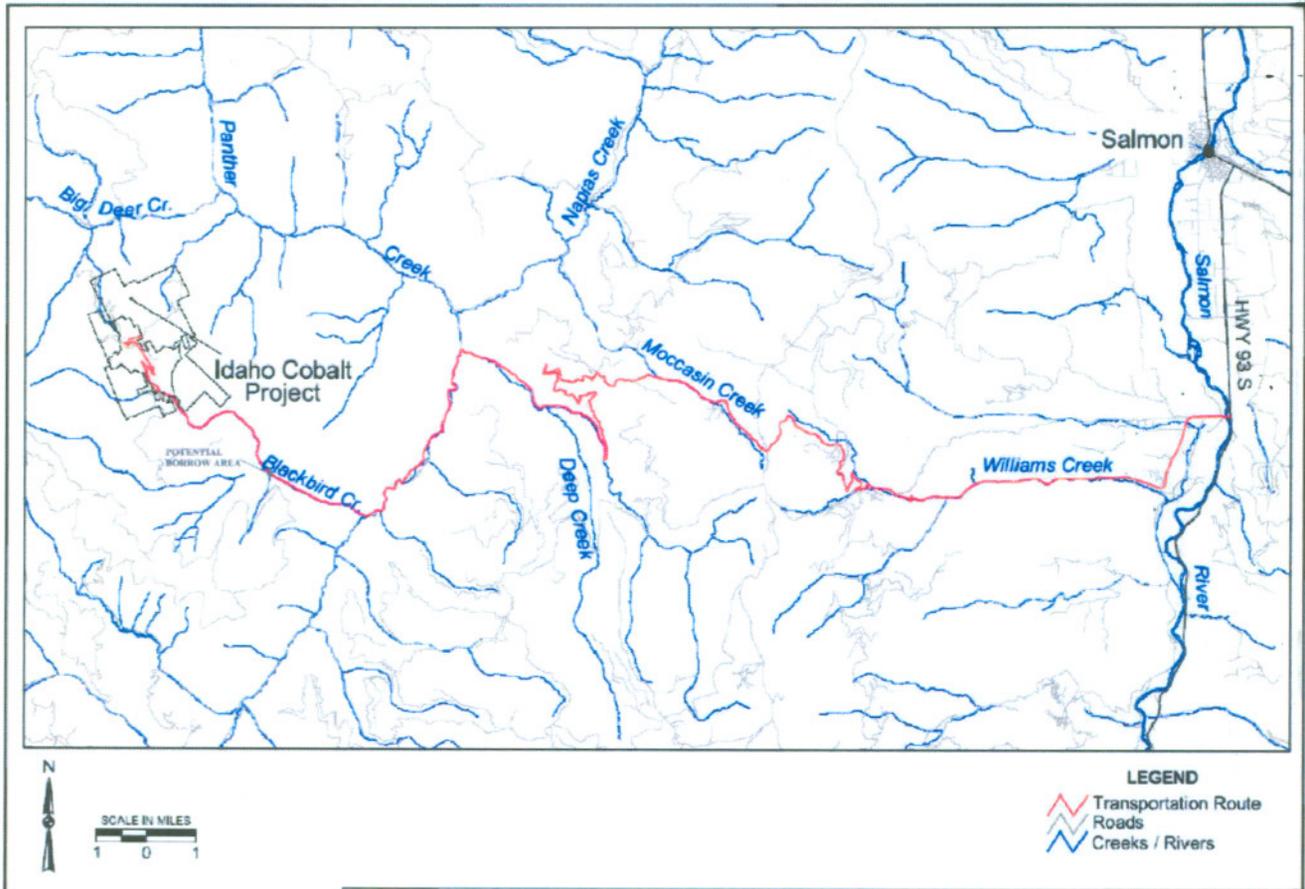


Figure 2. Proposed Transportation Route, Idaho Cobalt Project