



**DRAFT ENVIRONMENTAL BASELINE STUDIES  
2005 STUDY PLANS**

**CHAPTER 15. RECREATION**

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## ACRONYMS

AASHTO	American Association of State and Highway Transportation Officials
ABA	Acid Base Accounting
ACHP	Advisory Council on Historic Preservation
ACLS	Alternative Cleanup Levels
ADEC	Alaska Department of Environmental Conservation
agl	above ground level
AHRS	Alaska Heritage Resource Survey
APE	Area of Potential Effect
ARD/ML	Acid Rock Drainage/Metal Leaching
ASCI	Alaska Stream Condition Index
BEESC	Bristol Environmental & Engineering Services Corporation
CC	Comprehensive Stations with Continuous Stage Monitoring
CH2M	CH2M HILL, Inc.
CIR	Color Infrared
CWOC	Comprehensive Stations without Continuous Stage monitoring
DECD	Alaska Department of Economic and Community Development
DNR	State of Alaska Department of Natural Resources
DO	Dissolved Oxygen
DOT&PF	State of Alaska Department of Transportation & Public Facilities
DQOs	Data Quality Objectives
EC	Environmental Consequences
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
EBR	Environmental Baseline Document
FAA	Federal Aviation Administration
FHWA	Federal Highway Administration
FSP	Field Sampling Plan
GIS	Geographic Information System
GPS	Global Positioning System
HGM	Hydrogeomorphic
IM	Initial Monitoring Station
BMR	Baseline Monitoring Report
mg/L	milligrams per liter
mm	millimeters

MRLs	Method Reporting Limits
NDM	Northern Dynasty Mines Inc.
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NOAA	National Oceanic & Atmospheric Administration
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
ORP	Oxidation Reduction Potential
PJD	Preliminary Jurisdictional Determination
PSD	Prevention of Significant Deterioration
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QC	Quality Control
SHPO	State Historic Preservation Officer
SOPs	Standard Operating Procedures
SWANCC	Solid Waste Agency of Northern Cook County v. U.S. Army Corp of Engineers
SWE	Snow-Water equivalent
TOC	Table of Contents
TPH	Total Petroleum Hydrocarbons
USACE	United States Army Corp of Engineers
USFWS	United States Fish & Wildlife Service
USGS	United States Geological Survey
WMP	Water Monitoring Plan

## 15. RECREATION

Kevin Waring Associates will develop the baseline description of recreational uses and activities for the area potentially affected by development and operations associated with the mine site, transportation and utility corridor, and port.

### 15.1 Objectives of Study

The objective of the recreation baseline study is to describe the types, locations, levels, and economic importance of current and expected recreational uses and activities at the mine site, transportation and utility corridor, and port, and in the greater area potentially affected by project development and operations. The description must be sufficient to support assessment of project effects on recreation in the study area.

### 15.2 Proposed Study Plan

#### 15.2.1 Study Area/Scope

The study area for the recreation baseline study generally encompasses the lands and waters whose use for commercial and non-commercial recreation may be directly or indirectly affected by project facilities and operations. This includes on-site and off-site areas of recreational lands and waters:

- In the immediate vicinity of project facilities (mine site, road, port);
- Potentially accessed via the project facilities (e.g., via mine roads or port facilities open to public access); and
- Whose accessibility, appeal, or utility for recreation may be affected by the proposed project.

Among other areas, the study area includes Lake Clark National Park and Preserve, Katmai National Park and Preserve, the Alagnak Wild River, the McNeil River State Game Sanctuary/Refuge, and the drainage basins associated with the Upper and Lower Talarik, Lake Iliamna, the Kvichak, the Koktuli, the Mulchatna, and the Upper Nushagak. These areas possess outstanding public recreational resources and sustain locally and regionally important recreation-related business activities (e.g., transportation services, guiding, lodging, etc.). Due to their location in relation to the project, there will be public concern about potential project effects on them and their continuing use for recreation. Recreational uses and activities in these areas will be documented to the extent necessary to support subsequent assessment of whether and how project options may affect them.

#### 15.2.2 Methods/Approach

The study will employ a variety of research, analytic, and interpretive tools. There are some published information sources, but much of the most relevant data on recreational visitation and activities will need to be culled from the files of state and federal resource agencies responsible for management of public

lands and/or regulation of recreational activities, including sport fishing and hunting. Knowledgeable informants, including public agency staff, recreation users, and representatives of user and trade groups, may also contribute valuable insights into recreational patterns and trends in the study area. Information collected from these sources will be distilled into a profile of consumptive and non-consumptive recreational uses.

An understanding of the geographic relationships between recreational uses and mine facilities and their environmental effects will be critical for assessment of effects on recreation. Therefore, interpretive maps of recreational uses and activities will be developed as part of the baseline study.

The study area's recreation-related economic sector depends on its appeal for sport fishing and hunting and other recreational activities. This economic sector is exposed to exogenous forces that influence visitation and recreation patterns. The baseline study will apply the tools of economic analysis to estimate the current and prospective economic role of commercial and non-commercial recreation in the study area.

Finally, while recreation is identified as a discrete baseline and assessment study topic, it will overlap thematically and geographically with certain other study topics such as land use, subsistence, visual aesthetics, and fish and wildlife habitats. As appropriate, the recreation baseline study effort will be coordinated with these other discipline studies.

### 15.2.3 Major Tasks/Activities

The main tasks and activities for the recreation study involve collection and analysis of information on recreation in the study area from a variety of sources, interpretive mapping of major recreational uses and related activities, analysis of the current and future economic role of recreation, and preparation of the recreation baseline description. Specific tasks include the following:

- Collect available published and agency file data sources on commercial and non-commercial recreational uses and activities in the study area.
- Interview federal and state agency staff, representatives of user and trade groups, hunting and fishing guides, lodges, other commercial operators, and other informants knowledgeable about recreation and recreation-related businesses in the study area.
- Compile statistics on recent and current visitation and recreational activity levels and trends.
- Identify and map important recreational areas.
- Identify and map key support bases and busiest travel routes to/from recreational sites, particularly support bases and routes that may intersect with project facilities, operations, and logistics.
- Review literature on techniques for economic valuation of recreational resources.
- Estimate the economic contribution of recreation to local and regional economies in the study area.
- Coordinate with subsistence baseline studies in common geographic areas of study to achieve consistent baselines for later assessment of project impacts on subsistence and recreational uses of study area fish and wildlife resources.

- Coordinate with baseline study of visual aesthetics to achieve consistent baselines for later assessment of project impacts on recreation and visual aesthetics.
- Coordinate with terrestrial wildlife studies, and fish and aquatic habitat studies, and other pertinent environmental studies.
- Integrate the findings of previous tasks into the baseline description of recreation in the study area.

### 15.3 Deliverables

The following deliverables will be prepared:

- 2004 progress report.
- 2005 plan of study.
- Initial environmental evaluation report.
- Baseline description of commercial and non-commercial recreation in the study area