

**FINAL TERMS OF REFERENCE AND SCHEDULE
FOR THE
CUMULATIVE EFFECTS STUDY
OF THE DRYBONES BAY/WOOL BAY AREA**

July 23, 2003



Mackenzie Valley Environmental Impact Review Board

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1 INTRODUCTION

Background

Diamondiferous kimberlite has been found in the Drybones Bay/Wool Bay Area. Increased development referrals to the Mackenzie Valley Environmental Review Board (MVEIRB) indicate concerns about potential cumulative effects to the area. These concerns have highlighted the need for decision-making tools suited to the identification, evaluation and mitigation of potential cumulative effects.

Cumulative effects are difficult to recognize on project-specific applications for authorizations due to narrow project scoping. The effects of multiple developments in close proximity or reliant on shared infrastructure or access can only be assessed through a broader approach. The MVEIRB is made aware of potential cumulative effects through the expression of concerns by parties about the social, cultural and environmental quality of an area. This analysis can be difficult in areas without a land use plan, where development priorities have not been established.

The MVEIRB, in the absence of planning instruments for the Drybones Bay/Wool Bay Area, must consider “the impact of the development on the environment, including the impact of malfunctions or accidents that may occur in connection with the development and any cumulative impact that is likely to result from the development in combination with other developments” (*MVRMA*, S.117 (2) (a)). The Board must recognize potential land use conflicts that may change magnitude and significance of an impact and provide recommendations to minimize cumulative effects.

The Drybones Bay/Wool Bay area is recognized as being of vital importance to Aboriginal and non-Aboriginal residents in and around Yellowknife. There is an immediate need for a decision-making instrument to help the MVEIRB to make decisions about potential cumulative effects that provides an understanding of:

- social, cultural and environmental sensitivities in the Drybones Bay/Wool Bay Area;
- level of uncertainty associated with sensitive and/or highly-valued areas;
- current and foreseeable development; and
- an evaluation of the area for potentially significant impacts due to cumulative effects.

Purpose

The purpose of this project is to develop a decision-making tool to help the MVEIRB to better make decisions about development’s contribution to potential cumulative effects and to make effective recommendations for development in the Drybones Bay/Wool Bay Area.

This study will occur concurrently with four Environmental Assessments (EAs) of proposed developments in the Drybones Bay/Wool Bay Area. This will allow the Board to focus the public hearing for all EAs and provide needed baseline information to help all parties preparing evidence. This study is being shared with all parties and will be subject to the scrutiny of the parties should they wish to use some of its content in their evidence. The study is considered a technical study, supplementary to the environmental assessment.

2 TERMS OF REFERENCE

Overview

The Terms of Reference describes the scope of and factors to be considered in Cumulative Effects Study of Drybones Bay/Wool Bay. The Terms of Reference are designed to ensure the appropriate information is provided to understand the potential cumulative effects arising from current and proposed development in the Drybones Bay/Wool Bay Area.

Cumulative Impact Model

The contractor shall provide the Review Board with a decision-making instrument to aid in identifying likely (based on the balance of evidence) and significant adverse cumulative impacts. The contractor should:

- Identify existing and predicted land uses through literature review and interviews with industry associations and developers expected to operating or currently operating in the area (i.e., mineral exploration, timber harvesting, fishing, and tourism, as well as associated roads, cut lines, camps, sumps, etc.);
- Identify the valued social, cultural and environmental components that may be affected by development in combination with other human activities (i.e., spiritual sites, archaeological sites, important harvesting areas, rare species, and important wildlife and fish habitat);
- Identify the changes the predicted land use will produce in the quality of the social, cultural and natural environment of the Drybones Bay/Wool Bay Area;
- Identify the potential impacts of these stresses based on intensity (i.e., high, medium, low) and the level of certainty in predictions (i.e., confidence interval derived from a gap analysis and potential discrepancies between scientific and traditional knowledge) and other factors; and
- Compile the predicted impacts as well as the associated uncertainty on a map or series of maps.

The Contractor should, to the extent possible, consider reasonably foreseeable development in the Drybones Bay/Wool Bay Area.

Information Sources

The contractor is expected to access, at a minimum, the following information sources:

- Available literature, including material from previously conducted EAs or Preliminary Screenings in the area;
- A site visit to better understand the lay out and scale of the area of concern;
- Interviews with relevant territorial and federal government departments including but not limited to the Department of Resources, Wildlife, and Economic Development, Department of Fisheries, and Oceans and Environment Canada that can provide biophysical information in the area;
- Interviews with industry associations and/or companies that are or may undertake developments in the area to map existing and reasonably foreseeable developments; and
- Speak with Aboriginal groups and traditional users of the area that indicated a concern about cumulative development impacts on social, culture and environmental condition of the Drybones Bay/Wool Bay area.

Deliverables

Upon completion of this project, the Contractor will provide:

- 1 hardcopy set of draft maps/sketch maps
- 1 hardcopy draft report
- 5 hardcopy sets of final map
- 5 hardcopies of final report
- 1 PDF copy of maps and report
- 1 digital copy of report in MS Word format
- 1 digital set of maps in format that can be edited, e.g. jpeg or tiff

It is recognized that it may not be possible to determine exact boundaries of impacts, impact sensitivity, valued components, or uncertainty levels. Sketch maps will generally be adequate. The level of uncertainty associated with boundaries should be stated on the maps and if possible, be incorporated into the map design.

The Review Board has pre-authorized a budget for this project. Although it is recognized that data sets and shape files may be acquired during the research, this information will not be analyzed using spatial analysis software. This information will be compiled and, with written permission of the agencies providing the data, will be shared with the parties to the environmental assessment. The parties are welcome to use available data for their own analyses as part of their evidence to the Review Board at the Public Hearing.

3 WORK PLAN

This section summarizes the phases in this Cumulative Effects Study. This process must adhere to the schedule presented to avoid unnecessary delays in the EAs currently underway for developments in the Drybones Bay/Wool Bay Area. The study is a technical study to enhance the individual EAs, not as a replacement for these EAs.

Milestones and Responsibilities

Having considered the information available regarding this development, the Review Board has established milestones and responsibilities for this EA process. These milestones and responsibility assignments are outlined in Table 1.

Table 1 - Milestones and Responsibility Assignments for Phases in the EA Process

Milestone	Consultant	Stakeholders	Review Board and Staff
Contract initiation meeting to review and finalize the Terms of Reference and Work Plan	✓		✓
Literature Review and Gap Analysis	✓		✓
Site Visit	✓	✓	
Interviews with Government Departments	✓	✓	✓
Interviews with Industry Associations (tourism, forestry, fisheries, oil and gas, mining) and Developers	✓	✓	✓
Gather available traditional land use information	✓	✓	✓
Design Impact Decision Tools (maps) and draft Report	✓		
Revise Impact Decision Tools and Report	✓		✓
Presentation to the MVEIRB	✓		✓

Contract Initiation Meeting

The Review Board's Project Team will meet with the consultant to review the Terms of Reference and Work Plan. Deliverables, timelines and budgets will be reviewed to clarify expectations.

Deliverable: Finalized reporting structure, timeline and signed contract.

Literature Review and Gap Analysis

A literature review on available information sources pertaining to the Drybones Bay and Wool Bay Area will be undertaken. This review will characterize: the social, cultural and environmental importance of the study area. Upon completion of the literature review, the contractor will conduct a gap analysis that describes areas that are least well-understood in terms of their significance or are poorly documented. These areas represent uncertainties in the determination of impact significance.

Deliverable: A series of topics and questions to explore with traditional users of the Drybones Bay/Wool Bay Area as well as commercial users.

Site Visit

The contractor will arrange a site visit in the Drybones Bay/Wool Bay Area. The purpose of the site visit will be to better understand the scale and sensitivity of the area where the development is proposed.

Deliverable: Report of site visit.

Gather Traditional Land Use Information

The contractor will collect available information on importance of the area, or parts of the area, to the cultural, social and traditional activities of user groups from Aboriginal groups interested in participating in the study.

Deliverable: Report of information, sketch map depicting on social, cultural and environmental significance.

Interviews with Industry Associations and Developers

The contractor will interview industry associations and developers currently operating or planning to operate in the Drybones Bay/Wool Bay Area. The interviews will try to identify resource development potential to overlay on social, cultural and environmental attributes. The interviews will also try to identify potential for collaboration within industry to minimize environmental effects. There will be no more than 10 interviews.

Deliverable: Projections to assist the MVEIRB in assessing cumulative effects in the Drybones Bay/Wool Bay Area.

Interviews with Government Departments

The contractor will interview government departments with baseline biophysical information for the Drybones Bay/Wool Bay Area. The interviews will obtain ecological information on which to overlay valuable social, cultural and environmental attributes as well as current and projected developments for the purpose of cumulative effects assessment. There will be no more than 5 interviews.

Deliverable: Sketch maps for the MVEIRB to assess cumulative effects in the Drybones Bay/Wool Bay Area.

Design Impact Decision Tool and Draft Report

To the extent possible, all results of the study will be depicted in sketch maps to facilitate the use of the information gathered in decision making for EAs that are currently before the Board or may be come before the Board in the future. At a minimum, there will be a map depicting the sensitivity/vulnerability of areas or sites to impacts from development and a map depicting the uncertainties associated with the predictions of sensitivity or vulnerability. Possible other maps include the intensity of existing and expected development. The determination of uncertainty will be based on the gap analysis and on discrepancies, if any, between scientific and traditional knowledge.

The contractor will prepare a report, summarizing available information of the social, cultural and environmental importance of sites throughout the Drybones Bay/Wool Bay Area. The contractor will use this information to identify data gaps and inconsistencies between scientific knowledge and traditional knowledge that reflect uncertainties in impact predictions. The report will clearly outline the process used, information reviewed and assumptions made in the mapping of valued components most vulnerable to positive or adverse cumulative impacts. The report will also provide

a summary of key issues, identify potential cumulative effects, and propose project-specific mitigation as well as mitigation for all projects in combination. Appendices will include more detailed information regarding search terms, interview results, etc

Deliverable: Maps of impact sensitivity and of uncertainty and a companion report providing an overview of the state of knowledge for the area as well as the technical basis and assumptions for the Impact Decision Tools.

Refine Impact Decision Tools and Report

In cooperation with MVEIRB staff the contractor will refine and edit the draft maps and report and will submit a final version in hardcopy and digital. At least one digital copy must be in a format that can be edited by the MVEIRB.

Deliverable: Final versions of maps and report.

Presentation at the Public Hearing

Prior to the Public Hearing, the Cumulative Effects Study will be released to the Parties for comments as part of the project-specific EAs. The Parties may ask questions about and comment on the study. After this discussion, the Parties are welcome to use data and information from the Cumulative Effects Study to the extent they feel appropriate as part of their evidence.

The contractor will present the decision-making instrument to the MVEIRB for consideration of developments referred for potential adverse cumulative impacts. This presentation will occur at the Public Hearing for consideration relative to the evidence submitted by all parties.

Deliverable: Enhanced understanding of the decision-making aid among the Board Members of the MVEIRB.

Schedule

Table 2 provides an estimated timeline for completing this project. The Review Board may amend the schedule at its discretion.

Table 2 - Milestone Completion Timetable

Milestone	Date
Contract initiation meeting	July 3, 2003
Literature review and gap analysis	July 3-25, 2003
Site visit	July 19-20, 2003
Interviews with government departments	July 14-25, 2003
Interviews with industry associations and developers	July 21-25, 2003
Gather available traditional land use information	July 3-31, 2003
Design impact decision tool and draft report	August 7, 2003
Refine impact decision tool and report	August 7-14
Submit Cumulative Effects Study to MVEIRB	August 15, 2003
Presentation to the MVEIRB	At Public Hearing