



November 2012

**GAHCHO KUÉ PROJECT
2012 ENVIRONMENTAL IMPACT STATEMENT
SUPPLEMENTAL INFORMATION
SUBMISSION**

2012 Draft No Net Loss Plan

Submitted to:
De Beers Canada Inc.

REPORT

Report Number: 11-1365-0012/DCN-108





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1.0 INTRODUCTION

De Beers Canada Inc. (De Beers) is proposing to construct and operate a diamond mine, the Gahcho Kué Project (Project), located at Kennady Lake, Northwest Territories (NWT), approximately 280 kilometres (km) northeast of Yellowknife. The purpose of the development is to extract diamond-bearing kimberlite deposits from three vertical pipes located beneath and adjacent to Kennady Lake. The three ore bodies, named 5034, Hearne, and Tuzo, will be mined using open pit methods down to a depth of approximately 300 metres (m). Open-pit mining methods will require dewatering of some areas of Kennady Lake and the physical disturbance of others.

The construction and operation of the Gahcho Kué mine will cause harmful alteration or disruption, or the destruction (HADD) of fish habitat in the Kennady Lake watershed. The affected habitat areas include portions of Kennady Lake and adjacent lakes within the Kennady Lake watershed that will be permanently lost, physically altered after dewatering and later submerged in the refilled Kennady Lake, and disrupted following dewatering (or partial dewatering) but otherwise physically unaltered before submerged in the refilled Kennady Lake. Where prevention of the harmful habitat alteration or disruption, or destruction is not feasible, measures will be implemented to offset any habitat losses arising from the Project.

A Conceptual Compensation Plan (CCP) was included in Section 3, Appendix 3.II of the 2010 Environmental Impact Statement (EIS) (De Beers 2010). The CCP described the various options considered for providing fish habitat compensation, and presented a proposed fish habitat conceptual compensation plan to offset loss of fish habitat according to the Fisheries and Oceans Canada (DFO) Policy for Management of Fish Habitat (DFO 1986).

Since the submission of the CCP, the development of the compensation plan has been ongoing. As part of this process, several meetings have occurred with local and regional DFO staff to further the compensation planning and allow for DFO feedback (e.g., 16 June 2010, 26 May 2011, 16 September 2011, 24 November 2011, 21 February 2012, 9 May 2012, 27 June 2012, and 7 September 2012). As well, based on the updated footprint of the Project related to the supplemental mitigation associated with the Fine Processed Kimberlite Containment (PKC) Facility (2012 EIS Supplement [De Beers 2012a]), the areas of habitat losses presented in the CCP have been recalculated. An update memorandum was submitted to the Mackenzie Valley Environmental Review Board on 29 June 2012 entitled Gahcho Kué Fish Habitat Compensation Plan – Update (Golder 2012c). The memo summarized the progress related to the compensation planning since the submission of the CCP and included compensation options, Habitat Suitability Index (HSI) models, and the quantification of the losses and gains.

De Beers has consulted with communities adjacent to the Project throughout the development of this draft No Net Loss Plan (NNLP) to seek input on options that could be considered as fish habitat offset projects (including February 2012 community visits, 22-25 May 2012 Technical Sessions, site workshops in August 2012, and hosting a habitat compensation workshop on 20 September 2012). This draft NNLP reflects changes made to the 29 June 2012 memo based on consultation with Aboriginal groups. In addition, this updated NNLP provides additional details to show the accounting of habitat losses and gains to achieve no net loss, as well as additional options that are under consideration. The NNLP is expected to continue to evolve and be refined as additional community and regulatory input is received as the Project enters the permitting/regulatory phase. However, this NNLP demonstrates that suitable fish habitat compensation options exist, such that no net loss of fish habitat can be achieved for the Project.



2.0 DESCRIPTION OF PROJECT EFFECTS

The Fish and Fish Habitat sections of the 2011 EIS Update identified and evaluated the effects of potential changes predicted to occur due to the development of the Project (De Beers 2011). The assessment was based on the valid linkages and effects pathways between Project activities and predicted changes to surface water hydrology or water quality, as well as linkages assessed specifically for fish and fish habitat. Changes in fish and fish habitat identified in the assessment that are relevant to the NNLP include those works, undertakings or activities that result in a harmful alteration or disruption, or the destruction, of fish habitat (HADD) as per Section 35(1) of the *Fisheries Act*.

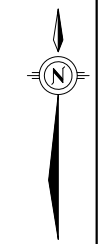
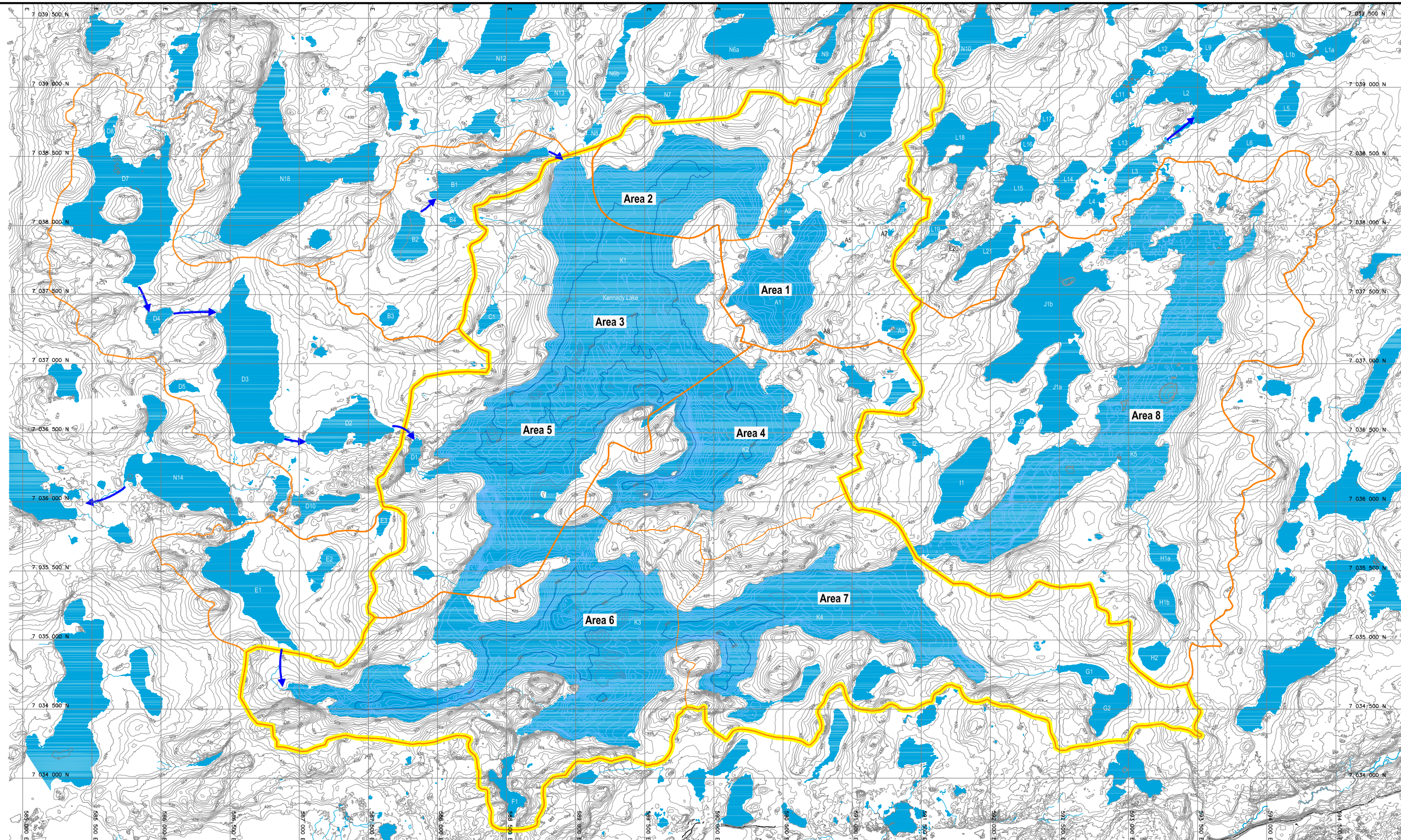
The areas of the Kennady Lake watershed to be directly affected by Project development include Kennady Lake and adjacent lakes that drain to Kennady Lake. A total of eight sub-watershed areas (Areas 1 to 8) have been designated in the Project Area (Figure 1). Area 1 is located northeast of Kennady Lake and includes Lakes A1, A2, A3, and A9, while Areas 2 to 8 are within Kennady Lake (Figure 1). Areas 2, 3, 4, and 5 include the northern portion of Kennady Lake; Areas 6 and 7 include the southern portion of Kennady Lake, and Area 8 includes the eastern basin of Kennady Lake. Outflow from Kennady Lake is through Area 8, discharging to the L watershed. Some lakes and streams in the A, D, and E watersheds (which are sub-watersheds of the Kennady Lake watershed) will be also affected by Project development.

Project effects on surface waters include effects directly attributable to construction and mining operation activities (i.e., the base-case Project). Due to supplemental mitigation associated with the Fine PKC Facility, there have been changes to the footprint of the facility since the filing of the EIS. The footprint of the Fine PKC Facility (mitigated) has been confined to Area 2 of Kennady Lake and does not directly affect Lakes A1, A2, A5, A6, and A7, and the associated streams (2012 EIS Supplement 2012 [De Beers 2012a]).

2.1 Direct Project Effects

To facilitate mining of the three ore bodies, a controlled area boundary will be created as part of the Water Management Plan for the Project (Section 3.9 of the 2012 EIS Supplement (De Beers 2012a), which consists of Areas 2 through 7 of the Kennady Lake watershed (Figure 1). Water within the controlled area boundary will be isolated from the remainder of the Kennady Lake watershed and managed. Areas 1 and 8 remain outside the controlled area boundary. The Project includes the development of mine pits, waste rock and coarse PK piles, a Fine PKC Facility, and associated mine facilities within the Project development area. Figures 2 and 3 illustrates how the Project development alone (i.e., without implementation of specific fish habitat compensation measures) would affect Kennady Lake and adjacent areas at two different periods during operations. A summary of waterbodies and watercourses affected by the Project is provided in Table 1. A description of the fish habitat and fish communities of each waterbody and watercourse affected by the Project is provided in Section 3.0.

G:\2011\1365-001\Gahcho Kué EIS Post-Submission\Maping\Maping\2011-Other-002-CAD Figure 1.dwg Oct 12, 2012 - 4:43pm



LEGEND

- Existing Ground Contours
5m Index - 1m Intermediate
- Bathymetry Contours
5m Index - 1m Intermediate
- Controlled Area Boundary
- Marsh Area
- Scrub
- Sub-watershed Boundary
- Drainage Flow Direction
- Lake/Pond

NOTES

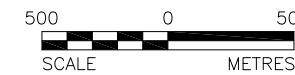
Base data source: EBA Figure 4.5 - Stage 2 - Water Management During Mine Operation Years 1 to 3 (2015 to 2017)
Source: Adapted from Figure 3.2-2 of De Beers 2010.

GAHCHO KUÉ PROJECT

**Kennady Lake Sub-watersheds
and Controlled Area Boundary**

PROJECTION:
UTM Zone 12

DATUM:
NAD83



FILE No:
P2011-002-CAD Figure 1

DATE:
June 6, 2012

JOB No:
11-1365-0001

REVISION No:
2

OFFICE:
GOLD - SAS

DRAWN:
BDS

CHECK:
JF

Figure 1